Optimizing Patient Safety and Security Management in Zambian Mental Health Facility: A PDSA Quality Improvement Study

Anatolii Tsarkov, Andréa Ferraz de Arruda Fernandez, Marcelo Leite Ribeiro, and Petro Petlovanyi

ABSTRACT

Delivering specialized and top-tier psychiatric care necessitates an intricate and well-thought-out plan focusing on the safety and security of both healthcare professionals and patients. In the realm of mental health, particularly in specialized clinics and hospitals where patients may require admission and intricate treatment plans, the safety and security of the healthcare environment are paramount. It is crucial to ensure the comprehensive and tailored protection of mental health workers, particularly those operating in shift patterns. A well-devised strategy can significantly enhance the overall safety and security within a healthcare facility, potentially streamlining operational costs while minimizing both immediate and long-term risks associated with breaches in safety and security protocols. The aim of this research was to bolster safety and security protocols within mental health treatment establishments by identifying and addressing operational hurdles faced by ancillary mental health staff. To achieve this, the study implemented the Plan-Do-Study-Act (PDSA) cycle, a cornerstone methodology in quality management systems. The PDSA cycle’s pragmatic ethos encourages a methodical, iterative approach to integrating new methodologies into any process, particularly those aiming to elevate security and safety standards. This model was specifically employed to refine the functioning of the security and safety department at a private mental health facility in Lusaka, Zambia. The anticipated outcome is that this approach will not only safeguard the immediate and future well-being of healthcare personnel and patients but also foster a holistic and efficient operational environment for mental healthcare services.

Keywords: Healthcare staff protection, Mental health safety, quality improvement, security management.

1. Introduction

The World Health Organization (WHO) provides a holistic definition of health, stating it is not just the absence of illness or physical impairment but encompasses a state of complete physical, mental, and social well-being [1]. Specifically, mental health is described as a condition of mental well-being that empowers an individual to realize their full potential, cope with the stresses of life, and work productively and fruitfully. According to the WHO, disruptions to this state of mental well-being may precipitate mental and behavioral disorders, underlining the critical nature of maintaining mental health [2].

Shockingly, as of 2019, approximately 1 in 8 individuals worldwide, were reported to be living with some form of mental disorder; anxiety and depressive disorders were found to be the most prevalent conditions [3]. In 2020, the number of individuals suffering from anxiety and depressive disorders surged notably due to the COVID-19 pandemic, with preliminary estimates indicating a 26% and 28% increase, respectively, within a year [4]. Despite the availability of effective prevention and treatment options, the majority of individuals with mental disorders do not receive adequate care. Additionally, many individuals encounter stigma, discrimination, and human rights violations due to their mental health conditions. Finally,
prescribing the appropriate treatment for mental health conditions can be a complex process, often fraught with challenges, and patients may sometimes endure unnecessary side effects from these interventions [5], [6]. Special attention should be given to hazardous alcohol consumption. Alcohol consumption is often referred to as a deadly habit, with the WHO estimating that it causes three million fatalities globally each year. This translates to 5.3% of all deaths worldwide, making it a significant contributor to mortality rates. About 1 in 20 deaths worldwide can be attributed to alcohol-related diseases, accidents, injuries, suicides, or homicides. This rate is higher than that of HIV, which causes less than 2% of deaths globally, and violence unrelated to alcohol, which accounts for less than 1% [7]. In fact, the COVID-19 pandemic has exacerbated the problem, with many individuals resorting to alcohol as a means of coping with stress, anxiety, and social isolation. The pandemic has also disrupted the provision of alcohol-related services, including prevention and treatment programs, which has further exacerbated the issue [4].

Considering the above-mentioned information, it is necessary to assure a complex and holistic approach to the management of mental disorders. In most cases, patients require engagement with mental health services including lengthy admissions to specialized mental health facilities [8]–[10]. However, even timely engagement with specialized healthcare services does not guarantee a positive and successful outcome. The issue of safety and security in psychiatric hospitals is a complex and multifaceted one. Some of the challenges that psychiatric hospitals face regarding safety and security include violence, substance abuse, self-harm and suicide, patient escape, stigma, and discrimination [11], [12]. Violence is a common occurrence in psychiatric hospitals, both between patients and towards staff members. Patients may become agitated, aggressive, or even violent due to their mental health condition, medication side effects, or other factors [13]. Ensuring the safety of patients and staff members is therefore a crucial aspect of hospital security.

Factors influencing health-seeking behavior such as socio-cultural and socioeconomic elements, coupled with high rates of alcohol usage reported in specific populations complicate the provision and effectiveness of treatments within mental healthcare settings [14], [15]. Substance abuse is also a significant problem in psychiatric hospitals, as patients may try to smuggle in drugs or alcohol. This can lead to a range of security concerns, including the risk of overdose, violence, or even death [16].

Patients in psychiatric hospitals may be at high risk of self-harm or suicide, which requires vigilant monitoring and effective suicide prevention measures. The potential for harm to themselves or others can pose significant security risks [11]–[13].

Some patients may also try to escape from psychiatric hospitals, which can pose a risk to their safety as well as to the public. Effective security measures are needed to prevent patients from leaving without authorization and to ensure their safe return if they do manage to escape [17].

There is also the issue of stigma and discrimination towards psychiatric patients, which can affect the quality of care they receive as well as the security measures in place. Patients may be subjected to unnecessary restraints or isolation due to negative attitudes and beliefs about mental health [18].

Addressing these issues requires a comprehensive approach that considers the unique needs of psychiatric patients and the challenges that psychiatric hospitals face. This may involve improving staffing levels, providing specialized training for staff members, implementing effective risk and violence prevention measures, enhancing monitoring and surveillance systems, and promoting a more supportive and inclusive environment for patients. Mental health treatment often involves a team of healthcare providers, including psychiatrists, therapists, social workers, and other specialists. A holistic approach to treatment emphasizes collaboration and communication among these providers to ensure coordinated and effective care. The non-professional staff (cleaners, security officers, registry officers, staff from the kitchen, etc.) and their roles are always underestimated; they can potentially improve the operation of the mental health treatment facility, harmonize patient management, and even reduce the challenges that mental health treatment facility could face regarding safety and security (violence, substance abuse, self-harm and suicide, patient escape, stigma, and discrimination).

Therefore, the objective of this study was to enhance safety and security measures in mental health treatment facilities by identifying and resolving operational challenges encountered by non-professional mental health staff. This involved optimizing work performance to improve the overall functioning of the facilities and reduce potential safety concerns.

2. Materials and Methods

To enhance the clarity and structure of the text for organizational purposes and to ease the reading experience, the “Materials and Methods” section has been organized into distinct subsections as follows: ethics approval of research (this section outlines the ethical considerations and approvals obtained to ensure the study was conducted in compliance with ethical standards and guidelines; it includes details on the review board that approved the study, consent procedures, and measures taken to protect participants’ privacy and well-being), classification of research (this subsection details the categorization of the research based on its objectives, methodology, and subject matter), the setting of the study (the research locale) (it is briefly introduce the location or context where the research was conducted, providing insights into the environment of the study object), and data collection and processing (this part describes the methodologies employed for gathering information, including the specific instruments and techniques utilized to meet the research goals).

2.1. Ethics Approval of Research

The research received approval from the University of São Paulo’s Research Committee, with the formal endorsement indicated by FDE Identifier: 3698422038, dated 20th September 2023. Furthermore, this study was classified as...
from submission to the Brazilian Committee for Research Ethics (CEP), negating the necessity for its review. In this study, no human subjects were involved, and as such, there were no experiments or clinical trials conducted. Data used in this research was collected and facilitated by the Institution’s Quality Improvement (QI) team, acting on behalf of the research objectives. Additionally, explicit consent was secured for the utilization of data, as evidenced by the authorization from the director of a private mental health treatment facility. This consent, documented under Permission #160725, dated April 3, 2023, enabled the research team to access and use data and Excel files for the purposes of this study. It is important to note that no personnel, including patients, their relatives, non-clinical, and clinical teams (including multidisciplinary team members), were engaged in interviews for this research.

2.2. Classification of Research

The study was classified as descriptive research, which systematically gathers and analyzes data to provide detailed insights into a specific phenomenon, group, or situation without testing hypotheses. Common in fields like psychology and sociology, descriptive research uses surveys and interviews to identify patterns via statistical analysis [19], [20]. This method helped create a foundational understanding of the subject in this study, useful for further research and practical applications. Additionally, the study also incorporated applied research, aiming to apply continuous improvement principles in real-world settings, particularly in enhancing processes within various industries. The focus was on bridging theory and practice, especially highlighting the benefits for healthcare, specifically mental health facilities.

A case study on a private mental health facility was conducted, analyzing data from the facility’s records over a year (April 2022–March 2023) organized in Microsoft Excel. This provided a critical look at operational strengths and weaknesses, offering recommendations for improvements. The research is significant for the management of mental health care, aiming to use data-driven insights for enhancing service quality.

2.3. Setting of the Study (The Research Locale)

The study took place at a private mental health facility in Lusaka, Zambia, catering to individuals with various mental health conditions. This facility offers services ranging from psychiatric evaluations and medication management to therapy and inpatient treatment. It is staffed by medical and nursing professionals, administrative staff, and mental health specialists including psychiatrists, psychologists, and therapists. The facility also provides recreational and occupational therapy and has support departments like security, laundry, and housekeeping.

Our research primarily focused on the support staff and nursing departments due to their crucial role in data collection. This center not only treats patients but also participates in mental health research, trains professionals, and advocates for better mental health policies. It is registered with multiple local authorities, including the Ministry of Health and the Health Professions Council of Zambia. Serving over 1000 clients annually, the clinic significantly impacts the mental well-being of Lusaka’s residents and attracts patients from across Zambia and neighboring countries such as Malawi, Namibia, and Zimbabwe.

2.4. Data Collection and Processing

To access specific data at a private healthcare facility, a formal request must be submitted to the facility head, outlining the purpose and intended use of the data. This data is managed by the Quality Improvement (QI) team within the nursing department, tasked with analyzing safety and security data to enhance service delivery. Using incident reports and security logs, the team identifies trends that inform targeted improvements.

Accessing this data is crucial for understanding care quality and identifying improvement opportunities. Analyzing these incidents helps the staff and administration enhance facility safety, efficiency, and patient satisfaction, thereby improving overall patient care and health outcomes.

The data collection focuses on various incidents during patient stays, such as violence or self-harm, aiming to develop preventative strategies and interventions. Special attention is given to errors made by non-professional staff, particularly security personnel, to devise training programs that enhance their capability in handling crises.

The data is processed using Microsoft Excel for efficient organization and analysis, identifying patterns and trends to formulate solutions. Additionally, the facility employs the Plan-Do-Study-Act (PDSA) cycle, a proven methodology for continuous improvement in healthcare settings. The PDSA methodology was employed to analyze and improve processes in the private healthcare facility. This widely used tool is known for its ability to solve complex problems and facilitate continuous improvement in healthcare settings. The methodology is particularly effective in situations where the root cause of a problem is unclear and requires further investigation.

The PDSA cycle is a structured approach to problem-solving that involves four main stages: plan, do, check, and act. During the planning phase, the problem is identified and analyzed in detail to determine its root cause. Based on this analysis, a plan of action is developed to address the problem.

In the “do” phase, the plan is put into action, and data is collected to monitor progress and evaluate the effectiveness of the plan. During the “check” phase, the data collected during the “do” phase is analyzed to determine whether the plan was successful in addressing the problem.

Finally, in the “act” phase, any necessary adjustments or improvements are made based on the analysis conducted during the “check” phase. This iterative process continues until the problem is definitively resolved.

The main objective of the PDSA cycle is to accelerate and improve the activities and processes in the researched healthcare facility. By systematically identifying problems and their root causes, the methodology allows for the development of targeted solutions that can be continuously evaluated and refined over time. By employing this methodology, the healthcare facility can ensure that its
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3. Results

From April 2022 to March 2023, a comprehensive analysis of adverse and special events was conducted at a private medical institution, with a primary focus on security breaches. This study involved a multidisciplinary team from security, nursing, and support staff departments, enhancing the data’s credibility by providing diverse perspectives and reducing bias.

The security department’s reports revealed key insights into the nature, impact, and vulnerabilities of breaches, while the nursing department shed light on how these incidents affected patient care and safety. This collaborative approach added reliability to the findings and provided a holistic understanding of the institution’s dynamics, revealing systemic patterns and areas for improvement.

The study highlighted eight instances of internal violence and 34 cases of substance use, underscoring the need for better aggression management and addiction prevention strategies. Additionally, 18 self-harm incidents and 14 patient escapes were reported, pointing to the necessity of strengthening mental health support and securing the facility.

Notably, no suicidal events were reported, suggesting effective mental health interventions. However, the absence of systematic records on stigma and discrimination indicates a need for improved documentation practices. This analysis underlines the importance of continuous enhancement in security and patient care protocols, emphasizing proactive interdepartmental collaboration to improve the safety and wellbeing of both patients and staff.

3.1. Episodes of Inward Violence

After reviewing data pertaining to breaches in hospital security and incidents compromising the safety of medical environments, a total of eight instances of inward violence were recorded. These episodes exhibit a notable pattern as they occurred specifically during holiday periods, with two instances happening during the Easter holidays and four instances during the Christmas holidays. Fig. 2 shows these findings.

Episodes of violence and aggression in psychiatric hospitals can occur due to various factors, including the nature
of the conditions being treated, the environment of the hospital, and the individual characteristics of patients. While not all psychiatric hospitals experience frequent episodes of violence, it is a recognized challenge in some settings. Despite being a highly advanced mental health treatment facility, our institution is not immune to experiencing this serious and negative outcome.

3.2. Episodes of Inward Substance Consumption

Upon conducting a thorough analysis of the available data, it was brought to light that the treatment facility experienced a concerning number of 34 incidents involving inward substance consumption. Despite the facility’s proactive implementation of well-developed security measures, it proved insufficient in deterring patients from engaging in this detrimental behavior. This finding highlights the complexity and challenges associated with managing substance-related issues within a treatment environment.

Interestingly, a noteworthy correlation emerged when examining the timing of these incidents. In line with the episodes of inward violence, the instances of inward substance consumption demonstrated a peculiar pattern closely tied to specific holiday periods. During the Easter holiday, a total of seven incidents occurred, indicating a potential link between the holiday season and heightened vulnerabilities or triggers for such behaviors. Furthermore, the Christmas and New Year holidays witnessed a staggering 17 episodes, suggesting a similar association with these festivities. During these episodes, two substances, namely cannabinoids, and alcohol, were consumed indiscriminately and without a specific pattern. The data summary is presented in Fig. 3.

In a psychiatric ward, the consumption of substances is generally regulated and controlled to ensure the safety and well-being of the patients. Inward substance consumption, also known as substance use or substance abuse, refers to the use of drugs or alcohol by patients within the psychiatric facility.

3.3. Episodes of Inward Self-Harm

The analysis of the collected data brought to light a concerning discovery: a total of 18 cases of self-harm were identified. What makes this finding paradoxical is the intriguing observation that a significant majority of these incidents occurred during specific holiday periods. Specifically, 4 cases were recorded during the Easter season, while a staggering 8 cases took place during the Christmas and New Year holidays. The results are presented in Fig. 4.

This unusual pattern during festive seasons raises important questions about the potential triggers and underlying factors that contribute to the increase in self-harm episodes during these particular times [22]. Is there a heightened sense of emotional vulnerability during holidays? Are feelings of loneliness or familial expectations more pronounced during these periods, potentially exacerbating distress in vulnerable individuals? Exploring these questions could provide crucial insights into understanding the complex dynamics surrounding self-harm and guide the development of tailored interventions and support systems to address these challenges more effectively.

3.4. Episodes of Patient Escape

Upon conducting a comprehensive analysis of the data related to patient hospital escapes, it revealed a significant finding that merits attention. The study documented a total of 14 cases, indicating a concerning occurrence of patients leaving the hospital premises without proper authorization or supervision. What is particularly notable about these incidents is that they were evenly distributed throughout the entire duration of the study, spanning a year-long period. This uniform distribution raises questions about the underlying causes and the effectiveness of existing security measures in preventing such occurrences. The results are reflected in Fig. 5.

Psychiatric hospital escapes pose significant challenges to patient safety and the overall effectiveness of mental healthcare facilities [23]. When patients elope from these specialized settings, it not only jeopardizes their well-being but also raises concerns about public safety. By understanding the complexities of patient elopement, healthcare providers can implement proactive measures to mitigate risks and ensure a secure environment for patients receiving mental health treatment.

4. Discussion

Through the execution of this project, it became feasible to oversee the security and safety measures implemented at a mental health treatment facility situated in Lusaka, Zambia. The primary objective was to identify crucial vulnerabilities in the security system and explore opportunities for enhancement and prevention. Based on the documented data, there have been a total of 8 documented incidents of internal violence, indicating instances where individuals within the facility exhibited aggressive behavior. Furthermore, the data reveals 34 recorded incidents of internal substance consumption, drawing attention to the challenges associated with substance misuse or abuse within the facility. Additionally, there were 18 cases of deliberate self-harm reported among the patients, underscoring the necessity for comprehensive mental health support and interventions. Moreover, the data indicates 14 occurrences of patient escapes, emphasizing the significance of implementing strong security measures and proactive measures to prevent such incidents.
4.1. Episodes of Inward Violence and Implementation of the PDSA Cycle to Enhance and Diminish Episodes of Inward Violence

Psychiatric hospitals treat individuals with severe mental illnesses, some of whom may exhibit violent or aggressive behaviors due to conditions like schizophrenia, bipolar disorder, and certain personality disorders, which can lead to heightened emotional states and impulsive actions [12]. Environmental factors such as overcrowding, inadequate staffing, and poor security measures in the hospital can further increase the risk of violence, hampering the ability to implement proper care and de-escalation techniques [24].

Effective management of these behaviors is crucial, requiring staff to be well-trained in crisis intervention, de-escalation, and conflict resolution to maintain safety [12], [24]. The treatment approaches, including medication and therapeutic interventions, play a significant role in moderating the potential for violence. It is essential for psychiatric hospitals to employ comprehensive protocols for risk assessment, early intervention, and evidence-based de-escalation strategies to mitigate aggression.

Despite potential episodes of violence, the majority of patient interactions in psychiatric settings are peaceful, focusing on providing care and promoting the well-being of all individuals involved.

The PDSA cycle is a proven quality improvement tool that helps reduce violence in psychiatric wards [25]. The “plan” stage involves setting objectives, such as cutting down violent incidents by a specified percentage, and crafting strategies like staff training and security enhancement. The “do” stage executes these plans, while the “study” stage evaluates the effectiveness of these interventions by analyzing incident data and gathering staff and patient feedback. Insights gained here guide the “act” stage, where adjustments are made to improve safety measures continuously. Employing the PDSA cycle allows for ongoing refinement of strategies, ensuring psychiatric wards are safer and more therapeutic environments for patients and staff alike.

4.2. Episodes of Inward Substance Consumption and Implementation of the PDSA Cycle to Enhance and Diminish Episodes of Inward Substance Consumption

Psychiatric wards enforce strict rules against substance use to safeguard patients, who may have compromised mental and physical health. Substance use can worsen mental health symptoms, disrupt treatment effectiveness, and heighten the risk of accidents or self-harm [26]. By
eliminating substance use, healthcare providers can more accurately evaluate and treat mental health conditions and maintain a therapeutic environment focused on recovery and mental health improvement.

If admitted with a substance use disorder, patients receive integrated treatment plans, including addiction counseling and education about substance use risks. Treatment may also involve support groups and referrals to specialized programs.

The PDSA cycle is beneficial for managing and reducing substance use within wards [27]. The planning stage involves a comprehensive needs assessment to understand the context and factors leading to substance use and setting baseline metrics. Key stakeholders, including those with lived experience and healthcare professionals, provide insights that guide the development of targeted strategies. The implementation stage applies a multifaceted approach, combining prevention, intervention, treatment, and recovery support, tailored to accommodate diverse patient backgrounds for maximum effectiveness. Education about substance risks and promoting healthier coping strategies are essential components.

During the study phase, data is analyzed to assess intervention effectiveness, identify trends, and gather qualitative feedback from participants. This evaluation determines whether interventions reached their target audience and were implemented as planned. The act stage involves scaling successful strategies, making necessary adjustments, and advocating for policy changes if needed to address systemic issues contributing to substance use. This could mean stricter regulations or more accessible treatment options.

4.3. Episodes of Inward Self-Harm and Implementation of the PDSA Cycle to Enhance and Diminish Episodes of Inward Self-Harm

The juxtaposition of holiday celebrations with occurrences of self-harm underscores the need for increased awareness and enhanced mental health services during these periods. Holidays can paradoxically heighten isolation and emotional distress for some, necessitating proactive support and accessible services to mitigate self-harm incidents [22], [28]. Further research through longitudinal studies and psychological assessments can deepen understanding of the challenges faced during festive seasons, leading to tailored interventions.

In psychiatric settings, self-harm is a pressing concern, often a response to emotional pain or distress [29]. Risk factors within these environments include depression, anxiety, personality disorders, and a history of trauma. Psychiatric wards implement strict protocols to monitor and mitigate self-harm risks, involving regular patient evaluations and safety measures like removing potential hazards and supervising vulnerable individuals. Comprehensive treatment plans combine medication management, various therapies, and the development of coping strategies.

Staff training is essential in recognizing and managing self-harm risks, emphasizing crisis intervention and therapeutic environment maintenance. Ethical considerations also arise, balancing patient autonomy with safety.

The PDSA cycle is crucial for addressing self-harm within healthcare facilities. Initially, a detailed analysis of incidents sets the foundation for targeted interventions aimed at reducing self-harm occurrences by a specific percentage. This plan involves assembling a multidisciplinary team to create and implement strategies that address underlying causes and promote alternative coping mechanisms, potentially including staff training and enhanced monitoring systems.

Interventions begin on a small scale to allow for initial assessment and adjustment. This stage includes extensive staff training and the establishment of a supportive environment. The subsequent study phase evaluates the intervention’s effectiveness through data analysis, comparing current outcomes against baseline conditions to identify successful strategies and areas needing adjustment.

Finally, in the act phase, successful interventions are expanded based on insights gained, with continuous adjustments fostering ongoing improvement. This iterative cycle promotes a systematic, data-driven approach to enhancing patient safety and care quality, ensuring that interventions evolve with patient needs and feedback. By utilizing the PDSA cycle, healthcare facilities can continuously refine their approach to preventing and managing self-harm, ensuring a safer, more supportive environment for patients at risk. This process not only enhances immediate patient care but also contributes to broader goals of improving mental health support systems.

4.4. Episodes of Patient Escape and Implementation of the PDSA Cycle to Enhance and Diminish Episodes of Patient Escape

Psychiatric hospital escapes, where patients leave without proper authorization, can arise from a desire to avoid treatment, frustration with restrictions, or distorted perceptions of safety. These incidents pose risks not only to the escaping patients, who may face dangerous situations or exacerbate their conditions, but also to the community if the patient poses a danger to others. Such events can damage a facility’s reputation and lead to legal issues if harm occurs during an escape [30].

Effective prevention involves robust security measures like physical barriers, controlled access, and video surveillance, alongside regular risk assessments to identify security gaps. Staff training is crucial for recognizing early warning signs and effectively de-escalating potential escapes [31]. Personalized care plans and close monitoring, especially for high-risk individuals, are critical for early intervention. Involving patients’ support networks can also help prevent escapes by keeping all parties informed and engaged in the care process.

Despite these measures, escapes can still occur, necessitating defined response protocols. These should include training staff to respond efficiently, collaborating with law enforcement, and conducting post-incident reviews to refine safety protocols. Learning from each incident is vital for improving overall security and preventive measures.

The PDSA cycle is an effective framework for addressing patient escapes by enhancing security and training within...
psychiatric hospitals. Initially, the plan stage involves gathering data on past escapes and conducting thorough risk assessments to set specific reduction targets [32]. A multidisciplinary team then develops interventions that may include upgrading physical security, enhancing surveillance, conducting targeted staff trainings, and improving patient engagement and monitoring.

These interventions are first implemented on a small scale in the do stage, allowing for assessment and necessary adjustments. This stage focuses on detailed staff training and pilot testing security upgrades in select areas.

The study stage involves analyzing the effectiveness of these interventions by monitoring escape incidents and gathering feedback from staff and patients. This analysis helps understand the impacts of the interventions and identify any new challenges that arise.

Finally, in the act stage, successful strategies are expanded and adapted based on insights gained, with continuous adjustments to optimize outcomes. This iterative process ensures that the interventions remain effective and responsive to the evolving needs of the hospital environment.

4.5. Further Enhancements and Supplementary Elements for Hospital Security

Ensuring the safety of mental health treatment facilities involves critical components including Closed-Circuit Television (CCTV), secure visiting rooms, reliable lighting systems, effective electrical wiring management, and engagement with a private security company. These elements collectively safeguard the well-being of patients and staff.

CCTV is indispensable in enhancing security. Strategically placed cameras allow staff to monitor and address potential threats swiftly, acting as a deterrent and providing evidence for investigations, thereby bolstering safety protocols.

Well-designed visiting rooms balance privacy with visibility, enhancing safety. These areas should offer controlled access and comfortable yet secure spaces for patients and their visitors, mitigating risks associated with unauthorized access or disturbances.

Adequate lighting throughout the facility increases safety by improving visibility in corridors, common areas, and exteriors. This helps in preventing accidents and deterring unauthorized access. Implementing lighting controls like motion sensors or timers ensures continuous appropriate illumination, fostering a secure environment.

Proper electrical wiring management is vital to avoid hazards. Regular inspections and adherence to safety codes prevent risks like fires and electrical shocks. Employing qualified professionals for electrical work is crucial to maintaining safety standards.

A private security company adds a significant layer of protection. Trained security personnel assess and mitigate vulnerabilities, enhancing emergency response capabilities and providing peace of mind for all facility occupants.

Integrating these security measures, CCTV, secure visiting areas, reliable lighting, well-managed electrical systems, and professional security services, creates a safe and supportive environment for therapy and recovery, instilling confidence among patients, staff, and visitors.

5. Limitations and Future Research

In scientific research, particularly within the realm of medical studies, conclusions from a single case study, like the one discussed, have inherent limitations due to the unique characteristics of the institution studied, ranging from patient demographics to operational procedures. This specificity raises concerns about the generalizability of the findings to other clinical environments, emphasizing the need for cautious interpretation when applying these results elsewhere.

Recognizing these limitations opens avenues for future research to enhance the understanding and applicability of the findings. A vital direction for future studies is conducting comparative analyses across various institutions, including both private and public sectors. This broader approach would validate the initial findings and illuminate the nuances and variabilities across different settings, thereby improving the generalizability of the conclusions.

Another significant area for future research is the impact of security measures on patient outcomes, particularly in an era of increasing data breaches and privacy concerns. Investigating how hospital security protocols affect patient well-being and trust, and assessing technological advancements in security, can help healthcare institutions optimize their strategies to better protect both patients and staff.

Additionally, the long-term effects of PDSA cycles on healthcare practices merit thorough investigation. While the short-term impacts of these quality-improvement processes are well-documented, their long-term implications on sustainable healthcare enhancement are less explored.

Furthermore, incorporating the perspectives of patients and staff provides critical insights into the operational dynamics of medical institutions. Future studies should focus on gathering and analyzing these viewpoints to align improvements and policies with the needs and experiences of those directly affected.

The outlined research directions provide a roadmap for expanding the scope of knowledge and improving healthcare practices across diverse settings. By exploring these areas, the medical community can work towards more inclusive, effective, and secure healthcare environments, advancing the well-being of patients and healthcare providers alike.

6. Conclusion

The PDSA cycle can significantly improve safety and security in psychiatric hospitals thereby analyzes like this can be replicated in other clinics. By utilizing the PDSA cycle, psychiatric hospitals can systematically address safety and security challenges, identify areas for improvement, implement targeted interventions, and continuously monitor and refine their practices. Special attention should be given to security in psychiatric hospitals during public holidays, particularly Christmas, New Year, and Easter, due to several reasons. They include increased stress levels, changes in routine, reduced staffing levels, increased visitation, and substance misuse itself. Given these factors, it is crucial to prioritize security measures and remain vigilant during public holidays to maintain a safe and stable environment for both patients and staff in psychiatric
hospitals. Subsequent studies can extend and refine our conclusions, delve deeper into longitudinal methodologies, and integrate objective metrics to substantiate and enhance these results.

**Conflict of Interest**

Authors declare that they do not have any conflict of interest.

**References**


