

7-Day AKI Nursing Team Leads to Transformation of Inpatient Renal Care – Service Development

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Background

Renal registry reported WHT mortality rate for AKI admissions of **33.2% vs UK average of 26.61%**, with an adjusted standardized mortality ratio 1.09. We noted a higher incidence of chronic kidney disease at 5.2% (stages G3a-5), in a 36% ethnic minority population. **Our median length of stay (LoS) for all Acute Kidney Injury (AKI) stages was 13 days median while UK was 12.** The transfer times for dialysis to HUB RWT as per GIRFT recommendations were not met.

Aim

We implemented a 3-member, 7-day AKI nursing service and aim to evaluate the impact on LoS, transfer times and 90-day major adverse kidney events.

Methods

We appointed 3-AKI nurses, for a 7-day service in 2022. Prospective data was collected between April 1, 2023, to March 31, 2024.

Outcome data was collected on timely intervention, dialysis transfer times to HUB, number of ICU days after patient stabilised, LoS data and 90-day major adverse kidney events (MAKE90: death, renal replacement therapy).

Parameter	Value
Total patients reviewed	891
Community-acquired AKI (CA-AKI)	78%
Hospital-acquired AKI	22%
Male patients	54%
Patients with preexisting CKD	31%
Mortality in G4 and G5 patients	50%
Patients reviewed same day (within 6 hours)	
- AKI stage 1	16%
- AKI stages 2/3	72%
MAKE90 outcomes	
- Mortality	28%
- Required ICU haemofiltration	8.9%
Mean transfer time for dialysis	20.19 hours
Mean ICU stay post-stabilization before transfer	4.92 hours
Mean AKI Length of Stay (LoS)	6.99 days
Median AKI Length of Stay (LoS)	5 days (IQR 2, 9) previously 13

Results

The nursing team reviewed **891** patients during the study period. We noted that 78% of patients presented with community-acquired AKI (CA-AKI) and 22% had Hospital-acquired AKI. There were 54% male and 31% of the total AKI patients had preexisting CKD.

The mortality was noted to be 50% in CKD G4 and G5 patients.

Patients reviewed same day (target within 6 hours) were 16% for AKI stage 1 and 72% for AKI stages 2/3.

MAKE 90 showed a decrease in mortality to 28% mortality and 8.9% required ICU haemofiltration. The mean transfer time for dialysis to HUB was **20.19 hours**, (GIRFT target < 24 hours).

Patients remained in the ICU for an average of **4.92 hours post-stabilization** before transfer to the dialysis unit, reducing ICU bed pressure.

The mean AKI LoS reduced to 6.99 days, with a median of 5 days (IQR 2, 9)

Conclusion

The 7-day AKI nursing team has significantly improved the timeliness of renal replacement therapy decisions, reduced ICU bed utilization, and streamlined the transfer process to the regional hub. The service introduction estimates a cost-saving, assuming the entire costs associated with a bed day can be removed, the reduction in LoS can contribute £1.8 million in avoided costs.

We plan to implement a community PILOT GP AKI stage reporting, with rapid review protocols potentially preventing hospital admissions.



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