TD1

Frailty and falls risk in the context of haemodialysis - implementation of routine clinical frailty assessment and community therapy referral for those at high risk of falls.

Dr Tom Maidwell[1], Dr Emily Weldon[1]
[1]Gloucester Royal Hospital

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

Introduction

Frailty is highly prevalent among dialysis patients and is a major driver of adverse outcomes. These include prolonged hospitalisation, reduced quality of life, and increased mortality, with falls as a frequent complication that contributes to these risks. Frailty assessment is not consistently embedded in UK dialysis practice, and pathways linking frailty recognition with referral to relevant community services remain limited. Improved recognition of frailty, combined with systematic identification of patients who experience falls offers an opportunity for earlier intervention; with the potential to reduce falls, their recurrence and acute presentations, while enhancing patient safety. This project aims to increase documentation of the Clinical frailty score (CFS) and establish direct referral for those at high risk of falls to appropriate community therapy services.

Methods

This project was conducted in a single dialysis unit using Plan–Do–Study–Act methodology. Baseline data was collected from patients aged ≥65 years, capturing whether a CFS was documented in the electronic patient record, the number of acute hospital presentations and inpatient days over the preceding year, and falls reported in the same period. Interventions are designed in two stages: in Cycle 1, a teaching session for dialysis nurses to improve understanding and confidence in the use of the CFS, in Cycle 2, the introduction of nurse led CFS documentation and a direct referral pathway (agreed in collaboration with community services) to enable dialysis staff to refer high-risk patients to community therapy. Measures include process (CFS documentation), outcome (falls incidence, referral, acute hospital presentations), and balancing measures (inpatient days). Data will be re-measured following each intervention and change over time will be tracked using run charts.

Results

Baseline analysis included 31 haemodialysis patients aged ≥65 years. A CFS was documented in 9.7% of patients in the electronic patient record. In the preceding year, 74% of patients had ≥1 acute hospital presentation. The median number of inpatient days was 5 days (range 0–126 days). Falls were recorded in 38.7% (n=12/31) of patients within the past year. Of these, 22.6% (7/31) experienced multiple falls, with individual totals ranging from 2 to 6 falls over 12 months.

Discussion

This project aims to improve recognition of frailty in haemodialysis patients, with the goal of reducing falls and associated complications. Baseline analysis demonstrated that frailty was

infrequently documented, while a substantial proportion experienced falls and required acute care. These findings highlight a gap between the burden of frailty-related complications in dialysis patients and the recognition of frailty within routine dialysis care. The improvement work seeks to close this gap by embedding frailty scoring into routine care and streamline referral pathways to reduce falls recurrence. Long-term sustainability will depend on collaborative MDT working, highlighted here through nurse led assessment and referral, integrating documentation into the electronic patient record and ensuring staff are confident and consistent in its use. Beyond this single unit, this approach has potential to be adapted across other dialysis services, offering a model to improve patient safety, reduce avoidable hospitalisations, and support multidisciplinary care planning for this high-risk population.

TD2

Implementation of a ward-based dialysis service at a busy tertiary hospital: a quality improvement evaluation of service provision and cost saving.

Emmanuel Awobusuyi[1], Kirsten Armstrong[1], Cahal Rafferty[1], Joanne Thompson[2], Arvindraj Rajasekar[2], Chidera Ogaziechi[1]
[1]University Hospital Southampton NHS Foundation Trust, [2]Portsmouth Hospitals University NHS trust

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

INTRODUCTION

In November 2019, a limited (3 days per week, 10 sessions/month), mobile dialysis service for chronic dialysis inpatients was introduced in a local tertiary hospital to reduce off-site treatment at the regional dialysis hub whilst avoiding costly admissions to the intensive care unit (ICU) for filtration in patients too unwell to travel.

Despite an upscale in service provision year-on-year to meet growing demand, lack of a ward-based area has remained a limiting factor to service expansion, with the result that only 43 sessions/month were possible at full capacity. In 2023, 70% of dialysis sessions/month were off-site, leading to high transport costs and poor patient experience.

The primary aim of this quality improvement (QI) project was to improve service efficiency (defined as percentage of patients receiving their dialysis on site in a ward-based setting) with a target of 90% per month. The secondary aim was to reduce costly expenditure of transport costs for off-site dialysis.

METHODS

In December 2023, a dedicated 2-bedded clinical area was established for ward-based dialysis, with 2 fixed-based dialysis machines. Over the following 12 months, nursing and dialysis capacity expanded month-on-month to support a maximum of 6 dialysis sessions per day, 5 days a week, increasing monthly capacity to 130 sessions at full operation.
From December 2023 to November 2024, all dialysis sessions and locations (ward, ICU or off-site), were recorded monthly.
Outcomes were 1) number of sessions performed on-site including ICU and 2) total transport cost by ambulance (calculated from an estimated round-trip cost of £300).
This data was then compared with monthly data over a 4-year period from the inception of the service in November 2019 to the establishment of the ward-based service in December 2023.

RESULTS

Over the 12-month study period, 998 dialysis sessions were recorded, of which 900 (89%) were delivered on site with 8 sessions occurring in ICU for unavoidable reasons (hyperkalaemia out of hours (n=3), cardiovascular instability (n=4), and fluid overload with

respiratory compromise (n=1). In the last 5 months of the study period, 386 dialysis sessions were recorded of which 100% were delivered on site, with only one session occurring in ICU due to no Saturday dialysis service (Figure 1).

Comparing the total number of on-site dialysis sessions over the 12-month period (n=900) to the number recorded in the first year (n=120) reveals a 650% increase in on-site dialysis sessions over the 5-year period.

The calculated total transport cost for off-site dialysis over the 5-year period was £435,300. Total transport cost for off-site dialysis from December 2023 was £29,100, with zero expenditure recorded in the last 5 months (Figure 2).

DISCUSSION

Establishing a ward-based dialysis service resulted in a substantial improvement in service efficiency, surpassing the target of delivering over 90% of monthly dialysis sessions on- site, alongside a predictable reduction in transport-related costs. These operational and financial gains support continued investment in ward-based dialysis infrastructure, with a proposal to expand the service to 6 days/week, commensurate with the requirement for thrice weekly dialysis for chronic dialysis inpatients.

TD4

Protecting the Lifeline: A Staff-Led Quality Improvement Project to Embed Rope Ladder Cannulation

Dr. Ayushi Gupta[1], Elshaimaa Elkoumy[1], Juniya John[1], Joanna Carter[1], Regi Mickal[1], Akhila Girish[1], Angela Nagle[1], Raja Mallavarapu[1], Dimitri Smacchia[1], Luisa Layug[1], Jomy Sebastian[1], Imelda Crispo[1], Udaya Udayaraj[1]
[1]Oxford Kidney Unit, Churchill Hospital

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

Introduction

Arteriovenous fistula/graft (AVF/AVG) is the preferred vascular access for haemodialysis, but cannulation technique critically affects fistula survival. Despite guidelines recommending rope ladder, area puncture remains widespread predisposing fistulas to aneurysms. We launched a Quality Improvement (QI) project across two haemodialysis units (Tarver and Main Unit) with the aim of increasing rope ladder cannulation to ≥70% within 6 months while maintaining patient safety and satisfaction.

Methods

A team of haemodialysis nurses, vascular access nurse and nephrologist applied Plan–Do–Study–Act (PDSA) cycles. Baseline data (April 2025) included cannulation observations (target two patients per shift), staff training history, and patient feedback (Likert 1–5). Thereafter, sampling was pragmatic with variable observations. Notably, Main unit contributed no observations in June or August, so combined data for those months reflect Tarver only.

Interventions were sequential: (i) MAGIC (Managing Access by Generating Improvements in Cannulation) e-learning, (ii) practical teaching and (iii) embedding VASBI (Vascular Access Society of Britain and Ireland) and BRS (British Renal Society) competency assessment. The outcome measure was rope ladder adherence; process measures were training uptake; balancing measures were patient satisfaction and complications (haematoma, infiltration, missed site, prolonged bleeding, or needle readjustment).

Results

Rope ladder use increased markedly across both units (Figure1). At baseline (April 2025), uptake was 26.4% with negligible MAGIC completion. After MAGIC rollout (May-June), rope ladder use reached 77%, with 32% MAGIC completion. Teaching sessions (June–July) consolidated uptake at 75% with 91% workshop attendance.

Needling complications peaked during this learning phase (15%) but patient feedback remained positive (mean 4.1–4.2/5). Following VASBI assessment (July–August), rope ladder adherence rose to 94%, complications fell to 6–7%, and satisfaction improved to 4.4–4.5/5.

Unit-level analysis showed contrasting drivers for improvement. Tarver achieved 77% rope ladder by June and 94% by August. Sustained adherence occurred despite 33% MAGIC completers in August, as VASBI assessment (83%) and universal workshop attendance

(100%) anchored practice. Inversely, Main achieved 98% MAGIC and 52% teaching attendance by July, but without VASBI reinforcement (29.5%), rope ladder plateaued at 66%.

By role, Band 6/Advanced staff adopted rope ladder most (80%) but also recorded higher complication rates (23%), reflecting the complexity of fistulas they cannulated. Beginners and intermediates had lower uptake (~54%) but fewer complications (16%).

Discussion

Sustained improvement in rope ladder cannulation was achieved through iterative QI interventions. MAGIC alone was insufficient as durable change required hands-on training and competency frameworks consistent with Fitzpatrick's model of experiential learning.

At Tarver, rope ladder was maintained despite staff turnover, as VASBI and workshops anchored practice culture change. At Main, high MAGIC uptake without parallel competency assessment yielded only partial improvement, underlining the limits of online modules in isolation.

Limitations included aneurysmal fistulas unsuitable for rope ladder, sampling variation, staff turnover, and difficulty reversing entrenched area puncture. Sustainability is being supported by mandatory competency sign-off, quarterly recognition of skilled needlers, fistula photo documentation, and re-audits.

This work shows e-learning must be paired with practical training and competency assessment to embed culture change, with potential to scale across dialysis networks while safeguarding guideline adherence, safety, and patient experience.

TD5

Improving Advance Care Planning on the West Suffolk Hospital Dialysis Unit: A Quality Improvement Project

Dr Laurie Finch[1], Dr Megha Giby[2], Dr Despoina Iakovou[3], Annika Wallis[2], Marilyn Perry[1], Sidney King[1], Dr Hsu Pheen Chong[1]
[1]Cambridge University Hospitals NHS Foundation Trust, [2]West Suffolk Hospital NHS Foundation Trust, [3]Guys and St Thomas' Hospital NHS Foundation Trust

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

Introduction

Average life expectancy for dialysis patients over 75 years old is 2.5 years and dialysis carries an increased risk of sudden cardiac death. The need for national approaches to improve advance care planning (ACP) for renal patients is highlighted in the latest 'Getting it Right First Time' report for nephrology. Developing enhanced supportive care provision is also a priority within the Renal Services Transformation Programme. ACP often involves discussions around resuscitation status. We aimed to increase the proportion of patients with documented resuscitation status and make ACP a routine consideration on our unit.

Methods

We used a Plan-Do-Study-Act (PDSA) quality improvement methodology. Baseline data was collected in December 2022 by auditing resuscitation forms on the dialysis unit and surveying patients about existing community documentation. This data informed four key interventions (see below) which were re-evaluated in September 2025 using data from routine dialysis quality assurance (QA) reviews.

Results

At baseline, 79% of patients (n=76) had no documented consideration of resuscitation status. 21% of patients had resuscitation forms, all completed by nephrologists. Of the completed forms 81% were in a legacy format no longer considered valid by our trust, and only 19% had been signed within the previous year. There was no departmental system for reviewing resuscitation status or triaging patients who could benefit from discussions around resuscitation.

Interventions:

1. Local resuscitation forms were replaced with the national Recommended Summary Plan for Emergency Care and Treatment (ReSPECT) form
2. Escalation status was routinely discussed and documented during dialysis QA reviews.
3. Dialysis nurses routinely reviewed resuscitation documentation from recent inpatient stays.
4. GP registrars covering primary care queries on the unit were encouraged to flag patients who would benefit from resuscitation discussions.

By September 2025, 85% of patients had documented consideration of their resuscitation status. Of these patients, 46% had ReSPECT forms (29% DNACPR, 17% active management)

and 100% had been signed within the last year. An additional 35% of patients were deemed appropriate for full escalation at a dialysis QA meeting. 4% were flagged as poor candidates for CPR and required a discussion. There was notable variation in practice between the two dialysis consultants. Of the 15% of patients with no documented status, 92% were dialysing in twilight slots.

Discussion

These interventions increased the proportion of patients with a documented resuscitation status and established a system identifying patients in greatest need of ACP discussions.

Suspected limiting factors include:

1. The frequency of face-to-face reviews with consultants (particularly for twilight patients).
2. The time and administrative burden associated with writing ReSPECT forms.
3. Twilight patients being on-site primarily during out-of-hours periods.

We will sustain these improvements by incorporating resuscitation status into routine dialysis QA audits. Future work includes the addition of clinical frailty scores to patient profiles and a broader collaboration toward an Enhanced Supportive Care clinic with palliative care colleagues.

TD6

Minimizing venipuncture in hemodialysis inpatients by prioritizing on-unit sampling: a two-cycle quality improvement project from a UK tertiary renal center

Dr Asif Mahmud[1], Iqra Rafiq[1], Kamrul Hasan Loskor[1], Sara Sarhadi[1], Arjun Shridhar[1]
[1]Queen Elizabeth Hospital

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

Introduction:
Inpatients receiving hemodialysis (HD) frequently undergo additional venipuncture despite having reliable vascular access during HD sessions. This causes unnecessary discomfort, uses staff resources, and may jeopardize preservation of peripheral veins essential for future HD access creation. We aimed to reduce avoidable venipuncture by maximizing on-unit sampling during HD and restricting blood tests to clearly defined urgent indications.

Methods:
A baseline audit was performed on HD inpatients over four weeks (17 March–11 April 2025). Data collected included: bloods taken on HD days but not on the HD unit (off-unit), presence of urgent indication, bloods taken on the unit during HD, and bloods taken on non-HD days. Urgent indications (exclusion criteria) were:
• Pre-procedure tests (INR, group & save, spot potassium)
• Dialysis decision blood tests
• Admission bloods
• Daily bloods for transplant recipients
• Urgent blood cultures
• Patient clinically unwell with high NEWS
Following this, posters were displayed on renal wards and education delivered to phlebotomists, resident doctors and nursing staff. A re-audit was undertaken using the same methodology over four weeks (18 August–12 September 2025). Outcomes between cycles were compared.

Results:
Cycle 1 included 124 patients; Cycle 2 included 153.
• Bloods on HD days but not on the HD unit reduced from 54.0% (67/124) to 41.2% (63/153).
• Off-unit sampling without urgent indication fell from 25/67 (37.3%) to 1/63 (1.6%).
• Sampling on the HD unit during HD was sustained (91.9% → 92.2%).
• Bloods taken on non-HD days reduced from
96.8% → 78.4%.

Discussion:
A simple educational intervention (posters and ward-based messaging) was associated with fewer unnecessary venipunctures and a substantial reduction in non-HD day sampling, while

maintaining high rates of on-unit sampling during HD. Protecting veins for future vascular access was an additional benefit. A limitation is that blood collection practices can vary depending on the physician in charge of the ward during a given week, which may influence results. Nonetheless, the general goal should remain to minimize avoidable venipunctures in HD inpatients. Planned next steps include quarterly refresh of educational materials, and monthly exception review. Future PDSA cycles aim for ≤30% off-unit HD-day sampling and ≤60% non-HD day sampling.

TD7

Improving timely antibiotic delivery for haemodialysis patients with suspected sepsis. A quality improvement project.

Ms Anne-marie Phythian[1], Lynette Groombridge[1], Annette Dodds[1], Dr Gauri Jagadesh[1]
[1]University Hospital Trust, Birmingham

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

Introduction

Sepsis is one of the main risks of death, serious illness and hospitalisation for patients receiving haemodialysis. Haemodialysis patients have an increased risk of sepsis because of the presence of invasive devices (tunnelled dialysis catheters), a reduced immunity, multiple co-morbidities, increased frailty and an increased exposure to healthcare interventions. The Sepsis Trust advocates a critical timeframe known as the golden hour where prompt treatment for sepsis must be initiated within one hour of diagnosis in order to improve survival and reduce complications.

Background

The outcome of a serious incident investigation led to the development of a haemodialysis sepsis pathway.
A satellite haemodialysis patient was correctly identified with potential sepsis on haemodialysis. The unit nurses rang 999 but a catalogue of events including severe ambulance delays, communication omissions and delays in ED led to the patients not being assessed for over 24 hours. By this time the patient had deteriorated and developed sepsis related cerebral thrombosis and MSSA bacteraemia and died several days later.

Proposal

This was an extreme example of delays in sepsis treatment but on reviewing other patient experiences it was found that emergency ambulance and ED delays were not uncommon
The one hour target was rarely met for haemodialysis patients identified with potential sepsis.
It was proposed that sepsis treatment including IV fluids, 15 litres Oxygen and IV antibiotics be pre-prescribed for every haemodialysis patients and given within one hour of potential sepsis recognition in the haemodialysis clinic before 999 ambulance arrival.

Methods

A haemodialysis Red Flag Sepsis pathway and prescription chart was developed and launched in all satellite units. Teicoplanin and gentamycin were used as the antibiotics of choice due to the speed of administration covering both gram positive and gram negative organisms. Nurses received additional training in sepsis recognition and the use of NEW2

assessments. All sepsis related emergency 999 calls were audited continuously throughout the year (2024).

Results

- There were 92 999 calls from haemodialysis units
- Emergency sepsis antibiotics were used 53 times (57%)
- There was no inappropriate antibiotic use but a few missed opportunities
- Patients audited had a variety of issues including:

bacteraemia, influenza, covid, pneumonia, lower respiratory tract infections, gastroenteritis, urinary tract infections and infected foot ulcers.

Conclusion and discussion

The nurses were empowered to assess the patient for potential sepsis and take the prescribed actions. NEWS2 screening pre and post dialysis was ingrained into practice and sepsis recognition was consistently found to be very good.
A weekly PSIRF meeting for timely review of all haemodialysis bacteraemias looking for key themes and preventable causes was launched. Satellite unit staff were invited to the meeting to present their own cases and shared learning was cascaded to all units.

Key Considerations
Introduction of a nurse led red flag sepsis pathway led to improved sepsis recognition and an increase in the number of patients receiving treatment and antibiotics in the critical golden hour after diagnosis.

TD8

A clinical audit to review the adherence to Trust policy for prescribing and monitoring of vancomycin, gentamicin and amikacin in inpatients receiving haemodialysis

Alice Pettit[1], Olivia Kanka[1], Anil Chalisey[1]
[1]Addenbrookes Hospital

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

Introduction

Over the past several years, it has become common practice to administer intravenous antibiotics during haemodialysis sessions, due to ease of administration as well as monitoring in these high-risk patients. It is widely recognised that antibiotic prescribing is commonly influenced by an individual clinician's preference and experience and this variation in dosing can lead to risk of therapeutic failure, toxicity, and antimicrobial resistance when suboptimal dosing regimens are prescribed[2]. In order to mitigate this, Trust policies have been formulated using a range of resources in order to enforce the best prescribing practice in relation to both efficacy and toxicity[1].

Methodology

All haemodialysis patients prescribed vancomycin, gentamicin or amikacin during inpatient admission over a 6-month period from 01/11/24 to 30/04/25 were flagged. Patients under 18-years-old, receiving prophylactic doses post line insertion, receiving doses intraperitoneally, on CVVHDF in ITU or transplant patients no longer receiving haemodialysis were excluded. The patients were then systematically reviewed by a pharmacist.

Results

265 individual prescribed administrations were flagged. These were then combined into complete antibiotic courses, exclusions removed, and adherence of 66 remaining prescription courses reviewed according to Trust policy.

For vancomycin, 39 prescription courses were flagged; 77% of patients received a loading dose, and of these 87% received the correct loading dose based on actual body weight (67% of total cohort); 77% received the correct maintenance dose; 100% of patients received a trough vancomycin level prior to subsequent doses and 100% received a review by a renal doctor; 72% of prescriptions were reviewed by a pharmacist.

For gentamicin, 24 prescription courses were flagged; 58% received the correct maintenance dose; 100% of patients received a trough gentamicin level prior to subsequent doses and 100% received a review by a renal doctor; 50% of prescriptions were reviewed by a pharmacist.

For amikacin, 3 prescription courses were flagged; 67% received the correct maintenance dose; 100% of patients received a trough amikacin level prior to subsequent doses and 100% received a review by a renal doctor; 33% of prescriptions were reviewed by a pharmacist.

Discussion and conclusion

The data collection took place over a 6-month period in order to provide a longitudinal assessment of prescribing. Assessment of adherence to the 'pharmacist review' standard was more challenging, as dialysis prescriptions fire onto the drug chart as 'once only' doses and are removed once administered, therefore they may no longer be available for pharmacists to mark as 'verified'.

This audit has highlighted areas of good practice, for example ensuring trough levels are taken prior to further doses, as well as ensuring that all dialysis patients have their antibiotic treatment reviewed by a member of the renal team.

It has also highlighted areas for improvement, namely omission of loading doses, incorrect loading doses, and incorrect maintenance doses. This lack of adherence may lead to issues such as supratherapeutic levels (toxicity), subtherapeutic levels (therapeutic insufficiency), or antimicrobial resistance. Further investigation into these prescriptions is warranted to ascertain whether any of these issues occurred and lead to potential harm in these patients.

TD9

Impact of dietitian prescribing on renal outcomes in haemodialysis patients – A quality improvement project.

Mr Timilehin Omilana[1]
[1]The Queen Elizabeth Hospital

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

Introduction

The impact of non-medical prescribing in delivering comparable outcomes in chronic kidney disease management is not well-documented. Good phosphate management is an important outcome for renal patients; especially when receiving haemodialysis. The aim of this project was to evaluate the effectiveness and patient's experience of Dietitian prescribing in phosphate management amongst renal patients receiving in-centre haemodialysis.

Method

The serum phosphate levels of ninety-five patients receiving Haemodialysis in a satellite dialysis unit was monitored for 12 months (between May 2023 and April 2024) in an unpublished audit. Patients with hyperphosphatemia received standard dietary advice and Phosphate binders from the medical team. Dietitian prescribing for Phosphate binders was then implemented to help improve patient outcomes. Between May 2024 and April 2025, 43 patients benefitted from Dietitian's prescribing of phosphate binders alongside standard Low Phosphate diet advice. Statistical process control (SPC) tool was used to identify any special cause variation in phosphate level due to Dietitian prescribing. Questionnaire was used to evaluate patient's experience of dietitian prescribing.

Result

The average phosphate level of the participants was within recommended range (<1.8mmol/l) during the 12 months of Dietitian prescribing and lower compared to the preceding 12 months (before Dietitian prescribing). Additionally, the SPC tool identified the intervention – Dietitian prescribing as the special cause of variation in the phosphate levels of the patients (Figure 1). About 9 in 10 patients reported improved experience associated with Dietitian prescribing such as reduced waiting times, reduced symptom burden as well as increased belief for self-management (Figures 2 and 3).

Discussion

Dietitian prescribing is effective in achieving comparable outcomes for renal patients especially in phosphate management. Personalised dietary advice alongside individualised drug regimen by a prescribing dietitian improves overall patient experience. This is due to increased patient understanding of condition and management, potential reduced pill

burden and perceived greater involvement in treatment plans. This leads to increased treatment adherence and consequently, reduced risk of adverse outcomes.
The improved outcome and positive patient experience in this unit will be sustainable as prescribing is now part of the day-to-day job description of the renal dietitian. There is an enormous potential to improve patient experience and outcome across all renal units in the country if other non-medical members of the multidisciplinary team (MDT) especially Renal Dietitians, are supported in becoming prescribers- especially independent prescribers.

TD10

Optimizing the Use of EVODIAL Filters in Inpatient Haemodialysis: A Two-Cycle Quality Improvement Project

Hassan Mohamed Hassan Abdelrahman Abdelwahab[1], Mohamed Abouzeid[1], Dr Hameed Anijeet[1]
[1]Royal Liverpool University Hospital

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

Introduction:
Haemodialysis (HD) is a vital renal replacement therapy, but it is frequently complicated by blood clotting due to exposure of blood to the extracorporeal circuit (ECC), triggering inflammation and thrombosis. EVODIAL filters, designed for dialysis without using anticoagulation, are significantly more expensive with reduced dialysis efficacy especially on hemodiafiltration. Skagerlind MSE et al., 2018, study showed that, the urea reduction rate was less with Evodial vs. standard heparin dialysis ($p < 0.01$) and the extracorporeal circuit clotting was less in standard heparin dialysis. Evodial filter cost is about 4 times the cost of the other filters. This project aimed to evaluate the appropriateness and cost-effectiveness of EVODIAL filter use in inpatient dialysis at the Royal Liverpool University Hospital.

Methods:
A retrospective quality improvement project was conducted over two cycles, each spanning one month, six months apart. Data were collected on EVODIAL filter usage, anticoagulation practices, and documentation of indications. Interventions between cycles included departmental feedback, posters in renal wards, presentation in department teaching day and asking to add Evodial indication in the dialysis prescription. Our aim from the posters and teaching was focused on clarify the use of Evodial filter should be either allergies to other filters or contraindication to prophylactic anticoagulation. Also, to avoid repeated unnecessarily prescription with Evodial filter, we added space in dialysis prescription to clarify the indication of its use. The second cycle assessed the impact of these changes.

Results:
EVODIAL filter use decreased from 26% (n=98/375) in Cycle 1 to 10% (n=38/365) in Cycle 2. Inappropriate use dropped from more than 40% to less than15%. Use EVODIAL filter while the patient being on therapeutic anticoagulation fell from 33% to 0% However, use EVODIAL filter while the patient being on prophylactic enoxaparin use remained inconsistent. In the second cycle documented indications of Evodial filter's use was 26%.

Discussion:
This quality improvement project demonstrated a significant reduction in inappropriate EVODIAL filter use and improved its documentation. However, further efforts are needed to standardise the prescribing practices and ensure clear justification for EVODIAL filter's use.

Conclusion:

Targeted interventions can enhance the cost-effective and clinically appropriate use of EVODIAL filters. Continued education, system modifications, and a third audit cycle are recommended to sustain improvements.

Recommendations from the second cycle:
1- We made it's it mandatory to document the indication in electronic dialysis prescriptions with dropdown menu for common indications (e.g., active bleeding, perioperative, CyberREN prescription (regular outpatient dialysis prescription).
2- Educational posters in MDT areas.
3- Nurse education so they can ask doctors if no clear indications.
4- A third audit cycle to assess long-term impact.

Reference
•Skagerlind MSE, Stegmayr BG. An evaluation of four modes of low-dose anticoagulation during intermittent haemodialysis. Eur J Clin Pharmacol. 2018;74(3):267-274. doi:10.1007/s00228-017-2389-x

Charts
1- Run chart.
2- percentage of Evodial filter use
3- Indications of Evodial filter use (appropriate and inappropriate)