

15.5% of those housed.³ The aim of this study was to reduce the proportion of PEH leaving ED before treatment completion (LBTC) in St James's Hospital.

Methods Quality improvement and co-production methodology were used in collaboration with service users (PEH) and service providers (Emergency medicine staff) in

St James's Hospital, Dublin, Ireland. A number of complex issues were identified from both service users and providers. A poster was developed for staff to help support inclusion patients in ED and case management collaboration was initiated on the management of recurrent attendees.

Results During the study time period, there was no change in the proportion of PEH leaving ED before treatment completion (33.3% in November 2022 compared to 34.9% in August 2023). Twelve frequent attendees were identified who represented almost 40% of all LBTC presentations (accounting for 132 presentations out of 338 between January -May 2023). Case management approaches were initiated with these patients in collaboration with the ED. With one exception, all had reduced numbers of LBTC episodes in the subsequent 3 months (total of 30 presentations between June - August 2023). The financial department of the hospital estimated the cost of an average ED presentation was €464.36, which resulted in a projected cost saving of €22,847 during June - August 2023.

Investing in case management was successful in reducing numbers in LBTC in a group of frequent ED attendees. More investment is needed in the case management approach and likely to be cost effective.

REFERENCES

1. Aldridge RW, Story A, Hwang SW, Nordentoft M, Luchenski SA, Hartwell G, *et al*. Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: a systematic review and meta-analysis. *Lancet* 2018 Jan 20;**391**(10117):241–50.
2. Smalley CM, Meldon SW, Simon EL, Muir MR, Delgado F, Fertel BS. Emergency department patients who leave before treatment is complete. *West J Emerg Med*. 2021 Feb 26;**22**(2):148–55.
3. Ni Cheallaigh C, Cullivan S, Sears J, Lawlee AM, Browne J, Kieran J, *et al*. Usage of unscheduled hospital care by homeless individuals in Dublin, Ireland: a cross-sectional study. *BMJ Open* 2017 Dec 1;**7**(11):e016420.

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DRIVING A CHAIN REACTION: A QUALITY IMPROVEMENT AND RESEARCH LED APPROACH TO OPTIMISING THE NON-SURGICAL MANAGEMENT OF HIP OSTEOARTHRITIS

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Introduction Osteoarthritis (OA) is a long-term degenerative condition in older people which leads to chronic pain and long-term disability, and it is estimated that 3.2 million people in the UK have osteoarthritis of the hip. The National Institute for Health and Care Excellence (NICE) guidelines advise that management of moderate hip OA should involve education and advice, aerobic exercise and muscle strengthening, and weight loss if applicable; however, they offer no specific guidance on types of exercise, the dose, intensity or delivery model.

The aim was to develop an intervention, in accordance with NICE guidelines, to equip patients with hip OA with the confidence to self-manage their condition and increase their

ability to perform daily activities. The programme of work was conceived by a consultant orthopaedic surgeon and physiotherapist and was undertaken by a general hospital in collaboration with a local university in the south of England, in a conurbation with a high percentage of people aged over 65.

Methods A survey by the research team revealed significant variation in physiotherapy treatment across the UK and no agreed standard on how to provide care in accordance with NICE guidelines.¹ The CHAIN programme was therefore developed, a 6-week programme at a local leisure centre, including a weekly 30-minute education session led by a physiotherapist and 30 minutes of static cycling.

Between 2013–2015, 119 participants were referred by GPs to CHAIN as part of a Quality Improvement (QI) project.² In 2018–2019, 270 patients from orthopaedic outpatients joined a QI replication study.³ NIHR funding then supported the 2020–2023 randomised controlled trial (RCT), with 221 participants comparing CHAIN to usual physiotherapy care.⁴

A Patient and Public Involvement (PPI) forum⁵ and patient feedback enabled investigators to fine tune the intervention for each iteration, and resulted in CHAIN being extended to 8 weeks and the education section updated for the RCT. A Patient Advisory Group was part of the Trial Management team for the RCT. They advised on trial design, documentation, recruitment, interpretation of findings and dissemination.

Participants were assessed pre- and post-CHAIN in the QI studies, with the RCT adding a three-month follow-up once treatment had finished.

Ethical approval was not required for the initial quality improvement work. Approvals were received from the South Central – Oxford C Research Ethics Committee and Health Research Authority for the RCT.

Results The QI studies showed improvements in pain, function, and quality of life for CHAIN participants.^{2 3} The RCT found improvements in participants' reported ability to perform activities of daily living for both the CHAIN arm and those having usual physiotherapy care, although CHAIN showed a statistically significant larger improvement than usual physiotherapy.⁶ The improvement in both arms reduced three months after treatment. CHAIN was also found to be cost-effective when compared with usual physiotherapy care. Findings from the RCT have been submitted for publication.⁶

CHAIN has been shown to significantly improve functional outcomes and reduce pain for patients with hip OA, and is cost-effective. Physiotherapists can adopt CHAIN to offer a structured treatment alternative, leading to immediate improvements in mobility and pain management. CHAIN can also decrease the reliance on more expensive treatments such as surgery or prolonged physiotherapy sessions, leading to a more efficient use of healthcare resources.

Whilst CHAIN offers promising results, the reduction in treatment effect observed at the three-month follow-up suggests that ongoing support may be necessary to sustain benefits. Future research could explore strategies to maintain long-term outcomes, explore how to increase the generalisability of findings, and address any barriers to adherence.

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REFERENCES

1. Low M, Immins T, Wainwright T. Snapshot survey of physiotherapy practice for patients with hip osteoarthritis in the public sector. *European Journal of Physiotherapy* 2017;**20**:101–108.
2. Wainwright TW, Immins T, Middleton RG. A cycling and education programme for the treatment of hip osteoarthritis: a quality improvement study. *International Journal of Orthopaedic and Trauma Nursing* 2016;**23**:14–24.
3. Wainwright TW, Burgess LC, Immins T, et al. A cycling and education intervention for the treatment of hip osteoarthritis: A quality improvement replication programme. *SAGE Open Medicine* 2020;**8**:2050312120946522.
4. Wainwright TW, Parkinson EP, Immins T, et al. CycLing and EducATion (CLEAT): protocol for a single centre randomised controlled trial of a cycling and education intervention versus standard physiotherapy care for the treatment of hip osteoarthritis. *BMC Musculoskeletal Disorders* 2023;**24**:344.
5. Andrews LM, Allen H, Sheppard ZA, et al. More than just ticking a box...how patient and public involvement improved the research design and funding application for a project to evaluate a cycling intervention for hip osteoarthritis. *Res Involv Engagem.* 2015;**1**:13.
6. Wainwright TW, Immins T, Docherty S, et al. A CycLing and EducATion Intervention versus usual physiotherapy care for the treatment of hip osteoarthritis (CLEAT): a pragmatic randomised controlled trial of clinical and cost-effectiveness. *Lancet Rheumatol* Submitted - In Review

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FROM REPORTING TO LEARNING: TRANSFORMING INCIDENT MANAGEMENT IN A GENERAL HOSPITAL

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Introduction Electronic incident reporting systems have been utilized in hospitals for many years now. During this time, hospitals have worked hard to improve the safety culture to a culture where practitioners feel safe to report and discuss safety incidents.

And while reporting systems as a whole are perceived as valuable, it remains difficult to ensure incident reports and the analysis of events are effectively leading to knowledge increase and preventing recurrence of events.

Methods A quality improvement project was designed within the hospital with the following goals:

- Provide system improvements within the electronic reporting system to improve workflow for all users
- Introduce a new way to categorize incidents based on severity and scope
- Implement new standards for the analysis of reported, based on the severity of the event

To monitor the effects of the changes made, 2 quality indicators were measured before, during and after implementation:

- Changes in the number of events reported
- Monitoring of the processing time of reported events and monitoring of the percentage of events fully analyzed within 30 days.

Results After implementation, an increase in the average number of reports per quarter has been observed (Q2 2023: 310 events reported vs. 384 in Q2 2024), as well as an increase in the percentage of events that were fully handled and analyzed within 30 days of the report being made (45.5% in 2023 to 73.9% in Q2 of 2024.). This indicates that overall, more analyses were conducted and completed, providing more in-depth learning opportunities for care teams.

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A SUCCESSFUL MULTIDISCIPLINARY QUALITY IMPROVEMENT PROJECT IN IMPROVING MANAGEMENT OF PARACETAMOL OVERDOSE PATIENTS IN A DISTRICT GENERAL HOSPITAL IN THE UK USING QUALITY SERVICE IMPROVEMENT REDESIGN PRINCIPLES

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Introduction The Royal College of Emergency Medicine (RCEM) in the United Kingdom set the British standard of care for paracetamol overdose patients in 2008. These standards aim to uphold the best practice guidelines from the United Kingdom's Medicines and Healthcare Products Regulatory Agency.^{1 2} Timely recognition, correct timing of blood sampling for paracetamol levels and biochemical tests e.g. liver function tests, international normalised ratio, and timely administration of the N-acetylcysteine (NAC) antidote where appropriate are the cornerstones of these standards and guidelines. The NAC antidote is traditionally given over 21 hours in three separate infusions of different time durations: 1 hour, 4 hours and 16 hours.

In 2021, RCEM issued a position statement to recommend the Scottish and Newcastle Acetylcysteine Protocol (SNAP) to be the UK default regimen for paracetamol overdose patients because its shorter 12-hour duration and simpler administration: two infusions – 1st infusion over 1 hours, 2nd infusion over 10 hours.³ The Royal Derby Hospital (RDH) emergency department (ED) adopted SNAP in 2022.

RDH ED has continued with regular audits of the management of patients who taken a paracetamol overdose since the RCEM last published a national report in 2013. After adopting the use of SNAP in 2022, a local audit found a decrease in compliance in the percentage of patients with a single overdose receiving NAC in under the recommended 8 hours post ingestion of paracetamol. The aim of this quality improvement project was to increase compliance with the RCEM standards for managing paracetamol overdose patients with the goal of improving patient safety and their overall care.

Method This quality improvement project recruited a multidisciplinary team that followed quality service improvement redesign (QSIR) principles.⁴ This team conducted a survey of ED staff experiences in managing paracetamol overdose patients, planned change interventions and implemented these changes. These change interventions included: educational sessions, both face-to-face and custom-made short videos; quick reference laminated booklets summarising the MHRA guidelines for initial triage management of paracetamol overdose patients; and a custom-made sticker for speedier manual prescription of NAC. Plan, do, study, act cycles were conducted with each change intervention to analyse the effectiveness of these actions.

Data were collected and analysed to check for compliance with the standards set by RCEM, adverse events (such as anaphylactoid reactions and abnormal liver function tests) and system-level measures, including length of in-patient stay.