



**Module Title: Health Care System Organisation and
Leadership (LCHS7002)**

***Assignment Title: A Systems Analysis of Medication Safety:
Evaluating Leadership and Governance through the SEIPS
Framework***

Student Name & ID: Md. Aseiqur Rahaman (2524402)

Lecturer: Shaila Hussain, Dr Tonia Babalola

Word Count: 5363

Table of Contents

1. Introduction	2
1.1 Background and Purpose of the Case Study	3
1.2 Leadership in Healthcare	3
2. Main Body	3
2.1 Identifying the Problem and Setting the System Context- Applying Systems Thinking and the Rich Picture	4
2.1.1 Global and National statistical information of the problem	4
2.1.2 Reflection on Systemic Weakness	5
2.1.3 Data on Underlying Challenges	5
2.1.4 Rich Picture diagram	6
2.2 Centralisation or Decentralisation within the System	7
2.2.1 Centralised system characteristics	8
2.2.2 Decentralised system characteristics	8
2.2.3 Comparative Analysis of System Structure	9
2.2.4 Impact on crisis management and accountability	10
2.3 Leadership Theories and Application to the Incident	10
2.3.1 Transformational leadership - weak safety culture	11
2.3.2 Transactional leadership - Compliance without promises	11
2.3.3 Situational Leadership - Failure to adapt to context	12
2.3.4 Reactive Leadership and Missed Opportunities	13
2.3.5 What could have been done differently?	13
2.4 Improvements and Lessons Learned	13
2.4.1 Key Problems, Data, and Improvements	14
2.4.2. Integrated Evaluation	15
2.4.3 Lessons for Healthcare organisations and continuous improvements	15
3. Recommendations	16
3.1 Sustained improvement in leadership	17

3.2 Strengthening Governance, communication and system integration	17
3.3 Improving technical and allocative efficiency	18
3.4 Ongoing learning, stakeholder involvement, and co-production	18
4. Conclusion	18
References.....	19

1. Introduction

1.1 Background and Purpose of the Case Study

The interplay between organisational structures, leadership practices and complex care processes is increasingly making the provision of safe and effective healthcare in modern systems (Carayon et al., 2020). In the UK, the National Health Service (NHS) is a quite integrated but complex system, in which care is provided in the primary and community with acute care settings (NHS England, 2022). This type of system allows providing the entire range of services, it also brings the problems associated with communication, accountability, and coordination of the system (Charles et al., 2022).

The case in the report is that of an 89-year-old patient, Len, who was prescribed a low dosage of morphine after experiencing poor analgesic control using regular analgesics. Although the prescription was medically correct and in line with national guidelines, misinformation occurred between Len and his wife about the instruction to take the dosage because they used the labelling on the bottle of the manufacturer and not the dispensing label on the outer packaging. This led to an overdose being administered, which added to the worsening of Len's condition and his eventual death. More importantly, this accident does not only point to a patient error, but to a more systemic issue with the healthcare system to provide safe use of medication (Carayon et al., 2020).

1.2 Leadership in Healthcare

The issue of leadership is essential in influencing the outcome of patient safety in health care systems. Theories of leadership, like transformational, transactional and situational leadership theories, offer a good framework of how leadership behaviours influence the process of decision making and performance of the system. Ineffective leadership in high-risk environments like medication management may cause destruction of processes, lack of clarity of responsibilities and poor safety processes (Benlahcene, et al., 2022). Moreover, decision-making and accountability are also heavily affected by the structure of healthcare systems. Although standardisation and governance are backed by centralisation, flexibility and responsiveness are supported by decentralisation (Storey and Holti, 2021).

This report applies systems thinking, with the use of the Systems Engineering Initiative for Patient Safety (SEIPS) framework, to critically examine the incident and determine system failures (Carayon, et al., 2020). It assesses how organisational structure and leadership influence the result and suggests evidence-based suggestions to promote patient safety, enhance leadership performance, and build resilience in the system in the NHS (West et al., 2020).

2. Main Body

2.1 Identifying the Problem and Setting the System Context- Applying Systems Thinking and the Rich Picture

This accidental morphine sulfate oral solution overdose in the case of Len cannot be sufficiently justified in a linear or individual-error point of view. Rather, it is the result of a multifaceted system-level error of prescribing, dispensing, communication, and patient usage (Carayon et al., 2020). The direct cause may seem to be the administration of the wrong amount of medication, but a closer look into the case indicates that the medical system failed to ensure the clinical instructions were accurately translated into patient comprehension and adherence (HSSIB, 2022).

From the start, the incident can be explained by the wrong understanding of the dosage by Len and his wife. However, the interpretation is predictive and does not comply with the principles of systems thinking. The GP had recorded the prescribed dose of morphine in a clear and understandable manner and this was in line with clinical advice on older adults. The Health Services Safety Investigations Body (HSSIB) results indicate the dosage instructions were on the dispensing label on the outer box but they were not read by Len and his wife who instead became dependent on the bottle label on the manufacturer stating 10mg/5ml, which they interpreted to be the correct dose (HSSIB, 2022).

2.1.1 Global and National statistical information of the problem

The extent of the risk associated with medication supports the fact that this case should be analysed on the systemic level (Carayon et al., 2020). Medication errors are known to cause significant preventable harm globally, the World Health Organisation reporting that medication-related harm happens to about 1 in every 30 patients, with a large proportion of them being severe or life-threatening (WHO, 2023). Moreover, medication errors cost the global economy an estimated 42 billion dollars per year, which shows the severity of the problem and its prevalence across the system (WHO, 2022). It is estimated that 237 million medication errors are made in the NHS in England every year and the errors are made in different stages of prescribing, dispensing, and administration (Care Quality Commission, 2022). The latest NHS statistics indicate that there were more than 800,000 reported cases of patient safety incidents in a single quarter (2025), indicating that the magnitude of safety risks in the system remains constant (NHS England, 2025). Such statistics are a clear indication that the case of Len does not appear in a vacuum but is rather a part of a more general systemic issue in healthcare (WHO, 2022).

By using the Systems Engineering Initiative of Patient Safety (SEIPS) framework, it can learn more about the way various fields of the healthcare system interact to deliver this result

(Carayon et al., 2020). Regarding people, the system included Len, his wife as the caregiver, the GP, pharmacy staff, and the hospital clinicians. The task aspect will involve prescription, dispensing, and administration of the drug. Despite the fact that every task was performed in line with the expectations of the procedure, the quality of integration between the tasks was poor. The label used by the manufacturer showed the strength of the morphine solution clearly and the dosage directions were printed separately on the outer package (HSSIB, 2022).

2.1.2 Reflection on Systemic Weakness

There is a lack of effective communication. The dispensing label contained the technical instructions on the dosage, but Len and his wife did not see or understand them. Rather, the label of the manufacturer that was properly displayed (10mg/5ml) informed their interpretation of the dose. This is an indicator of a lack of integration between the presentation of information and actual utilisation by patients, which is an indication of not embracing patient-centred communication approaches (Härter et al., 2022). The incident proves accountability and system integration weaknesses. The GP ordered the correct medication, the pharmacy filled it in the correct manner within the regulatory standards, but there was no system in place to ensure that the patient could safely interpret and use the medication. This spread of responsibility is typical of fragmented healthcare systems, in which various actors take part in care delivery and no one person is responsible (Amiresmaili et al., 2022).

Safety should be part of effective leadership, where it should be integrated in the design of the system, communication systems and approaches in engaging the patient. The lack of effective safety measures, including compulsory counselling, ensuring that the patient has understood everything, or monitoring the patient after the treatment, indicates a reactive attitude towards risk management (WHO, 2021). This is indicative of a larger problem in healthcare systems, in which safety efforts are frequently introduced at a policy level, but they are not always translated into practice (West et al., 2020).

2.1.3 Data on Underlying Challenges

Besides the communication and system design failures, the incident should also be recognised in the framework of the larger structural pressures that the healthcare system has to face, such as workforce shortages, growing patient demand, and financial limitations (Storey and Holti, 2021). Recent labour market statistics show that the NHS still has significant staffing shortages in England, with more than 112,000 unfilled posts reported by 2023, indicating that the healthcare system still faces significant challenges in hiring and retaining personnel in clinical occupations (NHS England, 2024). Largely, the Organisation for Economic Co-operation and Development points out that the healthcare systems in Europe are experiencing shortages of workforce, and as of 2022, the estimated number of healthcare

professionals short is 1.2 million, meaning that the UK is not the only system with these pressures, but the issue is global (European Commission, 2024).

2.1.4 Rich Picture diagram

Figure 1: Representing Rich Picture Diagram

(Source: Own Work, 2026)

The rich picture diagram shows that the adverse outcome was caused by system-level failures and not by a single error (Barbrook-Johnson and Penn, 2022). Poor governance is the basis of poor communication between the GP and pharmacist and poor patient education of Len and his caregiver (Charles et al., 2022). Even though the GP issued the right prescription and the pharmacist dispensed the medication, the problem of incorrect dosage was caused by unclear labelling and the absence of counselling (HSSIB, 2022). These lack the follow-up or safety check which further increased the risk leading to the breakdown of the system. This shows the interaction between disorderly communication, design, and the absence in the context of declining patient safety (WHO, 2021).

2.2 Centralisation or Decentralisation within the System

The care route in this incident is indicative of the broader model of the UK healthcare system in which national policy orientation exists in parallel with local care provisioning in the primary care, pharmacy and hospital care. This forms a semi-centralised system, whereby standardised rules are centrally established, but locally executed. The analysis focuses on the influence of both centralised and decentralised factors on the result and the way they reinforced or undermined patient safety (Storey and Holti, 2021).

2.2.1 Centralised system characteristics

Centralisation is the process of decision-making being centralised at the higher organisational or national levels (Wale, 2020). In the NHS, prescribing guidance, medication safety standards and labelling and dispensing regulatory requirements are defined by central bodies (Charles et al., 2022).

In this case, morphine was prescribed under nationally recognised clinical guidance. The GP (General Practitioner) chose a low dose that fits an older patient, proving that centralised clinical structures may allow making safe and consistent decisions. In the same way, the medication labelling was in accordance with the regulatory standards, which signifies that the system fulfilled formal requirements (NICE, 2023).

The disadvantage of centralisation is that it is compliance-based and not usability-based. The system made sure that the information was technically accurate, but not that it was practically comprehended. For example, despite the information about dosage on the dispensing label, the size of the medication strength was considerably bigger on the bottle, which led to confusion (Uzunbay, et al., 2023). This is a major drawback in that centralised systems are more prone to standardisation than interpretation by patients.

This problem is indicated in broader NHS data in performance terms. It is estimated that in England, around 237 million medication errors are made each year, many of them relating to communication and administration procedures but not to prescribing choices (Ayre, et al., 2023). This indicates that centralised controls cannot be left alone to achieve safe results, especially in real-life settings that are complex.

2.2.2 Decentralised system characteristics

Decentralisation is a process of spreading power at various levels of the system in such a way that local actors make decisions on the basis of circumstances (Mudalige, 2019). The fault in this instance was shared by several parties, such as the GP who ordered the drug and the pharmacy filled it and the patient and caregiver took it at home (Amiresmaili et al., 2022).

The GP could modify treatment in accordance with the symptoms of Len without having to seek a higher-level approval. On the same note, community pharmacies are independent in dispensing drugs effectively, which contributes to the accessibility of care (Storey and Holti, 2021).

Decentralisation also creates gaps in accountability in this case also there was no single party that could have been charged with the responsibility of making sure that the patient was well-informed on how to take the medication. The GP had prescribed correctly and the pharmacy had dispensed correctly, and then the system had failed at the point of action. This fragmentation implied that essential safety tests, including the checking of patient comprehension, were not always done (HSSIB, 2022).

The risk of decentralised care is especially obvious in home-based medication use. NHS reports on patient safety reveal that a considerable percentage of medication errors are outside the clinical premise where professionals are not present in large numbers. In this situation, the patient's interpretation has a higher chance of error, particularly with older adults who have complex health needs (Care Quality Commission, 2022).

2.2.3 Comparative Analysis of System Structure

The relationship between the centralised and the decentralised factors was instrumental in determining the result of this incident. Although centralisation brought about clinically appropriate prescribing decisions, decentralisation affected the implementation of those decisions in practice (Storey and Holti, 2021).

Table 1: Comparative Analysis of Centralised and Decentralised System Structures in Medication Safety Management

Factor	Centralised System	Decentralised System	Impact of the Incident
Decision-making	National guidelines for prescribing	Local clinical judgement by a GP	Appropriate prescription achieved
Accountability	Defined at the policy level	Distributed across providers	No clear ownership of patient understanding
Communication	Standardised labelling rules	Variable patient counselling practices	Misinterpretation of dosage

Patient safety	Focus on compliance	Dependent on local practice	Safety gap at the point of use
----------------	---------------------	-----------------------------	--------------------------------

This analogy demonstrates that both systems are not problematic but the problem is in the fact that the two systems have not been integrated yet. Centralised policies made sure that policies were accurate, but decentralised implementation did not achieve that accuracy in safe patient behaviour (Carayon et al., 2020).

2.2.4 Impact on crisis management and accountability

The system structure also had an impact on the way the situation unfolded after the overdose took place. In a decentralised environment, the initial diagnosis is very dependent on the patient or caregiver identifying an issue. In this case, the overdose was recognised too late when Len lost consciousness, which means that it was not recognised as quickly as possible (Amiresmaili et al., 2022).

Moreover, there was no preventive mechanism to ensure that the medication was used correctly since there was no clear accountability. This risk would have been mitigated by a more integrated system, a centralised oversight with local verification processes (HSSIB, 2022).

Governance-wise, this is an indicator of a greater issue in healthcare systems, such as standardisation versus flexibility. Although centralised systems are consistent, they can ignore the needs of individual patients. (Krenyacz, et al., 2025). On the other hand, decentralised systems are flexible but may cause variability and safety gaps (Storey and Holti, 2021).

2.3 Leadership Theories and Application to the Incident

Healthcare leadership is not just about clinical choices, but also about the safety with which the chosen choices are applied in practice (Storey and Holti, 2021). The prescribing decision in this case was clinically correct and in line with the guidance, but the system was not used to make sure that the dosage instructions were clearly communicated to the patient and the caregiver. It means that leadership efficiency should be evaluated in the framework of communication, system design, and verification of patient understanding, but not prescribing (Härter et al., 2022).

Medication safety is a major topic in England, and the number of medication errors is estimated to be about 237 million each year, most of them related to communication and administration and not prescribing (Ayre, et al., 2023). This shows the necessity of leadership practices that consider the risks of the system instead of the accuracy of the procedures (HSSIB, 2022).

2.3.1 Transformational leadership - weak safety culture

Transformational leadership aims at building a robust safety culture, promoting a proactive approach to risk management, and patient-centred care (Hamdan, et al., 2024). In this case, one cannot see many signs of such an approach. Though the clinical care was carried out according to the set of guidelines, a distinct attempt was not made to make sure that both the patient and the caregiver were fully knowledgeable about how to administer the drug safely (Härter et al., 2022).

A transformational approach would have focused more on explanation, verification of comprehension and foreseeable risks of elderly patients self-administering medication at home (Amiresmaili et al., 2022). The lack of these factors implies that the safety culture was not implemented into practice (HSSIB, 2022).

The World Health Organisation's evidence indicates that 1 in 30 patients worldwide is impacted by medication-related harm with a significant number being preventable (WHO, 2023). This shows that management should be actively identifying risks and preventing damage.

The data on staff engagement also points to weaknesses in leadership. According to the NHS Staff Survey (2023), only around 72% of staff members feel free to report, but only 56% of them believe that a response to concerns is being taken. This implies an absence of communication and improvement, meaning that leadership does not always convert feedback into safer systems (NHS England, 2023).

2.3.2 Transactional leadership - Compliance without promises

Transactional leadership is based on adherence to rules, procedures, and regulatory standards (Storey and Holti, 2021). This is very apparent in the incident. The decision to prescribe was national in nature and dispensing complied with labelling. These activities show that the system was working on the premise of given procedural guidelines (HSSIB, 2022).

Transactional leadership has clear limitations, although it was done in the right way, the system failed to guarantee the result, which was safe medication use. The availability of correct information did not mean that it was interpreted correctly (Uzunbay et al., 2023).

According to the NHS England data, a significant percentage of medication incidents are associated with communication breakdowns instead of prescribing mistakes (Alrowily, et al., 2025). This speaks to the shortcomings of a compliance-based strategy, where one is considered successful when the process has been finished, as opposed to patient safety.

The system assumed that delivery of instructions was sufficient in this case. Lack of checks to ensure the patient understands the procedure underscores a disparity between compliance and safety in procedures (Härter et al., 2022).

2.3.3 Situational Leadership - Failure to adapt to context

Situational leadership involves the ability to change according to the needs of the patients, situation, and risk level (Heryyanoor, et al., 2021). This was not the case in this incident, where adaptation was lacking. The patient was an elderly person with a history of other health issues and was taking medication at home without supervision, which further increased the chances of misinterpretation (Amiresmaili et al., 2022).

Although these are the risks, communication strategies or safeguards were not adjusted. A situational approach would have involved personalised explanations, dose measure demonstration, and knowledge verification (Härter et al., 2022).

Inability to adapt is an indication of a mismatch between the standard procedures and the needs of patients, which means that the leadership failed to respond to the particular risks in this scenario (Heryyanoor et al., 2021).

Table 2: Comparative evaluation of leadership approaches

Leadership Theory	Key Features	Application in the Incident	Outcome
-------------------	--------------	-----------------------------	---------

Transformational	Safety culture, proactive risk management	Limited focus on patient understanding	Weak safety assurance
Transactional	Rules, compliance, standardisation	Strong adherence to procedures	Correct process but unsafe outcome
Situational	Adaptability to patient needs and context	No adjustment for vulnerability or environment	Misinterpretation of dosage

2.3.4 Reactive Leadership and Missed Opportunities

The leadership style in this case can be characterised as mostly reactive. The systems were made to work in normal conditions but they never anticipate how errors could arise in the field (HSSIB, 2022). The overdose was not detected till there was clinical deterioration, which showed that preventive mechanisms were inadequate (Amiresmaili et al., 2022).

The data support this opinion that the fact that the medication error rates are high throughout the NHS, and staff members believe that the issue is not always followed up on, implies that the leadership approach is not as dynamic in its response to the identified risks (NHS England, 2024).

2.3.5 What could have been done differently?

The more efficient solution would be a combination of transformational, transactional, and situational. Transformational leadership would enhance the safety culture and place more focus on patient-centred communication (Ree, 2020). In transactional leadership, consistency in processes would be ensured, whereas in situational leadership, processes would be individualised to suit the needs of the patient (Storey and Holti, 2021).

Additionally, accountability might be enhanced by introducing the concept of distributed leadership that would make both prescribing and dispensing professionals responsible in the process of ensuring the patient's understanding (Anthony and Dada, 2022). This would be further facilitated by emotionally intelligent leadership that would perceive patient vulnerability and enhance communication (Anthony and Dada, 2022).

2.4 Improvements and Lessons Learned

The accident shows that there was no failure of leadership and governance at the policy level or at the clinical guidance level, but in the implementation of these in practice. Governance systems also provided that prescribing was in line with national standards, and the GP prescribed a low dose of morphine according to the recommendation for older adults (NICE, 2023).

Governance-wise, there were systems in place, like medication labelling and prescribing systems. But leadership failed to fill the gap between system design and patient comprehension. The lack of confirmation of dosage understanding shows that leadership was concerned with procedural rather than assuring the results. This is consistent with broader literature, like in England, where there are an estimated 237 million medication errors every year, and a significant number of them happen in the process of medication administration and patient use, as opposed to prescriptions (BMJ, 2020).

2.4.1 Key Problems, Data, and Improvements

1. Failure in communication and Verification

The main problem was the inability to make sure that the patient and the caregiver were aware of the appropriate dosage. This system was based on written instructions on the outer packaging which were not viewed and the bottle displayed the strength of the medication, which caused misinterpretation. It has been shown that 30-50 percent of patients fail to use medicines as they are prescribed, and this may be attributed to the lack of understanding of the instructions (Chapman and Chan, 2025). The healthcare settings need to instigate formal communication strategies, such as teach-back. The understanding should be given thoroughly to the patients about the high-risk medications (Härter et al., 2022).

2. Lack of good labelling design and usability

The event also shows the failure in the design of the system, in which the strength of the medication became more noticeable than what was prescribed. The governance was used to ensure that the standards of labelling were met, but the leadership failed to concern itself with usability. It is reported that medication incidents make up about 10% of all patient safety incidents (NHS England, 2024). The hospital needs to redesign the labelling to give dosage priority over strength (Uzunbay et al., 2023).

3. Split responsibility under a decentralised system

The decentralised model had shared accountability between GP, pharmacy and patient, yet none of the actors would guarantee safe medication usage. As much as governance determines roles, leadership failed to establish shared accountability. The research indicates

that the percentage of medication mistakes at the administration phase exceeds 50 per cent, and the responsibility is the most diffuse one (WHO, 2022). The improvements in implementing joint responsibility models of prescribers and pharmacists. The cross-checking of high-risk drugs. To enhance the collaboration of primary care and pharmacy services. This involves a trade-off between decentralised flexibility and centralised control, with leadership acting across system boundaries (Storey and Holti, 2021).

4. Weak Leadership and poor safety culture

The leadership style that was witnessed was more reactive. Systems operated in normal conditions without looking ahead to foreseeable risks, including the risk of dosage misinterpretation in the elderly. In England, medication-related harm leads to 1,700 deaths every year, which shows that the issue is systemic and is a risk in spite of existing systems (PSRC, 2024). The use of active risk evaluation in practice. The encouragement of a culture of anticipation as opposed to the culture of response. This indicates the necessity of transformational leadership that is more focused on prevention and less on compliance (Hamdan et al., 2024).

5. Poor use of system feedback and learning

Even though much patient safety data is gathered, it is not consistently converted into practice. The fact that medication errors remain high indicates that the learning systems are ineffective. The NHS Learn from Patient Safety Events (LFPSE) system records high numbers of medication-related incidents every year (NHS England, 2024). The improvements can be done by making local and national interventions that are informed by data (Amiresmaili et al., 2022).

2.4.2. Integrated Evaluation

This incident can be explained by the combination of the structure of the system, leadership, and feedback (Storey and Holti, 2021). The semi-centralised system made sure that prescribing was based on the national standards, but the decentralised implementation provided variation in practice. The style of leadership was based on transactional leadership that was compliance-oriented, without the inclusion of transformational or situational leadership which considers the patient situation (Hamdan et al., 2024). There were feedback mechanisms that were not utilised properly to predict or avoid risk. These factors were not independent, but the interaction between them produced circumstances in which errors could be committed. The policy level was well governed since it was centralised and the delivery was decentralised and needed adaptive leadership (Amiresmaili et al., 2022).

2.4.3 Lessons for Healthcare organisations and continuous improvements

Safety should not be assumed but designed to be used in the real world (WHO, 2021). The leadership should see to it that the processes are safe. Responsibility should be distributed and identified on system boundaries. Patient comprehension is to be regarded as an important safety test (Härter et al., 2022).

Healthcare organisations must embrace data-based approaches in order to establish risk patterns, interventions, and outcomes (NHS England, 2024). The accident shows that patient safety is determined by the harmony between the system structure, leadership, and feedback. In the absence of such alignment, even the clinically appropriate decisions might not lead to safe outcomes (HSSIB, 2022).

3. Recommendations

The case with Len shows that the incident was not caused by a wrong prescription but by failures in communication, system design, leadership and accountability. Therefore, to make sure that clinically appropriate decisions are converted to safe patient use, especially at home-based settings, the organisation should be focused on specific, system-level interventions (HSSIB, 2022).

3.1 Sustained improvement in leadership

The failures identified need to be addressed with a blended leadership approach. The leadership approach that should be embraced is transformational leadership to establish a proactive safety culture where patient understanding is considered a very important outcome (NHS England, 2025). In the case of Len, leadership did not make sure that he and his wife understood how to take the medication safely, despite the prescription being right. This implies that there is no emphasis on patient-centred safety (Hamdan et al., 2024).

Compliance with the standards of prescribing and dispensing should remain the preserve of transactional leadership but this must be supplemented by situational leadership, which modifies communication and protection depending on patient risk (Heryyanoor et al., 2021). The old age of Len and his underlying condition and home conditions predisposed to misinterpretation, but no extra precautions were observed.

In addition, distributed leadership is to be introduced in a way that prescribers and pharmacists are equally responsible for ensuring that the patient understands. The lack of this collective responsibility in the treatment of Len implied that no trained specialist checked whether the instructions regarding the dosages were comprehended (Anthony and Dada, 2022).

3.2 Strengthening Governance, communication and system integration

Governance processes need to shift past procedural compliance in order to guarantee outcome accountability. Here, it was within the regulations of the label, but not practical (Storey and Holti, 2021). The name of the medicine was clearly displayed and the strength (10mg/5ml) was clearly misjudged as the dose and the proper instructions were located on the outside package and not read (HSSIB, 2022).

To counter this, the organisation should standardise labelling practice to focus on clear dosage directions on the main container. Communication is enhanced through verification methods like such as teach-back, enabling the patient and caregivers to communicate clearly on the medication mode of administration (Varghese, 2025).

There should also be an enhancement of system integration. The event showed a breakdown between dispensing and prescribing procedures, in which there was no system that would

guarantee the safe use of medication. Instructing common protocols between GP and pharmacy services, with the help of digital systems, can strengthen instructions and limit the use of patient interpretation (Amiresmaili et al., 2022).

3.3 Improving technical and allocative efficiency

The efficiency of technicality can be achieved through standardisation of medication counselling and labelling to ensure minimal variability and error reduction (Kariri, et al., 2025). In the case of Len, the inability to provide visibility and clarity of dosage instructions is an inefficient system design.

Allocative efficiency is supposed to be geared towards the allocation of resources in high-risk areas (Garvin, 2021). The elderly patients who handle their medications at home need extra assistance, such as more consultation time, pharmacist counselling, and follow-ups. This absence of such resource allocation in this case added to the unsafe use of medication (Care Quality Commission, 2022).

3.4 Ongoing learning, stakeholder involvement, and co-production

The organisation should intensify its learning systems, whereby incident data result in applied improvements. Even with extensive reporting of medication errors, the same problems are still being reported, which means that there are flaws in the implementation (NHS England, 2024).

Ongoing training is to be provided in terms of communication, human factors, and medication safety. Employees are supposed to voice their concerns and the leaders should make sure that the feedback is followed up with change (West et al., 2020).

It is also important to engage stakeholders, who Len and his wife were using the information that they had, which was not created to be used practically. The design of labelling and communication processes can be more user-friendly and less risky when patients and caregivers are involved in their design (Härter et al., 2022).

4. Conclusion

The case study on this accident shows that the damage to the patient was not caused by the wrong clinical decision-making, but by the inability of the healthcare system to transform a proper prescription into patient safety. The prescribing of morphine was in accordance with the national guidance, but the communication, labelling design, and system coordination were weak, which resulted in a breakdown at the administration point. This shows that patient safety is not guaranteed by clinical accuracy per se, but it requires how well systems assist patients in real-world scenarios (Sujan et al., 2022).

One of the main conclusions is that the accident was caused by the combination of several system elements and not one mistake. The utilisation of systems thinking, which was facilitated by the SEIPS framework, demonstrated that the failures of people, tasks, technology, organisation, and environment were all involved in the outcome (Holden et al., 2021). The unclear labelling, the absence of confirmations that the patient had grabbed the information, and incomplete responsibility established an environment where misunderstanding was very credible. It was also revealed in the analysis that the healthcare system structure, which was a combination of centralised governance and decentralised delivery, made a substantial contribution (Menzies et al., 2022).

The case highlighted the extreme value of leadership, governance, and systems thinking in the process of improvement. Leadership should move past technical conformity to achieve safe results and governance models should include usability and practicality (Vincent and Amalberti, 2023). Systems thinking offers a full approach to understanding the interaction of various components and the place of interventions. So, the incident shows that significant change in patient safety can be achieved through system design, leadership practice and governance structures working together to guarantee that care is not only correct, but also safe in practice (Macrae, 2022).

References

- Alrowily, A., Alfaraidy, K., Almutairi, S., Alamri, A., Alrowily, W., Abutaleb, M., Zaitoun, M., Sarawi, W. and Aljead, M. (2025) High-risk medication errors: Insight from the UK National Reporting and learning system. *Exploratory Research in Clinical and Social Pharmacy*, 17, p.100531.
- Amiresmaili, M., Khosravi, A., Mortazavi, S. and Nekoei-Moghadam, M. (2022) 'Fragmented care: a core challenge in modern healthcare systems', *International Journal of Health Policy and Management*, 11(4), pp. 410–415.
- Anthony, P. and Dada, S.A. (2022) Community and leadership strategies for advancing responsible medication use and healthcare equity access. *International Journal of Multidisciplinary Research and Growth Evaluation*, 3(6), pp.748-767.
- Ayre, M.J., Lewis, P.J., Phipps, D.L. and Keers, R.N. (2023) unDerstanding the cauSes of mediCation errOrs and adVerse drug evEnts for patients with mental illness in community caRe (DISCOVER): a qualitative study. *Frontiers in Psychiatry*, 14, p.1241445.
- Barbrook-Johnson, P. and Penn, A.S. (2022) Rich Pictures. *Systems Mapping*, pp.21–32.
- Benlahcene, A., Saoula, O., Jaganathan, M., Ramdani, A. and AlQersh, N.A. (2022) The dark side of leadership: How ineffective training and poor ethics education trigger unethical behavior? *Frontiers in Psychology*, 13(1).
- BMJ (2020) 237+ million medication errors made every year in England - BMJ Group. [online] BMJ. Available at: <https://www.bmj.com/company/%20newsroom/237-million-medication-errors-made-every-year-in-england/> [Accessed 6 Apr. 2026].
- Carayon, P., Wooldridge, A., Hoonakker, P., Hundt, A.S. and Kelly, M.M. (2020) SEIPS 3.0: Human-centered design of the patient journey for patient safety. *Applied Ergonomics*, 84(84), p.103033.
- Care Quality Commission (2022) CQC Insight 14: Medicines Safety in NHS Trusts. [online] www.cqc.org.uk. Available at: <https://www.cqc.org.uk/publications/major-reports/cqc-insight-14-medicines-safety-nhs-trusts> [Accessed 6 Apr. 2026].
- Chapman, S.C.E. and Chan, A.H.Y. (2025) Medication nonadherence - definition, measurement, prevalence, and causes: reflecting on the past 20 years and looking forwards. *Frontiers in Pharmacology*, 16.
- Charles, A., Ewbank, L., Honeyman, M., Naylor, C. and Walsh, N. (2022) *Integrated care systems explained*. Available at:

<https://www.kingsfund.org.uk/publications/integrated-care-systems-explained>

(Accessed: 21 April 2026).

European Commission (2024) *Commission and OECD report shows need to further promote healthy ageing while tackling health workforce shortages*. [online] Public Health.

Available at: https://health.ec.europa.eu/latest-updates/commission-and-oecd-report-shows-need-further-promote-healthy-ageing-while-tackling-health-workforce-2024-11-18_en [Accessed 6 Apr. 2026].

Garvin, J.R. (2021) Limited Resource Allocation Within FEMA's Hazard Mitigation Assistance Program: An Exploration of Efficiency (Doctoral dissertation, California Baptist University).

Hamdan, M., Jaaffar, A.H., Khraisat, O., Issa, M.R. and Jarrar, M.T. (2024) The association of transformational leadership on safety practices among nurses: the mediating role of patient safety culture. *Risk Management and Healthcare Policy*, pp.1687-1700.

Heryyanoor, H., Nursalam, N., Hidayat, A.A.A., Hidayat, T., Raziansyah, R., Zubaidah, Z. and Pusparina, I. (2021) Culture-based situational leadership model in improving the organization nurse performance. *Journal of International Dental and Medical Research*, 14(3), pp.1251-1259.

Holden, R. J., Carayon, P., Gurses, A. P., Stephens, P., Knana, V. C. and Rivera-Rodriguez, A. J. (2021) 'SEIPS 3.0: Integrating the patient journey into the Systems Engineering Initiative for Patient Safety model', *Applied Ergonomics*, 91, p. 103311.

Härter, M., Buchholz, A., Nicolai, J., Reuter, K., Komarahadi, F. and Bieber, C. (2022) 'Patient-centered communication as a core competency in medical education', *Frontiers in Psychology*, 13, p. 892.

Health Services Safety Investigations Body (HSSIB) (2022) *Unintentional overdose of morphine sulfate oral solution*. [online] HSSIB. Available at:

<https://www.hssib.org.uk/patient-safety-investigations/unintentional-overdose-of-morphine-sulfate-oral-solution/investigation-report/> [Accessed 6 Apr. 2026].

Kariri, E.H.A., Jadkarim, M.M., Alhibshi, T.F., Alrwailiy, H.N., Alrwailiy, H.N., Alqutub, K.N., Al-Mutairi, K.H.H., Alanazi, Y.H. and Aljish, A.H.J. (2025) Enhancing Medication Safety: The Role Of Pharmacology Technicians In Error Prevention And Risk Management. *The Review of Diabetic Studies*, pp.529-542.

Kim, S., Kitzmiller, R., Baernholdt, M., Lynn, M.R. and Jones, C.B. (2022) Patient safety culture: The impact on workplace violence and health worker burnout. *Workplace Health & Safety*, 71(2), pp.78–88.

- Krenyacz, E. and Revesz, E.E. (2025) Consequences of centralized healthcare systems: changing role and autonomy of hospital managers—insights from a Hungarian case. *Journal of Health Organization and Management*, 39(9), pp.177-191.
- Macrae, C. (2022) 'Learning from failure: the role of safety investigation in high-risk systems', *Journal of Health Services Research & Policy*, 27(1), pp. 88–95.
- Menzies, J., Archer, J., Jones, A. and Boyd, A. (2022) 'The impact of governance structures on clinical delivery in hybrid healthcare models', *Health Care Management Review*, 47(3), pp. 202–211.
- Mudalige, P.W. (2019) The discussion of theory and practice on decentralization and service delivery. *European Scientific Journal ESJ*, 15(14), pp.115-135.
- National Health Service England (2024) *NHS England» Learn from patient safety events (LFPSE) service*. [online] www.england.nhs.uk. Available at: <https://www.england.nhs.uk/patient-safety/patient-safety-insight/learning-from-patient-safety-events/learn-from-patient-safety-events-service/> [Accessed 6 Apr. 2026].
- National Institute for Health and Care Excellence (NICE) (2023) *Palliative care: prescribing morphine*. London: NICE.
- National Staff Survey, (2023) Listening to the silence: Freedom to Speak Up in the NHS Staff Survey 2023 [Online]. Available at: <https://nationalguardian.org.uk/wp-content/uploads/2024/07/2024-NSS-2023-report.pdf>. [Accessed 6 Apr. 2026].
- NHS England (2024) *NHS England - NHS Long Term Workforce Plan*. [online] NHS England. Available at: <https://www.england.nhs.uk/long-read/nhs-long-term-workforce-plan-2/> [Accessed 6 Apr. 2026].
- NHS England (2024) *NHS England» Medication Safety*. [online] www.england.nhs.uk. Available at: <https://www.england.nhs.uk/patient-safety/patient-safety-insight/patient-safety-alerts/enduring-standards/standards-that-remain-valid/medication-safety/> [Accessed 6 Apr. 2026].
- NHS England (2024) *Statistics» Quarter 4 2024/25 (January, February, March 2025)*. [online] England.nhs.uk. Available at: <https://www.england.nhs.uk/statistics/statistical-work-areas/patient-safety-data/2024-25/q4-revised/> [Accessed 6 Apr. 2026].
- NHS England (2025) *The NHS Patient Safety Strategy*. [Online] England.nhs.uk. Available at: <https://www.england.nhs.uk/patient-safety/the-nhs-patient-safety-strategy/> [Accessed 6 Apr. 2026].

- PSRC Web (2024) *Shared digital NHS prescribing record could avoid nearly 1 million annual drug errors*. [online] GM PSRC. Available at: <https://www.psrgm.nihr.ac.uk/2024/04/19/shared-digital-nhs-prescribing-record-could-avoid-nearly-1-million-annual-drug-errors/> [Accessed 6 Apr. 2026].
- Ree, E. (2020) What is the role of transformational leadership, work environment and patient safety culture for person-centred care? A cross-sectional study in Norwegian nursing homes and home care services. *Nursing Open*, 7(6), pp.1988-1996.
- Storey, J. and Holti, R. (2021) *Towards a New Leadership for the NHS*. London: Routledge.
- Sujan, M., Scott, P., Habli, I., Gurses, A. and Kuziemsky, C. (2022) 'Applying systems thinking to healthcare improvement: a practical guide', *International Journal for Quality in Health Care*, 34(2), pp. 115–120.
- Uzunbay, Z., Elliott, R.A., Taylor, S., Sepe, D. and Ferraro, E.J. (2023) Accuracy of medication labels on community pharmacy-prepared dose administration aids: An observational study. *Exploratory Research in Clinical and Social Pharmacy*, 11, p.100318.
- Varghese, S., Thompson, J. and Lee, K. (2025) 'The impact of teach-back methods on medication safety in elderly populations', *Geriatric Nursing*, 46, pp. 210–218.
- Vincent, C. and Amalberti, R. (2023) *Safer Healthcare: Strategies for the Real World*. 2nd edn. Cham: Springer.
- Wale, H. (2020) *Centralization vs. Decentralization*. [Online] Corporate Finance Institute. Available at: <https://corporatefinanceinstitute.com/resources/management/centralization/> [Accessed 6 Apr. 2026].
- West, M., Bailey, S., Williams, E. and Sethi, S. (2020) *The key to primary care in the NHS: compassion and collaboration*. London: The King's Fund.
- World Health Organization (2022) *Medication without harm*. [online] World Health Organization. Available at: <https://www.who.int/initiatives/medication-without-harm> [Accessed 6 Apr. 2026].
- World Health Organization (2023) *Patient safety*. [online] World Health Organization. Available at: <https://www.who.int/news-room/fact-sheets/detail/patient-safety> [Accessed 6 Apr. 2026].