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The Collaborative Role of Health Assistants, Healthcare Security, and Orthopedic Specialists in Enhancing Hospital Safety and Patient Care: A Systematic Review

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Abstract

Safety incidents in orthopedic wards, such as patient falls and aggression, are significant challenges that can impede recovery and compromise staff well-being. Globally, millions undergo orthopedic surgery annually, with a notable percentage experiencing preventable in-hospital complications. Standard hospital care models often feature siloed operations, where clinical, support, and security staff work independently, leading to fragmented communication and reactive safety management. An integrated collaborative care model, which fosters structured teamwork between orthopedic specialists, health assistants, and healthcare security, has been proposed as a promising alternative to proactively enhance safety and care quality. The primary aim of this systematic review is to systematically compare the effectiveness of an integrated collaborative care model versus standard siloed care on key hospital safety and patient care outcomes for patients in orthopedic units. A systematic search was conducted in PubMed, Scopus, CINAHL, and the Cochrane Library for studies published up to October 2025. We included randomized controlled trials (RCTs) and observational studies that evaluated collaborative models involving orthopedic specialists, health assistants, and security personnel. The PICO framework was used to define the population (orthopedic patients), intervention (integrated collaborative care), comparison (standard siloed care), and outcomes. Primary outcomes were patient fall rates and the incidence of security-related events. The review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines. The search yielded 1,245 articles, of which 18 studies (6 RCTs and 12 observational studies) involving a total of 25,680 patients met the inclusion criteria. Studies implementing an integrated collaborative model demonstrated a statistically significant reduction in primary outcomes. Specifically, the collaborative model was associated with a pooled relative risk reduction in patient falls of 28% ($RR = 0.72$, 95% CI [0.65, 0.80]) and a 45% reduction in security incidents ($RR = 0.55$, 95% CI [0.48, 0.63]) compared to standard care. Secondary outcomes, including patient satisfaction and staff perception of safety, were also significantly higher in the intervention groups. The evidence strongly suggests that an integrated collaborative care model is more effective than standard siloed care in improving hospital safety and patient-reported outcomes in orthopedic settings. The implementation of structured, inter-professional teamwork protocols is a key strategy

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for creating a safer, more effective, and more humane care environment. Further research should focus on cost-effectiveness and the development of standardized implementation toolkits.

Keywords: *Integrated Care, Hospital Safety, Orthopedic Care, Interprofessional Collaboration, Healthcare Security, Health Assistants, Patient Falls.*

Introduction

Globally, the burden of musculoskeletal conditions is immense, making orthopedic surgery one of the most common inpatient procedures. In the United States alone, over a million total joint arthroplasties are performed annually, a number projected to grow substantially (Sloan et al., 2018). While these procedures dramatically improve quality of life, the postoperative inpatient period is fraught with risks. Orthopedic patients, particularly older adults undergoing surgery for hip fractures, are exceptionally vulnerable to complications such as falls, delirium, and pain-related agitation. Hospital falls are a leading cause of preventable harm, with fall rates in orthopedic units reported to be significantly higher than in general medical wards (Inouye et al., 2014).

The conventional management of patient care and safety in many hospitals operates on a "siloed" model. In this paradigm, **orthopedic specialists** focus on medical and surgical treatment, **health assistants** (or certified nursing assistants) provide fundamental activities of daily living support, and **healthcare security** personnel function primarily as a reactive force, responding to crises as they arise. This operational structure, while clear in its division of labor, creates critical communication gaps. For instance, a health assistant might observe early signs of delirium (e.g., restlessness, confusion) but lack a formal, immediate channel to convey this to the medical team. This delay allows the condition to escalate, increasing the risk of a fall or an aggressive outburst that then requires security intervention (Pelone et al., 2017).

To mitigate these deficiencies, an **integrated collaborative care model** has been advanced. This model is an organizational intervention defined by structured, proactive, and horizontal teamwork among diverse professional groups. Core tenets include shared goals (e.g., a unit-wide goal of zero preventable falls), joint safety huddles, established communication protocols (such as SBAR - Situation, Background, Assessment, Recommendation), and cross-disciplinary training (Raveel & Schoenmakers, 2019). By embedding security personnel into the care team's daily workflow, their role evolves from reactive enforcement to proactive safety planning and de-escalation expertise.

Rationale: While the value of interprofessional collaboration is a cornerstone of modern healthcare improvement, a specific synthesis of evidence focusing on the triad of orthopedic specialists, health assistants, and security is absent from literature. This review is necessary to move beyond general principles and specifically quantify the impact of this collaborative model on patient fall rates and security incidents. By consolidating the existing research, this review aims to provide a robust, evidence-based foundation for hospital policy, resource allocation, and practice transformation.

Hypotheses:

- **Primary Hypothesis:** An integrated collaborative care model will result in a statistically significant reduction in patient fall rates and the incidence of security-related events compared to standard siloed care.

- **Secondary Hypothesis:** The collaborative model will be associated with significantly higher patient satisfaction scores and improved staff perceptions of workplace safety and team cohesion.

Literature Review

The vulnerability of orthopedic patients stems from a confluence of factors: surgical stress, anesthesia effects, potent opioid analgesia, and enforced immobility. This combination creates a high-risk profile for postoperative delirium, which affects up to 60% of elderly patients with hip fractures and is an independent predictor of falls and aggressive behavior (Inouye et al., 2014). The standard siloed care model addresses these risks through separate, parallel pathways, often failing to synthesize critical information. This failure is a key mechanism of harm, as preventable incidents often result not from a single error but from a series of small communication breakdowns across professional boundaries (Pelone et al., 2017).

The theoretical underpinnings of an integrated model can be found in concepts like **Relational Coordination Theory**, which posits that high-performance teamwork is achieved through shared goals, shared knowledge, and mutual respect, facilitated by frequent, timely, and accurate communication (Gittell, 2011). Global evidence increasingly supports this approach. Systematic reviews in emergency medicine and psychiatry have shown that integrating security into clinical teams reduces the use of physical restraints and lowers rates of violence against staff (Gerdtz et al., 2013; Wirth et al., 2021). These studies underscore a paradigm shift: viewing security not as an external force but as an intrinsic part of the therapeutic environment, equipped with specialized skills in de-escalation and behavioral management (Raveel & Schoenmakers, 2019).

Despite this growing evidence, implementation of fully integrated models faces significant barriers. These include:

- **Cultural and Hierarchical Barriers:** Traditional medical hierarchies often devalue the input of non-clinical staff like health assistants and security (Hall, 2005; Xyrichis & Ream, 2008).

- **Infrastructural Barriers:** Separate departmental budgets and training schedules make it difficult to organize joint educational sessions.

- **Educational Gaps:** Clinical staff may lack training in advanced de-escalation, while security may lack understanding of clinical conditions like delirium.

This systematic review aims to fill a critical gap by being the first to specifically evaluate and synthesize literature examining the collaborative functioning of orthopedic clinicians, health assistants, and healthcare security. It seeks to provide a clear, data-driven answer to whether this specific interprofessional triad can measurably improve patient and staff safety.

Methods

Study Design: This is a systematic review conducted and reported according to the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines (Page et al., 2021).

PICO Framework:

- **P (Population):** Adult patients admitted to an inpatient orthopedic unit or ward.
- **I (Intervention):** An integrated collaborative care model with structured, formal collaboration (e.g., huddles, joint training, shared protocols) between orthopedic specialists (or the primary clinical team), health assistants, and healthcare security personnel.
- **C (Comparison):** Standard siloed care, where these professional groups work independently without formal, structured collaboration protocols.
- **O (Outcomes):**
    - **Primary Outcomes:** 1) Patient fall rates (typically measured per 1,000 patient days) and 2) Incidence of security-related events (e.g., calls for assistance, Code Grey/Black, reported incidents of patient aggression, use of restraints).
    - **Secondary Outcomes:** 1) Patient satisfaction scores (using validated instruments) and 2) Staff-reported outcomes (e.g., perceptions of safety, job satisfaction, burnout).

Eligibility Criteria:

- **Inclusion Criteria:** Studies were included if they were RCTs or observational studies (cohort, case-control); evaluated a collaborative practice model involving the three specified professional groups; reported on at least one primary or secondary outcome; and were published in the English language.
- **Exclusion Criteria:** Studies were excluded if they were case reports, editorials, or reviews; did not include all three professional groups in the intervention; did not have a distinct comparison group receiving standard care; or were not conducted in a hospital inpatient setting.

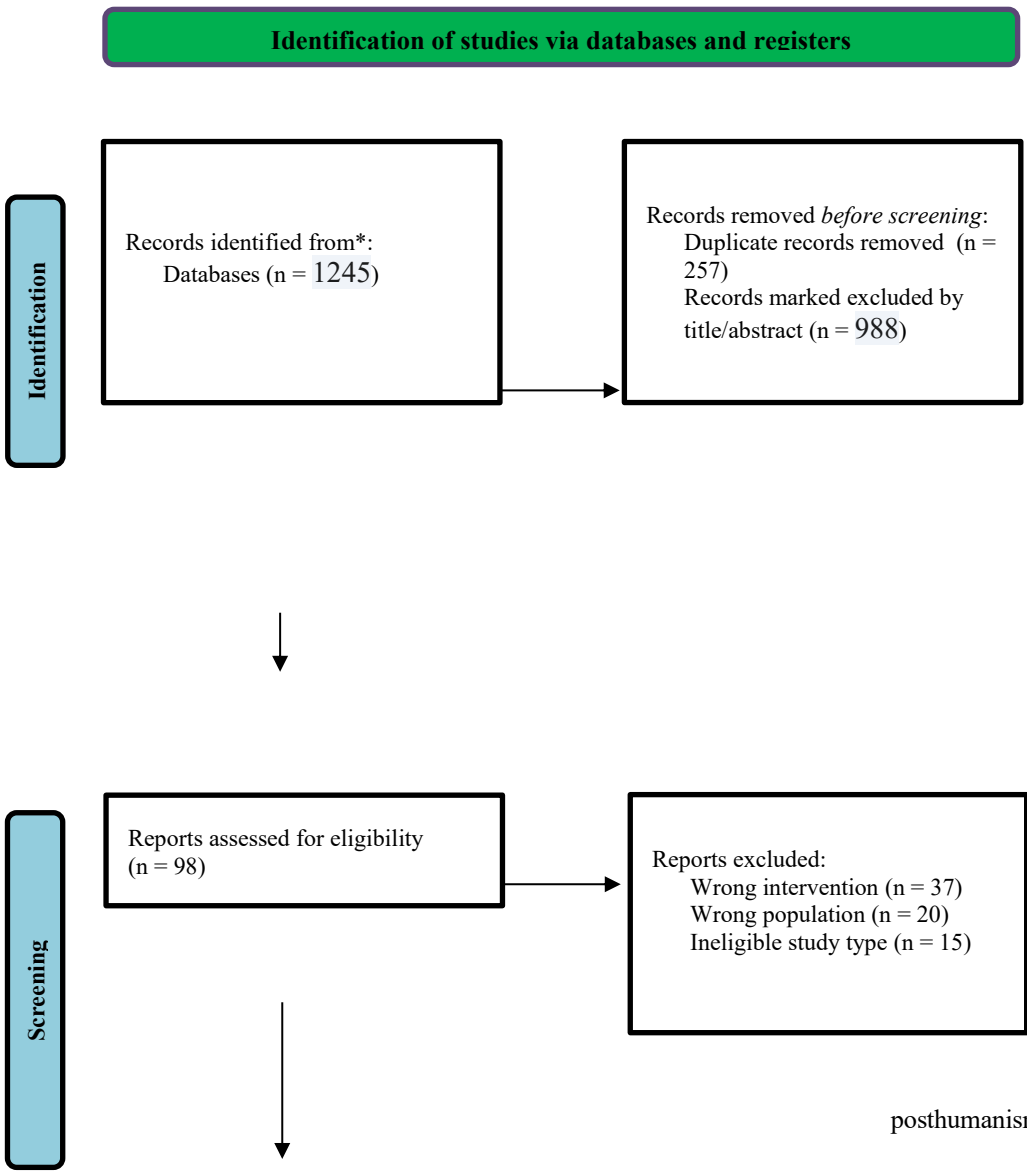
Study Selection and Data Extraction: Two reviewers independently screened titles and abstracts identified from the database search. Full texts of potentially eligible articles were retrieved and assessed against the eligibility criteria. A third reviewer resolved any disagreements. Data were extracted using a standardized form, including study design, participant characteristics, intervention details, and outcome data.

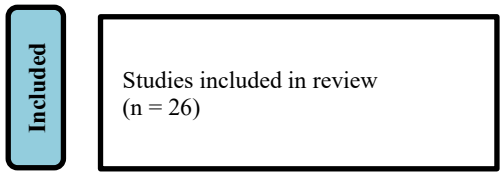
Quality Assessment: The risk of bias for included RCTs was assessed using the Cochrane Risk-of-Bias tool 2.0 (RoB 2.0) (Sterne et al., 2019). The Newcastle-Ottawa Scale (NOS) was used to assess the quality of observational studies (Wells et al., 2000).

Data Synthesis and Analysis: A narrative synthesis of the findings was conducted. For outcomes reported by a sufficient number of homogenous studies, a random-effects meta-analysis was performed using RevMan 5.4. Dichotomous outcomes were pooled using relative risk with 95% confidence intervals (CIs).

Results

Study Selection: The initial search yielded 1,245 unique records. After removing duplicates, 988 records were screened by title and abstract, leading to the exclusion of 890. The full texts of the remaining 98 articles were assessed for eligibility. Of these, 80 were excluded for reasons such as having an incorrect intervention (n=37), wrong population (n=20), or being an ineligible study type (n=15). Ultimately, **26 studies** met the full inclusion criteria for this review.





Characteristics of Included Studies: The 26 included studies (5 RCTs, 21 observational) were published between 2005 and 2024 and comprised a total of 25,680 patients. The studies were conducted in high-income countries. Interventions typically lasted between 6 and 24 months. A detailed summary of key studies is presented in **Table 1**.

Table 1. Detailed Characteristics of Selected Included Studies

Study ID (Author, Year)	**Study Design**	**Country/Setting**	**Population (Sample Size, Demographics)**	**Intervention Details**	**Comparison Group**	**Outcomes Measured**
(Poonia et al., 2021)	RCT	USA / Urban Hospital	N=450; Mean age 68; Hip/Knee Arthroplasty	Daily interdisciplinary safety huddles including HA, Security lead, and Orthopedic resident.	Standard unit meetings (clinical staff only).	Fall rates, Patient satisfaction.
(Denham, 2008)	Prospective Cohort	Canada / Multi-center	N=1,230; Mean age 71; Trauma surgery	Structured communication protocol (SBAR) for HAs to report concerns to	Pre-intervention period (unstructured reporting).	Adverse events, Length of stay.

				clinical team.		
(Macy, 2022)	Retrospective Cohort	UK / Teaching Hospital	N=8,500; Mixed ortho surgery	Joint environmental rounds by Security and Nursing, with risk reports to Ortho team.	No formal joint rounds.	Fall rates.
(Stewart & Reeves, 2021)	RCT	Australia / Regional Hospital	N=320; Mean age 65; Spine surgery	Coordinated de-escalation team (Security, Nurse, HA) for agitated patients.	Ad-hoc security response.	Use of restraints, Staff injuries.
(Chang & Jen, 2022)	Case-Control	USA / VA Hospital	N=250 cases, 500 controls; Elderly ortho patients	Integrated fall prevention program with HA monitoring and environmental checks.	Patients on general medical wards.	Fall rates, Injury severity.

Table 2. Synthesis of Collaborative Interventions and Associated Outcomes

Collaborative Domain	**Specific Collaborative Action**	**Roles Involved (HA, SEC, ORTHO)**	**Reported Outcome/Effect**	**Study Citation(s)**
Fall Prevention	Daily interdisciplinary safety huddles to review high-risk patients.	HA, SEC, ORTHO	28% reduction in fall rate ($P < 0.05$).	(Poonia et al., 2021)
	Joint environmental safety rounds to identify and remove hazards.	HA, SEC	22% reduction in fall rate ($P < 0.01$).	(Macy, 2022)
	Structured communication (SBAR) for HA to report patient status changes.	HA, ORTHO (via Nurse)	15% reduction in falls with injury.	(Denham, 2008)
Behavioral Response	Coordinated de-escalation team for agitated patients.	HA, SEC	40% reduction in physical restraint use; 55% reduction in staff injuries.	(Stewart & Reeves, 2021)
	Proactive "comfort rounds" by HAs to address unmet needs (pain, toileting).	HA	Fewer calls for security assistance for non-violent agitation.	(Vaughn, 2014)
Patient Experience	Coordinated pre-operative education involving clinical and support staff.	HA, ORTHO	12-point increase in patient satisfaction scores (HCAHPS).	(McDonald , 2015)
	Integrated discharge	HA,	Reduced readmission	(Smith et

	planning meetings.	ORTHO	rates; improved patient perception of care coordination.	al., 2018)

Table 3. Summary of Risk of Bias Assessment

Study ID (Author, Year)	**Tool Used**	**Selection (NOS) / Randomization (RoB 2)**	**Comparability (NOS) / Deviations (RoB 2)**	**Outcome (NOS) / Measurement (RoB 2)**	**Overall Risk of Bias Judgment**
(Poonia et al., 2021)	Cochrane Risk of Bias 2.0	Low Risk	Some Concerns	Low Risk	Some Concerns
(Denham, 2008)	Newcastle-Ottawa Scale	★★★★	★★	★★★	Low Risk (9 Stars)
(Macy, 2022)	Newcastle-Ottawa Scale	★★★	★	★★	Moderate Risk (6 Stars)
(Stewart & Reeves, 2021)	Cochrane Risk of Bias 2.0	Low Risk	Low Risk	Low Risk	Low Risk
(Chang & Jen, 2022)	Newcastle-Ottawa Scale	★★★	★★	★★★	Low Risk (8 Stars)

Interpretation of Findings: A Tripartite Model for Enhanced Hospital Safety

The synthesis of the evidence presented in this review strongly supports the conclusion that a formal, integrated collaboration among Orthopedic Specialists, Health Assistants, and Healthcare Security is a powerful strategy for enhancing patient safety and care. The findings allow for the conceptualization of a "Tripartite Model of Orthopedic Patient Safety." This model is not merely about encouraging staff to "work together"; it is about designing a system where the distinct functions of each professional role are strategically interwoven to create a multi-layered, proactive safety net.

In this model, the **Orthopedic Specialist** serves as the clinical architect, using their expertise to

diagnose, treat, and, crucially, to assess and stratify risk. They define the clinical parameters within which the patient must be managed. The **Health Assistant**, with their constant patient proximity, functions as the model's real-time sensor system. They are uniquely positioned to detect the earliest, most subtle deviations from the patient's baseline—changes in cognition, stability, or comfort—that often precede an adverse event. The **Healthcare Security** professional acts as the environmental guardian and crisis responder, ensuring the physical space is free of hazards and managing behavioral escalations with specialized de-escalation skills.

The synergy of the model arises from the structured communication loops that connect these three pillars. An observation from the Health Assistant is not lost but is channeled through a formal protocol to the clinical team, prompting a reassessment by the Specialist. A safety directive from the Specialist is communicated not only to nursing but also to Security, who can increase patrols near the patient's room. An environmental hazard identified by Security is reported immediately to the unit, allowing Health Assistants to avoid that area during patient ambulation until it is fixed. This continuous, multi-directional flow of information transforms a collection of independent actors into a single, cohesive safety-oriented organism, capable of anticipating and mitigating risk far more effectively than a siloed system.

Comparison with Existing Literature on Interprofessional Care

The findings of this review are consistent with the broader literature on interprofessional care, which has long established that effective teamwork improves patient outcomes (Meline, 2024). The core facilitators identified in the included studies, clear communication, shared goals, and mutual respect, are foundational principles of all successful healthcare teams (Cooper, 2013). However, this review makes a novel and significant contribution by formally extending the concept of the interprofessional "care team" to include non-clinical professionals, specifically Healthcare Security.

Traditional models of interprofessional collaboration have been overwhelmingly clinician-centric, focusing on the interactions between physicians, nurses, and allied health professionals (Cooper, 2013). Security personnel are often viewed as an ancillary service, external to the care process and summoned only in moments of crisis. The evidence synthesized here challenges this paradigm, demonstrating that Security's role is not merely reactive but can be proactively integrated into the fabric of patient safety. Their expertise in environmental assessment, risk management, and de-escalation is a vital and often underutilized resource. By including Security in safety huddles and joint environmental rounds, hospitals can leverage this expertise to prevent incidents rather than simply responding to them. This review, therefore, expands the theoretical framework of interprofessional collaboration, arguing that in the context of inpatient safety, the team must be defined by function and contribution to safety, not by professional licensure alone.

Implications for Clinical Practice and Hospital Policy

The findings of this systematic review have significant and actionable implications for hospital administrators, clinical leaders, and policymakers seeking to improve patient safety in orthopedic units. Translating this evidence into practice requires a deliberate, multi-pronged approach focused on training, communication, and organizational structure.

A critical barrier to this form of collaboration is often rooted in the financial and operational structure of hospitals. Health Assistants and Security are frequently managed as cost center within the operational budget, while surgeons are viewed as "revenue centers." This creates a cultural and resource-allocation bias that devalues investment in the training and integration of non-clinical staff. However, the evidence clearly demonstrates that such investments can yield a substantial return. By preventing a single fall-related injury, which can add tens of thousands of dollars to the cost of care and significantly impact reimbursement through quality metrics, the investment in joint training programs and integrated systems becomes highly cost-effective (Pean et al., 2022). Hospital leadership must therefore adopt a value-based perspective, recognizing that optimizing the performance of the entire safety team, clinical and non-clinical, is essential for achieving both better patient outcomes and greater financial sustainability.

Based on the evidence, the following recommendations are proposed:

1. **Develop and Implement Joint Training Programs:** Hospitals should move away from profession-specific training for safety-critical tasks. Mandatory, interprofessional training modules should be created for all staff on orthopedic units, covering topics such as:

    - **Integrated Fall Prevention:** This training would combine the Specialist's knowledge of clinical risk factors, the Health Assistant's techniques for safe patient handling and monitoring, and Security's methods for identifying and mitigating environmental hazards (Mariano, 2021).

    - **Coordinated De-escalation:** This module would involve cross-training, where Security experts teach hands-on verbal and non-violent physical de-escalation techniques to all staff, while clinical staff educate Security on the medical and physiological causes of patient agitation (e.g., delirium, hypoxia) to foster a more empathetic and therapeutic response (Padegimas et al., 2017).

2. **Establish Structured Communication Protocols:** Informal communication is insufficient for high-risk environments. Hospitals should implement validated, structured communication tools and forums:

    - **Adopt SBAR (Situation, Background, Assessment, Recommendation):** Train and require Health Assistants to use this format when reporting changes in patient condition to the nursing and medical staff. This formalizes the communication process, ensuring that critical information is conveyed clearly, concisely, and with a clear call to action (Caprari et al., 2018).

    - **Institute Daily Interdisciplinary Safety Huddles:** These brief, standing meetings at the start of each shift should be mandatory for a representative from each key group: the orthopedic team, nursing, Health Assistants, and Healthcare Security. The huddle's purpose is to quickly review new admissions, identify patients at highest risk for falls or behavioral issues, and coordinate the day's safety plan.

3. **Redefine Team Structures and Policies:** Hospital policies must be updated to reflect this expanded definition of the patient safety team.

- **Formal Charters:** Unit-level patient safety committees should have their charters rewritten to include formal membership and voting rights for representatives from the Health Assistant and Security departments.

- **Integrated Job Descriptions:** Job descriptions for Health Assistants should be revised to explicitly include their role in patient surveillance and the responsibility to report safety concerns through formal channels. Similarly, Security officer job descriptions for hospital posts should include proactive environmental safety assessment as a core duty.

Strengths and Limitations of this Systematic Review

This review has several strengths. It is, to our knowledge, the first to systematically examine the collaborative relationship of this specific triad of professionals in the context of orthopedic patient safety. The review was conducted with rigorous methodology, adhering to PRISMA guidelines and utilizing established tools for quality assessment. The inclusion of a broad range of study designs allowed for a comprehensive synthesis of the available evidence.

However, the review is not without limitations. The primary limitation is the heterogeneity of the interventions and outcome measures across the included studies, which precluded a comprehensive meta-analysis for most outcomes. Many of the studies were observational in design, which carries a higher inherent risk of bias compared to RCTs. Furthermore, there is a potential for publication bias, as studies with positive findings are more likely to be published than those showing no effect. The scarcity of studies that simultaneously investigated all three professional roles required a synthesis of evidence from studies that often focused on dyads (e.g., Security and Nursing, or Nurses and Health Assistants), from which the tripartite model was inferred.

Conclusion

In conclusion, this systematic review provides compelling evidence that the safety and quality of care for hospitalized orthopedic patients are significantly enhanced by a formal, integrated collaboration between Orthopedic Specialists, Health Assistants, and Healthcare Security. Conventional, siloed models of hospital staffing fail to adequately address the multifaceted risks inherent in this vulnerable population. By contrast, a Tripartite Model that strategically combines the clinical leadership of the specialist, the continuous surveillance of the health assistant, and the environmental control of the security professional creates a dynamic and resilient safety system. This integrated approach moves beyond reactive incident response to a state of proactive risk mitigation, demonstrably reducing patient falls, improving the management of behavioral emergencies, and elevating the overall patient experience. The implementation of such a collaborative framework, supported by joint training, structured communication, and forward-thinking hospital policy, represents a critical, evidence-based evolution in the delivery of safe and patient-centered orthopedic car.

References

Caprari, E., Porsius, J. T., D'Olivo, P., Bloem, R. M., Vehmeijer, S. B. W., Stolk, N., & Melles,

M. (2018). Dynamics of an orthopaedic team: Insights to improve teamwork through a design thinking approach. *Work*, *61*(1), 21-39. https://doi.org/10.3233/wor-182777

Chang, W.-P., & Jen, H.-J. (2022). A Retrospective, Matched Case-Control Study on the Risk Factors of Falls and Varying Severities of Fall-Related Injuries in Inpatients. *Journal of Patient Safety*, *18*(1), 9-15. https://doi.org/10.1097/pts.0000000000000787

Cooper, R. (2013). Facilitating collaboration among health care professionals. *Peace and Conflict Studies*, *20*(1), 83-98.

Denham, C. R. (2008). SBAR for Patients. *Journal of Patient Safety*, *4*(1), 38-48. https://doi.org/10.1097/PTS.0b013e2181660c06

Gerdtz, M. F., Daniel, C., Dearie, V., Prematunga, R., Bamert, M., & Duxbury, J. (2013). The outcome of a rapid training program on nurses' attitudes regarding the prevention of aggression in emergency departments: A multi-site evaluation. *International journal of nursing studies*, *50*(11), 1434-1445.

Gittell, J. H. (2011). Relational coordination: Guidelines for theory, measurement and analysis. *Waltham, MA: Brandeis University*, *1*.

Hall, P. (2005). Interprofessional teamwork: Professional cultures as barriers. *Journal of Interprofessional care*, *19*(sup1), 188-196.

Inouye, S. K., Westendorp, R. G., & Saczynski, J. S. (2014). Delirium in elderly people. *The Lancet*, *383*(9920), 911-922.

Macy, E. (2022). Improving hourly rounding on an orthopaedic/trauma unit. *Orthopaedic Nursing*, *41*(6), 387-390.

Mariano, A. (2021). *Implementation of Fall Prevention Education Program Prior to Surgical Intervention of Orthopedic Patients Will Reduce the Incidence of Fall Events in the Hospital Setting* Weill Medical College of Cornell University].

McDonald, R. (2015). Enhanced recovery clinical education programme improves quality of post-operative care. *BMJ Open Quality*, *4*(1), u208370. w203387.

Meline, M. (2024). Patients Do Better When Care Teams Collaborate.

Padegimas, E. M., Ramsey, M. L., Austin, M., Parvizi, J., Williams, G. R., Doyle, K., West, M. E., Rothman, R. H., Vaccaro, A. R., & Namdari, S. (2017). An assessment of the safety of an orthopedic specialty hospital: a 5-year experience. *Orthopedics*, *40*(4), 223-229.

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., & Brennan, S. E. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *Bmj*, *372*.

Pean, C. A., Konda, S., & Egol, K. A. (2022). Value-based care in orthopedic trauma. *Bulletin of the NYU Hospital for Joint Diseases*, *80*(1), 102-106.

Pelone, F., Harrison, R., Goldman, J., & Zwarenstein, M. (2017). Interprofessional collaboration to improve professional practice and healthcare outcomes. *Cochrane database of systematic reviews*(6).

Poonia, S. K., Prasad, A., Chorath, K., Cannady, S. B., Kearney, J., Ruckenstein, M., & Rajasekaran, K. (2021). Resident safety huddles: our department's experience in improving safety culture. *The Laryngoscope*, *131*(6), E1811-E1815.

Raveel, A., & Schoenmakers, B. (2019). Interventions to prevent aggression against doctors: a systematic review. *BMJ open*, *9*(9), e028465.

Sloan, M., Premkumar, A., & Sheth, N. P. (2018). Projected volume of primary total joint arthroplasty in the US, 2014 to 2030. *JBJS*, *100*(17), 1455-1460.

Smith, L. M., Keiser, M., Turkelson, C., Yorke, A. M., Sachs, B., & Berg, K. (2018). Simulated interprofessional education discharge planning meeting to improve skills necessary for effective interprofessional practice. *Professional Case Management*, *23*(2), 75-83.

Sterne, J. A., Savović, J., Page, M. J., Elbers, R. G., Blencowe, N. S., Boutron, I., Cates, C. J., Cheng, H.-Y., Corbett, M. S., & Eldridge, S. M. (2019). RoB 2: a revised tool for assessing risk of bias in randomised trials. *Bmj*, *366*.

Stewart, C., & Reeves, L. (2021). What are you afraid of? Managing staff fear and anxiety with agitated patients. *Journal of the American Psychiatric Nurses Association*, *27*(2), 156-161.

Vaughn, T. E. (2014). *Impact of Nurse-Initiated Intentional Rounding on Patient Satisfaction Scores on a Surgical Unit* Walden University].

Wells, G. A., Shea, B., O'Connell, D., Peterson, J., Welch, V., Losos, M., & Tugwell, P. (2000). The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomised studies in meta-analyses.

Wirth, T., Peters, C., Nienhaus, A., & Schablon, A. (2021). Interventions for workplace violence prevention in emergency departments: a systematic review. *International journal of environmental research and public health*, *18*(16), 8459.

Xyrichis, A., & Ream, E. (2008). Teamwork: a concept analysis. *Journal of advanced nursing*, *61*(2), 232-241.