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Case study analysis Report

Case study Number 2:

Len, an 89-year-old man with CMT disease

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Table of Contents

1	Introduction.....	1
1.1	Case Sequence.....	1
1.2	Medical Complications	1
1.3	Key lesson	2
2	Main Body and Analysis	2
2.1	Identifying the Problem and Setting the System Context.....	2
2.2	Centralization or Decentralization within the Case Study	4
2.3	Leadership Theories and Application to the Case Study	6
2.4	Improvement and Lessons Learned.....	8
2.5	Summary of findings.....	10
3	Recommendation	10
4	Conclusion	13
5	Reference	14

1 Introduction

1.1 Case Sequence

Len, aged 89, fell at home, developing chest pain and breathlessness linked to his longstanding CMT, a progressive neurological condition affecting balance and breathing. After initial GP management with paracetamol and ibuprofen failed to control pain, he received morphine sulfate oral solution (10mg/5ml strength) prescribed at 1.25-2.5ml (2.5-5mg) every 4 hours as needed—appropriate for his age and kidney function. He and wife mistook the manufacturer's strength label (10mg in 5ml) as the dose, leading him to take 5ml doses (10mg each), totaling 30mg over the day.

1.2 Medical Complications

The overdose caused respiratory depression, compounded by pneumonia, possible rib fracture from the fall, and CMT-related diaphragm weakness. Found unresponsive the next morning, Len reached hospital with low oxygen, received naloxone (opioid antidote), and briefly stabilized but later suffered cardiac arrest and died, with causes listed as respiratory failure, pneumonia, and CMT.

- In healthcare and social care settings, patient safety incidents like medication errors highlight systemic vulnerabilities requiring effective leadership for improvement (Healthcare Safety Investigation Branch, 2022). This report analyses a case from the UK's Healthcare Safety Investigation Branch (HSIB): Len, an 89-year-old with Charcot-Marie-Tooth (CMT) disease, who died from an unintentional morphine sulfate oral solution overdose after misinterpreting labelling post-fall (Healthcare Safety Investigation Branch, 2022). The purpose is to dissect leadership shortcomings in prescribing, dispensing, and communication, proposing adaptive strategies for elderly care safety.
- Leadership in health and social care means influencing others towards shared goals, like superior patient outcomes amid complexities (Shantou et al., 2017).
Centralization vs Decentralization Centralization consolidates decisions at top levels for consistency, as in NHS-wide policies, while decentralization delegates to local teams for responsiveness, potentially enhancing efficiency but risking variation (Euro health Observatory, 2007).
- Leadership Theories Transformational leadership inspires via vision; transactional uses rewards; situational adapts to context (Alrowwad et al., 2024).

- Importance in Crises Appropriate styles matter in crises: transformational fosters innovation, situational ensures flexibility, vital for overdose prevention (Quarterdeck, 2025).
- Report Structure This report covers: (1) case details/root causes; (2) leadership analysis via theories; (3) centralized/decentralized comparison; (4) recommendations; (5) action plan for UK settings.

1.3 Key lesson

Clear dispensing labels obscured by packaging led to the error; the GP's dose was reasonable, but better patient education and label prominence could prevent recurrence. Morphine risks in frail elderly include variable overdose thresholds causing coma, shallow breathing, and pinpoint pupils, treatable early with naloxone.

2 Main Body and Analysis

2.1 Identifying the Problem and Setting the System Context

The central problem in this case study is the unintentional overdose of morphine oral solution arising from poor communication, misunderstanding of dosage instructions, and insufficient safety checks across the care pathway (Healthcare Safety Investigation Branch, 2022). What began as a fall and subsequent chest pain and breathlessness in an 89-year-old man with Charcot-Marie-Tooth disease escalated into a fatal medication event, illustrating how a single prescribing decision can create significant harm when the patient and family do not fully understand how to use a medicine safely (Healthcare Safety Investigation Branch, 2022; Patient Safety Learning, 2022). This was not a one-off mistake at the point of administration; rather, it was the culmination of multiple system failures spanning prescribing, dispensing, patient counselling, monitoring, and clinical escalation (Healthcare Safety Investigation Branch, 2022). From a systems thinking perspective, the case demonstrates that harmful outcomes often emerge when small vulnerabilities align across different parts of the system, rather than from one individual error alone.

Globally, medication-related harm is recognized as a major and persistent patient safety challenge. The World Health Organization (WHO) has highlighted that unsafe medication practices and medication errors are among the leading causes of avoidable harm in health care, with the global cost of medication errors estimated at around US\$42 billion each year (World Health Organization, 2017). In response, WHO launched the Medication Without Harm Global Patient Safety Challenge with the ambition of reducing severe, avoidable medication-related harm by 50% over five years, emphasising the need for stronger

systems, better communication, and safer medication processes (World Health Organization, 2017). These figures place Len's experience within a much wider international pattern of preventable medication harm, particularly in high-risk groups such as older adults, people with multimorbidity and those receiving strong opioids.

National data from England further underline the significance of this problem. An analysis published in BMJ Quality & Safety estimated that more than 237 million medication errors occur every year in England, costing the NHS over £98 million and contributing to more than 1,700 deaths annually (BMJ Quality & Safety, 2020). Over half of these errors occur at the point of administration, with substantial proportions also occurring during prescribing and dispensing, which underlines that risk is distributed across the whole medicines pathway rather than confined to a single step (BMJ Quality & Safety, 2020). Many errors occur in primary care and community settings, including care homes and patients' own homes (BMJ Quality & Safety, 2020). This mirrors the context of Len's case, where a high-risk medicine was prescribed in primary care, dispensed in the community, and administered at home by a family carer (Healthcare Safety Investigation Branch, 2022).

Len's case also reflects specific systemic weaknesses in communication, accountability, and leadership. The HSIB report notes that Len and his wife misunderstood the dose and that the amount actually taken was significantly higher than prescribed, largely because the strength printed on the bottle was mistaken for the dose and the dispensing label on the outer packaging was not seen or not acted upon (Healthcare Safety Investigation Branch, 2022; Patient Safety Learning, 2022). This suggests that the written label and any verbal explanation were not sufficiently clear or checked for understanding, a recurring theme in medication safety incidents involving strong opioids (Patient Safety Learning, 2022). The design of the product and measuring device also contributed to risk; national commentary has highlighted that placing morphine sulfate oral solution on repeat prescription, issuing larger volumes, or relying on small volume measurements can make it easier for patients to escalate their dose unintentionally (NHS Business Services Authority, 2022).

In governance terms, the event was influenced at multiple levels. At the local level, the GP practice, community pharmacy and acute trust all had roles in prescribing, dispensing and monitoring Len's medication (Healthcare Safety Investigation Branch, 2022). Regionally, commissioning and clinical governance structures framed how these organizations coordinated and how learning from incidents was shared. Nationally, standards for controlled drugs, labelling and medicines optimization are defined by

agencies such as NHS England and regulators (NHS England, 2023). This multi-layered governance structure means that failures in communication and safety checks in one part of the system can interact with design and policy decisions taken elsewhere, producing complex patterns of risk.

A Rich Picture of the case helps to visualize this complexity. In such a diagram, Len would sit at the center, surrounded by his wife and family, GP, hospital clinicians, community pharmacist, ambulance service and the wider policy environment. Arrows representing information flows would depict the movement of prescriptions, discharge letters, verbal instructions and medication packaging between these actors. Broken or dotted arrows would indicate communication gaps, such as unclear dosage instructions or lack of confirmation of understanding. Feedback loops would show how Len's symptoms (pain, breathlessness) triggered further contacts with services and how his clinical deterioration and hospital admission were responses to the unintended overdose (Healthcare Safety Investigation Branch, 2022). The Rich Picture would also depict how underlying CMT, age-related frailty, suspected pneumonia and morphine exposure combined to increase vulnerability, emphasizing that the event arose from interactions between people, processes and structures rather than a single point failure.

2.2 Centralization or Decentralization within the Case Study

The organization of Len's care illustrates the interaction between centralized and decentralized elements in the English health system. At a high level, medication policies, controlled-drug regulations and national safety priorities are shaped centrally by NHS England, the Medicines and Healthcare products Regulatory Agency (MHRA) and other national bodies, reflecting a centralized governance approach (NHS England, 2023). Centralization can support consistency, enable large-scale data collection and provide clear frameworks for safety, such as national opioid guidelines and prescribing comparators (NHS Business Services Authority, 2022). For example, national opioid comparator dashboards help identify inappropriate or risky prescribing patterns at system level (NHS Business Services Authority, 2022).

In Len's case, the choice of a morphine liquid and the reduced starting dose were reported by HSIB to be in line with national recommendations for older adults with kidney dysfunction (Healthcare Safety Investigation Branch, 2022). This illustrates the value of centralized guidance in shaping safe initial decisions. However, centralization alone did not prevent the overdose. The central rules and guidelines did not fully account for the specific communication needs and practical challenges of an older couple measuring small liquid doses at home while managing complex symptoms.

By contrast, the delivery and use of care in this case were largely decentralized. The GP made prescribing decisions in a local context; the community pharmacist dispensed the medicine and applied the label; Len and his wife administered doses at home; and the hospital team later treated the consequences of the overdose (Healthcare Safety Investigation Branch, 2022). Decentralization here refers to the distribution of authority and responsibility across multiple frontline actors, each exercising professional judgement in their own setting. This can be advantageous because local clinicians can tailor advice to individual patients, adjust for language, cognitive status or caregiver capacity, and respond rapidly to changing conditions (World Health Organization, 2017).

However, decentralization carries risks when the boundaries of responsibility are unclear and there is no single coordinating “owner” of the medicines pathway. In Len’s case, no one individual or team appears to have taken overarching responsibility for ensuring that he and his wife truly understood the dosing instructions, nor was there an embedded mechanism to check understanding after they left the pharmacy (Healthcare Safety Investigation Branch, 2022). The fact that the dispensing label on the outer packaging was not seen or used correctly suggests a system that relied on assumptions about patient behavior rather than explicit confirmation of comprehension (Patient Safety Learning, 2022). This is a common weakness in decentralized systems: local flexibility is not always matched by shared accountability or robust communication pathways.

Critically, the existing system structure appears to have hindered crisis prevention more than it helped. Central bodies had produced opioid guidance and safety priorities, but these did not translate into sufficiently robust, standardized frontline safety practices for high-risk liquid opioids. At the same time, decentralized front-line teams were left to implement guidance in busy, constrained conditions, with limited time to provide in-depth counselling to every high-risk patient. The national estimate that 237 million medication errors occur each year in England, with over half at the administration stage, suggests that this is not a unique weakness in one locality but a recurrent issue across decentralized care settings (BMJ Quality & Safety, 2020).

A purely centralized model, with tightly controlled decisions and uniform protocols, might have enforced clearer packaging, safer formulations or mandatory teach-back procedures for certain medicines. However, without local adaptability and relational communication, even the best central standards can fail at the patient interface. Conversely, a purely decentralized model granting maximum autonomy to local teams without strong central guidance risks wide variation in practice and underinvestment in safety

infrastructure (World Health Organization, 2017). The lesson from this case is that high-risk medicines require a hybrid approach: strong central standards and data-driven safety priorities, combined with empowered local teams who have both the authority and support to adapt these standards to patients' needs, with clear accountability for outcomes at each level (NHS England, 2023).

2.3 Leadership Theories and Application to the Case Study

Leadership plays a central role in how such a hybrid system functions in practice. Three leadership perspectives are particularly useful for analyzing Len's case: transformational, transactional and situational leadership.

Transformational leadership emphasizes vision, inspiration and cultural change. In the context of medication safety, transformational leaders seek to build a culture where all staff see themselves as safety advocates, where raising concerns about medicines is encouraged, and where patient understanding is treated as integral to safe prescribing rather than an optional extra (Bass and Avolio, 1994). In Len's case, a transformational leadership approach at organizational and system level might have prioritized comprehensive opioid-safety initiatives: standardized counselling protocols, training in health literacy and teach-back, and routine involvement of patients and carers in designing safety materials (Healthcare Safety Investigation Branch, 2022). Such leaders would frame medication safety incidents as opportunities for learning and system improvement, in line with WHO's systems-based view that errors frequently arise from structural and process factors (World Health Organization, 2017).

Transactional leadership, by contrast, focuses on clear rules, monitoring and compliance. Applied to morphine oral solution, transactional leadership would emphasize robust prescribing policies, mandatory documentation standards, double-checking procedures and audits of opioid prescribing and dispensing (Burns, 1978). There is clear value in this: strong transactional controls can reduce variability and ensure minimum standards, especially for high-risk medicines. Local medication safety reports in NHS organizations routinely track incident rates, near misses and controlled-drug discrepancies as part of transactional governance (NHS England, 2023). In Len's case, however, the fact that the morphine prescription and dose were technically in line with national guidance, yet still resulted in overdose, shows that compliance with rules alone is insufficient without attention to how patients and carers actually use medicines in daily life (Healthcare Safety Investigation Branch, 2022).

Situational leadership offers a complementary perspective by emphasizing that effective leaders adapt their style according to the readiness, competence and needs of the people they are leading (Hersey and

Blanchard, 1982). For older patients with complex conditions and high-risk medicines, a situational approach would recognize higher support needs and lower assumed independence. In Len's case, a situationally aware clinician or pharmacist might have judged that his age, CMT, breathlessness and home circumstances warranted more directive and supportive communication: slower explanation, demonstration of dose measurement, use of teach-back, large-print written instructions, or explicit involvement of his wife in counselling (Healthcare Safety Investigation Branch, 2022). Situational leadership would also have encouraged more proactive follow-up, such as a scheduled check-in call after initiating the morphine, given the known risks of opioid toxicity in older adults.

Viewed through these lenses, the leadership response appears more reactive than proactive. The system largely followed standard pathways until harm occurred, rather than anticipating and mitigating foreseeable risks. This reactive orientation is visible in how the response to Len's overdose was acute and clinical—treating suspected opioid toxicity, pneumonia and CMT deterioration—while earlier opportunities to prevent misunderstanding of the dose were not fully taken (Healthcare Safety Investigation Branch, 2022). A more proactive, purpose-driven leadership stance informed by transformational and situational principles would have prioritized early identification of high-risk patients and systematic implementation of enhanced safety measures.

Evidence from international patient safety work supports the view that leadership style significantly influences safety culture and outcomes. WHO emphasizes that medication errors are often driven by system factors such as workload, poor communication and variability in execution, and that leadership is crucial for addressing these through sustained organizational change (World Health Organization, 2017). Similarly, UK analyses indicate that many medication errors are predictable and linked to process weaknesses, suggesting that leaders who focus solely on individual performance or punitive responses miss deeper opportunities for system redesign (BMJ Quality & Safety, 2020).

Len's case also raises questions about distributed and emotionally intelligent leadership. Distributed leadership would see pharmacists, nurses and other staff as co-leaders in medication safety, able to challenge unclear prescriptions, redesign labels or extend counselling without waiting for hierarchical permission. Emotionally intelligent leadership would recognize the anxiety and vulnerability of an older couple managing complex symptoms at home and respond with empathy, clear communication and reassurance. The apparent absence of structured teach-back, limited follow-up, and reliance on written

labels alone suggest that more sophisticated, person-centered leadership approaches could have reduced the risk of harm.

2.4 Improvement and Lessons Learned

The main lesson from this case is that governance and leadership failed to work together strongly enough to prevent harm (Healthcare Safety Investigation Branch, 2022). Governance should ensure rules, accountability, and oversight, while leadership should ensure those rules are understood and used in practice. In this case, the system had guidance, but the guidance did not translate into safe home administration. That suggests a gap between policy and practice. One missed opportunity was the failure to confirm the patient and wife's understanding of the dosage. Another was the lack of extra safeguards for a frail older adult prescribed a high-risk medicine.

A critical evaluation of Len's case shows that leadership and governance did not align effectively enough to prevent harm, despite the presence of policies and guidance (Healthcare Safety Investigation Branch, 2022). Governance structures provided rules around controlled drugs, prescribing and documentation, but leadership did not fully translate these rules into practical, patient-centered behaviors at the front line. This gap between formal standards and everyday practice is a recurring theme in patient safety and is often where avoidable harm arises (World Health Organization, 2017).

Several missed opportunities can be identified. One was the failure to ensure that Len and his wife genuinely understood the dose. Simple measures such as teach-back, asking them to explain and demonstrate how much morphine they would give, could have revealed the misunderstanding before the medicine was taken (Healthcare Safety Investigation Branch, 2022). A second was the lack of robust medicines reconciliation and follow-up. Initiating a high-risk opioid in a frail older adult could reasonably have triggered an automatic follow-up contact from the GP practice or community pharmacy within 24–48 hours to check for adverse effects and confirm correct use.

A practical improvement would be to introduce more robust medicines counselling, including teach-back methods, where the patient or carer repeats the instructions to confirm understanding. Another improvement is stronger coordination between GP, pharmacy, and hospital teams so that high-risk prescriptions are followed up more actively. Digital prescribing alerts, clearer dosage packaging, and standardized patient leaflets could reduce ambiguity (NHS England, 2023). Local teams should also be empowered to escalate concerns quickly, which is a decentralized improvement supported by central standards. This would improve accountability while allowing flexibility.

Third, the design of the product and packaging could be improved. HSIB and patient safety commentators have highlighted concerns about high-strength liquid morphine, including the potential for confusion between strength and dose and the difficulty of measuring small doses accurately with standard syringes (Healthcare Safety Investigation Branch, 2022; Patient Safety Learning, 2022). Central leadership could address this by working with regulators and manufacturers to standardize clearer labelling, simplify dosing, or review which formulations and pack sizes are appropriate for home use, as reflected in opioid comparator guidance (NHS Business Services Authority, 2022).

Improvement strategies therefore need to operate at multiple levels. At national level, there is a role for strengthening labelling requirements for high-risk liquid opioids, mandating additional written and verbal safety information, and integrating learning from investigations like Len's into professional education and national policy (Healthcare Safety Investigation Branch, 2022; NHS England, 2023). At organizational level, standard operating procedures for counselling on high-risk medicines could include mandatory use of teach-back and documentation of patient understanding, alongside regular review of medicines-related incidents and complaints in multidisciplinary governance forums (NHS England, 2023). At frontline level, staff need to be empowered and supported to use their professional judgement, extend counselling when risk is high, and raise concerns about product design or system pressures without fear of blame (World Health Organization, 2017).

These improvements must be grounded in data and feedback. The WHO's Medication Without Harm challenge and UK estimates of medication errors show both the scale of the problem and the potential for measurement and monitoring to drive change (World Health Organization, 2017; BMJ Quality & Safety, 2020). Incident reports, audit findings and patient experiences from cases like Len's should not be seen merely as compliance outputs; they should inform continuous quality-improvement cycles, with visible changes fed back to staff and patients to build trust and engagement.

The interaction between system structure (centralized vs decentralized), leadership style and feedback loops is central to understanding why this case unfolded as it did. A decentralized delivery system without sufficiently robust central standards and local leadership can leave high-risk tasks, such as opioid dosing, vulnerable to misunderstanding. At the same time, central policies are only as effective as their local interpretation and implementation. Len's case suggests that safety in complex systems depends on coherent alignment: central guidance that is realistic and evidence-based; local structures that support communication and follow-up; and leadership that is both transformational (shaping culture) and situational

(sensitive to context and vulnerability) (Healthcare Safety Investigation Branch, 2022; World Health Organization, 2017).

Other health organizations can draw several lessons from this case. High-risk medicines used in the community—especially strong opioids in older adults—require enhanced safeguards beyond standard prescriptions and labels. Patient and carer understanding must be treated as a core safety outcome, not simply assumed. Most importantly, leadership at all levels must use evidence and data to drive continuous improvement, recognizing that complex failures like Len’s are rarely the result of one person’s error, but of misaligned systems and missed opportunities for safer design.

2.5 Summary of findings

Len’s case shows how a medication error can become fatal when system weaknesses, poor communication, and insufficient oversight align (Healthcare Safety Investigation Branch, 2022). The case demonstrates the need for balanced governance, adaptive leadership, and stronger feedback mechanisms across the care pathway. It also shows that patient safety in health and social care depends on both central standards and local responsiveness. The strongest conclusion is that safe care requires leaders who can combine structure with flexibility, and data with action.

3 Recommendation

The organization involved in Len’s care, and similar NHS settings, should priorities a set of coordinated, system-wide actions focused on safer use of high-risk opioids in the community (Healthcare Safety Investigation Branch, 2022). The next steps should build directly on HSIB’s findings, WHO’s Medication Without Harm challenge, and wider medication-safety evidence (World Health Organization, 2017; World Health Organization, 2024).

First, the organization should implement standardized high-risk opioid protocols. These should include clear criteria for when morphine oral solution is appropriate; mandatory use of simplified, unambiguous dosing instructions; and consistent use of dose-measurement aids that can accurately measure the full range of prescribed doses, as highlighted in HSIB’s safety observations about measuring devices and product design (Healthcare Safety Investigation Branch, 2022). Local policy should make it explicit that any prescription for morphine oral solution in older adults or people with complex needs triggers enhanced safeguards, including structured counselling and planned follow-up (Healthcare Safety Investigation Branch, 2022).

The most effective leadership approach to sustain these improvements would be a combination of transformational and situational leadership, supported by transactional elements for reliability (Bass and Avolio, 1994; Hersey and Blanchard, 1982). Transformational leadership is needed to set a clear vision that no patient is harmed by a misunderstanding of their medicines, to model openness about error, and to build a culture in which staff are encouraged to speak up about safety risks (World Health Organization, 2017; National Coordinating Council for Medication Error Reporting and Prevention, 2020). Situational leadership is essential at frontline level, enabling clinicians and pharmacists to adapt communication style and support according to each patient's age, comorbidities, health literacy, and social context (Hersey and Blanchard, 1982; World Health Organization, 2024). Transactional mechanisms should underpin these styles through clear standards, audit, and feedback on opioid prescribing and counselling (National Coordinating Council for Medication Error Reporting and Prevention, 2020; Institute for Healthcare Improvement, 2006).

Governance, communication, and systems integration can be strengthened by establishing a formal medication-safety governance structure that explicitly includes primary care, community pharmacy, and acute care (National Coordinating Council for Medication Error Reporting and Prevention, 2020). A multidisciplinary medicines safety group should meet regularly to review incidents, near misses, and HSIB/HSSIB reports, and to convert learning into local policy and practice changes (Healthcare Safety Investigation Branch, 2022; Health Services Safety Investigations Body, 2024). Communication can be improved by standardizing discharge summaries and prescriptions for high-risk opioids and ensuring that key information—indication, dose, maximum frequency, and specific cautions—is clearly communicated across settings and to the patient (Healthcare Safety Investigation Branch, 2022; Health Services Safety Investigations Body, 2024; World Health Organization, 2024). Systems integration should include shared access to electronic prescribing and medicines information across GP, pharmacy, and hospital systems where feasible, reducing gaps at transitions of care (World Health Organization, 2024; Institute for Healthcare Improvement, 2006).

To enhance technical efficiency, the organization should use data to target the highest-risk points in the medicine's pathway (World Health Organization, 2017; BMJ Quality & Safety, 2020). For example, opioid prescribing dashboards and national comparators can be used to identify outliers and to focus training and support on practices or teams with higher rates of high-risk prescribing (BMJ Quality & Safety, 2020; NHS

Business Services Authority, 2022). Standardized counselling templates and patient leaflets for morphine oral solution can reduce duplication and variation while increasing clarity (Healthcare Safety Investigation Branch, 2022; World Health Organization, 2024). Allocative efficiency can be improved by directing limited education, pharmacy, and clinical time towards groups with the highest risk of harm—such as older adults with multiple conditions, those living alone, and those starting strong opioids—rather than offering identical intensity of support to all patients (World Health Organization, 2017; World Health Organization, 2024).

Continuous learning should be embedded through routine review and feedback loops. Medication incidents, including minor errors and near misses, should be reported in a just culture that supports learning rather than blame, in line with national recommendations for senior leadership on medication safety (National Coordinating Council for Medication Error Reporting and Prevention, 2020). Aggregated learning from these reports, HSIB/HSSIB investigations, and WHO policy briefs should inform regular updates to protocols, training, and patient information (Healthcare Safety Investigation Branch, 2022; World Health Organization, 2024). Staff should receive feedback on trends and improvements, creating a visible link between reporting, change, and safer care (National Coordinating Council for Medication Error Reporting and Prevention, 2020; Institute for Healthcare Improvement, 2006).

Stakeholder engagement and co-production are crucial. Patients and carers—particularly those who have experienced medication harm—should be involved in co-designing labels, leaflets, and counselling approaches for high-risk medicines, consistent with WHO's call to engage patients and the public in medication-safety strategies (World Health Organization, 2024). Local patient groups, frontline staff, and professional bodies can be brought together in workshops or quality-improvement projects to test solutions such as redesigned labels or new counselling scripts (World Health Organization, 2024; Institute for Healthcare Improvement, 2006). This co-production approach ensures that recommendations are grounded in real-world experience and are more likely to be adopted and sustained.

Overall, the recommended package of actions—hybrid leadership, strengthened governance and communication, targeted use of data, and co-produced safety interventions—directly addresses the system weaknesses highlighted by Len's case while aligning with international evidence on reducing medication-related harm (Healthcare Safety Investigation Branch, 2022; World Health Organization, 2017; BMJ Quality & Safety, 2020; World Health Organization, 2024).

4 Conclusion

This case study of Len's unintentional overdose of morphine oral solution illustrates how a single tragic event can reveal deep-seated weaknesses across a health system (Healthcare Safety Investigation Branch, 2022). The analysis showed that the death did not stem from one isolated error, but from interconnected failures in communication, labelling, support for patients and carers, and shared accountability across GP, pharmacy, and hospital services (Healthcare Safety Investigation Branch, 2022; Patient Safety Learning, 2022). When viewed against national data showing hundreds of millions of medication errors each year in England and WHO estimates of billions of dollars in global costs, it is clear that Len's experience reflects a much wider challenge in medication safety (BMJ Quality & Safety, 2020; World Health Organization, 2017; World Health Organization, 2024).

Leadership emerged as a critical determinant of whether systems can prevent such events or repeat them. Transformational leadership is needed to promote a clear patient-safety vision, psychological safety, and a culture of learning rather than blame, while situational leadership allows frontline staff to adapt communication and support to the needs of vulnerable patients and families (Bass and Avolio, 1994; Hersey and Blanchard, 1982; World Health Organization, 2017; National Coordinating Council for Medication Error Reporting and Prevention, 2020). Transactional tools—standards, audits, and feedback—remain important but are insufficient on their own if they are not anchored in a broader culture of compassion and continuous improvement (National Coordinating Council for Medication Error Reporting and Prevention, 2020; Institute for Healthcare Improvement, 2006).

Governance and systems thinking are equally central. The case demonstrated that centralized guidance on opioid prescribing must be matched by decentralized, patient-centered implementation, with clear accountability at each level (Healthcare Safety Investigation Branch, 2022; NHS England, 2023). A systems approach, supported by Rich Picture mapping and data on medication incidents, reveals the feedback loops and dependencies that shape outcomes, enabling organizations to design targeted, efficient interventions rather than simplistic, person-focused fixes (Healthcare Safety Investigation Branch, 2022; World Health Organization, 2024; Institute for Healthcare Improvement, 2006).

Ultimately, Len's story reinforces that improving medication safety requires an integrated response: strong leadership, coherent governance, reliable processes, engaged patients and staff, and the intelligent use of data for learning (Healthcare Safety Investigation Branch, 2022; World Health Organization, 2017; BMJ Quality & Safety, 2020; World Health Organization, 2024). By embracing these principles, health and social

care organizations can make tangible progress towards the WHO goal of significantly reducing avoidable medication-related harm, helping to ensure that tragedies like Len's become far less common in future (World Health Organization, 2017; World Health Organization, 2024).

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