Evaluation & impact of an Acute Kidney Injury service on measurable patient outcomes in a large district general hospital in the United Kingdom

Authors: S Bickerton[1], L. Catchpole[2], K. Harris[2], E. Sobczyk[2], C.Owens[2], H. Spooner[3], B.Omosule[4], M. Kamalnathan[5], S. Cherukuri[6]

[1] Lead AKI Clinical Nurse Specialist, (CNS) [2] AKI CNS. [3] Renal Nurse Consultant. [4] Renal Registrar, [5] AKI Consultant Lead [6]Clinical Director Renal Services. RWT, Wolverhampton

Introduction

Acute Kidney Injury (AKI) is one of the major complications of the acutely unwell, which carries a significant risk of mortality and morbidity, and is associated with long hospital stays and substantial healthcare costs.

In 2020, AKI leadership was added to our existing renal team, providing proactive AKI cover 7-days a week. It consists of a lead AKI consultant, lead AKI Nurse and a team of AKI nurse specialists.

We provide the following:

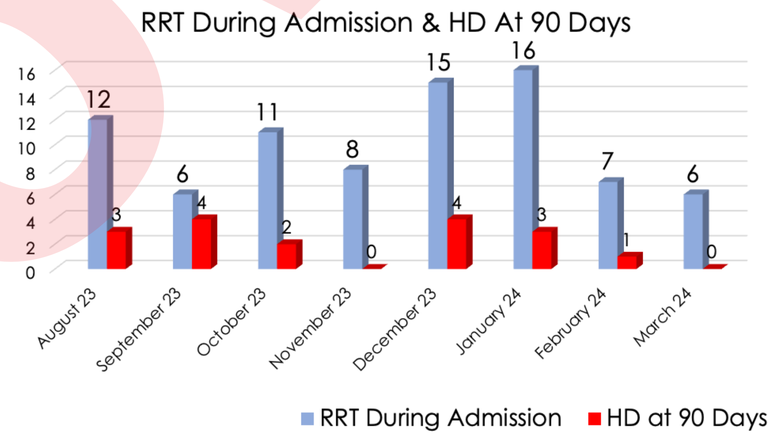
- **In-reach review** of all patients with AKI stages 2&3.
- **AKI hot clinic** for new referrals .
- **AKI follow-up service** post discharge.
- **Cardiorenal meeting** monthly.
- **Education and training** on AKI to clinicians and patients and their carers.
- **Comprehensive AKI outcome audit tool** to benchmark and direct service needs.

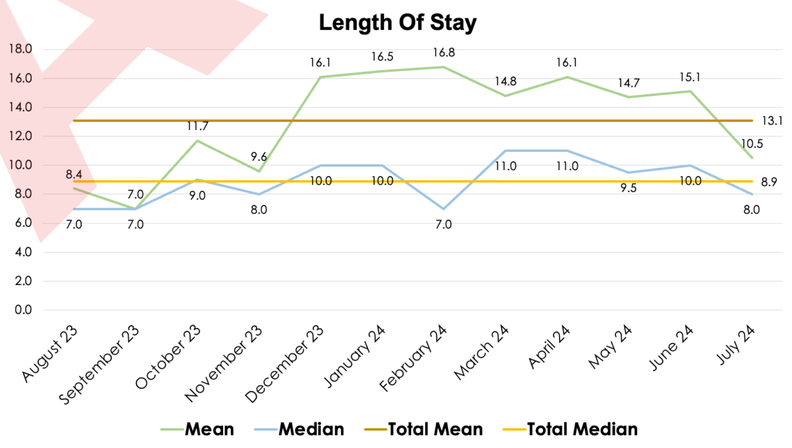
Aim & Method

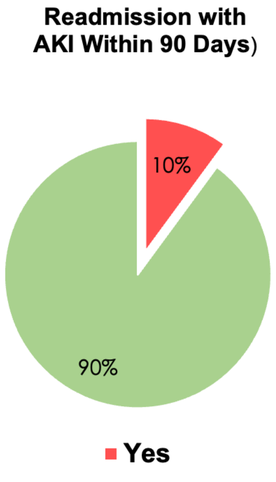
To assess the impact of our AKI service on measurable patient outcomes, such as length of stay (LOS), need for renal replacement therapy (RRT), mortality and readmission rates. Data was gathered on all inpatient AKI stages 2&3 over twelve months ('23-'24).

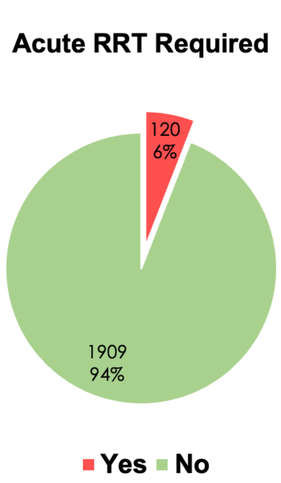
Results

- **Total number of patients** with AKI stages 2 and 3: **2039**
- **Median LOS: 8.9 days**, a 19.1% improvement from 2021 figures (and 25.8% below national median LOS of 12 days, UK Renal Registry, 2022).
- **Inpatient mortality: 4%** reduction in mortality rate for AKI stages 1-3 since 2020. 31% mortality rate – in line with national data (UKRR, 2022)
- **Acute RRT rates: 6%** with 3% being dialysis dependent at 90 days.
- **Development / progression** of chronic kidney disease at 90 days: **27.5%**, compared to national UKRR data (2022) of 30%
- **All cause readmission rates** at 30 days post discharge following AKI: **19%** - similar to UKRR data (2022).
- **90-day readmission rate with AKI: 10%**, compared to 25% recorded in UKRR data (2022).
- **Cardiac readmission rates: 0.8%** demonstrating effectiveness of collaborative following up with heart failure teams.
- **Follow-up: 100%** of all suitable patients followed up, compared to 50% pre-addition of AKI leadership .









Conclusions

The introduction of a **dedicated AKI service** has led to an overall improvement in measurable outcomes.

This has resulted in **significant cost savings** and has helped to free up bed **capacity** and improve **patient flow**.

Patients are **robustly safety-netted** to ensure they receive timely, expert review and monitoring, ensuring the short and long-term impact of AKI is minimised and kidney health optimised.

Healthcare staff are **supported and educated** to deliver the best outcome for this patient cohort.

Expansion of the service is now needed to provide **community outreach support** with a focus of AKI prevention and hospital avoidance.

References

UK Renal Registry, Summary of Acute Kidney Injury Report, 2022. Available at https://www.ukkidney.org

Contact Information

Shelagh Bickerton, Lead AKI Clinical Nurse Specialist

Royal Wolverhampton NHS Trust, UK

Shelagh.Bickerton@nhs.net

Safe & Effective | Kind & Caring | Exceeding Expectation

Designed and produced by The Department of Clinical Illustration and Graphic Design, New Cross Hospital, Wolverhampton, WV10 0QP - Tel: 01902695377

MI_15297914_29.05.25_V_0.1