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Using Quality Improvement to improve serious incident reporting in the English NHS

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ABSTRACT

Background Timely completion of serious incident reports is crucial for patient safety and regulatory compliance. Delays hinder organisational learning and compromise patient outcomes. Between May 2021 and April 2022, East London NHS Foundation Trust (ELFT), a provider of mental health, community health and primary care services to approximately 1.8 million people across London and Bedfordshire, faced a significant backlog of serious incident reports. Completion times averaged 208 days—well beyond the 60-day target set by NHS England at the time.

Methods A quality improvement (QI) initiative employing structured methodologies, including the ELFT Sequence of Improvement, statistical process control, Ishikawa analysis, a driver diagram and plan-do-study-act cycles to diagnose and address process inefficiencies.

Interventions Three main change ideas were tested and implemented: concise reporting templates to streamline documentation, a caseload tracker for real-time monitoring and team escalation meetings to improve communication and accountability.

Results These interventions led to a 65% reduction in average completion time, decreasing from 208 days to 74 days. Additionally, staff collaboration and workflow efficiency improved, fostering a culture of continuous improvement, continuous learning and accountability.

Conclusions This project demonstrates the effectiveness of structured QI methodologies in improving serious incident reporting. The implemented changes are sustainable and provide a scalable model for other healthcare organisations aiming to enhance patient safety and compliance. Future work will focus on embedding these improvements into routine practice and exploring their impact on broader organisational learning.

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Timely serious incident reporting is essential for patient safety and organisational learning. However, delays in report completion are common across healthcare systems, often due to process inefficiencies, workforce constraints and unclear protocols. These delays can hinder regulatory compliance, slow the implementation of corrective actions and compromise patient safety.

WHAT THIS STUDY ADDS

⇒ This study demonstrates how structured quality improvement (QI) methodologies, including the East London NHS Foundation Trust Sequence of Improvement, statistical process control and iterative plan-do-study-act cycles, can significantly reduce serious incident report completion times. The introduction of targeted interventions, such as concise reporting templates, real-time caseload trackers and team escalation meetings, resulted in a 65% reduction in average completion time and enhanced staff collaboration.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ By demonstrating the effectiveness of QI in streamlining incident reporting, this work provides a replicable framework for other healthcare organisations facing similar challenges. It underscores the importance of continuous measurement and stakeholder engagement in driving sustainable improvements. Policy-makers may leverage these insights to refine regulatory standards and support initiatives that enhance reporting efficiency and patient safety.

PROBLEM

East London NHS Foundation Trust (ELFT) is a healthcare organisation that provides mental health, community health and primary care services to a population of approximately 1.8 million people across London and Bedfordshire.[1 2] With a well-established quality improvement (QI) culture of embedding structured improvement methodologies across its services,[3] the organisation has undertaken multiple large-scale QI projects to drive system-level change and enhance patient care and safety.[4] As part of these efforts, serious incident (SI) reporting plays a crucial role in ensuring patient safety and driving organisational learning. However, in 2022, ELFT faced a significant backlog in completing reports within the required time frame. The average completion time for serious incident reports at ELFT was 208 days, far exceeding the 60-day target set by NHS England at the time.[5] The ongoing COVID-19 pandemic exacerbated the situation, leading to staff shortages and team turnover, further intensifying the issue. Prolonged completion times raised compliance risks for

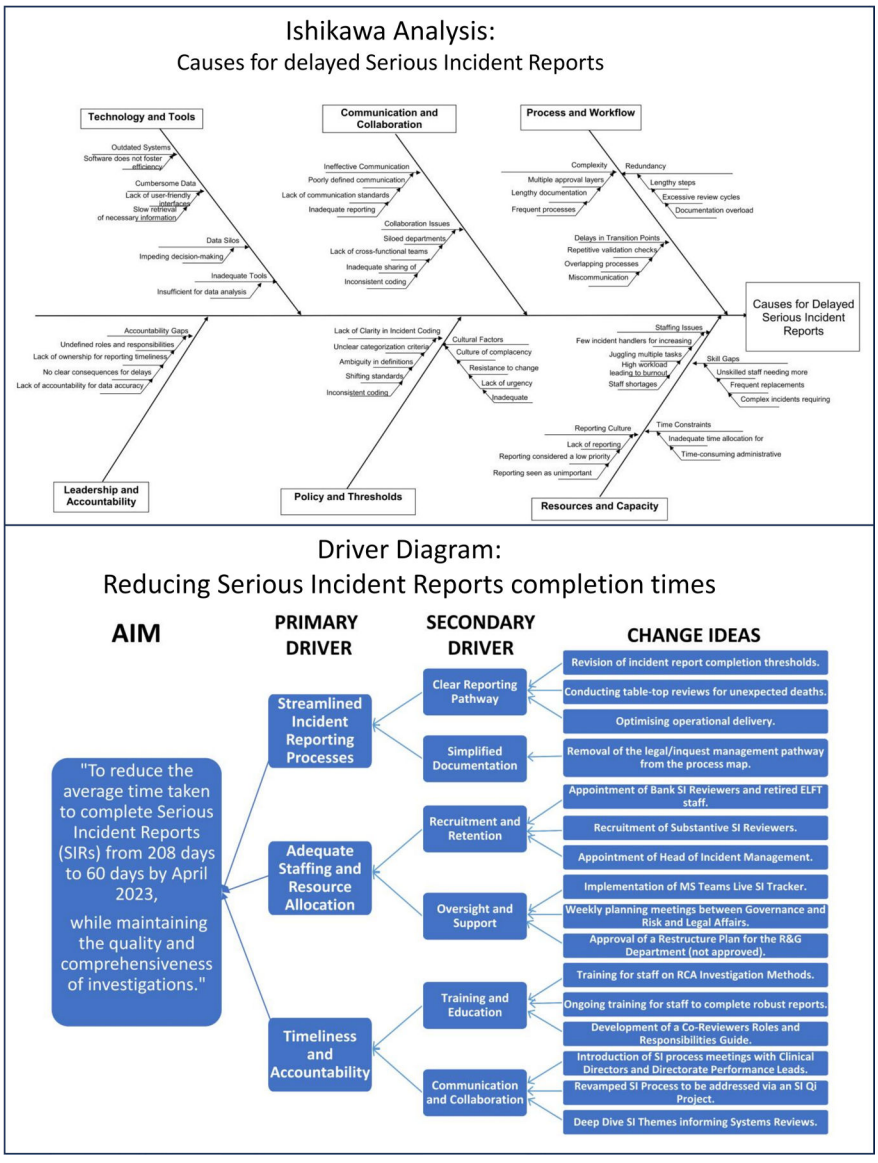

Figure 1 Top: Ishikawa analysis undertaken by the team; Bottom: Driver diagram displaying the project's theory of change. ELFT, East London NHS Foundation Trust; MS, Microsoft; RCA, Root Cause Analysis; SI, Serious Incident.

ELFT, making it increasingly difficult to meet statutory requirements and uphold regulatory standards, as well as posing risks to patient safety and the organisation's ability to learn from incidents promptly.

In response, the ELFT Governance and Risk team, in partnership with the Legal Team and others, formed a quality improvement project team to streamline their incident reporting processes. The aim of this project was to reduce the average completion time of serious incident reports from 208 days to 60 days across all departments of ELFT within 12 months.

Through an Ishikawa analysis[6] (figure 1), the team recognised that the problem was multifaceted, involving issues related to process and workflow, resource and capacity, communication and collaboration, policy and thresholds, technology and tools, leadership and accountability. It was clear that a deeper understanding of these issues was needed to develop effective solutions. This understanding laid the foundation for the development of a strategic approach to tackle the problem.

BACKGROUND

Incident reporting is a critical component of safety management across industries,[7 8] particularly in healthcare settings such as the English National Health Service (NHS).[5] It fosters transparency and continuous learning,[5 9 10] contributing to risk identification and mitigation.[11 12] However, despite the widespread adoption of incident reporting systems, many reports are not completed beyond expected time frames, limiting their ability to drive timely safety improvements and systemic learning.[13 14]

In the UK, NHS Trusts report thousands of incidents annually, yet a significant proportion of these reports remain incomplete for extended periods.[8 13 14] This

backlog can pose a substantial risk to patient safety, as it delays the implementation of necessary changes based on the learnings from these incidents.[14 15]

Various strategies have been tried in the past to address this issue, including changes in reporting processes, staff training programmes and the use of new technologies[8 9 15 16]; still, challenges persist due to competing priorities, resource constraints and complex reporting requirements.[13] Additionally, barriers such as inconsistent communication feedback and inadequate leadership engagement further challenge sustained improvement efforts.[15 17] Addressing these issues requires a multifaceted approach that considers the complex interplay of these factors.[13–15]

To maximise the learning potential of incident reports, timely completion is essential. Prompt reporting ensures accuracy while details are fresh, leading to more reliable analysis of incidents,[8 9 12 14] which in turn is vital for identifying systemic issues that may need to be addressed.[13 18] Enhancing the efficiency and effectiveness of serious incident reporting has therefore become a key priority for NHS Trusts.[19]

In response to these challenges, a structured improvement initiative was undertaken to optimise the serious incident reporting process at ELFT, employing a multidisciplinary approach to address delays while fostering systems-wide improvements rather than focusing solely on individual accountability.[14 20 21]

DESIGN

A multidisciplinary project team was formed, consisting of the Trust's Governance & Risk team and the Legal Team. It included medical leadership, incident reviewers, data specialists, human factors and patient safety experts, nurses, solicitors and paralegals. Weekly meetings were held to discuss progress and next steps, supported by a senior sponsor and an Improvement Advisor who provided coaching in the application of QI methodology.

The team adopted the Model for Improvement[22] alongside ELFT's Sequence of Improvement, a structured approach that has been consistently used for a decade.[4 23–28] This methodology comprises five key stages: identifying the quality issue, understanding the problem, developing a comprehensive strategy, testing that strategy and proceeding to implementation and sustaining the gains.

To fully understand the causes of delays in serious incident reporting, the team employed an Ishikawa analysis[6] to systematically identify root causes of delays. Initially planned as an in-person exercise, COVID-19 restrictions made it challenging to gather all stakeholders. Instead, project leads held regular discussions with their teams to collect insights, with findings consolidated into a comprehensive fishbone diagram (figure 1) that encapsulated the primary causes of delays across domains such as 'technology and tools', 'communication', 'process and workflow', 'leadership and accountability', 'policy and thresholds' and 'resources and capacity'. This analysis provided a detailed understanding of where delays were occurring, informing the strategic framework to address these barriers.

STRATEGY

Building on these insights, the team created a driver diagram (figure 1) to visually represent their theory of change.[29] Three primary drivers were identified as pivotal to achieving the desired outcomes: 'streamlining incident reporting processes', 'adequate staffing and resource allocation' and 'timeliness and accountability'. To operationalise these improvements, the team tested three high-impact change ideas using the plan-do-study-act (PDSA) model.[22] These interventions aimed to improve monitoring, reporting efficiency and escalation process to address the backlog of serious incident reports.

Prior to implementing the three tests of change, investigations relied on manual tracking, requiring teams to gather incident details across multiple systems without a centralised caseload tracker. Case discussions occurred in an ad hoc manner, often delaying escalation decisions and adding variability to reporting timelines. Additionally, the reporting format lacked standardisation, leading to inconsistencies in report quality and length. These inefficiencies contributed to significant backlogs, with completion times frequently exceeding the NHS England target of 60 workdays.

PDSA 1: team escalation meetings: To improve monitoring and accountability, the team introduced monthly escalation meetings, where the status of serious incident reports was reviewed and any issues could be promptly addressed.

However, while feedback from staff indicated that these meetings improved communication and accountability, they were not sufficient in significantly reducing the time taken to complete the reports.

PDSA 2: enhanced concise report: The team tested whether an enhanced concise report would lead to faster reporting and actions. This report was envisioned to be a streamlined version of the incident report, while retaining all critical information necessary for thorough investigation process. This report underwent three iterations, with each version building on the previous one based on the learnings and feedback.

- Iteration 1: The initial enhanced report simplified the reporting process by reducing the number of required fields and focusing on the most critical information. While this version saved time, it often resulted in omitted critical information, such as detailed antecedents and lessons learnt, leading to incomplete reports.
- Iteration 2: The second version reintroduced certain critical fields that were previously removed but were essential for thorough incident documentation. These included background context, contributory factors and a summary of care and service delivery problems. This iteration aimed to balance brevity

with comprehensiveness, ensuring key elements were captured without overwhelming staff.

- Iteration 3: The third version incorporated prompts to ensure accuracy. The layout was further refined to enhance user experience, with a clearer structure and better guidance on required inputs. This iteration significantly reduced errors and completion times, addressing limitations identified in the previous rounds.

By simplifying the report, the team expected to make it easier for staff to complete the reports within the target timeframe, as well as addressing the limitations identified in PDSA 1 by making the reporting process more efficient and user-friendly. Still, it was felt that something was missing in terms of real-time tracking and escalation of reports.

PDSA 3: caseload tracker: The team tested whether a caseload tracker would lead to faster escalation, expediting incident resolution. The caseload tracker was produced as an Excel spreadsheet for monitoring and managing incidents reporting process. The tracker would provide real-time visibility of the status of each report, enabling timely escalations, ensuring that reports would not be missed, thereby expediting the incident resolution process.

MEASUREMENT

To address the backlog of serious incident reports, we analysed data on serious incidents reported at ELFT from May 2021 to March 2022. This assessment revealed significant delays, with completion times for serious incident reports ranging between 44 and 472 workdays, averaging 208 days, far exceeding the targeted 60-day timeframe. Notably, less than 3% of serious incident reports were completed within 60 days prior to the intervention, with over 50% exceeding 200 days. These delays highlighted systemic inefficiencies, necessitating a structured improvement approach. To monitor progress towards our goal of reducing the average completion time to 60 days within 12 months across all ELFT departments, we adopted a balanced family of measures approach,[30] as follows:

Outcome measure

The primary outcome measure was the number of workdays taken to complete each serious incident report, from the date it was reported on the Strategic Executive Information System (STEIS) to the date the final report was sent to the commissioners. This was measured over time on a statistical process control chart (figure 2), to help understand variation over time and whether the changes were leading to improvement.[30]

Process measures

To learn from the processes and 'show how we are doing with the things we are actually working on to help us achieve our aim',[30] we used an adapted approach based on the Ishikawa analysis[6] to map and identify the key contributors to reporting delays. Team members (n=14) scored the impact of each issue (figure 1) over process delays using a 1–5 scale (5=highest impact), with individual scores averaged to represent the impact of each item, so that the team could work together in targeting and mitigating these critical issues.

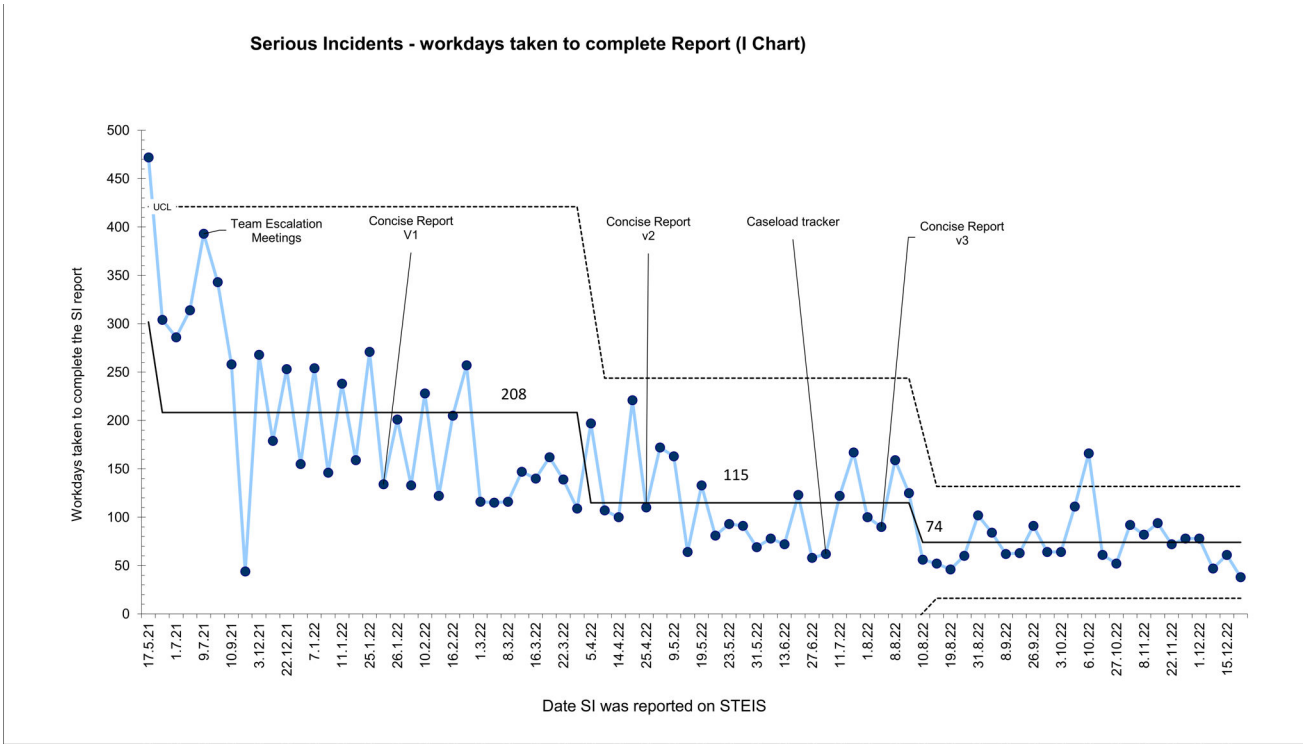

Figure 2 I-chart displaying the reduction of workdays taken to complete serious incident (SI) reports at East London NHS Foundation Trust (ELFT), reported via Strategic Executive Information System (STEIS).

The following items were selected as 'process measures', based on their actionability and direct link to the tested interventions:

- **Delays in retrieving critical data**: Evaluated whether workflow changes and the caseload tracker led to faster data retrieval.
- **System-related delays during escalation**: Assessed the extent to which improved escalation protocols and tracking mechanisms reduced delays.
- **Ambiguities in threshold standards**: Determined the effectiveness of regular team meetings and leadership support in clarifying escalation standards.

Balancing measures

The following balancing measures were tracked using the same adapted Ishikawa approach to monitor some potential unintended consequences:

- **Sense of documentation burden**: To ensure that the concise report and workflows enhancements were leading to reduced administrative workload on staff, reducing the time and effort needed to document serious incidents effectively.
- **Sense of rushed work**: To ensure that the faster pace of report completion did not compromise the quality of incident investigations or make the process feel rushed.

RESULTS

Outcome measure

Over the course of the project, the average time required to complete serious incident reports decreased from 208 days to 74 days. This represents a 65% reduction in the average completion time (figure 2), demonstrating the effectiveness of the change ideas in minimising reporting delays and enhancing process efficiency.

Process measures

Key process measures (figure 3) were assessed using an adapted Ishikawa analysis, where team members evaluated and rated the perceived impact of specific challenges on delays preintervention and postintervention:

- **Delays in retrieving critical data:** The introduction of the caseload tracker and improved workflows substantially enhanced data accessibility. The average score for this measure improved from 2.7 to 1.1, reflecting enhanced accessibility to critical information.
- **System-related delays during escalation:** Enhanced escalation protocols and improved system visibility corresponded to a significant reduction in the perceived frequency of escalation-related delays. The average score improved from 2.4 to 1.1, suggesting greater efficiency in the process.
- **Ambiguities in threshold standards:** Leadership support and regular team meetings contributed to a reduction in the perceived uncertainty surrounding escalation thresholds. The score improved from an average 3.5–1.8, indicating enhanced consistency in decision-making and reporting practices.

Balancing measures

To monitor potential unintended consequences, balancing measures were tracked using the same adapted Ishikawa analysis approach:

- **Sense of rushed work:** Despite the faster pace of report completion, there was no substantial increase in the perceived pressure to rush reports. The average score remained relatively stable, changing from 3.7 to 3.6 on a 5-point scale (figure 3).
- **Documentation burden:** The reported sense of documentation burden decreased, with average scores improving from 2.8 to 2.1, suggesting a reduction in administrative load without compromising reporting quality.

DISCUSSION

This project demonstrated the successful application of QI methodologies in addressing inefficiencies in serious incident reporting. By integrating the ELFT Sequence

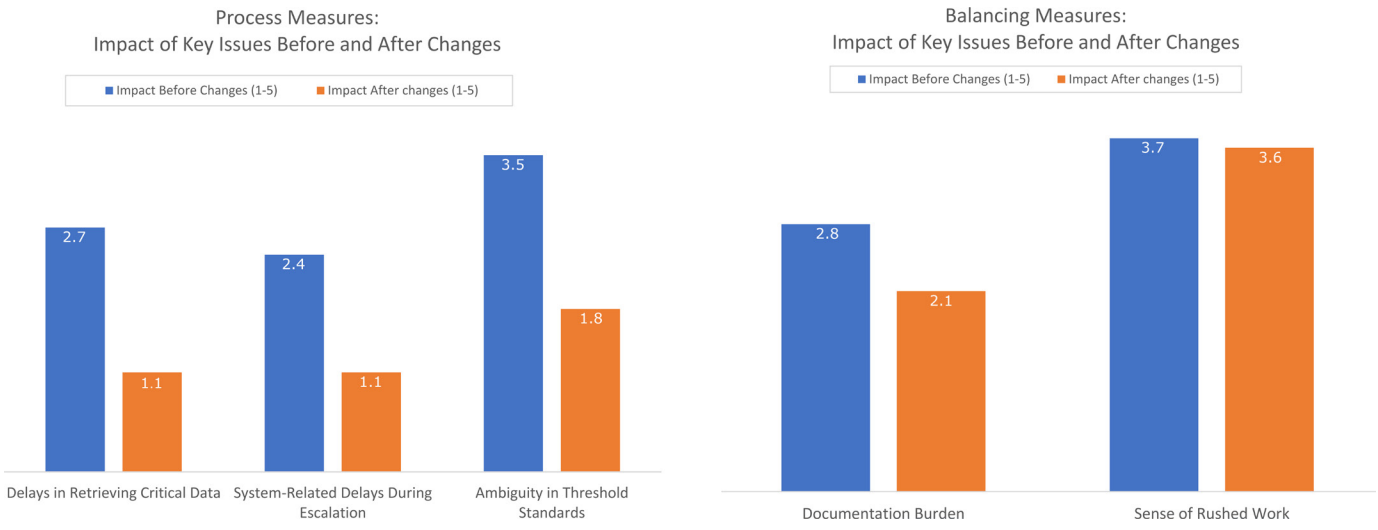

Figure 3 Process measures (left) and balancing measures (right): impact of key issues before and after changes.

of Improvement, an adapted Ishikawa analysis and iterative PDSA cycles, the team achieved a 65% reduction in completion times. However, despite these gains, the final average completion time of 74 days remained slightly above the NHS England 60-day target, indicating further refinements would be required to sustain and improve performance.

A notable strength of this project was the adapted Ishikawa analysis, which was repurposed beyond its traditional use. Typically employed to understand root causes, in this project it was also used as a tracking mechanism to measure the perceived impact of interventions over time. This dual-purpose application of Ishikawa analysis has not yet been widely described in QI literature and offers a novel, structured approach to assessing intervention effectiveness. Also, instead of conducting a conventional in-person root cause analysis session, the team employed an asynchronous, iterative approach, allowing team members to contribute insights over time. This not only mitigated logistical constraints but also fostered broader and more reflective engagement, ensuring that the analysis captured the full complexity of reporting delays.

Additionally, a low-tech but highly effective workaround—the caseload tracker—was introduced to address real-time visibility of reports. While system-wide redesigns were not immediately feasible, this intervention provided an adaptable and scalable method for ensuring timely escalations and monitoring progress without requiring extensive IT infrastructure changes.

Furthermore, unlike many QI projects that primarily focus on clinical interventions, this initiative provides a replicable model for using QI in clinical support services, an area that has received less attention in published literature.[29] The approach taken here highlights how structured QI methodologies can enhance non-clinical operational efficiencies while ultimately impacting patient care.

While the project contributed to improving reporting completion times, achieving the 60-day target proved more complex than anticipated. Several factors may explain why the target was not fully reached, including organisational and structural constraints, complexity of serious incident investigations and the need to balance speed with report quality. These findings suggest that while QI interventions can drive substantial efficiency gains, certain systemic factors may require broader organisational or policy-level changes to achieve sustained compliance with national targets.

The findings of this project are particularly relevant to NHS Trusts and similar healthcare settings with established incident reporting structures. However, the applicability of these interventions in low-resource settings or different regulatory environments requires further exploration. Additionally, as human factors play a critical role in reporting behaviour, future studies should investigate how behavioural science interventions (eg, nudging strategies, incentives, digital prompts) might further enhance reporting efficiency and adherence to timelines.

Lessons for future improvement initiatives

Several key lessons emerged from this project:

- QI methodologies can successfully improve administrative processes, not just clinical workflows, and should be leveraged more widely in healthcare management.
- The use of qualitative process measures enhances real-time decision-making and should be considered alongside standard outcome measures in future studies.
- Iterative refinement of interventions, based on direct staff engagement, is critical to sustaining improvements and ensuring change ideas remain practical and effective.
- Achieving national reporting targets requires not only process changes but also structural and cultural shifts, including leadership engagement and system-wide alignment.

Limitations

While this study provides valuable insights, certain limitations must be acknowledged:

- The interventions were developed in a single NHS Trust, and their applicability in other settings remains to be tested.
- While efficiency gains were demonstrated, the potential cost savings from reduced administrative burden were not formally evaluated.
- This project focused specifically on optimising the serious incident reporting process. While broader patient safety monitoring may benefit from integrating multiple data sources (eg, patient claims, compensation cases and complaints), the scope of this QI project was to improve SI reporting efficiency to ensure timely learning and governance.
- While the project focused on improving internal reporting processes, direct engagement with service users or patients was not incorporated into the improvement cycles. Given that serious incident investigations impact both staff and service users, future work should explore how service user perspectives can be meaningfully integrated into reporting improvements.

Future directions

- The concise reporting format and caseload tracker are being integrated into standard operating procedures to maintain momentum.
- A future study should assess the potential cost savings from improved efficiency.
- Incorporating additional safety data sources could enhance insights into systemic safety issues.
- Future work could explore AI-powered tools to automate parts of the reporting and escalation process.

Conclusions

Serious incident reporting is an essential component of patient safety, yet inefficiencies in the process can delay

critical learning and compromise governance. This project aimed to reduce the backlog of serious incident reports by improving monitoring, streamlining reporting and enhancing escalation processes through three high-impact interventions. The results demonstrated a 65% reduction in average report completion time, highlighting the effectiveness of structured QI approaches in addressing reporting inefficiencies. The use of an adapted Ishikawa analysis was particularly novel, serving as both a diagnostic and evaluative tool that enabled real-time assessment of perceived process improvements.

While the project made significant strides, the final completion time of 74 days, though improved, still exceeded the 60-day NHS target, indicating that further refinements were needed. Additionally, this study was one of the first published works to apply QI methodology to improving serious incident reporting, providing valuable insights into how iterative testing and real-time monitoring can drive change in non-clinical healthcare operations. Lessons from this project highlight the importance of leadership engagement, structured escalation processes and user-friendly reporting tools in sustaining improvements.

In terms of sustainability, the implemented changes, such as the concise report format and caseload tracker, have been embedded into standard operating procedures to ensure ongoing impact. Regular performance reviews and staff feedback mechanisms are in place to refine these processes further. Future work should explore economic outcomes, including potential cost savings from administrative efficiencies and the prevention of avoidable harm due to delayed reporting. Additionally, expanding these interventions to include patient participation and a broader range of safety reporting mechanisms (eg, patient claims, compensation cases) may strengthen learning and drive further improvements.

As healthcare organisations continue to navigate the complexities of incident reporting, this project provides a scalable, evidence-based framework for improving safety event management. By building on these learnings and adapting them to other reporting processes, healthcare institutions can enhance their responsiveness, governance and ultimately, patient safety.

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Contributors All authors contributed to the development of the project concept. CS drafted the initial manuscript, analysed the data, incorporated revisions and wrote the final version. AA-O reviewed and synthesised the literature on the topic, provided the data used in the project and collaborated with CS on the data analysis. MA provided supervision of the write-up, manuscript editing and revision support. All authors have read, critically reviewed and approved the final manuscript. CS is the guarantor. AI Used: ChatGPT-4Used for the final review of the manuscript, to enhance clarity, coherence and conciseness of the text. All AI-generated suggestions were carefully reviewed and validated by the authors to ensure accuracy, originality and compliance with BMJ Open Quality's submission guidelines.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants. This quality improvement initiative did not require formal ethical approval, as it was designed to enhance existing clinical practice. The study is in full compliance with ELFT's internal governance processes, ensuring adherence to ethical and regulatory standards. Additionally, the project received oversight from senior project sponsors to ensure ethical integrity. Participants gave informed consent to participate in the study before taking part.

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