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Table of Contents

1. Introduction.....	3
2. Main Body	4
a. Identifying the Problem & System Context.....	4
b. Centralisation vs Decentralisation	7
c. Leadership Theories and Application	11
d. Improvement and Lessons Learned	13
3. Recommendations.....	17
4. Conclusion	19
5. References.....	20

1. Introduction

A significant healthcare system issue worldwide is medication errors, impacting up to 1 in 20 patients and causing considerable preventable harm (World Health Organization, 2017; D'Errico et al., 2022). The case study that was chosen deals with a four-week-old baby that had the dispensing error that led to the administration of the morphine sulphate oral solution with a twentyfold increase of the dose. The incident presents important issues in prescribing, dispensing and system level safeguards that manifest the larger issues of medication safety in healthcare systems. Research indicates that medication errors rank among the main causes of preventable harm among paediatric patients, and they usually have to do with complex procedures, communications, and insufficient safety systems (D'Errico et al., 2022; Tansuwannarat et al., 2022). Neonatal weight-based dosing predisposes to calculation errors, especially when used with their physiological immaturity, which may result in serious clinical consequences (Basil et al., 2024).

Healthcare leadership may be termed as the capacity to impact individuals and groups to realize safe, quality, patient care. Successful leadership has been identified as important in the organisational culture, decision-making and system design that directly influences patient safety outcomes (Lee et al., 2022). The leadership in the healthcare context may be described as the possibility to make people and groups work towards the common outcomes in terms of quality care and patient safety. Various leadership practices such as transformational, transactional, and situational leadership approaches provide a different level of management of healthcare teams and responding to complicated clinical issues. Transformational leadership encourages safety and ongoing improvement culture whereas transactional leadership emphasizes on compliance and monitoring of performance. Situational leadership provides a range in the response to the changing healthcare environment (Lee et al., 2022).

Moreover, the organisational structure (centralisation or decentralisation) plays an important role in influencing the decision-making, accountability and coordination of care. Whereas centralised systems could make it easier to control and standardise operations, decentralised systems might make them more responsive but it can also increase the potential of miscommunication. It follows that having a good leadership during crises is necessary to have coordination, quick decision making and safe patients. This report utilizes systems thinking, the theory of leadership, and the analysis of governance to analyze the case in question critically

and detect the underlying causes and suggest the evidence-based strategies to enhance patient safety in healthcare systems (Mutair et al., 2021).

2. Main Body

a. Identifying the Problem & System Context

The major problem that was detected in this case study is a severe medication error where a four-week-old baby was given morphine sulphate dose that was about twenty times higher than the amount of morphine supplied. It happened because of the dispensing of a wrong formulation (10 mg/5 ml rather than 100 micrograms/ml) leading to a severe overdose. Even though this baby survived after emergency treatment, this event is a critical patient safety error, and it could be fatal. These incidents do not exist in a vacuum but are symptomatic of systematic vulnerabilities in health care delivery system, especially in environments that have high risk like in the neonatal care.

Patient harm is mainly caused by medication errors in all places around the world, and the risk is approximated by 5-10 percent, and perhaps even more significant in neonatal intensive care units because of difficult-to-follow dosing schedules (Basil et al., 2024). The effects of these risks are magnified in younger populations where minor errors in calculations may have disproportionately bad consequences. This issue is particularly critical in paediatric and neonatal care, where patients are more vulnerable due to physiological immaturity and complex dosing requirements (Basil et al., 2024). The neonates are particularly sensitive as they have a low body weight, immature body systems and can only sustain high accuracy in dosing calculations. It is proven that the errors in dispensing medication in neonatal intensive care units may have considerable clinical and financial implications, which only confirms the importance of strong safety measures (Basil et al., 2024).

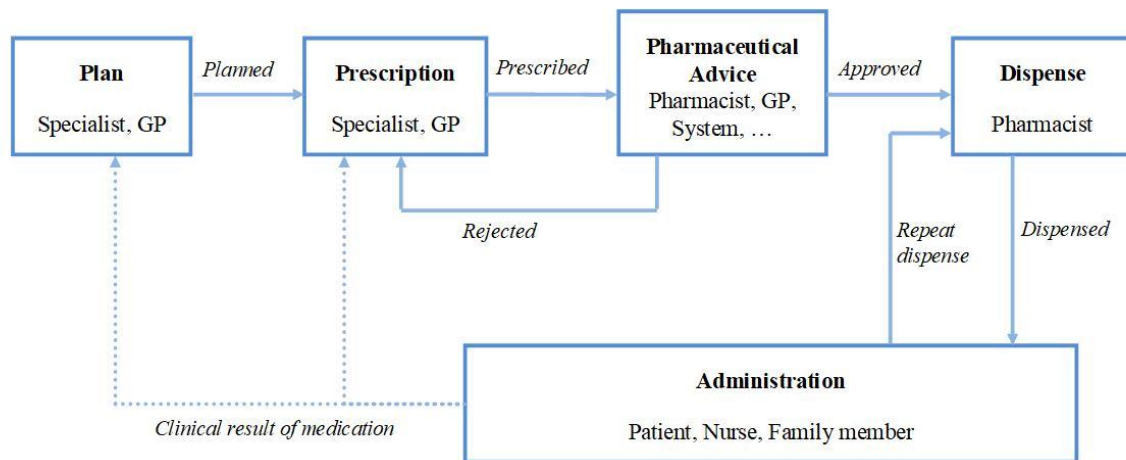


Figure 1: Dispensing Process Pharmacy Technician

(Source: Megtaza.com, 2026)

Figure 1 illustrates the dispensing process and highlights key points where verification failures may occur.

On a national scale, the same problem can be seen in the healthcare systems like NHS where repeating tendencies of medication-related injuries are observed, especially with high-level medication (high alert), like opioids. On a local scale, the incident indicates deficiencies in clinical practice, specifically prescribing and pharmacy verification procedures. Among them are ineffective checking practices, poor interprofessional communication, and absence of safety measures in dispensing. The fact that morphine is a so-called RED DRUG that should be initiated by specialists and introduced only in the numerous care emphasizes the importance of strong control and governance procedures. Nevertheless, this case shows that these controls failed, and the medication was improperly provided and delivered, not in the established framework. This is an indicator of systemic problems of communication, policy enforcement and supervision of various levels of care.

This accident was due to a series of interlocking systems breakdowns and not one person error. One was deterioration of communication among patients, prescribers, dispensers, and administrators leading to lack of focus on any of these areas, and thus, more chances of error. Secondly, the verification procedures on pharmacy levels failed to work properly, and the wrong strength of medication could be given without proper control. Thirdly, there was a lack of or not effective implementation of safety barriers, like independent double-check

procedures, barcode checking, or safeguards of electronic prescribing. There is evidence to show that medication errors are really the result of such a compounded failure in more than one point in the medication process and not an isolated occurrence (Kuitunen et al., 2024).

Governance-wise, this event can be attributed to breakdowns at several tiers of the healthcare system, such as the local (clinical practice and pharmacy processes), the regional (prescribing guidelines and formularies), and national (medication safety policies) ones. The poor communication between these tiers led to lack of the standards of safety practice. Evidence suggests that ineffective systems of governance and the services and hospitals that are poorly integrated are the major factors that lead to patient safety events (Brown et al., 2024; Sagua et al., 2024).

Systems thinking are a methodology that looks at how various components of a system interrelate, instead of looking at individual errors (Mutair et al., 2021). Here, multiple interdependent errors were caused in the prescribing, dispensing, and administration phases instead of an individual error. In this point of view, the breakdown of communication and the failure to use proper verification procedures as well as poor systems of governance worked together to enhance the chances of harm.

Feedback loops are critical towards preventing or worsening of errors. Negative feedback mechanisms that could have been used to early detect the error, like incident reporting systems and safety audits, were either absent or not effective in this instance. Further, the support of feedback loops, which can be insecure reliance on manual processes, low levels of training, etc., can also lead to the continuation of unsafe practices. The combination of the effects of human factors (e.g., cognitive load, deficit in awareness) and system factors (e.g., bad design of medicine processes, no digital protection) also contributed to the risk of making a mistake.

The risks associated with opioid medication safety are notably increased with morphine, making it one of the high-alert medications, as it may cause harm too severe by not used correctly. The systematic reviews indicate that in the case of opioids, misuse, dosing errors, administration mistakes are often associated with adverse events, particularly leading to adverse outcomes in the vulnerable population, e.g., neonates (Gustafsson et al., 2024). This strengthens the fact that strict control procedures and a well-designed system should be applied as a way of reducing risks.

Overall, the morphine overdose case is a critical combination of systemic failures, governance, and human errors. Using systems thinking it is clear that the mistake was due not just to one lapse but to a series of problems that happened to be linked in the healthcare system. The insights on these dynamics are crucial to building up efficient interventions to enhance patient safety and avoid such incidents in the future.

b. Centralisation vs Decentralisation

The nature of healthcare systems, be it centralised or decentralised is very vital to the impact of decision-making, accountability, and patient safety outcomes. Both centralised and decentralised factors of the healthcare system played a role in the failure in the neonatal morphine overdose case, which underscores the lack of coordination and governance of care in the care settings.

Centralisation refers to decision-making authority being concentrated at higher organisational levels, while decentralisation involves distributing decision-making across multiple levels of care. In the present case, the oral dose of morphine sulphate of the 0.9% is to be prescribed, started, and treated in the secondary care setting by experts since it is a so-called red drug. This categorisation signifies a centralised approach that aims at keeping a tight rein over high risk drugs, limitation on the variation in prescription procedures and to advance patient safety. Centralisation has a number of benefits such as uniformity of protocols, enhanced monitoring and low chances of prescribing inappropriately. The high-alert drugs, especially opioids, are of particular importance, as their dosage and expertise necessary to be vaccinated are vital.

Decentralized Management vs. Centralized Management

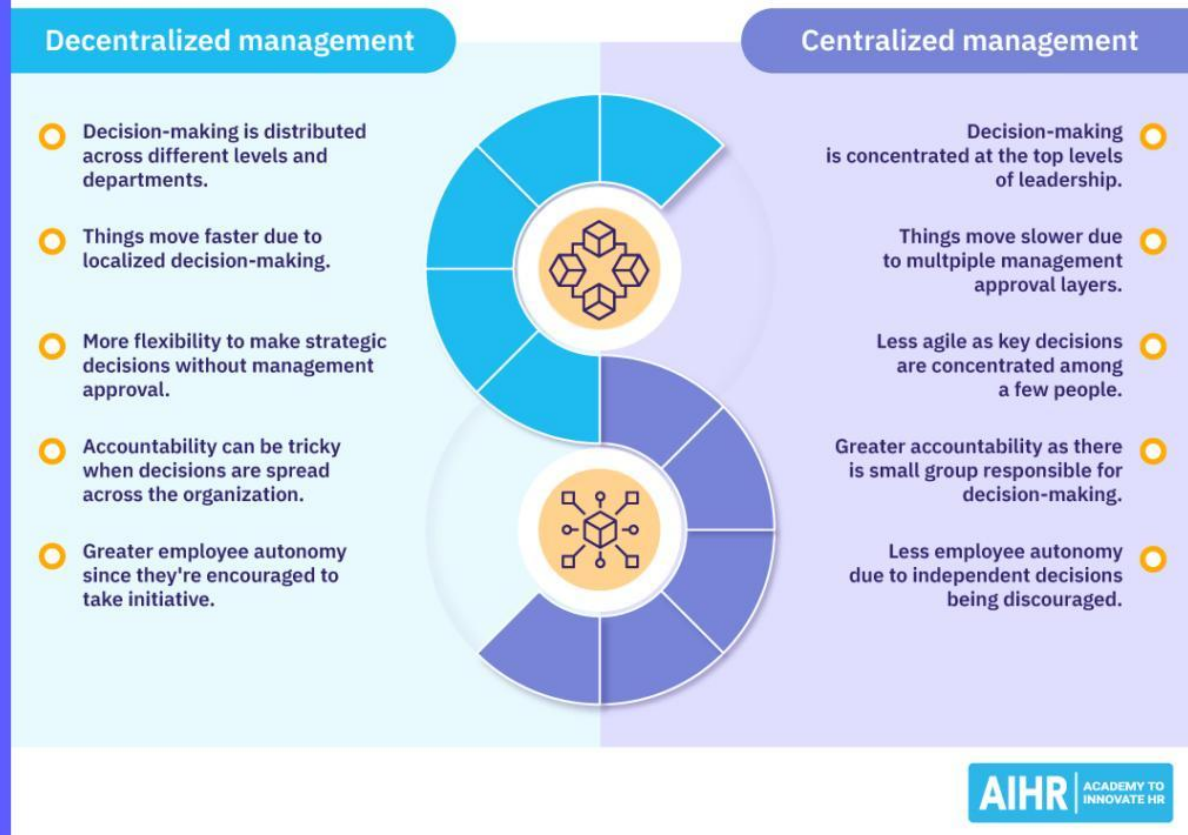


Figure 2: Centralized vs. decentralized management

(Source: AIHR, 2025)

Yet, even with such precautionary measures, as the case in point reveals, centralised control, unless properly exercised and kept track of, is not so effective. The disintegration process was met when the drug had left the controlled hospital setting and got into the community where decentralised processes prevailed over the drug. The system is decentralised and power is spread to various levels of care, community pharmacies and primary care providers and this brings about more flexibility and responsiveness. Theoretically, decentralisation helps them to have access to medications on time and helps them with continuity of care beyond the hospital

setting. Nevertheless, it also brings about risks especially when there is poor communication and coordination of various components of the system.

Here, the shift to a decentralised dispensing context out of a centralised prescribing system revealed important loopholes in the medication administration procedure. The faulty prescription of morphine was being issued in the community, which meant that hospital intentions to prescribe it were not related to pharmacies providing it. This is indicative of a failure on the prescribing chain where vital information on drug formulation, dosage and safety limits was not effectively passed along or was not well checked. Studies establish that the lack of cohesion within the systems and their disjointed communication channels are major causes of medication errors, especially when there is a change in care across organisational lines (Westbrook et al., 2022).

A major weakness of hybrid healthcare systems that brings together the aspects of centralisation and decentralisation is the uncoordination between hospital and pharmacy services. Whereas centralised systems are effective in controlling, the decentralised systems need to have effective communication systems to enhance uniformity and safety. Without such mechanisms, mistakes may take place in the transition points, where the responsibility passes between the providers. Research studies have revealed that poor communication, work pressure, and inefficiency in the healthcare system have posed a challenge to nurses and other professionals, which together may cause them to commit medication errors more frequently (Coelho et al., 2024; Li et al., 2024).

An overview of the core issues of centralisation and decentralisation brings out advantages and drawbacks with regards to crisis management and responsibility. Clear lines of authority and accountability are provided by centralised systems and may prove to be useful in situations where there is high risk involved. They provide uniformity of response and adherence to rules and directives, and support supervision. They can also introduce delays in decision-making and decrease flexibility, though, they are also possible in dynamic clinical environments where prompt responses are necessary. On the other hand, decentralised systems enable faster decision-making and flexibility but can be inconsistent in their practices, less supervised, and even more fluctuated in their delivery of care.

There were no adequate mechanisms in place to counterbalance the lack of supervision of such systems in this case when it came to the decentralised dispensing process. The two conditions

of lack of verification mechanism (i.e. lack of confirmation through procedures like double check or electronics prescribing system) made the mistake to escape. Apparently, perilous medication administration obstacles have been observed to be poor communication, inadequate standardisation, and insufficient utilisation of technology, which was present in the presented case (Dick-Smith et al., 2023). Moreover, medication errors can be frequently associated with calculation errors, prescription misinterpretation, and human factors, like fatigue or mental overload (Mulac et al., 2021).

Another major centralisation and decentralisation issue that should be concerned is accountability. In centralised system, the responsibility is usually well defined but in decentralised systems, accountability can be diffused among the various actors. In this situation, one cannot tell who has the major responsibility of prescribing clinician, dispensing pharmacist or the system. Such ambiguity may become an obstacle to efficient incident investigation and slow down the process of taking corrective measures. This deficiency in a well-structured accountability system is symptomatic of bigger governance issues in healthcare systems, especially when various organisations take part in patient treatment.

In terms of crisis control, the unification of a centralised control and decentralised execution greatly undermined the safety of patients. The management of the crisis has to be effectively done through coordinated process, effective communication and quick response to the problem. Nevertheless, the disintegration witnessed in this experience indicates that the system was not sufficiently prepared to be effective in dealing with risks linked with high alert drugs. The problem was further aggravated by lack of integrated systems used to share electronic health records or clinical decision support tools.

To sum up, the case of the overdose of morphine in the Neonatal unit displays the multifaceted interrelationship of centralised and decentralised healthcare systems. On the one hand, centralisation gives the much-needed control of high-risk medications, on the other hand, decentralisation offers flexibility yet its effect on error is still high in the case of poor coordination. Lack of proper integration of the two strategies led to the breakdown of the medicine management process bringing into prominence the need to establish better communication structures, better accountability, and more protective measures to guard patient safety.

c. Leadership Theories and Application

Leadership in healthcare refers to the ability to influence individuals and teams to achieve safe, effective, and high-quality patient care. Leadership in the case of neonatal morphine overdose can be critically scrutinized based on transformational, transactional and situational theories of leadership. These models give an idea of how leadership behaviours affected communication, oversight and accountability and eventually led to the medication error.

The absence of transformational leadership in this case is evident in the weak safety culture, where staff did not challenge or verify incorrect medication decisions. Leaders who follow this model are more focused on patient safety, promote an open line of communication, and allow employees to report mistakes without fear of criticism. There is evidence that a high level of transformational leadership is closely connected with better patient outcomes, increased safety culture, and staff engagement (Lee et al., 2022). The lack of transformational leadership is also indicated in the absence of a strong safety culture in the context of this case. When such type of leading existed, employees could have been even more attentive, active in checking out prescriptions, and in voicing any issues related to possible discrepancies in pharmaceuticals.

Conversely, transactional leadership relies on a set of procedures, hierarchies, and monitoring performance by use of rewards and punishment. The strategy is especially applicable in the medical institutions where it is a matter of life and death following protocols and standard operating procedures. Transactional leadership provides adherence to the laid down rules, including medication safety measures and checks. Nevertheless, the inability to adhere firmly to medication control especially on a high-dose of a high-alert such as a high-RED DRUG indicates that the transactional leadership was weak. Lack of proper monitoring systems and enforcement mechanisms enabled the error to be effective and facilitate its course through several stages without ever being noticed. Experiments show that mistakes in medication prescriptions can frequently be related to the failure of protocoling, and effective supervisory and regulatory leadership is crucial (Li et al., 2024; Coelho et al., 2024).

The situational leadership, in turn, focuses more on flexibility, as the characteristics of the leaders change according to the situation and the requirements of his/her team. Situational leadership is needed in complex and risky settings like a neonatal setting to respond to the

changing environmental demands and make the appropriate decisions. Good leaders ought to be provided the ability to alternatively switch between being directive and supportive according to the circumstances of the situation. In this instance, the leadership reaction has been found to have been very reactive as opposed to proactive. Little anticipatory risk management or adaptive decision-making supporting the prevention of the mistake can be found. Instead the system was based on routine procedures with little proper attention to the increased risks of neonatal medication administration.

Leadership in this case is critically analyzed and there is a global lack of leadership in terms of communication, control and responsibility. The lack of effective communication between healthcare professionals (and especially between individuals in various organisations) means that no definitive leadership is provided and that there was no apparent coordination. The right leadership must make sure that the information is correctly relayed and confirmed on each medication-processing stage. Nevertheless, inability to convey important information about drugs development and dosing played a direct role in the error. Research has revealed that a significant cause of medication errors is communication failures, which are often accompanied by the lack of clarity regarding the roles and a lack of training and workload-induced pressures (Webb et al., 2025).

Another important area that leadership weaknesses can be seen is in oversight. The leaders have to create and sustain systems with the assurance of safe practice (observing complying with protocols) and safety checks. In this scenario, a lapse in leadership responsibility can be seen in the lack of strong control methods (doubling checks or electronic prescribing systems). Lack of proper monitoring may allow the errors to go through several processes without being detected and this may pose a higher risk to the patients.

The system also seems to have ambiguous and disjointed accountability. Good leadership involves well defined roles and responsibilities, there must be an accountability of the actions taken by the individuals and the teams. The accountability in a decentralised healthcare system can however be diffused and it may be hard to determine where there was failure. This confusion may be a hindrance on learning by incidents and taking corrective action. The leadership should thus ensure there is an effective governance model that enhances accountability, as well as encourage the use of a non-punitive format of reporting mistakes.

Employee involvement and safety culture are indicative factors that determine how effective the leadership is. A health organization with a positive safety culture promotes reporting of errors by healthcare professionals, expression of concerns, as well as engagement in those initiatives that lead to continuous improvement. Here lack of such a culture could have helped in risk identification and mitigation, which failed. Studies emphasize that preventative nursing interventions and free communication are crucial towards medication errors prevention, especially in the high-risk neonatal intensive care units (Ramadan and Elsharkawy, 2026). Feeling supported and empowered, staff is more inclined to perform the safe practices and overcome possible mistakes.

There are also leadership deficiencies in the system on how decisions are made. Successful leaders should make sure that evidence-based decisions are made, risk analyses, and healthcare workers working together make the decisions. This decision making however seems to have been the standard uncritical decision making without high alertness as would be needed in high alert medication. This implies that there is a lack of the integration of clinical expertise and system level-based safeguards further predisposing the possibility of error.

To sum up, leading theories to the case point out considerable effectiveness gaps in the leadership. Lack of transformational leadership curtailed the creation of a good safety culture and inadequacies of transactional leadership led to poor adherence to procedures. Also, situational flexibility was unavailable, thereby making it impossible to manage the risks proactively. To compound, these leadership shortcomings, coupled with the lack of communication, oversight and accountability led to the incident of the medication error. Enhancing leadership practices is thus key to making sure that patient safety is enhanced and to ensure that such incidents do not occur in the future.

d. Improvement and Lessons Learned

The case of morphine overdose in the neonatal unit gives a golden chance to analyse the relationship between leadership and governance that resulted in the astounding results. The event reveals a disfit between practices of leadership, governance systems and processes of the systems which allow a high-risk medication error to be harbored. Successful healthcare systems are based on the combination of good leadership and powerful governance systems to help guarantee patient safety, accountability, and improvement. Here however, there was a lack of coherence between leadership and governance and systemic weaknesses were left to persist.

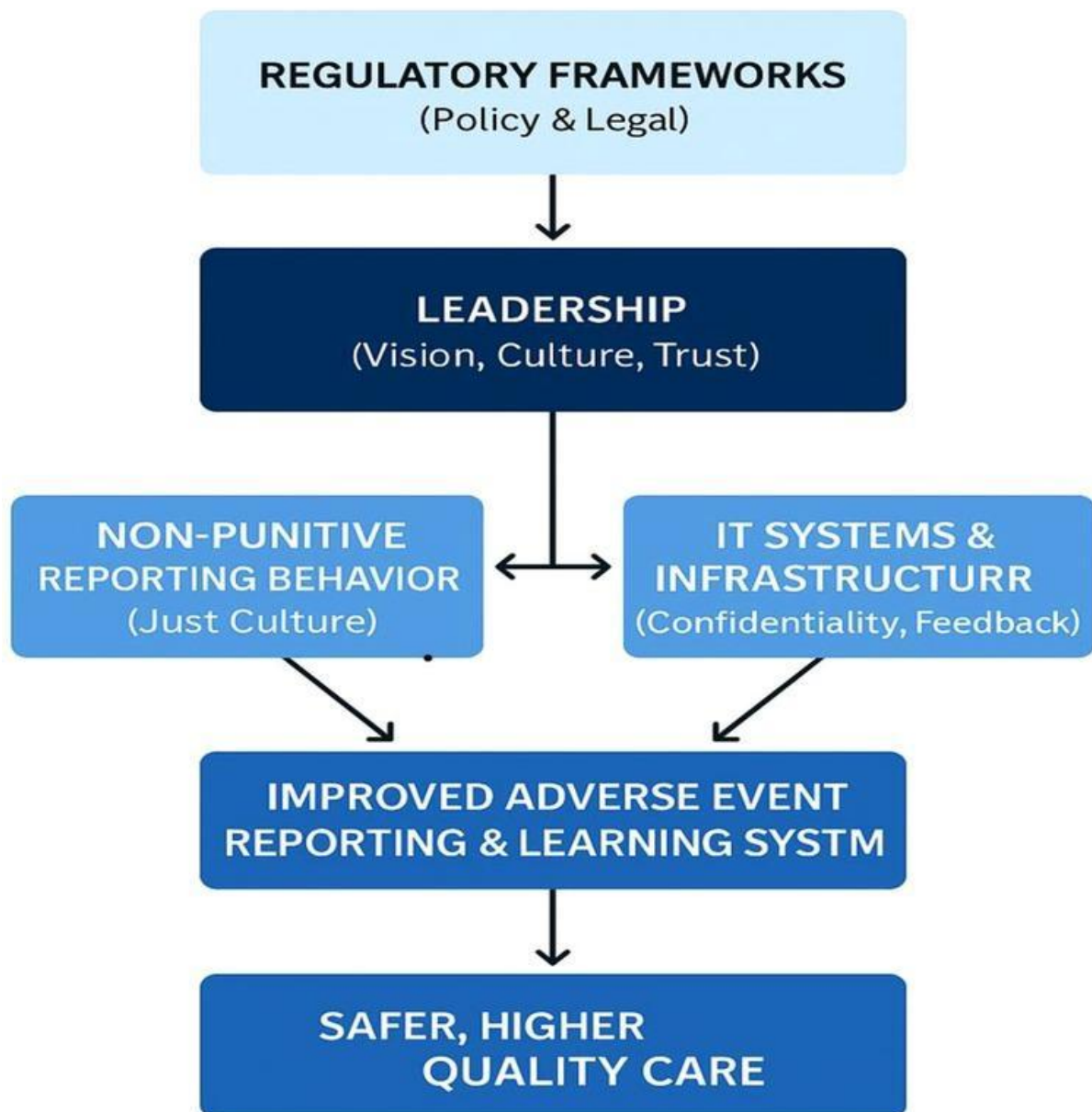


Figure 3: Adverse event reporting and patient safety

(Source: Kumah, 2025)

Lack of good double-check systems was one of the greatest opportunities that were missed in this case. Medications with high-level alertness like morphine must go through rigorous checks which includes having two independent checks at the- prescription and dispensing and administration points. The absence of such protection is a pointer that there is failure in the governance policies and their enforcement. As a leadership perspective, this shows poor prioritisation of the safety of patients and lack of implementation of safety measures. There is

some evidence to show that the use of structured safety measures (such as compulsory verification procedures) can greatly decrease medication errors (Mutair et al., 2021).

The other serious problem was that there was inadequate communication between various levels of care. Decentralisation of the Medication to the flow of information to a community environment of a decentralised pharmacy brought about the gap in information transfer. This should have been done through the leadership to open clear channels of communication and standardised documentation to reduce the level of ambiguity. The governance structures play a role in setting up of the protocols that facilitate good communication, failure to put the protocols into practice, however, means that there are weaknesses in the system. Inadequate communication is often cited as a cause of medication errors, especially when there are several stakeholders in the complex healthcare systems.

Other contributing factors were weak reporting systems which led to continued unsafe practices. Having an incident reporting is an important aspect of healthcare governance, as it allows organisations to detect risks and make decisions, draw conclusions, and take corrective measures on errors. The absence of efficient feedback systems in this instance affirmed the undue chances of identifying the mistake in time before it is too late and providing learning opportunities to the organisation. Leadership is also important in promoting a culture of reporting and transparency, and the governance structures need to identify systems that allow reporting, efficient and incorporate reporting systems in decision making. The fact that there are no such systems indicates the reactive approach to the risk management as opposed to the proactive risk management approach.

Using a problem-data-solution model offers a systematic way of detecting the ways to improve things. The root cause in this case was a dosing error whereby there was wrong dispensing of medication. Available literature suggests that medication errors are especially common in neonatal care as they have complex dosing, and the system is ineffective (D'Errico et al., 2022). These results emphasize the necessity of the improved safety measures that depend on the consideration of the high-risk groups. One of the ways to solve it is to adopt digital prescribing systems and clinical decision support systems (CDSS), which may decrease the possibility of human error with the help of automated dose calculations, warnings, and standardised prescribing practices. The studies have shown that CDSS can contribute greatly to medication safety as it assists clinicians in making decisions about patients and decreases practice variability (Norouzi et al., 2023).

Digital systems have not only prescribing effects but also cover electronic medication management systems, which incorporate the processes of prescribing, dispensing, and administration. The systems improve the coordination of various level of care and real-time accessibility of the information concerning patients. It has been shown that the introduction of the electronic medication management system may result in significant decreases in the number of prescribing mistakes and enhance patient safety on the whole (Westbrook et al., 2022). Regarding the case under review, it did not have integrated digital systems, and the error did not advance, which shows the necessity of technological means to facilitate a safe practice.

The contribution made to the lessons learned in this case are focused on the interaction of the leadership style, system structure and feedback loops. Leadership theories that emphasise safety, including transformational leadership are critical to foster a culture of relentless improvement and motivate employees to practice safe measures. Nevertheless, alone, leadership is not enough with supportive system structures enabling the making of safe decisions. The decentralised aspects of the system in the case involved good coordination and communication system, which was not in place. This highlights the need to synchronize the leadership styles and methods with design of the systems to provide consistency and reliability in the delivery of care.

Feedback loops play an important role in the detection and mitigation of weaknesses of systems. Incident reporting system and safety audit techniques are some of the effective feedback mechanisms which help organisations to learn effectively due to errors. There were no strong feedback loops in this instance and this restricted ability of the organisation to identify and swiftly respond to risks. It is crucial to strengthen these mechanisms to establish a learning healthcare system both in the ongoing adaptation and improvement.

Another areas that require improvement is risk management. Health organisations should incorporate proactive risk management approaches that deliver insights on risks that may arise and take preventive measures to avert the occurrence of errors. This entails routine audits, employee training and utilizing data to make decisions. There is evidence that clinical risk management strategies that integrate leadership, governance, and system-level approaches are effective in enhancing patient safety and reducing adverse events (D'Errico et al., 2022).

To sum up, the case of neonatal morphine overdose illuminates a number of crucial healthcare systems lessons to be learned. There is need to ensure the interaction between leadership and

governance is enhanced to make sure that the safety measures are put in place and checked. Lack of opportunity due to the lack of the double-check system, lack of communication, and unfavorable reporting mechanisms among others helped in creating the error and prove the importance of systematic change. Improving patient safety through evidence-based strategies, including the use of digital prescribing systems, improving the effectiveness of feedback loops, and proactive risk management strategies, can help healthcare organisations prevent a similar incident in the future.

3. Recommendations

Relying on the discussion of the neonatal morphine overdose case, a set of practice and evidence-based proposals are introduced to enhance leadership, governance, and system performance, and eventually increase patient safety and minimise the risk of such incidents.

To start with, leadership wise, healthcare organisations ought to involve a blend of transformational and distributed leadership styles. Transformational leadership plays a key role in developing a safety culture, engaging employees, and inspiring improvement. The leaders are supposed to be open when communicating, encourage the healthcare professionals to speak up and focus on patient safety when making decisions. Simultaneously, the concept of distributed leadership should be introduced so that the accountability of safety could be spread throughout every tier of the organisation and the employees of the frontline could take part in the process of recognising risks and resolving problems.

Secondly, the governance structures should be reinforced so as to increase accountability and that equal emphasis be placed on application of safety protocols. Role and responsibility must also be articulated throughout the prescribing, dispensing and administration phases, which will minimize confusion and enhance supervision. Unity in drug regimens, especially high risk medications like opioids, is imperative. These involve the introduction of mandatory processes of the double-checking, labeling requirements and the stringent conformity with the formulary requirements. It has been shown that with the help of an organised system of safety measures and standardisation, medication errors are minimised, and patient outcomes are improved (Mutair et al., 2021).

Third, to enhance medication safety, there is need to integrate high-technology systems. They should install electronic systems of prescribing to reduce errors that occur because of

handwriting, calculation of dosages and transcription. Moreover, medication administration system based on barcodes may provide proper checking of drugs administered at the point of care and minimize the possibility of receiving the wrong medication. Clinical decision support systems (CDSS) may also be integrated to give real-time notifications, dosage advisory, and evidence-based recommendations especially to vulnerable groups, e.g. the neonates. Studies indicate that these technologies help a great deal in increasing and improving medication safety and decreasing prescribing errors (Westbrook et al., 2022; Norouzi et al., 2023).

Another main recommendation is to raise efficiency; it is possible to achieve improved patient outcomes and save money based on the reduced number of medication errors. Avoiding a negative event will result in fewer required treatments, a reduction in hospital stays, and legal expenditures, which will lead to greater technical and allocative efficiency in healthcare systems. Safety systems and training should then be regarded as a cost effective measure to avert hazardous occurrences as opposed to an extra burden.

Lastly, continuous improvement should become the part of organisational practices. This involves routine training of the staff on medication safety, especially those areas with a high risk like the neonatal care. The training programmes must be aimed at dosage calculations, communicative skills and using technological systems. Moreover, effective incident reporting mechanisms should be put in place to promote premium incident reporting of errors and near misses through which organisations can be able to learn through incidents and put corrective measures in place. A robust patient safety culture, in which employees feel empowered and responsible is necessary to support long-term change. The fact that nursing practices, education, and interventions at the system level are essential to minimize medication errors and promote safe patient care has been highlighted (Coelho et al., 2024).

Overall, the recommendations highlighted above underline the importance of combined leadership, good governance, superior technology, and a culture of never-ending improvement to fix the systemic problems that were found in this case.

4. Conclusion

As the case of neonatal morphine overdose shows, there are an intricate combination of failure of the systems, lack of leadership combined with a failure of governance that led to a severe medication error. The analysis reveals that it was not a single mistake that led to the incident and consequently, it was a series of related failures throughout the prescribing process, dispensing process, and administration process. Overall factors identified were the failure of communication, absence of proper protective mechanisms, inadequate accountability systems, as well as incomplete interconnections between centralised and decentralised components of the healthcare system.

The leadership gaps were of great interest in the realization of the error especially with regard to lack of vivid safety culture, insufficient supervision, and reactive and not proactive decision-making. The mechanisms of governance too were not robust enough, and there was lack of clarity on the responsibilities, and effective adoption of safety procedures. These results support the need to have a matching leadership practice with the governance structures in order to have stable and trusted healthcare provision.

Systems thinking has been important in gaining insight into how various variables interacted to bring about the desired result. Through the analysis of feedback loops, interdependencies and system-wide processes it can be stated that patient safety improvement must be an ongoing process that is holistic and encompasses human and organisational aspects. The literature shows that proper leadership based on the efficient strategies of governance and risk management is one of the necessary factors in order to minimize medication errors and enhance healthcare results (D'Errico et al., 2022; Lee et al., 2022).

In general, the case demonstrates the importance of healthcare organisations implementing system-based and integrated approaches towards patient safety. Solidifying leadership, improving governance and introducing interventions grounded in evidence is essential in preventing such incidents and providing safe, high-quality care in future.

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