



Royal College of Emergency Medicine
Quality Improvement Programme



**Time Critical
Medication QIP
2023 - 24**

**Interim Report
Year 1**

Supporting Organisations:

Parkinson's UK:

"Parkinson's UK is pleased to support this year one report of the College's quality improvement project on time critical medication in hospital. The timely administration of Parkinson's medications in emergency settings is a critical issue that has a huge impact on the care of people with Parkinson's in hospital.

The [2022 UK Parkinson's Audit](#) revealed that over half of people with Parkinson's admitted to hospital faced challenges receiving their medication on time. People with Parkinson's are at risk of significant harm if they don't get their medication on time, every time. Even short delays in medication administration can worsen symptoms such as rigidity, pain, and tremor, as well as cause stress and anxiety, issues with swallowing, and an increased risk of falls and aspiration.

Parkinson's UK, through our 'Get It On Time' campaign, has long called for people with Parkinson's in hospital to get their medication on time, every time. We thank the College for supporting our campaign and for signing a [joint statement](#) to provoke action on this issue.

The 'Get It On Time' campaign led NHS England to commit to making improving the timely administration of time critical medication in hospital one of the key ambitions of the [Medicines Safety Improvement programme for 2024-2027](#).

To support these efforts, Parkinson's UK and The Public Service Consultants have developed a free [tool](#) to estimate cost savings and improvements in patient outcomes by increasing the timely administration of Parkinson's medication. It also allows the financial and clinical impact of improvement initiatives to be modelled at local and regional levels. Parkinson's UK has developed a range of [additional tools, resources, and learning](#) to support health professionals to deliver time critical medication to people with Parkinson's.

We look forward to seeing the results of the College's project and working with them to ensure that people with Parkinson's get their medication on time, every time in hospital."

Diabetes UK:

"For people with diabetes, especially those needing to attend an emergency department, going to hospital can be a worrying experience due to concerns about a loss of control over their diabetes management. One in six people in hospital have diabetes, and 35% of them need to be treated with insulin during their stay. Having very high blood glucose levels as a result of a delayed or missed insulin dose can lead to diabetic ketoacidosis, which is a potentially life-threatening emergency. It is encouraging to see that, in the first year of the Quality Improvement Programme, there has been a positive shift in improvements. We look forward to seeing the results as the programme continues."

Background

Time-critical Medication (TCM) is scheduled medication that a patient is already on when they present to the ED. It is time-critical because delayed or missed maintenance doses can result in the exacerbation of symptoms or development of complications, leading to patient deterioration and increased mortality.

Despite the recognised risk of harm, delivery of TCM is not consistent across EDs in the NHS.

The Royal College of Emergency Medicine (RCEM) TCM Quality Improvement Programme (QIP) was established to address this and to enhance the standard of care for patients requiring these medications in UK EDs. Timely administration of TCM is essential for achieving optimal clinical outcomes and preventing patient deterioration.

This QIP focuses on improving the identification and administration processes for TCM in EDs. By developing clinical standards, performance metrics, and evidence-based interventions, the programme aims to ensure the prompt and consistent delivery of TCM.

There is not a nationally agreed list of TCM. To address this the RCEM Patient Safety Committee published a TCM for UK EDs safety flash in November 2023, which concentrated on six groups of medications. They are based on the mnemonic **MISSED**:

Movement disorders - Parkinson's / myasthenia medication

Immunomodulators - Including HIV medication

Sugar - Insulin

Steroids - Addison's & adrenal insufficiency

Epilepsy – Anticonvulsants

DOACs & Warfarin

A copy of the TCM safety flash is available [here](#)



In Year 1 of this QIP, oral Levodopa and Insulin were prioritised due to their prevalence among ED patients and critical timeframes for administration. Improvements in the quality of care for these two groups are anticipated to inform approaches for the other TCM identified by the Patient Safety Committee.

Three standards were created to identify how quickly ED patients were identified as being on TCM; if they were receiving their TCM doses within 30 minutes of their usual dose timing and if they received all of their scheduled doses while in the ED.

It is hoped that recording and reviewing this type of information will allow EDs to put in place improved processes to more quickly identify patients on TCM and ensure that they receive all of their doses at the scheduled times. Thus, reducing the complications and harm that can come to patients who miss time critical medications.

The programme runs from 2023-26 and this report presents results from the 4th of October 2023 to the 3rd of October 2024, during which time 136 EDs submitted 16,848 patient cases.

Why this QIP matters

A recent Health Services Safety Investigations Body (HSSIB) report from December 2024 highlighted a case where an 85-year-old man with Parkinson's spent three days in the ED. Despite walking in and self-administering his first two doses, he was only given half of the subsequent doses he required. He died four weeks later. The coroner's inquest stated that his poor Parkinson's care contributed to his death.

This QIP matters because by implementing change, the chances of this happening in your ED will be reduced.

We need to allow and empower patients to manage their own TCM in the ED when appropriate, as this will reduce the risks of missed and delayed doses whilst their care needs are being assessed.

Clinical Standards

The clinical standards set for this QIP are:

- **Standard 1** - All patients taking TCM should be identified within 30 minutes of arrival.
- **Standard 2** - All TCM should be administered within 30 minutes of the expected time.
- **Standard 3** - No doses of a TCM should be missed during a patients stay in the ED.

To help in the identification of patients for the QIP the TCM topic team ran a series of online webinars in Year 1, which were all well attended. They provided guidance on different methods of identification that could be implemented, whether an ED used paper or electronic records.

For further information on the clinical standards, methodology, and approach to analysis, please see the [TCM Information Pack](#) and [additional charts](#).

Standard 1 - All patients taking TCM should be identified within 30 minutes of arrival

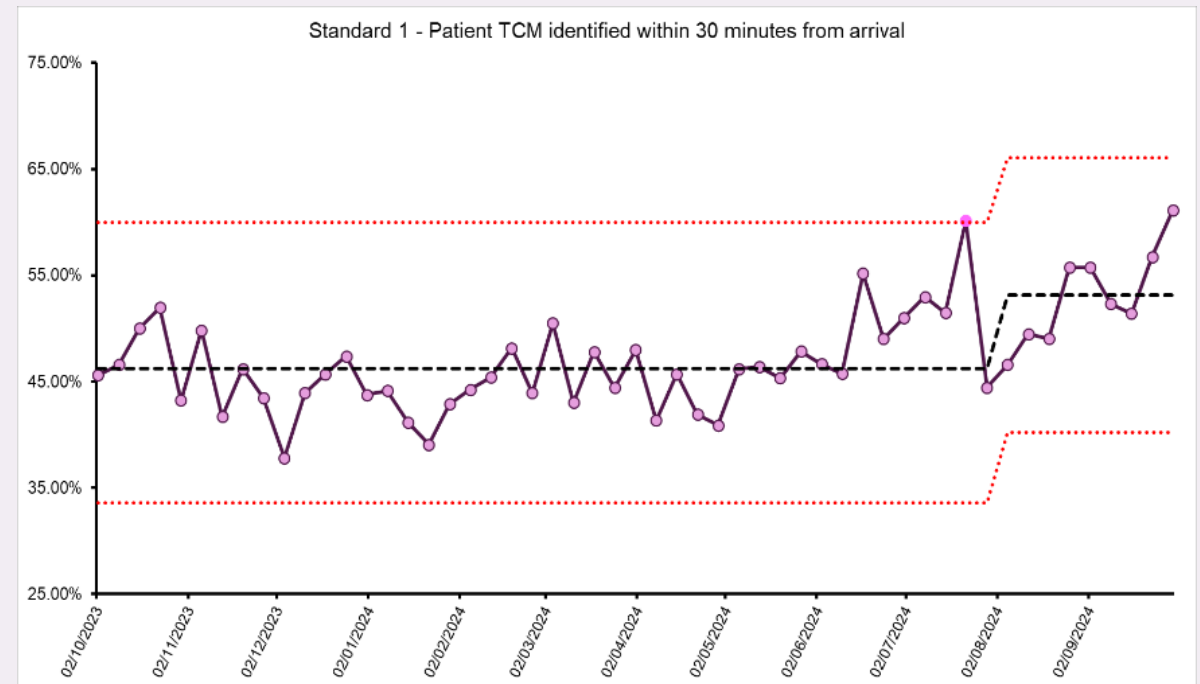
Out of 16,848 submitted patient records 13,478 (80%) were eligible for TCM. (5,873 Levodopa / 7,528 Insulin / 77 both).

46.6% of all patients identified to be on either Levodopa or Insulin were identified within 30 minutes of arrival in the ED. (For Levodopa patients this was 47.5% and for Insulin patients it was 45.8%).

Overall, the percentage of patients identified as being on a TCM within 30 minutes of arrival in the ED remained around the mean (46.19%) until August 2024. From mid-August 2024 there was a shift indicating significant improvements and a new mean of 53.13% of patients identified within 30 minutes, as the SPC chart on the right shows.

Recommendations

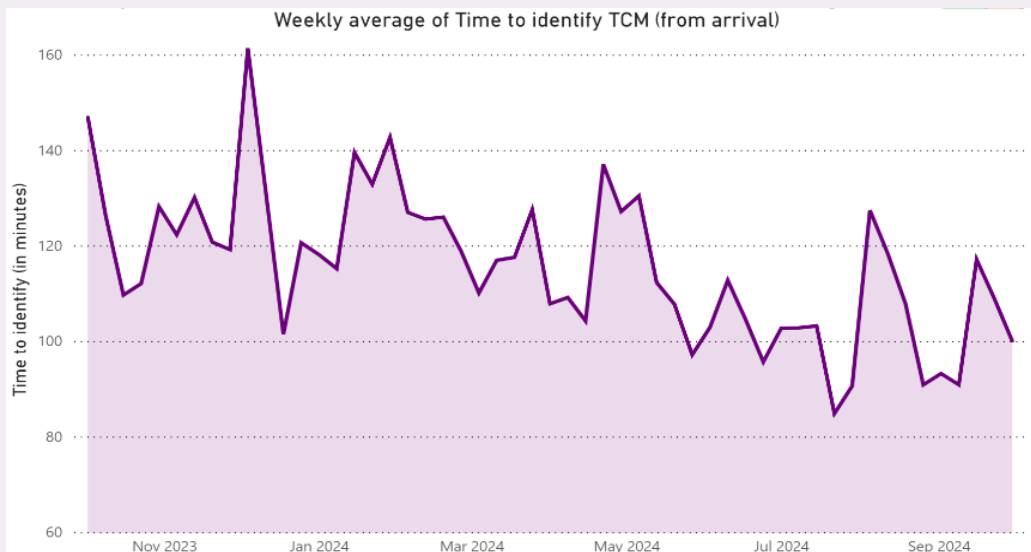
TCM patients need to be identified early to start the process of getting all their TCM whilst in the ED. The sooner the identification happens after arrival the more time ED staff have to achieve this.



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Standard 1 - Average time to identify TCM from arrival

The average time to identify a patient on either Levodopa or Insulin from arrival in the ED does show a downward trend over Year 1, from 123 minutes in November 2023 to 101 minutes in September 2024.

Standard 1 - Who identified patients on TCM?

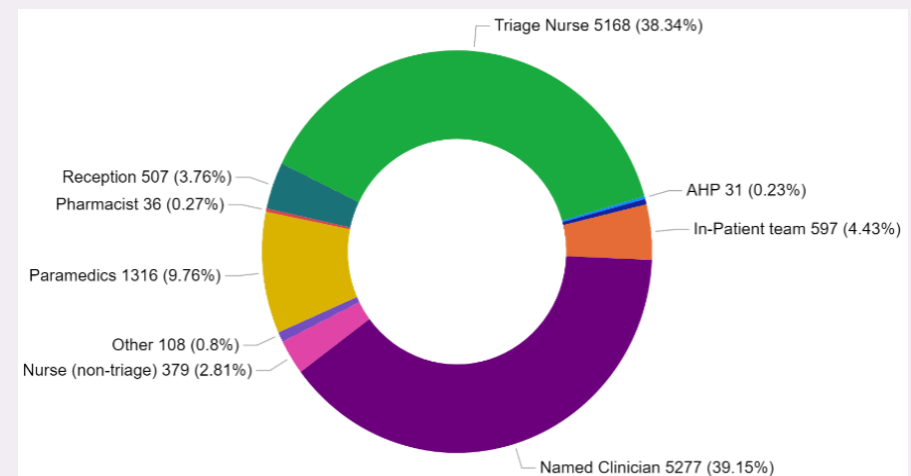
In total only 3.8% of patients were identified as being on a TCM by reception staff and 38.3% by the Triage Nurse.

The majority of patients on TCM were identified by the named clinician (39.2%)

This was similar for both levodopa and insulin.

The average time to identify patients on a TCM was 10 minutes for reception staff, 35 minutes for the triage nurse and 182 minutes for the named clinician.

The earlier a patient is identified to be on a TCM, the greater the chance of them receiving their medications when they need them.



Standard 2 - All TCM should be administered within 30 minutes of the expected time.

Out of 19,161 doses 10,850 doses were eligible (56.63%). The main reason for ineligible doses was due to missing information on when the patient usually took their TCM. This standard also included patients who self-administered.

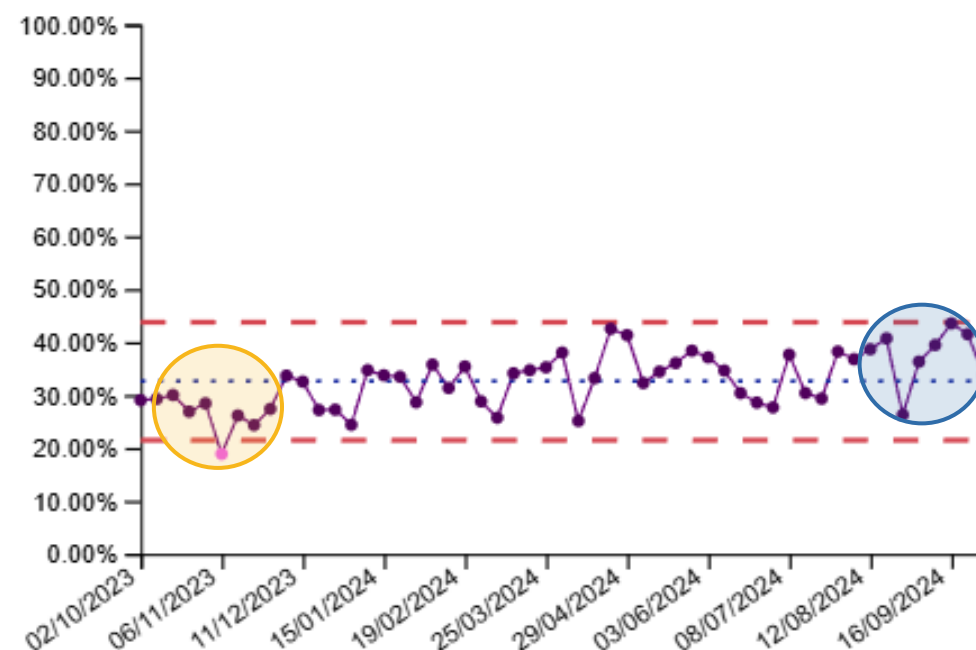
32.37% of patients TCM doses were administered within 30 minutes of their scheduled time. For Levodopa this was 39.17% and for Insulin this was 22.47%.

The SPC chart on the right does not show a significant step change yet, but there does appear to be early signals that more patients are receiving their medications on time since August 2024 (blue circle), compared to the initial data collection period from October - December 2023 (orange circle).

Recommendations

Systems need to be in place which facilitate the timely administration of TCM, including self-administration. Access to an accurate and up to-date medication list is vital for all TCM to be prescribed.

STANDARD 2 - TCM dose administered within 30 minutes of expected time



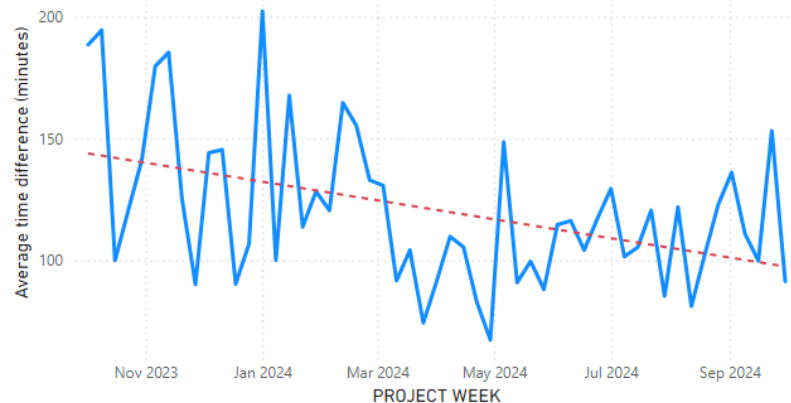
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Average time difference to administer TCM

Does not include doses where the administration or prescription were recorded as missing



Standard 2 - Average time to administer TCM

Although the average time difference to administer TCM appears to show a downward trend over Year 1 when plotting a line of best fit (red dotted line), it is worth noting that the R^2 value of 0.2 does show that the variability of the data is significant and indicates that a trend overtime is not conclusive.

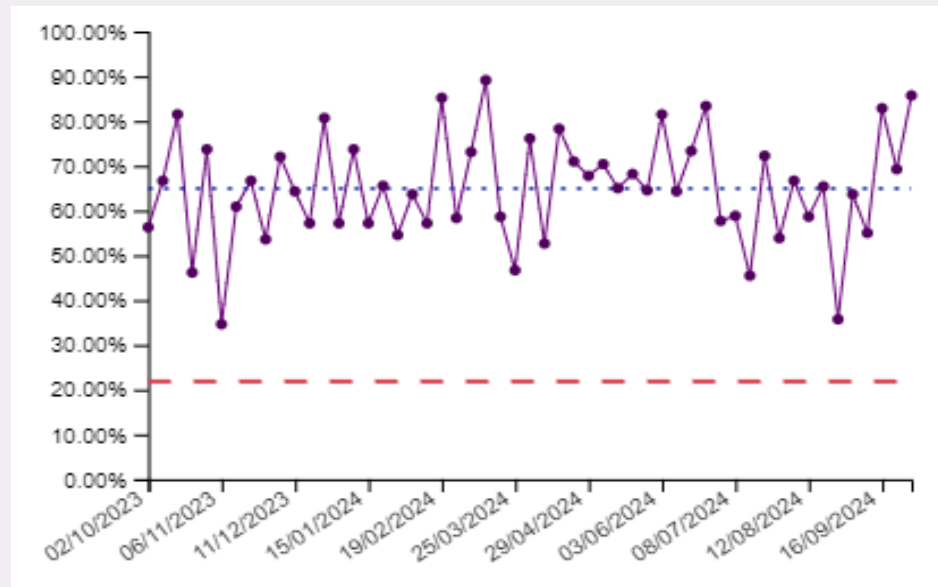
Self-Administered Doses

66.2% of patients who self-administered their own TCM, doses were administered within 30 minutes of their scheduled time.

For Levodopa self-administered doses this was 74%, for Insulin this was 53.7% of doses.

11.37% of patients (1,234 out of 10,850 eligible doses were recorded as self-administering).

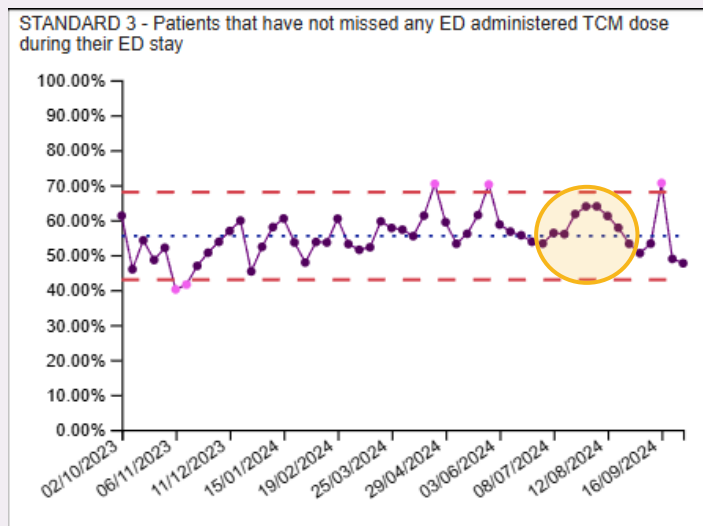
If more patients are identified and supported where appropriate to self-administer their own TCM in the ED, it will increase the proportion of all patients getting their medicines on time, and potentially shift staff resources to those who need help with their medications.



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Standard 3

Across the 1st year of the TCM QIP, 55.3% of patients did not miss any ED staff administered TCM doses during their ED Stay (3,637 out of 6,577 eligible patients).

For patients exclusively on Levodopa this was 57.94% (1,995 out of 3,443).

For patients exclusively on Insulin this was 52.47% (1,626 out of 3,099)

Across the year overall weekly performance has fluctuated on the SPC chart, with no significant step changes yet. Data points in July and August 2024 were maintained above the mean for 7 weeks consecutively (orange circle) though showing potentially what might be possible when overcrowding risks are lower in EDs.

Recommendations

A clear governance structure must be in place to determine who is responsible for the prescribing and administering of TCM in the ED from when the patient arrives to when they are admitted to the ward or discharged from the ED. This will be for local EDs to decide. However, EDs should bear in mind that it will likely be the ED nurse who administers them to the patient.

Standard 3 - Total Doses Given

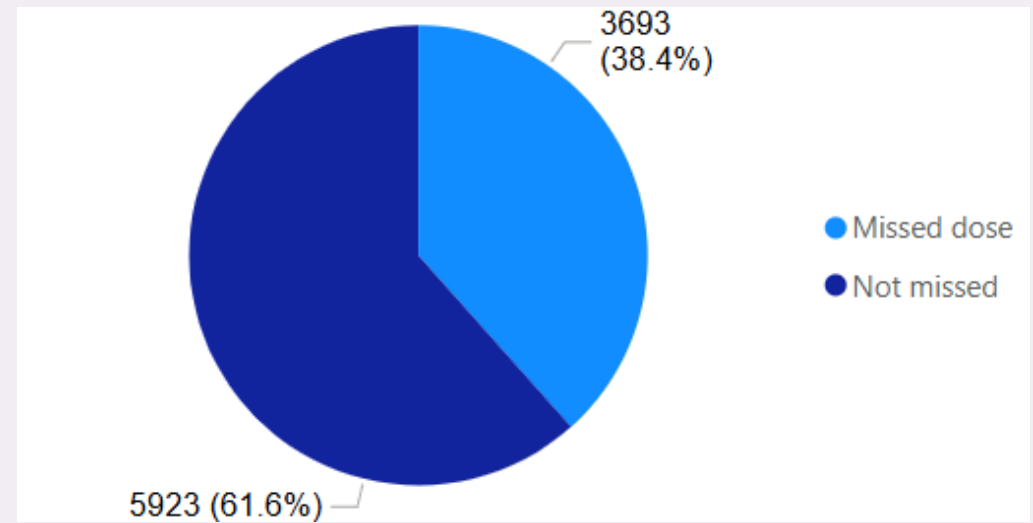
Over 6 out of every 10 TCM doses that should have been given by ED staff have been administered.

The proportion of Levodopa doses given was higher than those that were given for Insulin, i.e., more Insulin doses were missed.

64.83% of Levodopa doses were given.

56.96% of Insulin doses were given.

Standard 3 eligible doses – Administered and missed doses breakdown



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Key Trends in 2023-24

- Time to identify patient on TCM

Overall, the percentage of patients identified as being on a TCM within 30 minutes remained around the mean (46.19%) until August 2024. Since mid-August 2024, the SPC chart is showing a shift indicating significant improvements and a new mean of 53.13% of patients identified within 30 minutes.

- Time to administer TCM dose

Results does not show a significant step change yet, but there does appear to be early signals that more patients are receiving their medications on time since August 2024 compared to initial data collection periods October to December 2023

- Consistent TCM administration

Across the year overall weekly performance has fluctuated, with no significant step changes yet. Data points in July and August 2024 were maintained above the mean for 7 weeks consecutively, though showing potentially what might be possible when overcrowding risks are lower in EDs.



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Limitations and Considerations

Year 1 was designed to allow EDs to bed in and benchmark against the 3 standards, identifying where improvements needed to be made and to start the process of putting solutions in place.

Identification of patients on TCM proved to be a challenge as 16,848 records out of an expected 42,432 records were submitted (if all 136 EDs submitted 3 levodopa and 3 insulin cases a week).

Even if patients were identified to be on TCM, the recording of the time this happened in the ED proved to be a challenge. Despite this we were delighted to see that in those who were, there has been a positive shift in the percentage identified within 30 minutes.

Recording of the prescribing and administering data was also a challenge. Feedback indicated that this QIP was easier for paperless EDs with electronic prescribing. This may go some way to explain the high percentage of excluded doses.

The percentage of levodopa doses that were given within 30 minute of when they were expected to be was better than insulin (see appendix charts). This may be explained by the fact that insulin administration is closely related to food intake and we were not able to capture this data, or perhaps that there is a greater awareness that Parkinson's medications are time critical.

We hope the recommendations in this report help to address these issues.

- We would like to thank all of the ED's and their staff who were part of this TCM QIP which is endeavouring to improve patient outcomes for patients within the ED who require time critical medication. We are fully aware of the challenge of delivering care to these patients within worsening ED overcrowding and are really appreciative of the emergency departments endeavours to deliver improved care for this patient cohort.
- We also acknowledge and apologise for the fact that ED Sites have not had access to a dashboard area to allow them to easily review their performance against the TCM Standards. This will have impacted on their ability to monitor their performance against the standards.
- Charts in this report include only validated cases submitted within the data entry period. Records were screened to exclude poor-quality data. Cases with incomplete information or data entry errors were excluded. Specific exclusion criteria are detailed in the results section of this report.

Overall Recommendations from 2023-24

- Department level recommendations

EDs should:

1. Include TCM in all ED inductions including any bank and locum staff undertaking a shift in ED.
2. Include TCM in all ED teaching programmes.
3. Discuss TCM at all local governance forums and have local action plans to improve TCM administration.
4. Ensure ED nursing staff have access to portable digital devices that alert when a TCM dose is due.

EDs should have systems that:

1. Allow accurate prescribing by having access to the most recent outpatient, or discharge letter or by confirming approved prescriptions with the patient on their NHS app (NHS England only).
2. Allow ED staff to only prescribe TCM at specific times (i.e not morning, afternoon or evening).
3. Ensure patients who have been identified to be on TCM (with no medical reason not to give them) have an alert or task added by the triage nurse, assessment team, ED nurse or ED pharmacist, which highlights that all TCM doses need to be prescribed.
4. Allow suitable patients who are safe to self-administer their own TCM to do so (see RCEM TCM position statement).
5. Ensure they are working towards previous RCEM recommendations regarding embedding clinical pharmacy services to support timely access to time critical medications.

ED staff should ask if patients are on a TCM when they arrive and should adopt an early method of identification. This could include:

1. Having a visible list of the MISSED TCM at reception, or other handover areas, that prompts patients and ambulance staff to confirm a TCM is being taken.
2. Having a TCM sticker (either a specific Parkinson's or Insulin or a generic TCM one) applied to the notes once identified.
3. Having a mandatory dropdown list of MISSED TCM on the EPR which is selected once identified.

- Trust & National Recommendations

RCEM should work with NHS educational bodies and relevant charities.

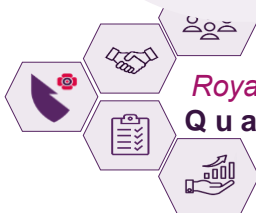
1. To produce generic education around the importance of TCM for all staff.
2. To produce education for people on TCM around self-administration

The NHS in all nations should ensure that:

1. Hospitals have funding for e-prescribing systems to prescribe and monitor TCM and that all ED staff and admitting teams are educated in how to use them effectively.
2. Hospitals have access to the most up to date list of a patient's GP repeat prescription record to ensure accurate prescribing This should be cross checked with the patients and/or their relatives.

Primary and secondary care and relevant charities should:

1. Endeavour to educate people that their medication is time critical.
2. Ensure they understand the importance of having their TCM with them.
3. Encourage the use of the term Time Critical Medication when they are in the ED.



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CASE STUDY of Improvement

Leicester Royal Infirmary

In April 2024, The University Hospitals of Leicester ED implemented a new system. As part of this work a poster of all the MISSED TCM was visible at every ED reception booth. People could then communicate to ED reception that they took TCM at reception.

A system was also introduced in which the ED reception staff had to ask every patient and document if they were on a MISSED TCM if they didn't volunteer the information. This was mandatory as the EPR could not be uploaded onto the system until this had been completed.

This electronic flag was coloured red so the triage nurse or the assessment team could easily identify that the patient was taking a TCM.

The SPC chart (**Figure 1**) shows a step change in the data from August 2024 with the new mean being (**94.38%**) from the old mean (**63.62%**)

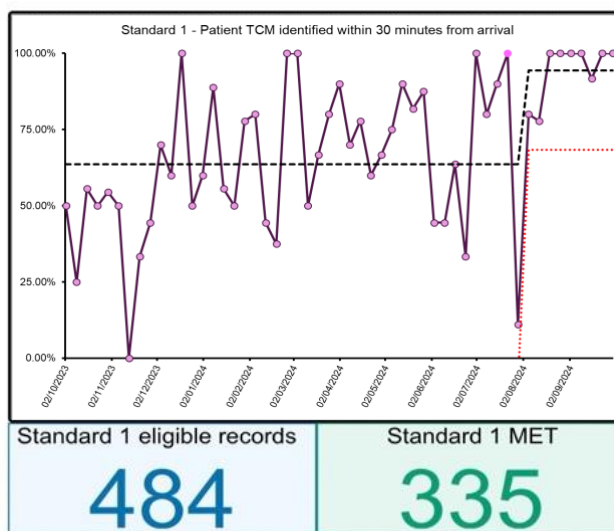


Figure 1 – Standard 1 performance SPC Chart

As a result **79.8%** of people on TCM were identified by either the ED reception (**45.5%**) or the ED triage nurse (**34.3%**) – See **figure 2**.

Although this doesn't guarantee that TCM will be given within 30 minutes, in this case study **51.9%** of TCM were, with **69%** of people getting all their doses while in the ED.

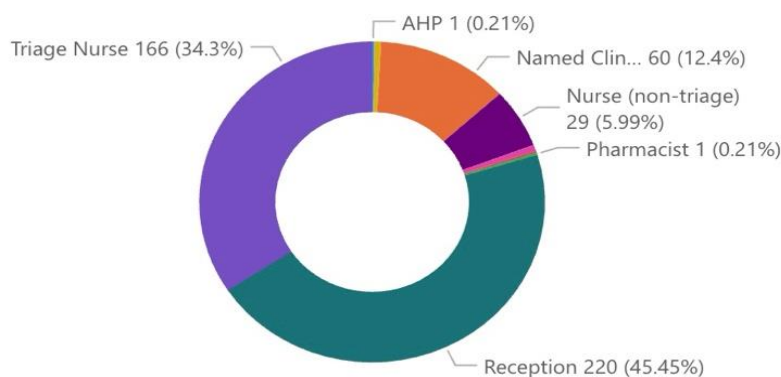


Figure 1 – Breakdown of patient TCM identified by specific staff group.



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Participating sites

Thank you for taking part in this QIP. A full list of participant EDs can be found below.

Please note, all sites are noted who registered and submitted a data to this programme.

[Participating sites \(link\)](#)

Authors and Contributors

This report is produced by the Quality Assurance and Improvement Committee subgroup of the [Quality in Emergency Care Committee](#), for the [Royal College of Emergency Medicine \(RCEM\)](#).

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Register for 2025

Registrations for the 2025 RCEM QIPs are now open to all [Type 1 UK Emergency Departments](#). Take part and improve patient care in 2025.

Details of the QIPs running in 2025 and how to take part can be found on at RCEM's [Quality Improvement Page](#).

To register your ED, please complete and submit the 2025 registration form using the QR code or link below.

[2025 RCEM QIP Registration Form \(link\)](#)



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Have Your Say

Feedback is essential for RCEM's QIPs and is incorporated in every stage of our programmes.

If you have any queries regarding the report or programme, you can contact RCEM's quality team at RCEMQIP@rcem.ac.uk.

If you have feedback on this report or another aspect of the QIPs, please complete the QIP feedback survey using the QR code or link below.

[RCEM QIPs Feedback Form \(link\)](#)



Invited Service Reviews

RCEM undertakes reviews of emergency care services at the invitation of NHS organisations. A service review will provide a detailed assessment and key recommendations to support service's improvement at both a clinical and organisational level.

If your trust is interested in the service, please e-mail Quality@rcem.ac.uk or complete the invitation form using the QR code or link below

[Invited Service Review Request Form \(link\)](#)



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