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Patient Safety Practices in Hospital Settings: Evaluating Adherence to Clinical Protocols in Kenyan Level 4 and 5 Hospitals

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Abstract

The safety of patients demands a certain level of trustworthy compliance with evidence-based practices during diagnosis, treatment, monitoring and discharge. Level 4 and 5 hospitals in Kenya offer much-needed referral services but with varying staffing and infrastructure and governance levels. The article is a critical review of the practices of adherence to clinical protocols in the hospitals and the possible actionable improvement strategies. Peer-reviewed Kenyan research, international research and authoritative national and global policy documents were synthesised in an integrative desk review. The organisation of the evidence was based on infection prevention and control, surgical safety, medication processes, maternal and paediatric care, and organisational learning. Published literature indicates there is a lot of differences in institutions and clinical tasks. Repeat weaknesses are the lack of hand-hygiene, untimely execution of surgical checklists, irregular postpartum surveillance, prescribing errors and ineffective incident-reporting mechanisms. Recent national assessment statistics reveal that the presence of a committee or written policy does not result in dependable bedside practice. Experiences of Kenyan quality-improvement efforts do however reveal that supervised quality by supported means, regularized documentation and repetitive audit-and-feedback can enhance compliance. The article concludes that the measurement of patient safety should be based on observable process indicators as well as structural readiness and outcomes. It suggests funded safety programmes, specific team training, non-punitive reporting, a ward-based dashboard, and patient involvement and advocates more robust comparative evidence between the two hospital levels.

Key words: *patient safety; clinical protocol adherence; Level 4 hospitals; Level 5 hospitals; quality improvement; infection prevention*

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1. Introduction

1.1 Background and rationale

Hospital care-related injuries that are avoidable are a universal public-health issue since misjudgments may occur in clinical evaluation, drug prescriptions, operations, infection-control, observation, referrals and communications. Patient safety does not just mean the lack of an adverse event recorded but it means

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organised and structured efforts to minimise avoidable risks and alleviate harm in the event of failure. Safety is included in health-system governance and day-to-day service provision by the World Health Organization (WHO, 2021), whereas the Global Patient Safety Report highlights the importance of measurable implementation, not just policy statements (WHO, 2024a). In the case of referral hospitals, where patients often present with acute, complex or worsening conditions, small failures at every stage of the care process can result in severe outcomes.

The health system of Kenya designates Level 4 hospitals to act primarily as referral facilities and Level 5 hospitals to play a wider secondary referral role, though both facilities in the system vary in ownership, specialist capacity and clinical workload. The two levels offer inpatient services, emergency evaluation, obstetric services, surgery or other specialised services as per their designation and resources. They are therefore a very important interface between the primary care and advanced referral services. The Kenya Quality of Care Health Facility Assessment (KQOC-HFA) 2024 utilized the national sampling frame of all public Level 4 and 5 hospitals in the country, which offers atypically pertinent national context in understanding the circumstances in which clinical practices are established (Ministry of Health [MoH], 2025).

Evidence is translated into specific decisions in clinical protocols: when to clean hands, check patient identity, administer prophylaxis, determine the severity of illness, respond to haemorrhage or escalate an abnormal observation. They can only be of clinical value when they are used consistently in the point of care. The framework of structure-process-outcome presented by Donabedian (1988) describes why written procedures and equipped equipment are just one of the components of quality; the activities carried out in the actual sense should also be evaluated. Similar arguments are made by Kruk et al. (2018), who claim that increasing access without enhancing technical quality can never provide the full benefits of health-system investing. This difference is particularly crucial in the case of national quality policies that coexist with limited budgets, excessive caseload and imbalanced supervision.

Evidence already shows that there is a discrepancy between expectations and performance in Kenya. Taiswa et al. (2023) conducted a study in a South-Western Kenyan teaching and referral hospital, and the authors discovered that in the postoperative files reviewed, surgical safety checklist was available in every operation, but was only tried in 7.1% of them. According to Ogero et al. (2020), sequential compliance with paediatric admission guidelines was noted to be observed in no more than 12% of the chosen admissions in 13 county hospitals. These findings are related to various environments and measurements and cannot be viewed as one national compliance rate. Collectively, though, they illustrate the necessity of studying protocol availability and real-world compliance separately.

1.2 Problem statement and objectives

Although there are national guidelines and quality-improvement programmes, evidence regarding patient safety in Kenyan Level 4 and 5 hospitals is scattered into specialities, counties and study designs. There are studies that involve direct observation, and others that look at records, provider knowledge or perceptions. These are not interchangeable but reliant measures: an unchecked box can be an indicator of bad documentation, whereas a filled-in form does not always imply that a safety conversation took place. This evidence gap will complicate planning at county level and will also promote shallow monitoring of performance that will focus on documents instead of protection against harm (Carayon et al., 2006; Reason, 2000).

The aim of this article is to assess the existing evidence regarding adherence to clinical protocols in Kenyan Level 4 and 5 hospitals, and to find common organisational and practice-level barriers and suggest viable improvements. Particularly, it takes into account five safety areas, including infection prevention and control (IPC), practice of surgical checklists, medication management, maternal and paediatric practice, and incident reporting. The main thesis is that the ability to follow through is a characteristic of the work system:

clinical knowledge is important, but so are reliable supplies, manpower, collaboration, feedback and leadership. The results are an evidence synthesis not estimates based on a new multisite field survey because no new patient or facility data were gathered.

2. Literature Review

2.1 Conceptualising safety and protocol adherence

It is better to differentiate process compliance, i.e., hand hygiene during a specific time, structural capacity, i.e., a functioning sink, and patient outcomes, i.e., infection or death. The number of eligible opportunities is an appropriate denominator of audit rather than the number of patients or forms audited. The Paediatric Admission Quality of Care score created by Opondo et al. (2016) exemplifies that consecutive clinical interventions can be grouped to evaluate technical care in a more meaningful way than single-checklist questions.

The human factors also have to do with safety. The systems approach of Reason (2000) acknowledges that personal failures are found in a situation created by personnel, equipment, task design and organisational defences. Similarly, the Systems Engineering Initiative of Patient Safety framework connects the people, work, technologies, work environments and organisational structures to care processes and outcomes (Carayon et al., 2006). These attitudes deter a limited perspective of non-adherence as mere negligence. As an example, an observation that is missed can indicate competing emergencies, a missing vital-sign machine, lack of clarity about the task or an incorrect decision that surveillance is not required. Assessment should thus enquire not only whether a step has been taken but also why or why not it was possible.

2.2 Infection prevention and control

IPC protocols address hand hygiene, personal protective measures, aseptic technique, environmental cleaning, safe injection practice, waste management, sterilisation and surveillance. According to the WHO (2016), multidisciplinary IPC programmes, training, monitoring, multimodal interventions and sufficient infrastructure will be considered to be key elements. Evidence across nations associates healthcare-associated infections with high disease burden that is avoidable and in particular with low-resource health systems (Allegranzi et al., 2011). The WHO (2024b) also emphasises the importance of antimicrobial resistance, water and sanitation, and healthcare-worker safety as mutually dependent issues rather than independent technical ones.

The observation-specific results of Kenya indicate the need to measure practice directly. Bedoya et al. (2017) monitored the interaction in outpatients in 935 facilities of varying concerns and estimated the total compliance with the suggested IPC actions at 31.8%. The study was the primary care, and should not be falsely portrayed as a Level 4/5 hospital estimate; however, it indicates a broader health-system implementation challenge. Gichuhi et al. (2015) reported a problem of adherence and analyzed the barriers to IPC implementation at a Kenyan Level 4 district hospital. A more recent interdisciplinary study in four western Kenyan facilities revealed that the unpredictable supplies, equipment layout, routines and uncleaned roles of staff made safe practices more difficult (Brown et al., 2025).

One example of a particularly helpful intervention is one that was implemented in two local hospitals, Thika and Kitale. The level of hand-hygiene compliance increased, though variably, in a continuous quality-improvement programme where compliance before aseptic procedures was particularly low (27 to 44% during 21 months) (Kibira et al., 2022). This trend indicates that it can be improved without the assumption that a single educational intervention can result in a lasting change. The actionable information of counting hand-rub bottles is less than direct observation of the WHO hand-hygiene moments, which also necessitates regular training and consideration of the possible observer effects.

2.3 Surgical safety and team communication

Surgical safety checklists are aimed at organizing in advance verification prior to anaesthesia, prior to incision and before departing the operating room. The initial multicountry study of the WHO checklist linked its use to a decreased number of complications and mortality, but its before-after design fails to demonstrate that the checklist itself is the cause of all identified differences (Haynes et al., 2009). The use of the checklist is not limited to documentation: the checklist is useful to identify patients, timing of the antibiotics, equipment readiness, expected amount of blood loss, specimen confirmation and shared situational awareness.

Allen County practice problem in Kenya on use of checklists has not been even. Taiswa et al. (2023) looked retrospectively at 424 surgical files and interviewed the theatre staff. Although all the sampled files included checklist forms, 7.1% of the procedures were attempted to be completed, and an average compliance with the checklist elements was 2.7%. The drop in sign-in to sign-out shows the risk of using the presence of a form as an indicator of implementation. The reported limitations were the lack of consumables, insufficient refresher training, staff inadequacies and management support. These are the results of a single hospital and not the results that all Level 4 or level 5 hospitals are doing similarly.

2.4 Medication safety and prescribing processes

Medication safety cuts across medication selection, prescribing, transcription, dispensing, administration, transitions monitoring and reconciliation. Even when a treatment recommended is supposedly available, incorrect dose calculations, missing allergies, illegible orders, interruptions and communication breakdowns can result in harm. According to Donaldson et al. (2017), medication-related harm was outlined as an international patient-safety concern. A meta-analysis of African hospital studies by Alemu and Cimiotti (2023) found high and heterogeneous burden of medication administration errors; the cumulative estimate is not Kenya-specific and differs across studies in their definitions and approaches to observation.

The experiences of Uasin Gishu County indicate that audit can enhance certain aspects of prescription but leave other areas weak. Amdany and Kiprop (2023) documented follow-up compliance at 99 and 98 percent, respectively, in recording a patient name and prescription date, and 21 and 27 percent, respectively, in the legibility of prescription and the use of generic drug names. Instead of just determining whether a prescription has the necessary identifiers, protocol evaluation ought to also involve allergy checks, suitability of dose and route, high-alert drugs, duplication and recorded review of adverse events.

2.5 Maternal and paediatric clinical pathways

Obstetric care emergencies need to be identified and addressed promptly in case the opportunity to treat may be limited. Henry et al. (2022) question 172 providers interviewed in three Kenyan referral hospitals and discovered that postpartum haemorrhage (PPH) protocols knowledge was incomplete, with prevention knowledge being lower than assessment knowledge. More to the point, direct observations of Clarke-Deelder et al. (2023) in three Level 5 hospitals revealed the extensive compliance with PPH risk-assessment and preventative measures in only a minor fraction of the observed deliveries. There was a lack of postpartum monitoring especially. They find that their results differentiate the familiarity with the content of the guidelines and the consistency of executing recommended checks under normal service circumstances.

Resource gaps are insufficient to explain provider behaviour. In parallel maternity studies, Han et al. (2023) discovered that subjective evaluation of risk and uncertainty by clinicians played a role in whether clinicians proactively monitored patients postpartum. This accentuates the necessity of guidelines that would render routine surveillance an express default and not rely on monitoring based on intuition. On-time postpartum vital signs, measured blood-loss, uterotonic delivery and transparent escalation limits are hence convenient

process indicators. The practice of local implementation should be consistent with the recent national and WHO obstetric guidelines, as the clinical guidance evolves.

A complementary lesson is found in Kenyan paediatric research. Ogero et al. (2020) established a glaring mismatch between documentation of first-time results and proper categorization of the disease severity in kids with malaria, pneumonia or diarrhoea. Opondo et al. (2018) discovered that protocol-sensitive process measurement was clinically relevant by showing that better admission quality scores were linked to lower inpatient death rates across Kenyan datasets. Association does not prove a certain causal impact, yet it makes the argument that clinical documentation and classification should not be seen as administrative information. Organized documentation, observation and prompt examination of deteriorating children might be particularly significant in hospitals where the interns are rotated and have several referral mandates.

2.6 Safety culture, reporting and implementation

The safety culture of a hospital is a factor that influences and determines whether clinicians will speak out, report mistakes, raise objections to unsafe decisions and learn through near misses. In two Level 5 hospitals in Kenya, Mbuthia and Moleki (2020) employed the Safety Attitudes Questionnaire on hospital staff, proving that it is possible to evaluate the safety perception in this context. A more recent study of a Kenyan tertiary hospital reported barriers to reporting medical-errors such as the fear of victimisation and unfavourable departmental cultures (Okutoyi et al., 2026). Even though the tertiary hospital is not within the scope of the main Level 4/5 of this article, the identified organisational mechanisms are still applicable as hypotheses to county facilities.

Implementation research proposes that dissemination of guidelines is unlikely to result in credible compliance. Ayieko et al. (2011) have demonstrated that in eight Kenyan district hospitals, more paediatric care processes were improved with a multifaceted intervention that included facets of facilitation, supervision and feedback compared to a lighter intervention. Gachau et al. (2017) then reported improvements on 24 of 34 indicators of a Kenyan clinical information network, with a lot of difference between hospitals and tasks. Broadened systematic reviews come to a similar conclusion: intervention effects are context-specific and training, supervision, problem solving and feedback may be more effective when applied to the performance gap in question (Ivers et al., 2012; Rowe et al., 2018).

3. Methodology

3.1 Design and review questions

The article used an integrative narrative desk-review design, which is a combination of empirical research, methodological literature, and policy evidence. It did not recruit respondents, follow clinicians or identifiable hospital records. The synthesis was informed by three questions: What gaps in adherence have been reported in Kenyan referral and county hospitals? What are some of the reasons why there is variation in adherence? What are the viable measures that research and operational expectations established in national and international guidance can support? The integrative approach was suitable since the studies available involved the use of dissimilar denominators, clinical populations, observation and outcome definition, and a pooled numerical compliance estimate was not appropriate.

3.2 Evidence identification and eligibility

The search was conducted by means of specific searches in PubMed-indexed databases, journal publishers websites, open-access archives, WHO and Kenya Ministry of Health publications, and further enhanced with citation lists of the relevant articles. The search terms were Kenya, county hospitals, Level 4, Level 5, patient safety, guideline adherence, infection prevention, hand hygiene, surgical checklist, medication errors, obstetric care, paediatric admission, incident reporting and audit. Most weight was placed on studies published after 2017, older seminal studies were retained and used in theory, history of measurement and

interventions. Since this was not a registered systematic review, but a structured narrative review, it makes no claim to exhaustive coverage of databases, or a PRISMA-style number of studies.

Eligible empirical materials outlined clinical safety practices, processes related to guidelines, workforce behaviour or improvement intervention in Kenya, particularly Level 4, Level 5 or similar county referral hospitals. Only studies of primary facilities or tertiary hospital provided clearly labelled contextual or transferable mechanisms were included. International systematic reviews and historical theoretical studies were sources of interpretative structures but were not applied to obtain Kenya-specific rates. The 2024 facility assessment provided by the Ministry of Health was not seen as a substitute to bedside observation, but rather as national descriptive evidence (MoH, 2025). Opinion articles with no obvious evidentiary relevance and statements that could not be justified by available publication information were not relied upon as the main findings.

3.3 Extraction, synthesis and quality considerations

In the review of each core source, the setting and the level of the facility, the study design, the sample/observation unit, safety domain, definition of adherence, the headline result, and the limitations were considered. Results were summarized into five domains, IPC, surgery, medicines, maternal and paediatric pathways, and governance or learning systems. Comparisons based on convergent patterns, contrasting findings and implications of implementation. The Donabedian paradigm helped to connect structures with processes and outcomes and the systems model of Reason (2000) and the view of work-system of Carayon et al. (2006) guided the interpretation of barriers.

The evidence strength was evaluated qualitatively. Direct observation offers more evidence of the actions performed compared to self-reported compliance, but can modify the behaviour of the staff. Retrospective chart review has the ability to evaluate large samples but may not be able to differentiate between undocumented care and care not provided. Interviews elucidate mechanisms and rely on recollection and perceptions. Before-after interventions imply a potentially promising change, but could be influenced by secular trends; observational relationships between adherence and mortality need to be adjusted cautiously and do not prove causality. The review thus does not attempt to make a comparison between percentages of various clinical opportunities or to state that any one study is representative of all Kenyan Level 4 or 5 hospitals.

3.4 Ethical and analytical boundaries

Only already published and publicly available information was examined; no clinical data related to individuals were collected and no ethics approval was required to conduct new human-participant research to perform this document review. Reported numbers were credited with their prior studies instead of being reported as newly obtained findings. There were no new confidence intervals, significance tests or hospital rankings computed. The review is to be interpreted as a critical synthesis to guide policy and further research, and not as a modern census of the real bedside adherence in all Kenyan hospitals.

4. Findings

4.1 Policy readiness exceeds demonstrated implementation

The most robust cross-cutting result is the discrepancy between organisational readiness and action completed in clinical. The KQOC-HFA 2024 records that 95 percent of the Level 5 hospitals and 76 percent of Level 4 hospitals reported having IPC committees, but only approximately 48 percent of hospitals with IPC committees met monthly. The identical evaluation revealed that only a quarter of the facilities across the country had the 2022 national patient-safety policy, and that 51% and 43% of Level 5 and Level 4 facilities, respectively, had the policy at hand (MoH, 2025). These indicators characterize access to policy and governance conditions, rather than the share of safe clinical experiences.

Monitoring of patient-safety in the country was also incomplete. General patient-safety incident surveillance was reportedly conducted in only 26% of the facilities assessed, and was more prevalent in Level 5 hospitals. In Level 4 and 5 facilities, the report reported an imbalanced antimicrobial-stewardship governance and minimal antibiotic-consumption monitoring or prescription audit of the broader facility sample (MoH, 2025). This does not imply that committees are useless but the presence of should be viewed as a preconditional necessity that needs to be followed-through functionally.

4.2 Infection prevention is vulnerable at routine moments

The IPC literature demonstrates that compliance tends to fail at simple and routine tasks. Compliance with hand-hygiene in the Thika-Kitale intervention was 44 percent but still lower than seen at the time of body-fluid exposure, and lower than compliance preceding aseptic procedures (Kibira et al., 2022). This asymmetry can be a representation of risk perceptions based on the exposure of the worker and not on protecting the patient. Brown et al. (2025) included an ethnographic description: despite the presence of hand-hygiene materials, their position, disruptions in supply, routines and informal division of cleaning tasks hampered consistent use.

These studies suggest that a robust IPC programme should not just be limited to yearly training. Ward workflows should include alcohol-based hand rub point-of-care, reliable water, properly positioned waste bins, induction cleaner and monitored feedback. Meanwhile, motivation campaigns alone cannot fix stock-outs and hazardous handling of clinical waste. The managers should allocate responsibility towards procurement, environmental services and staff safety, which requires authority over supplies and budgets (WHO, 2016, 2024b).

4.3 Surgical checklist documentation does not demonstrate use

The evidence of the surgery indicates that there is a significant implementation gap in the theatre interface. Checklists were physically present in all sampled surgical records in the study by Taiswa et al. (2023), but implementation was very minimal throughout sign-in, time-out and sign-out. That completion decreased with continued operation makes it apparent that the use of checklists was not instituted as a common team practice. The presence of a checklist in a file without verbal pause can give an illusion of compliance and avoid the collaboration that renders the tool shielding.

The connotation is to assess quality of implementation, not the percentage of files with a checklist. Indicators such as verbal confirmation of patient identity and procedure, administration of antibiotic prophylaxis according to locally relevant intervals, confirmation of counts of instruments and swabs, and postoperative handover are useful indicators. Theatre leaders can switch the duty of initiating the pause with maintaining the accountability of its completion. Record review should be supplemented with periodic observation by trained peers who should provide respectful feedback. Its potential is supported by global checklist studies but local benefits require faithful implementation that is context-sensitive (Haynes et al., 2009).

4.4 Maternal and paediatric pathways reveal sequential care failures

The maternity evidence is especially consequential as postpartum deterioration can manifest itself very quickly. In the article of Clarke-Deelder et al. (2023), 907 vaginal deliveries in three Level 5 hospitals were observed, and the complete adherence to all PPH risk-assessment actions was reported in about 7% and all preventive actions in about 4% of observed deliveries, based on the headline estimates of the article. None of the observed deliveries complied with the entire set of postpartum-monitoring guidelines. These are strict compound scores: failure in one of the scores leads to the whole bundle being regarded as unfinished. Despite this, the low rates are also pointing out significant opportunities on how to enhance completeness and timeliness of routine observations.

Part, though not all, of the implementation problem, is due to knowledge gaps. Henry et al. (2022) revealed a gap in knowledge of PPH protocols among the referral-hospital personnel, and Han et al. (2023)

demonstrated that perceived patient risk and clinical uncertainty were also influential in making monitoring decisions. A combination of scenario-based practice and default observation schedules, clear-cut escalation policies and bedside visual prompts should then be used to create an improvement strategy. Since a seemingly stable patient can become unstable, selective surveillance through the lens of subjective concern only might not be safe. Monitoring tools must indicate on who makes observations, review of abnormal results and on how action is recorded.

A comparable chain-of-care issue is in paediatric care. Ogero et al. (2020) discovered that most admissions in the county hospitals involved in the study were made by junior clinicians and that the severity classification was one of the most significant deviations. Assessment that is registered and the severity category is wrong can result in either the unwarranted or insufficient subsequent treatment. Opondo et al. (2018) demonstrated that the increased following of the paediatric admission pathway was associated with lower mortality odds. As a result, the whole process of history and vitals to severity classification, suitable treatment, reassessment and senior escalation should be measured in hospitals. One good documentation object cannot be taken in place of an appropriate clinical decision.

4.5 Medication processes and learning systems remain incomplete

Narrow improvement indicators are shown by medication evidence and their limitation. Uasin Gishu County had an implementation project that led to better completion of names and dates and poor prescription legibility and low generic prescribing (Amdany and Kiprop, 2023). The broader African synthesis of Alemu and Cimiotti (2023) recognises medication administration error as a significant issue but also highlights heterogeneity in studies. The medicine-safety audits in the case of Kenyan hospitals must therefore apply accurate denominators, draw a line between prescribing and administration, and focus on high-risk areas like paediatric calculations, anticoagulants, insulin, antibiotics and transfer-related reconciliation where these areas are pertinent to the service.

Reporting system is also significant. The KQOC-HFA observation that most of the evaluated facilities did not have general incident surveillance is a sign of a poor national learning infrastructure (MoH, 2025). A study conducted by Okutoyi et al. (2026) in one of the tertiary hospitals shows that the fear of blame and domestic attitudes may prevent reporting despite the presence of forms. A small number of incidents must not necessarily be taken to imply safer care but can mean that the staff lack awareness or trust with the reporting process. Reporting programmes must differentiate between a near miss and harm events and offer confidential channels of reporting, swift investigation and provide learning to those employees who reported the issue.

4.6 Why adherence differs between hospitals and tasks

There were five interacting mechanisms across the literature. First, basic commodities, useful equipment and ward planning predetermine the possible actions recommended. Second, time to spend on handovers, observations and documentation depends on staffing and workload. Third, clinical reasoning and knowledge influence the identification of signs and decision-making on treatment. Fourth, team norms define how the staff might challenge omissions, fill out checklists and escalate deterioration. Fifth, governance dictates the sustainability of audits and alleviation of shortages. These processes are also aligned with systems-based safety theory and can be used to explain why there can be a significant difference in compliance among tasks within the same plant (Carayon et al., 2006; Reason, 2000).

There is no evidence to suggest that Level 5 hospitals are equally safer than Level 4 hospitals. Higher level facilities are likely to have a higher number of committees, specialists, or diagnostic capacity, but are also more complex to refer to, and have more risky patients. The national assessment revealed increased reported governance readiness in certain areas on Level 5, although the mentioned clinical adherence studies were not developed as adjusted, nationally representative comparisons of the two levels (MoH, 2025). Hospital

designation should only be attributed last after considering the case mix, emergency burden, staffing ratios, ownership, geography and availability of resources.

4.7 Evidence-supported improvement priorities

The most justifiable answer is few closely observed interventions that are incorporated into regular care. The Kenyan experience of multifaceted paediatric improvement and clinical information networks demonstrates that the selected practices can be reinforced through structured forms, mentorship, local facilitation and audit-feedback (Ayieko et al., 2011; Gachau et al., 2017). Similarly, the regional hand-hygiene programme can illustrate the worth and constraints of repetition of observation, coaching and performance review (Kibira et al., 2022). The evidence provided by other countries indicates that the design of interventions should be consistent with the barrier: a reminder can be used to combat forgetfulness, but a stock-out needs procurement change and a case-based mentoring diagnostic uncertainty (Rowe et al., 2018).

An effective ward dashboard may track directly observed hand hygiene, full surgical time-outs, safe prescribing factors, postpartum observation completion, adequate paediatric severity classification and closed-loop review of incidents. Measures are to be determined by the use of eligible opportunities and stratified by unit not cumulated into a single falsehoodful hospital score. Changes can be assessed with monthly multidisciplinary meetings run charts can be used to examine changes, identify ongoing failures and test small workflow changes. Professional practice can be enhanced with audit and feedback, although the effectiveness of this method is inconsistent, and it is essential to conduct a repeated local assessment (Ivers et al., 2012). It should also include patient feedback, particularly in the cases of identification, consent, explaining medicines and recognizing delays.

4.8 Interpretation and limitations of the evidence

Altogether, the literature suggests the existence of gaps in the implementation of essential clinical guidelines that are persistent and can be prevented, along with plausible improvement examples. The best quantitative data concerns specific areas and centers as opposed to a national, risk-adjusted compliance rate. This heterogeneity restricts the possibility of making claims on prevalence or trends all over the country. Other differences also exist between direct observation, records, surveys and national policy inventories that capture a different facet of safety.

Its results are supposed to be taken as analytically based themes or not causal estimates. However, the similarity between independent studies allows making a concise conclusion: to enhance patient safety, it is necessary to do more than simply make clinical guidelines available. An effective hospital safety system should link the clinical activities that the staff should perform with the organisational circumstances under which the said activity can be undertaken, observed and rectified.

5. Conclusion and Recommendations

5.1 Conclusion

The reliability of patient safety in Kenyan Level 4 and 5 hospitals is based on the regularity of evidence-based processes in complex working conditions. Evidence on weaknesses in hand hygiene, execution of surgical checklists, postpartum observation, paediatric severity classification, prescribing and incident-reporting practice are documented in substantial amounts. Nationally available data on facilities further indicate that the policy availability and the establishment of committees are not perfect proxies of good implementation. There are also viable paths to take as indicated by the evidence: structured clinical tools, direct process measurement, supportive supervision, reliable supplies, and repeated feedback. Instead, a patient-safety programme must seek visible improvements in risky care processes as opposed to equating the accreditation documents or forms finished with safe treatment.

5.2 Recommendations for practice and policy

To start with, institutionalise quantifiable safety governance. All Level 4 and 5 hospitals must have a multidisciplinary patient-safety committee that has specific duties, has a funded workplan and a scheduled review timetable. County managers must ensure that committees explore outcomes and seal remedial measures, as opposed to documenting meetings. The national policy documents, up-to-date clinical guidelines and implementation aids must be available at the clinical point of use, and there should be an effective process of retiring the old versions (MoH, 2025; WHO, 2021).

Second, give high-risk protocol bundles priority. Facilities ought to choose a manageable central set of indicators that represent the WHO hand-hygiene moments, actual surgical time-outs, high-vigilance medication checks, post partum monitoring, and severity of typical paediatric emergencies. Numerator, denominator, exceptions, data source, cadres who will report on each measure, and how often should be agreed upon by local teams. Where feasible, direct observation must be sampled, and the audit of records must be combined to be able to differentiate between documentation and actual performance.

Third, barriers in address systems and personal competence. The county and hospital budgets ought to safeguard the basic IPC products, equipment repairs, oxygen or emergency medications where possible, and safer personnel staffing. Team communication, paediatric calculations, postpartum deterioration and escalation should be the subject of the regular simulation and bedside mentorship. The cleaning staff, students, pharmacists, and support workers should be a part of the training and safety discussion since the safety of patients is a topic of the whole work system (Brown et al., 2025; Carayon et al., 2006).

Fourth, create a learning response to error. Hospitals are to offer straightforward reporting of near misses and adverse occurrences, ensure that staff members are not retaliated against inappropriately, examine system conditions that contribute to them and disseminate particular lessons of corrections. Major oversights are still liable to reasonable professional responsibility, and fearful reactions must not replace root-cause inquiry. The medication errors, healthcare-associated infections, patient complaints and preventable delays can be reviewed quarterly and the information about incidents can be connected with the quality-improvement actions (Okutoyi et al., 2026; Reason, 2000).

Lastly, enhance analysis and research. Future studies across multiple counties need to compare Level 4 and 5 with standardised direct-observation protocols, prospective outcome surveillance and sufficient facility and patient case-mix adjustment. Mixed-methods researches ought to clarify the reasons as to why staff fail to adhere to suggested steps, and pragmatic trials ought to assess the costliness and sustainability of coaching, electronic prompts, supply interventions and patient involvement. Until this evidence exists, the hospitals must rely on transparent locally valid indicators to track improvement without asserting that an increase in reporting or form completion is required to indicate a change in harm rates.

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