



Component 1

CASE STUDY ANALYSIS

“Unintentional overdose of morphine sulfate oral solution: leadership, governance, systems thinking and patient safety in the United Kingdom”

“Programme: MSc Public Health and Social Care in Practice”

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Module name: Health Care System Organisation and Leadership

Module Code: LCHS7002

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Wordcount: 5,026 words

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1. Introduction

Patient safety depends not only on the technical correctness of a prescription but also on whether the whole care system enables the patient and carer to understand, obtain and use the medicine safely. The selected case concerns Len, an 89-year-old man with Charcot-Marie-Tooth (CMT) disease who developed chest pain and breathlessness after a fall. Following assessment by primary and secondary care, his GP prescribed morphine sulfate oral solution for persistent pain. The prescribed dose was 1.25–2.5 ml of a 10 mg/5 ml solution, equivalent to 2.5–5 mg, up to every four hours when required. Len and his wife instead interpreted the prominently displayed “10 mg/5 ml” on the manufacturer’s bottle as the intended dose and administered 5 ml on three occasions. He subsequently developed severe respiratory problems and was admitted to hospital. He initially improved following treatment, but later became unresponsive and died. Importantly, the Healthcare Safety Investigation Branch (HSIB) could not determine whether the accidental overdose caused or contributed to his death because pneumonia, respiratory effects of CMT and the chest injury were also present (HSIB, 2022).

The case is therefore best understood as a complex patient-safety and medication-governance event rather than as an isolated individual mistake. HSIB found that the

prescribed dose was displayed on the pharmacy dispensing label attached to the outer box, but Len and his wife did not notice that label. They read the patient information leaflet and relied on the manufacturer’s strength statement on the bottle. The supplied 5 ml syringe reinforced their interpretation, while the syringe did not provide a straightforward way to measure the prescribed 1.25 ml dose. Len and his wife also had limited manual dexterity and difficulty opening the child-resistant bottle (HSIB, 2022).

Leadership in health and social care can be understood as influencing people and systems to achieve shared goals. In a patient-safety context, effective leadership requires more than command and control: it requires a safety culture in which staff, patients and families can speak up, information is shared across organisational boundaries, risks are identified proactively, and learning is converted into measurable improvement (NHS England, 2025). The case is particularly relevant to transformational, transactional, situational and distributed leadership. Transformational leadership can create a shared safety vision; transactional leadership can establish compliance with medication controls; situational leadership can adapt support to an older person with complex needs; and distributed leadership can involve pharmacists, GPs, nurses, patients, carers and governance teams in risk management.

This report follows the structure specified in the assessment guidance. It first identifies the central medication-safety problem and analyses the wider system using systems thinking and a rich picture. It then evaluates centralised and decentralised decision-making, applies leadership theories to the case, and critically evaluates improvement opportunities and lessons learned. Finally, evidence-based recommendations are presented for strengthening leadership, governance, communication, medicines optimisation, patient involvement and continuous learning within UK health and care services. The analysis uses the original HSIB investigation as the principal case evidence and supplements it with UK and international patient-safety evidence.

2. Main Body and Analysis

2.1 Identifying the Problem and Setting the System Context

The central problem was a mismatch between the dose intended by the prescriber and the dose understood and administered by the patient and carer. The GP prescribed morphine 10 mg/5 ml at 1.25–2.5 ml per dose, equal to 2.5–5 mg. Len took 5 ml, equivalent to 10 mg, on three occasions. Therefore, each administered dose was approximately two to four times the prescribed range (HSIB, 2022). This distinction is crucial: the prescribing decision itself was judged by HSIB to be reasonable, but the medication-use system

did not successfully transfer the intended dosing instruction into the patient's behaviour.

The case illustrates the wider importance of medication safety. WHO reports that approximately one in ten patients is harmed in healthcare and that more than half of this harm is preventable; medication-related harm accounts for a substantial proportion of preventable harm (WHO, 2023). WHO's medication-safety work estimates that medication errors cost around US\$42 billion globally each year, demonstrating that unsafe medication use is simultaneously a clinical, organisational and economic problem (WHO, 2017). A 2024 WHO systematic review further emphasised that preventable medication-related harm arises from identifiable and modifiable causes, meaning that healthcare organisations should focus on redesigning systems rather than relying solely on individual vigilance (WHO, 2024).

The UK context is also significant. NHS England defines patient safety as avoiding unintended or unexpected harm during healthcare and places safety culture and safety systems at the centre of its Patient Safety Strategy (NHS England, 2025). Current NHS patient-safety reporting is increasingly based on the Learn from Patient Safety Events (LFPSE) service, which replaced the National Reporting and Learning System in 2024; this provides a national infrastructure for collecting and learning from safety events (NHS England, 2026). The existence of a

reporting infrastructure, however, does not itself guarantee learning. Leaders must ensure that incident data are interpreted, shared and translated into changes in prescribing, dispensing, communication and monitoring processes.

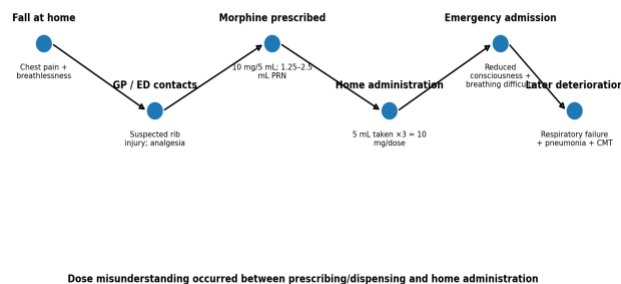


Figure 1. Timeline of the case, adapted from the HSIB investigation report (HSIB, 2022).

The HSIB case also shows that oral morphine is a high-risk medicine when dose and concentration are misunderstood. HSIB identified two liquid morphine strengths: 10 mg/5 ml oral solution and a 20 mg/1 ml concentrate. Confusing these concentrations can result in a ten-fold dosing error (HSIB, 2022). Morphine toxicity can cause respiratory depression, reduced consciousness and coma, and treatment may require naloxone and respiratory support. HSIB also identified 13 coroner Prevention of Future Deaths reports since 2013 in which oral morphine sulfate liquid had been directly linked to the cause of death, although the circumstances were varied and most concerned chronic pain rather than an acute-pain scenario like Len's (HSIB, 2022).

At patient level, Len had several vulnerabilities that increased the complexity of safe medicine use. He was 89 years old, had CMT affecting mobility and balance, had previous respiratory problems related to his CMT, and had mild kidney dysfunction. Older adults and people with reduced kidney function require particular care with morphine because opioid effects can be prolonged and adverse effects are more likely (HSIB, 2022). NICE emphasises that medicines information should be communicated in a way that is accessible and understandable to the individual, including use of appropriate formats and support where necessary (NICE, 2009). This means that "information supplied" is not equivalent to "information understood".

At the process level, several barriers failed simultaneously. The dispensing label containing the prescribed dose was placed on the outer cardboard box rather than the bottle. Len and his wife did not see it. The manufacturer's bottle prominently displayed 10 mg/5 ml, which they interpreted as the dose. The syringe supplied with the medicine measured up to 5 ml and therefore reinforced the 5 ml interpretation; although markings around 1.2 and 1.3 ml existed, the prescribed 1.25 ml dose was not easily measurable (HSIB, 2022). In addition, Len and his wife had difficulty opening the child-resistant lid, and the investigation could not establish the extent of counselling given at collection because the community pharmacy did not participate.

The case therefore demonstrates a classic systems problem: the unsafe outcome emerged from interactions among people, technology, tasks, environment and organisational arrangements. HSIB explicitly used the Systems Engineering Initiative for Patient Safety (SEIPS) approach, which examines how work-system factors interact with processes and outcomes (HSIB, 2022). A systems approach is consistent with the current NHS Patient Safety Incident Response Framework (PSIRF), which rejects simplistic searches for a single cause and promotes system-based learning (NHS England, 2025).

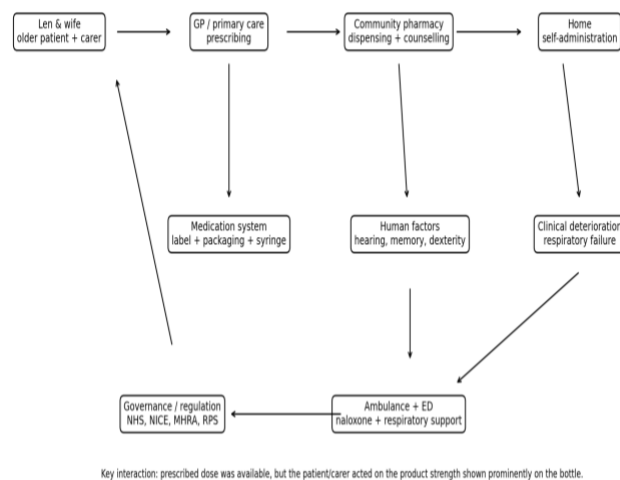


Figure 2. Rich picture of the interacting people, processes, technologies and governance structures in the case (author-generated from HSIB case evidence).

The rich picture shows that responsibility was distributed across a pathway rather than located with one person. The GP made a prescribing decision; the pharmacy dispensed

and labelled the medicine; the patient and carer interpreted the instructions; the manufacturer controlled aspects of product design and supplied the syringe; and the hospital managed the subsequent deterioration. Governance and regulation sat above these activities through NHS systems, NICE guidance, MHRA requirements and professional standards. This fragmentation creates dependencies: a correct prescription can become unsafe if dispensing communication is unclear, and good dispensing can become unsafe if the patient cannot interpret or physically use the medicine.

A further systems issue was incomplete information transfer. HSIB could not establish what specific safety-netting advice the GP gave regarding side effects, overdose symptoms or when to seek help. The community pharmacy also did not engage with the investigation, leaving an important part of the medication-use process unexplored (HSIB, 2022). This illustrates why governance must extend beyond individual professional competence. The NHS medication-safety approach expects safe prescribing procedures and patients to be fully informed about medicines, while medicines optimisation seeks to ensure that people receive the right medicine at the right time and can use it safely (NHS England, 2023).

The COVID-19 context should also be recognised. The GP practice had moved to

telephone triage and the country was in lockdown, creating a legitimate need to balance face-to-face assessment against infection risk for an older vulnerable patient. HSIB considered the telephone consultation reasonable in context, but the case nevertheless demonstrates how system conditions can shape communication, assessment and safety-netting (HSIB, 2022). The lesson is not that remote consultations are inherently unsafe; rather, leaders need to identify when remote care increases uncertainty and add compensating controls, such as structured medicine counselling, teach-back and documented confirmation of understanding.

2.2 Centralisation or Decentralisation within the Case Study

The care pathway cannot be accurately described as purely centralised or decentralised. It represents a hybrid, multi-organisational system. Nationally, medication safety is influenced by centralised legislation, regulatory standards, NICE guidance, NHS England safety frameworks and professional standards. Locally, however, prescribing, dispensing, counselling and self-administration are distributed among separate professionals and organisations. The case therefore contains centralised rule-setting combined with decentralised operational decision-making.

2.2.1 Centralisation governance

Centralisation has clear advantages. Common national standards create consistency in prescribing, medicine labelling and patient-safety governance. The Human Medicines Regulations establish requirements for medicine packaging and labelling, while MHRA guidance supports accessible product information (MHRA, 2026; HSIB, 2022). NICE provides evidence-based clinical guidance, and NHS England provides national medicines-optimisation and patient-safety structures. These central controls are important because the risks of high-alert medicines such as opioids should not depend entirely on the preferences of an individual GP or pharmacy.

However, centralisation can become a weakness when standardised information does not account for individual capability. The manufacturer's label correctly identified the product concentration, but the patient interpreted the information differently. The legal presence of information therefore did not guarantee safe use. NICE guidance explicitly states that communication should be adapted to individual needs and that information should be accessible and understandable (NICE, 2009). In this case, a centrally defined label interacted with a local human-factors problem involving age, dexterity, memory and interpretation.

2.2.2 Decentralised decision-making

Decentralisation can provide advantages because frontline professionals can adapt care to the individual. The GP knew Len well and considered his age, kidney function, previous opioid exposure and pain when selecting a low morphine dose. The family also provided additional information and attempted to influence the decision when they became concerned. Such distributed decision-making can improve responsiveness and person-centred care. It is consistent with the NHS safety culture principle that staff, patients and families should be enabled to speak up and participate in improvement (NHS England, 2025).

The weakness of decentralisation is that accountability and information can become fragmented. No single actor appears to have owned the complete medication-use pathway. The GP did not control pharmacy dispensing; the pharmacy did not control the manufacturer's bottle design; the manufacturer did not control the GP's dose; and the hospital became involved only after harm had occurred. This fragmentation can create "gaps between organisations" in which each component is locally reasonable while the overall system remains unsafe. The case is therefore an argument for coordinated decentralisation: decisions should be made close to the patient, but shared standards, escalation pathways, data and accountability should connect those decisions.

The case also highlights a governance gap around measurement. A robust decentralised system would monitor indicators such as opioid counselling completion, documented teach-back, dispensing-label visibility, availability of appropriate oral syringes, medication incidents, and learning actions. NHS England's PSIRF requires organisations to understand their patient-safety incident profile and integrate incident learning with governance and improvement systems (NHS England, 2025). Thus, decentralisation should not mean absence of oversight; it should mean distributed authority within a strong governance architecture.

2.2.3 Critical comparison

The safest arrangement is therefore neither complete centralisation nor complete decentralisation. A "central standards–local learning" model is preferable. National organisations should define minimum requirements for opioid labelling, dosing aids, safety-netting and incident learning. Local teams should have authority to adapt implementation, test changes and report emerging risks. Governance should then reconnect local learning to regional and national learning networks.

This balance is consistent with PSIRF, which promotes system-based learning, proportionate responses and supportive oversight rather than a purely punitive model (NHS England, 2025b). It also aligns with the older HSIB approach, which explicitly

examined the entire system, including equipment, tasks, human capabilities, environment and organisational culture (HSSIB, 2022). The case therefore supports distributed operational authority within a clearly governed national safety framework.

Overall, the most appropriate model is a “centrally supported, locally responsive” system. National bodies should define minimum safety barriers, manufacturers should design safer products, pharmacies should ensure dispensing information is visible and understandable, clinicians should tailor prescribing and counselling, and patients and carers should be active participants. Leadership should connect these layers rather than treating them as separate silos.

2.3 Leadership Theories and Application to the Case Study

Leadership is central to the case because medication safety is an organisational property as well as a clinical task. Four complementary leadership perspectives are particularly relevant: transformational, transactional, situational and distributed leadership. None alone is sufficient. The critical issue is how leaders combine vision, standards, adaptation and shared ownership.

Transformational leadership

Transformational leadership seeks to create a shared purpose, motivate people beyond narrow task compliance and support improvement through vision, role modelling

and empowerment. In medication safety, this approach is valuable because the desired outcome is not simply “staff followed the procedure”; it is a culture in which staff actively look for hazards and redesign unsafe processes. Evidence reviews have found positive associations between effective nurse leadership and safety outcomes, including error reporting and care quality, with transformational leadership repeatedly showing favourable relationships (Lee et al., 2023). More recent evidence focused specifically on medication safety found transformational and ethical leadership associated with enhanced reporting and adherence to medication protocols (Dirik et al., 2026).

Applied to Len’s case, transformational leadership would establish a shared organisational message: every patient and carer must be able to identify the exact medicine dose before leaving the healthcare system. Leaders would involve GPs, pharmacists, nurses, patient-safety specialists, patients and carers in redesigning the process. They would use the case as a learning opportunity rather than a blame exercise. This is consistent with HSIB’s systems-based approach and current PSIRF principles.

The strength of transformational leadership is its ability to generate culture change. NHS England defines positive safety culture through continuous learning, psychologically

safe teamwork and empowerment to speak up (NHS England, 2025). Such a culture could encourage staff to report confusing labels, near misses and difficulties with oral syringes before a serious incident occurs. Its limitation is that vision alone does not create a physical safety barrier. Leaders must translate the safety vision into measurable controls, training and redesign.

Transactional leadership

Transactional leadership emphasises clear expectations, standards, monitoring and accountability. In medicines management this has value because certain processes must be reliably completed: correct medicine, strength, dose, route, frequency, dispensing label, counselling and documentation. Standard operating procedures, audits and competency checks are appropriate transactional controls. NHS England's medication-safety guidance emphasises safe prescribing procedures, medicines optimisation and transparent incident reporting (NHS England, 2023).

However, an excessively transactional response could incorrectly conclude that Len and his wife simply needed to read the label more carefully. HSIB found that the prescribed dose was present on the outer box, but the couple did not notice it; the more prominent bottle information shaped their interpretation (HSIB, 2022). A compliance-only response may therefore increase blame without addressing the design problem. Transactional

leadership should support, rather than replace, systems thinking.

Situational leadership

Situational leadership argues that leaders should adapt their approach according to the needs and capability of the people and situation (Hersey, Blanchard and Johnson, 2014). This is highly relevant to an older patient with complex health needs. A standard explanation may be inadequate if the patient has hearing difficulty, memory problems, limited dexterity or difficulty interpreting medicine concentrations. In Len's case, the wife had hearing and memory difficulties and both had manual-dexterity problems, according to HSIB (2022). A situational approach would therefore increase support rather than assuming that standard information had been understood.

The practical implication is to use teach-back: ask the patient or carer to explain the dose in their own words and demonstrate how they would measure it. If they cannot demonstrate the intended dose, the system should adapt before the medicine is taken. NICE's recommendation to make information accessible and understandable supports this approach (NICE, 2009). Situational leadership is therefore especially useful for person-centred medication safety.

Leadership effectiveness and safety culture

Evidence indicates that leadership influences whether staff feel able to report safety

concerns and whether organisations learn from errors. A systematic review found that effective nurse-manager leadership was positively associated with fewer adverse events, greater error reporting and higher care quality, although the evidence was heterogeneous (Lee et al., 2023). A 2026 systematic review also found that leadership styles influence medication safety through pathways including safety culture, organisational learning and system usability (Dirik et al., 2026).

For Len's case, the leadership question is therefore not simply whether the prescriber or pharmacist acted correctly. Leaders should examine whether the organisation made the correct action easy and the unsafe action difficult. The case also shows why psychological safety matters: staff need to be able to report confusing labels, unsuitable syringes and near misses without fear of blame. Such reports are valuable early-warning signals.

Distributed leadership

Distributed leadership treats leadership as a collective activity across professional boundaries rather than the responsibility of one senior individual (West, Eckert, Collins and Chowla, 2017). The case requires this model because the risk exists across GP prescribing, community pharmacy dispensing, product design, patient/carer use, ambulance care and hospital treatment. Pharmacists, prescribers, nurses, patient-safety specialists

and patients all possess knowledge that no single leader can hold alone.

Distributed leadership would establish multidisciplinary medication-safety review groups, involve patient and family representatives, and create feedback loops from incident reporting to local practice. PSIRF explicitly supports meaningful involvement of patients, families and staff and requires oversight mechanisms that translate learning into improvement (NHS England, 2025). The limitation is that distributed leadership can blur accountability if roles are not explicit. Therefore, a named executive or clinical safety lead should retain overall accountability while responsibility for improvement is shared.

Blended model

Taken together, the most appropriate leadership response is a blended model: transformational leadership to establish the safety vision; transactional leadership to maintain essential controls; situational leadership to tailor communication to individual needs; and distributed leadership to coordinate learning across the pathway. The original case also demonstrates why reactive leadership is insufficient. Leaders should not wait for harm before identifying that oral-liquid medicines can be misunderstood. Proactive leaders would use near-miss data, patient feedback, human-factors review and medicines-safety audits to identify risks before harm occurs.



Figure 3. Proposed leadership–governance learning cycle for preventing recurrence (author-generated).

2.4 Improvement and Lessons Learned

The most important lesson is that the system contained information but did not create reliable comprehension. The improvement objective should therefore be to redesign the medication-use pathway so that the intended dose is visible, measurable, explained and verified. This is more robust than simply educating patients to “read the label”. WHO’s medication-safety approach emphasises system and human-factor causes, while NHS England’s PSIRF promotes system-based learning (WHO, 2017; NHS England, 2025).

Problem 1: mismatch between strength and prescribed dose

The bottle prominently displayed 10 mg/5 ml, while the prescribed dose could be as low as 1.25 ml. HSIB also noted that the supplied syringe did not easily measure the prescribed 1.25 ml dose. Improvement should include

procurement or dispensing of a measurement device that accurately measures the complete prescribed range, with explicit dose instructions. The HSIB safety observation specifically proposed that manufacturers ensure measurement aids for 10 mg/5 ml morphine can measure the full range of possible doses (HSIB, 2022).

Problem 2: dispensing information was not noticed

The dispensing label containing the prescribed dose was attached to the outer box and was not noticed. The case therefore demonstrates the difference between regulatory compliance and human-centred usability. Pharmacy leaders should assess label location, prominence and readability, and where appropriate ensure the critical dose instruction is also visible on the immediate container or otherwise cannot be separated from the medicine. Any redesign should comply with UK legal requirements and MHRA guidance (MHRA, 2026).

Problem 3: inadequate verification of understanding

HSIB could not establish what safety-netting advice was provided by the GP, and the family interpreted the bottle information incorrectly. A structured counselling process should therefore include teach-back and demonstration. For an opioid liquid, the patient/carer should be able to state: the dose in millilitres, maximum frequency, what symptoms may indicate toxicity, what to do if a

dose is uncertain, and when to seek emergency help. NICE recommends adapting communication to individual needs and ensuring information is understandable (NICE, 2009).

Problem 4: patient-specific functional barriers

Len and his wife experienced difficulty opening the child-resistant container. This is a human-factors issue, not a lack-of-care issue. Pharmacy assessment should consider dexterity and whether an alternative closure or practical support is appropriate while maintaining child safety. For patients with neurological or musculoskeletal limitations, occupational-therapy or carer input may be relevant. The key principle is to design the medication process around actual capability rather than an assumed average user.

Problem 5: fragmented organisational learning

The pharmacy did not participate in the HSIB investigation, limiting the ability to understand the dispensing process fully. HSIB therefore made a safety observation about professional bodies supporting members to engage with safety investigations (HSIB, 2022). Under PSIRF, learning should involve those affected and relevant staff and should be linked to organisational governance and improvement programmes (NHS England, 2025). Organisations should therefore create psychologically safe mechanisms for

participation and avoid framing investigation as disciplinary blame.

Problem 6: insufficient use of medication-safety data

The case supports a dashboard approach. A local medicines-safety dashboard could monitor opioid prescribing, counselling, incidents, near misses, dose-related queries, availability of appropriate syringes and completion of learning actions. Trends should be reviewed by the clinical governance or medicines-safety committee and shared with frontline teams. NHS England's LFPSE infrastructure provides a national route for learning from reported patient-safety events (NHS England, 2026).

Continuous improvement should use a Plan–Do–Study–Act approach. In the planning stage, the organisation would identify oral-liquid opioid risks and co-design safer processes with patients, carers, pharmacists and prescribers. During implementation, a small number of practices could pilot improved labels, measurement devices and teach-back. In the study phase, measures such as dose-understanding rates, dispensing queries and near misses should be compared with baseline. In the act phase, successful changes should be standardised and unsuccessful changes redesigned. This approach aligns with the NHS emphasis on continuous improvement and learning (NHS England, 2025).



Critical barrier failure: dispensing label was on the outer box and was not noticed; bottle strength was interpreted as the dose.

Figure 4. Medication-use pathway showing the main point at which intended prescribing was transformed into an unintended dose (author-generated from HSIB evidence).

The wider lesson is that safety barriers should be layered. A safe system should not depend on one barrier, such as the dispensing label. Instead, multiple independent barriers should exist: correct prescribing, pharmacist verification, clear label, suitable measuring device, verbal counselling, teach-back, accessible written information, safety-netting, and rapid escalation if toxicity occurs. If one barrier fails, the next should prevent harm. This is a core systems principle and is consistent with the NHS shift towards safety management rather than isolated incident investigation (NHS England, 2025).

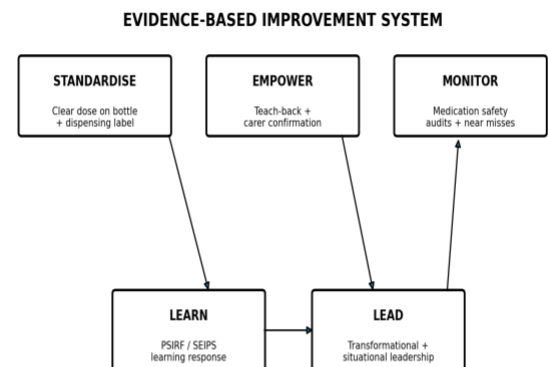
Problem 7: Cross-boundary ownership

Solution: create a shared medication-safety pathway across GP practices, community pharmacies and relevant hospital services. A designated medication-safety lead should monitor incidents and near misses. NHS England's medication-error reporting work supports named medication safety leadership and multidisciplinary review (NHS England, 2014). Current pharmacy requirements also

expect incident and near-miss records to be maintained for learning (NHS England, 2025a).

Problem 8: Lessons for leadership and governance

The case demonstrates that safety is created through interaction between governance, leadership and system design. Governance defines expectations; leadership mobilises people; frontline staff identify practical hazards; patients and carers reveal usability problems; and data provide feedback on whether changes work. A governance system that only checks compliance may miss usability failures. A leadership system that only inspires staff may lack hard controls. Sustainable improvement therefore requires both relational leadership and reliable technical barriers.



Outcome measures: correct-dose understanding • near-miss reporting • opioid-related harm • family experience • audit compliance

Figure 5. Proposed evidence-based improvement system for morphine medication safety. Author-created synthesis based on HSSIB (2022), NHS England (2025b, 2025c) and medication-safety leadership evidence.

3. Recommendations

1. Establish a standardised oral-opioid safety bundle. Every community prescription for oral morphine should trigger a structured checklist covering indication, dose in mg and ml, concentration, frequency, duration, kidney function, interactions, safety-netting and patient/carer understanding. This should be integrated into local medicines-optimisation procedures (NHS England, 2023).

2. Strengthen dispensing and packaging controls. Community pharmacies should ensure that the intended dose is highly visible and remains associated with the medicine. Organisations should review whether the label can be separated from the container and whether the supplied measuring device accurately measures the prescribed dose. This recommendation directly reflects HSIB's safety observation concerning measurement aids (HSIB, 2022).

3. Introduce mandatory teach-back for high-risk liquid medicines. Rather than asking "Do you understand?", the professional should ask the patient/carer to demonstrate the dose and explain what they would do if they were unsure. This is particularly important for older adults, people with sensory impairment, cognitive difficulties or limited dexterity and is consistent with NICE's person-centred communication principles (NICE, 2009).

4. Use a blended leadership model. Senior leaders should provide transformational direction and accountability; clinical teams

should use transactional controls; professionals should use situational communication; and multidisciplinary teams should share improvement leadership. This combination supports both reliability and adaptation. A named medicines-safety lead should coordinate the programme while patient and family representatives participate in design and oversight.

5. Strengthen governance through PSIRF principles. Incident responses should use systems-based methods such as SEIPS, involve affected patients and families, and connect learning actions to clinical governance and improvement programmes. The board or relevant governance committee should receive regular reports on medication-safety risks and the progress of improvement actions (NHS England, 2025; HSSIB, 2022).

6. Create measurable outcomes. Suggested measures include: percentage of oral-morphine patients receiving documented teach-back; percentage able to demonstrate the correct dose; number of opioid dose-related queries and near misses; percentage of prescriptions supplied with an appropriate measuring device; medication incidents involving liquid opioids; and completion rate of agreed safety actions. Balancing measures should include dispensing workload, patient satisfaction and delays in treatment.

7. Improve cross-organisational learning. Integrated Care Boards should facilitate learning between GP practices, community

pharmacies, acute hospitals and community services. Local learning should be shared through medicines-safety networks and incorporated into training. This reduces the risk that lessons remain trapped within one organisation.

8. Maintain person-centred involvement. Patients and carers should be treated as safety partners, not passive recipients of instructions. The NHS Patient Safety Strategy promotes patient and staff involvement, while PSIRF requires compassionate engagement with people affected by incidents (NHS England, 2025). For older patients, family involvement should be encouraged where the patient wishes, while preserving autonomy and confidentiality.

9. Involve patients and carers in co-design. Older people and carers should test medication labels, syringes and written instructions before implementation. Their experience should be treated as safety evidence rather than an optional communication exercise.

Technical efficiency should be improved by reducing duplicated explanations, standardising labels and integrating information across care settings. Allocative efficiency should be considered by targeting additional education and medication-safety support towards patients at highest risk, including very old people, those with renal impairment, respiratory disease, communication difficulties or multiple

medicines. This is more proportionate than applying identical intensive interventions to every patient.

4. Conclusion

The Len case is a powerful example of how medication harm can emerge from interactions among otherwise reasonable components of a healthcare system. The morphine prescription was considered appropriate by HSIB and the prescribed dose was present on the dispensing label, yet the patient and his wife interpreted the manufacturer's concentration statement as the dose. Len consequently took a larger dose than prescribed and subsequently developed serious respiratory problems. Because pneumonia, CMT and respiratory failure were also present, HSIB could not establish the precise contribution of the morphine overdose to his death; this uncertainty should be retained in any academically rigorous analysis (HSSIB, 2022).

The analysis shows that centralised governance is necessary to establish consistent medication-safety standards, but local and distributed authority is necessary to identify practical hazards and adapt processes. The safest governance model is therefore a combination of central standards, local ownership and strong feedback mechanisms. Leadership should similarly be blended: transformational leadership is needed to create a culture of safety and

learning; transactional leadership is required for non-negotiable high-risk medication controls; and situational leadership is essential when acute deterioration requires rapid direction.

The principal lesson is that patient safety should not depend on patients successfully interpreting complex pharmaceutical information or on a single professional completing a checklist. Safer systems create multiple, understandable barriers: clear patient-specific dosing instructions, suitable measuring devices, teach-back, multidisciplinary communication, incident reporting, data review and visible leadership. Current NHS PSIRF principles provide an appropriate framework for embedding these lessons through compassionate engagement, system-based learning, proportionate responses and supportive oversight (NHS England, 2025b).

Ultimately, the case supports a shift from asking whether an individual made an error to asking whether the organisation designed the medication pathway so that the safest action was the easiest action. That is the central leadership and governance lesson for UK health and social care organisations.

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