

Strategies for Reducing Medical Errors and Enhancing Profitability in Retail Pharmacy Management: A Holistic Approach

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Abstract

This study explores effective strategies to reduce medical errors and improve healthcare profitability, offering insights and evidence-based recommendations for managers and supervisors. It focuses on enhancing both patient safety and financial stability. The study analyzes strategies to mitigate medical errors and boost financial stability, such as optimizing workflows, minimizing distractions, ensuring proper medication storage, implementing prescription reviews, and providing comprehensive patient counseling. It also examines the role of organizational culture, adequate staffing, and balanced workloads in fostering a safety-oriented environment. The findings emphasize the importance of a system-oriented approach and the role of managers in promoting a culture of safety. Implementing cost-effective measures enhances patient safety and contributes to financial health. A multifaceted approach, integrating effective strategies, supportive culture, and active manager participation, is essential for reducing medical errors and improving profitability. Balancing financial goals with patient care ensures sustainability and success. Further research is needed to explore effective strategies in various healthcare settings.

Keywords: Retail Pharmacy, Prescription Errors, Patient Counseling, Business Strategies, Medication Errors, Dispensing Error, Resource Allocation.

INTRODUCTION

Prescription errors have been rampant in the United States, with an estimated 3.5 million cases per year from 2010 to 2014[1][2]. James et al [3], raised concerns about the economic impact of preventable prescribing errors in the United States from 2009 to 2013, excluding the cost of human lives, which was approx \$17-29 billion annually. As a result, leaders in the retail pharmaceutical industry find strategies that have proven effective in actively reducing prescribing errors [4], [5], [6], [7], [8].

Scholars have emphasized the need for further research on prescribing errors and strategies to reduce them. Odukoya et al. emphasized the importance of finding ways to reduce errors, particularly those related to code dissemination [1]. Similarly, Schroeder et al. recommended further research aimed at understanding the side effects of drugs with similar names or body types, and ways to prevent such issues [2]. O'Donnell and Vogenberg, since 2007, have seen a significant increase in the compensation paid by retail pharmaceutical companies stemming from prescribing errors [9]. Their mistakes also highlight the need for further research to gain a deeper understanding of the economic impact of retail pharmacy profitability.

This study aims to provide effective solutions and strategies that can help leaders in the retail pharmacy industry increase organizational profitability by reducing the negative consequences associated with prescribing errors. These findings include a variety of consequences, such as higher wages, increased litigation costs, decreased brand loyalty, and stronger regulatory scrutiny by governing body types to enable pharmacy managers to gain valuable insights into increasing profitability in their pharmacies by focusing on reducing errors[10], [11].

When pharmacy employees dispense incorrect medications to customers, the pharmacy business faces significant legal and regulatory risks and reduces profitability[1], [9]. In contrast to the 2.3% attributed to drug

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name confusion of 26.3% due to lack of name recognition, prescribing errors in the US. was much lower, at 0.1%, from 2010 to 2014. But given the enormous volume of more than 3.5 billion filled annually in the United States[1], this equates to an additional 3.5 million dispensing errors ho from 2010 to 2014, creating an annual economic burden of more than \$16 billion[1], [3]

A common business disadvantage is the increased costs associated with prescription errors, which directly affect the profitability of retail pharmacies. Specifically, some pharmacy managers may lack effective strategies to reduce prescription errors, which ultimately affects their ability to improve physician profitability.

One study was conducted at Walden University, and the primary goal of this multi-case qualitative study was to examine the strategies that retail pharmacy managers used to drive pharmaceutical profit improvement by reducing prescription errors in their pharmacy staff [12]. The study focused on a specific group of managers who played the dual roles of pharmacy owners and operators of five retail pharmacies in Miami, Florida These managers effectively provided strategies for dispensing improved efficiency by reducing prescribing errors by their employees The (CQI) incident reporting system was used to identify pharmacy managers who had successfully implemented these strategies. The potential benefits of reducing prescribing errors extend to clients, including reduced chances of injury, illness, hospitalization and death resulting from inappropriate medication use reduced and, improved overall quality of life due to improved social benefits, increased participation in community programs, positive attitudes towards the community You can experience it [13]. By implementing the findings of this study, pharmacy managers can help reduce healthcare costs in their communities, prevent hospitalizations and deaths associated with prescribing errors, and they have increased working conditions and economic activity in the area. Another study in Zimbabwe concludes that strategic planning is an important process that contributes significantly to the survival and growth of businesses in uncertain markets and market performance. By adopting the principles of strategic management, organizations can anticipate future market prospects and develop appropriate strategies to navigate through uncertainties The study provides a workable conceptual framework role in discovering short-term markets in developing, emerging and developed countries[14], [15], [16], [17], [18]. Despite the lack of formal pharmacy training programs in Zimbabwe, the study shows that pharmacists in charge of retail pharmacies in the country use their own programs to mitigate impact under which declining markets get. These strategically minded pharmacists demonstrate objectivity and entrepreneurship, taking proactive measures to ensure business success even in challenging macroeconomic environments The study also shows that countries a the developers were now increasingly recognizing the importance of planning[19], [20], [21]. Therefore, commercial developments and insights achieved from such research should be communicated with the broader management field. This knowledge can confirm valuable in successfully managing businesses in today's turbulent global markets[4], [5], [22], [23].

Common Ways to Minimize Medication Dispensing Errors

Medical errors are highly life-threatening in the United States, making them the leading cause of death. Among these errors, classification error accounts for about 21% of the cases. Apart from severe health consequences, prescribing errors also contribute to the financial burden on society by increasing the cost of health care Furthermore, these errors can lead to debt has gone to law, resulting in expensive lawsuits and professional liability insurance costs[10], [11], [22], [23], [24], [25], [26], [27], [28], [29], [30]. Fortunately, only a small portion of reported dispensing errors actually reach the patient, and among those, a relatively minor number result in harm[31].

Dispensing errors cover a range of inconsistencies and variations from the prescribed order [32]. These errors involve dispensing the improper drug, inaccurate dose, inappropriate dosage form, incorrect quantity, or inadequate labeling. Moreover, errors can arise from unclear or incomplete directions for use, inaccurate preparation, packaging, or unsuitable storage of medication before dispensing[33]. These errors are remarkably prevalent, occurring at a rate of approximately four errors per day in a pharmacy handling 250 prescriptions daily. When draw conclusions, this translates to an estimated 51.5 million errors out of the 3 billion prescriptions filled annually nationwide[34].

Individual observers of classification errors tend to influence error-prone systems and processes[35]. Therefore, the principal approach to lowering dispensing errors should focus on applying system-oriented approaches rather than taking a penalising approach targeting individuals. The following strategies are recommended to minimize dispensing errors[36]:

Accurately Prescription Record: The consistent use of reliable methods to verify the patient's status when entering medications into the computer can reduce transcription errors, including omissions and inaccuracies so well [37]. The Joint Commission requires the use of at least two patient identifiers when dispensing drugs in the hospital to prevent errors caused by similar or similar names [38], [39]. Gathering information about the patient, such as age, allergies, concomitant medications, preventive medications and treatment frequencies may also be useful in during this period[36].

Confirm The Accuracy and Comprehensiveness of The Prescription: Pharmacists should workout caution when handling illegible or unclear prescriptions, nonstandard abbreviations, acronyms, decimals, and call-in prescriptions, as these factors frequently contribute to medication errors [37]. In situations of ambiguity, it is necessary to reach out to the prescriber for interpretation and promptly document any information gained. When dealing with verbal prescriptions, it is advised to copy them onto a blank prescription pad and then read the details back to the caller to ensure accuracy[36].

Be Alert of Look-Alike and Sound-Alike Drugs: Errors involving similar drug names account for a significant portion of medication errors. These errors are regularly influenced by confirmation bias, which indications to interpreting information in a way that confirms preconceptions and disregards conflicting evidence[40]. For example, a new and unknown drug could be mistaken as an older and more familiar one[36]. Notices regarding commonly confused drug names can be identified on stock bottles or added into the computer system to provide alerts to the staff[41], [42]. Applying this measure helps alleviate such errors, some of which can have extreme consequences, such as prescribing methadone instead of methylphenidate to a child, which can be life-threatening[43], [44].

Focus On to Zeros and Abbreviations: Missing zeros, decimal points, and faulty units commonly lead to medication mistakes due to misunderstanding[45].

Mistakes containing zeros or decimal points can consequence in patients receiving medication doses ten times higher than proposed, bearing potentially severe outcomes. To relieve these errors, using computer warnings or maintaining a single strength of medication in the pharmacy can be confirmed to be successful measures. Mistakes of this type can be identify during the assessment of label directions during patient counselling [46]. Familiarity with error-prone abbreviations, symbols, and dose descriptions, as outlined by the Institute for Safe Medication Practices (ISMP), can also play a fundamental role in avoiding dispensing errors.

Effectively Controlling the Workplace, Improvements in workspaces, environment and workflow have shown that dosing errors have been significantly reduced. Factors such as optimal lighting, plenty of work surface space and maintaining a comfortable temperature and humidity promote a smooth work flow and thus reduce the possibility of errors[36]. Establishing a structured routine for entering, filling and checking prescriptions can go a long way in organizing the workflow[45]. In addition, to avoid confusion, it is important to focus on one medication at a time and quickly label the patient's prescription pack before filling the next prescription. It is very important to ensure that medication packages are not left unbranded.

Reduce Interruptions Whenever Possible. Multitasking and disruptions during work are leading triggers of dispensing errors[31]. Implementing auto-fill requests can reduce some distractions, resulting in fewer dispensing errors. In addition, the involvement of a pharmacy technician helps pharmacists with routine tasks to reduce distractions and improve overall accuracy. Indeed, the effect of workplace distraction on cognitive errors is not entirely clear. However, recent research indicates that workflow design, window services, and the use of automated dispensing systems may influence how pharmacists perceive and potentially respond to dispensing errors.[33]. Therefore, every pharmacy should strive to improve its internal environment, even if this requires compromising patient comfort, in order to effectively minimize medication errors [36].

Concentrate On Stress Reduction and Keeping a Reasonable Workload. A high workload is regularly connected as a contributing factor to dispensing errors. Ensuring adequate staffing and proper workload distribution are critical steps in reducing errors. Regular breaks and special meal breaks can mitigate some dosing errors related to stress and fatigue. A clear definition of employee responsibilities and promotion of shared responsibility helps people understand the work flow, which reduces workplace stress and therefore medication errors [36].

Guarantee Appropriate Storage of Medications. Measures to separate similar drugs in drug storage can effectively prevent confusion. Correct placement of medication bottles with labels facing forward is recommended. Regular thorough checking of all medicines on the shelves and immediate destruction of expired medicines is essential. Be careful when using storage containers, cabinets or drawers, as these can misplace similar drugs. In addition, as an additional measure to minimize risk, it makes sense to protect or isolate drugs with a high potential for error.

Conduct Thorough Checks of All Prescriptions. The use of thorough and repetitive monitoring is very effective in reducing dosing errors. This means cross-referencing the written prescription and information from the computer system, the printed label and the actual medication being dispensed. Relying on self-monitoring alone is less effective because it can lead to confirmation bias and bias. If possible, it is recommended to have a second pharmacist double check to improve accuracy. Conversely, in situations where the presence of a second pharmacy is not possible, a delayed self-monitoring method should be considered as an alternative strategy. Delayed checking allows the pharmacist to reexamine the prescription from a new perspective, making it easier to spot errors that may have been missed in the first place.

Present Detailed Patient Counseling. Generally 83% of errors are detected and rectified during the procedure of patient counseling before patients leave the pharmacy[45]. It is necessary to extend beyond simply proposing counseling and guarantee that counseling is actually delivered to every patient. In the process of counseling, it is commonly regarded as a best practice to unseal the medication container and present the actual medication immediately to the patient, rather than giving it in a sealed bag[45]. This method allows patients the chance to visually confirm the medication and request clarification if they note any differences from what they are aware of[47], [48], [49]. Counseling should encompass direction on how to use the medication and the exact method of administration[50], [51], [52], [53], [54], [55]. Various dispensing errors arise from misunderstandings regarding usage instructions. Educating the patients about the safe and effective utilization of their medication supports their active participation in their healthcare, leading to a reduction in medication errors.

The goal of every pharmacy is to minimize dosing errors. Patient counseling, which is the last point of contact between the patient and the pharmacist [55].

Business strategies to improve profitability and reduce medication errors in the retail pharmacy.

A business manager's responsibility to eliminate medical errors and improve profitability can be multifaceted. [47], [48], [56]. Here are some key areas where a business manager can contribute:

By implementing quality control systems, a business manager can establish and monitor quality control systems to ensure adherence to best practices and minimize errors [57], [58]. This may include establishing standard operating procedures, implementing quality assurance processes, and conducting regular audits to identify and correct deficiencies or problems [58]. Training and development of personnel, the business manager can lead the training and development of personnel, including health workers, to improve their skills and knowledge [59]. By providing ongoing training, workshops, and training programs, a manager can help ensure that staff are up-to-date on the latest medical guidelines and practices, reducing the likelihood of errors. Resource allocation and effective resource allocation are critical to minimizing errors and maximizing profitability [60]. The business manager can assess the availability and allocation of resources such as personnel, equipment and technology to ensure that they are optimized to prevent errors [61]. This may include identifying needs, investing in appropriate technology and equipment, and ensuring adequate staffing. Process improvement, the business manager can lead process improvement initiatives to streamline work flow and eliminate inefficiencies that can lead to errors [62]. By analyzing existing processes, identifying bottlenecks or error-prone areas and

implementing improvements, the manager can make operations more efficient and reduce the risk of errors. Collaboration and communication, effective communication and cooperation between health professionals are essential for error prevention [63]. A business manager can facilitate clear communication channels, encourage teamwork and establish protocols for sharing information [64]. This may include regular meetings, implementing electronic patient records systems, and fostering a culture of open communication and feedback. A process flow diagram (Figure 1) (also known as an Ishikawa or fishbone diagram) was created to visually link the roles of the business manager in reducing medical errors and improving profit. This diagram visually represents the various factors and interactions involved in reducing medical errors and benefit improvement. different branches or departments were used to represent the specific roles and responsibilities of the business manager and relate them to the desired results of reducing errors and improving profit. This visual representation helps stakeholders understand the relationship between the business manager. actions and the desired results.

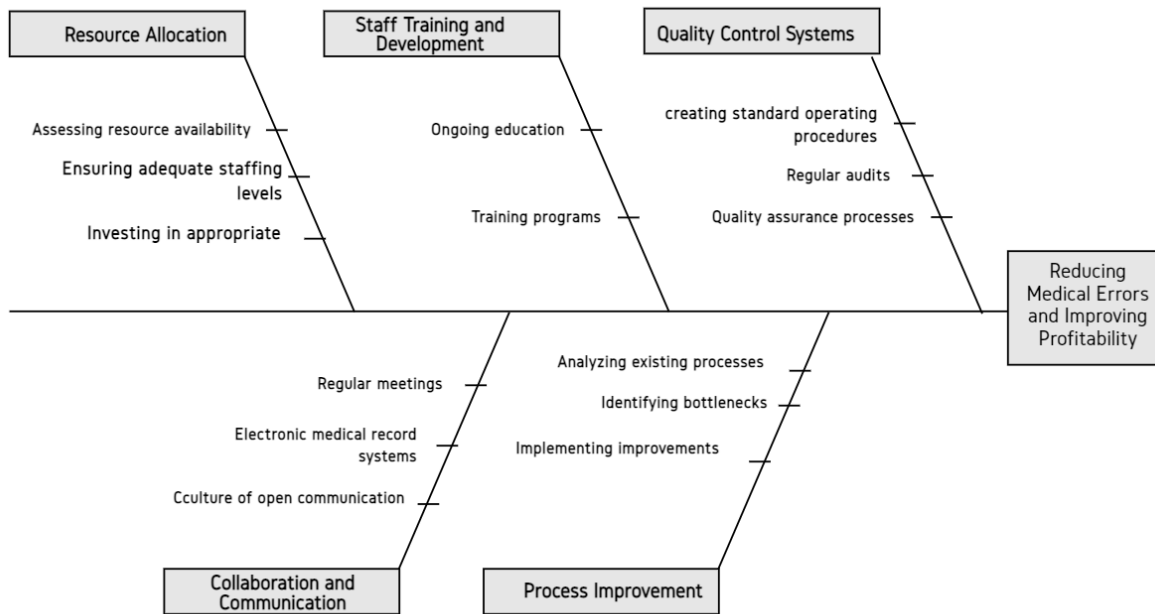


Figure 1. The chart illustrates the business manager’s role in enhancing the retail pharmacy profits and reducing medication errors.

Figure 2 below comprises six graphical representations focusing on strategies aimed at reducing medical errors and improving profitability in retail pharmacy management in the USA. These include a variety of charts illustrating different aspects of this endeavor. Among them is a pie chart detailing the distribution of medical error types, emphasizing classification errors, drug name confusion, and lack of name recognition [65]. Another chart depicts the annual economic burden from prescription errors, utilizing a bar chart format to highlight the financial implications over multiple years [66]. Additionally, a line chart compares prescription volume with error rates, elucidating trends over time [67]. Furthermore, a resource allocation heatmap illustrates how resources are distributed among departments like HR, Training, QA, and Operations to effectively manage and mitigate errors [68]. Also included is a scatter plot showing the correlation between training investment and profitability, emphasizing the importance of training in enhancing financial outcomes [69]. Lastly, an area chart demonstrates the positive impact of process improvements over time, underscoring the benefits of ongoing enhancements in reducing errors and boosting efficiency [70].

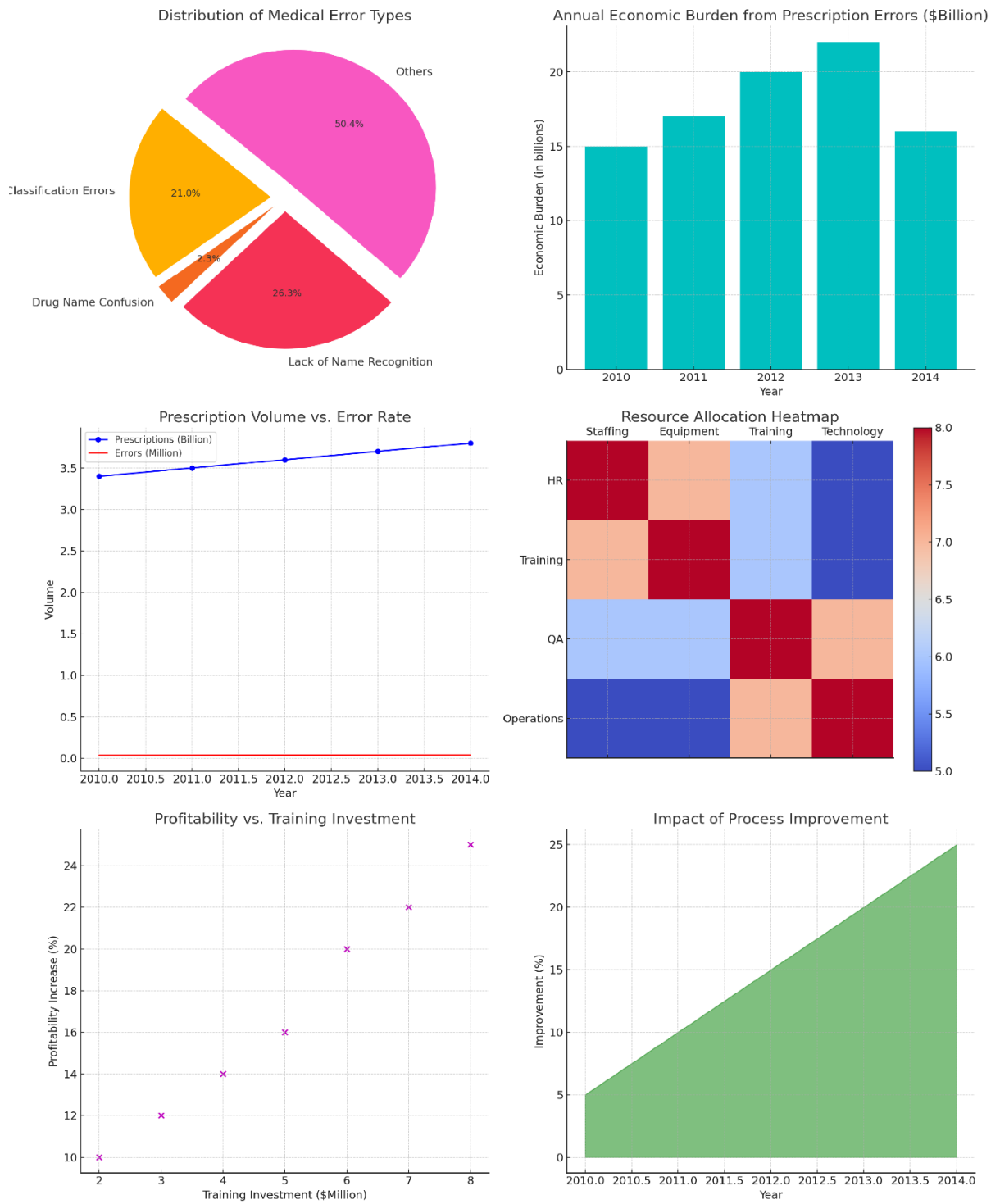


Figure 2: Strategies for improving medical errors and enhancing profitability in retail pharmacy management

Business Management Restrictions in Improving the Portability of the Retail Pharmacy

Involving a business manager in a retail pharmacy to increase profitability can have its restrictions. Here are some potential limitations you should be aware of:

Limited Knowledge of Pharmacy Operations: Business leaders may not have a thorough understanding of the complexities of pharmacy operations, including dispensing processes, drug interactions and prescriptions. This limited knowledge can make it difficult for them to address inefficiencies in the pharmacy environment.

Lack Of Healthcare Expertise: Pharmacies are involved in healthcare, and bringing in a business leader without healthcare expertise can cause a disconnect between business goals and patient care. Finding a balance between financial considerations and patient safety is essential for ethical and efficient pharmacy practice.

Pharmacy Staff Resistance to Change: Implementation of changes that improve profit can be met with pharmacist resistance. Pharmacists and technicians may be accustomed to established workflows, and changes proposed by business leaders may be disruptive. Creating trust and effective communication channels between the business leader and the pharmacy team is essential to overcome resistance.

Regulatory and Compliance Issues: The pharmaceutical industry has strict regulations and compliance requirements. Business leaders without a health background can face challenges in complying with these complex regulations, which can cause pharmacy compliance issues and legal risks.

Balancing Financial Goals and Patient Care. While improving profitability is important to the sustainability of a retail pharmacy, it should not come at the expense of patient care and safety. Business leaders must strike a delicate balance between financial goals and high standards of medical care, ensuring that cost-cutting measures do not harm patient health outcomes.

Limited Focus on Clinical Services: a business leader focused primarily on profitability may prioritize revenues - engaged in clinical services. This can hinder a pharmacy's ability to expand its clinical offerings, provide patient education, and participate in medication management, which are important components of comprehensive medication management.

It is important to recognize these limitations and proactively address them by fostering collaboration between business leaders and pharmaceutical professionals, investing in education and implementing a patient approach that emphasizes both financial viability and optimal patient care.

CONCLUSION

In conclusion, this research paper discussed the critical role of effective strategies to reduce medical errors and improve profitability in healthcare organizations, especially retail pharmacy management. Medical errors pose a significant risk to patient safety and also result in a significant financial burden. Healthcare organizations, including retail pharmacies, can use holistic approaches and business management techniques to improve patient safety while achieving financial stability.

This study examines various strategies such as optimizing workflow, minimizing distractions, ensuring proper medication storage, rigorous prescription review processes, and comprehensive information on patient counseling. It also highlighted the importance of organizational culture, adequate staffing and workload balance in reducing medical errors. The results emphasize the importance of a system-oriented approach and the participation of company managers in promoting a safety culture and implementing cost-effective measures.

Finally, the study aims to provide valuable knowledge and evidence-based recommendations to guide health care managers. . and managers in their efforts to reduce medical errors and improve the overall profitability of healthcare organizations. While there are challenges and limitations associated with involving business managers in healthcare settings, careful consideration of these factors can help strike a balance between financial goals and patient care, ensuring the sustainability and success of retail pharmacy operations.

The knowledge generated by this research has the potential to benefit not only retail pharmacy management but also other healthcare practice environments, including hospitals. As the healthcare industry continues to evolve, the role of business managers in improving profitability and patient safety becomes increasingly vital. Further research in this area is needed to explore the full range of benefits and effective strategies for achieving these goals in healthcare organizations.

Conflict of Interest (COI): The authors declare no conflicts of interest relevant to this research. Any affiliations, financial involvement, or relationships that could be perceived as potential conflicts of interest have been disclosed.

Data Availability: Data supporting the findings of this study are available upon request. Researchers interested in accessing the data may contact the corresponding author or the institution's research office.

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Strategies for Reducing Medical Errors and Enhancing Profitability in Retail Pharmacy Management: A Holistic Approach

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