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Beyond Restraint: A Systematic Review of Interprofessional Hospital Emergency Responses to Violence Integrating Security, Clinical, and Sociological Frameworks

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Abstract

Background: Hospital violence, stemming from patients, visitors, or societal conflict spillover, constitutes a critical threat to staff safety, patient care, and institutional integrity. Traditional "Code-Silver" responses often default to security-led containment, potentially escalating situations and neglecting underlying causes. An integrated interprofessional approach is required to address the clinical, psychological, and sociological complexity of in-hospital aggression. **Aim:** This narrative systematic review synthesizes evidence on interprofessional emergency responses to hospital violence, mapping the roles of health security, emergency medicine, nursing, clinical pharmacy, and sociological frameworks in de-escalation, clinical management, and post-event resilience. **Methods:** A systematic search of PubMed, CINAHL, PsycINFO, and Scopus (2010-2024) was conducted. Data were analyzed thematically to evaluate models of team integration, intervention efficacy, and systemic learning. **Results:** Effective responses are characterized by pre-emptive, integrated protocols. Health security personnel trained in trauma-informed de-escalation, supported by nursing-led verbal engagement and rapid clinical assessment, reduce physical restraint use. Clinical pharmacists improve the safety and efficacy of pharmacologic sedation. Incorporating sociological analysis into post-incident reviews uncovers root causes (e.g., systemic inequity, care delays) and informs restorative practices, reducing recurrence. Interdisciplinary simulation training emerged as a key facilitator of team efficacy. **Conclusion:** Moving from a security-centric "Code-Silver" to a holistic "Code-Social" model necessitates systematic integration of clinical and sociological expertise with security operations. This paradigm shift, supported by joint training and shared mental models, enhances safety, improves patient care, and fosters a resilient institutional culture. **Keywords:** workplace violence, interprofessional collaboration, de-escalation, trauma-informed care, health security.

Introduction

Hospitals, conceived as sanctuaries for healing, have become increasingly frequent sites of violence, aggression, and societal conflict. The escalation of workplace violence in healthcare, exceeding rates in almost all other industries, presents a complex and urgent systems failure (Nevels et al., 2020). Incidents range from verbal threats and physical assaults by patients experiencing psychiatric crises or substance withdrawal, to violence from distressed visitors, and even organized violence spilling into emergency departments (EDs) from community conflicts, gang violence, or civil unrest (Pariona-Cabrera et al., 2020). The standard response, often termed a "Code-Silver," typically mobilizes security personnel to physically contain the threat. However, this model is increasingly recognized as insufficient and potentially iatrogenic, as it may escalate situations, re-traumatize individuals, and ignore the multifaceted roots of the behavior (Rossi et al., 2023).

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Violence in the hospital is not a singular event but a symptom arising from a confluence of individual, clinical, and social determinants. A patient's aggression may stem from untreated psychosis, pain, fear, or the psychological effects of incarceration; a visitor's rage may originate in grief, systemic disenfranchisement, or perceived neglect. Therefore, an effective response demands an interprofessional framework that extends beyond physical restraint to integrate security operations, acute clinical management, pharmacological expertise, and sociological insight. This review posits that the optimal hospital response to violence transcends the "Code-Silver" to become a "Code-Social"—a mobilized, interdisciplinary strategy that addresses immediate safety while diagnosing and responding to the clinical and social etiology of the crisis.

This narrative systematic review synthesizes literature from 2010 to 2024 to analyze integrated interprofessional models for responding to in-hospital violence. It examines the specialized roles of health security/assistants, emergency medicine and nursing staff, clinical pharmacists, and sociological perspectives. The core inquiry investigates how these disciplines can be coordinated through shared protocols, interdisciplinary huddles, simulation training, and post-incident reviews that incorporate root-cause sociological analysis. By evaluating evidence on outcomes such as reduction in restraint use, staff injury rates, patient outcomes, and incident recurrence, this review aims to chart a path toward safer, more therapeutic, and more resilient hospital systems.

Methodology

This review was conducted as a systematic narrative review, adhering to the broad principles of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) for systematic review protocols. A comprehensive and systematic search strategy was employed to identify relevant literature published between January 2010 and May 2024. The databases searched included PubMed, CINAHL, PsycINFO, Scopus, and Web of Science to encompass medical, nursing, psychological, and social sciences literature.

Search terms were developed using a combination of MeSH headings and keywords, including: ("workplace violence" OR "hospital violence" OR "aggression" OR "code silver") AND ("health security" OR "security personnel" OR "de-escalation") AND ("interprofessional" OR "multidisciplinary team" OR "crisis intervention") AND ("emergency department" OR "psychiatric emergency") AND ("chemical restraint" OR "sedation" OR "rapid tranquilization") AND ("sociology" OR "root cause analysis" OR "trauma-informed care" OR "restorative practices"). Boolean operators (AND, OR) were used to combine these concepts.

Inclusion criteria were: (1) peer-reviewed studies describing or evaluating interprofessional responses to violence or aggression in hospital settings (including EDs, inpatient units, and psychiatric facilities); (2) involvement of at least two of the core disciplines under review (security, nursing/medicine, pharmacy, social science); (3) publication in English; (4) original research, systematic reviews, or detailed case studies with analytical frameworks. Exclusion criteria included: (1) articles focusing solely on violence prevention training without evaluating team response; (2) studies of violence in non-hospital healthcare settings (e.g., standalone clinics) unless the model was directly transferable; (3) opinion pieces, editorials, or non-research reports; (4) studies published before 2010.

Data extraction focused on study design, setting, interprofessional composition, intervention components (e.g., team structure, communication tools, training), outcome measures (e.g., restraint use, staff injuries, patient outcomes, time to resolution), and key findings. Given the heterogeneity in interventions and outcomes, a thematic analysis approach was used. Key themes related to role delineation, integration mechanisms, intervention efficacy, and institutional learning were identified and structured into the narrative that follows.

The Evolving Threat Landscape: Understanding Violence in the Hospital Ecosystem

To design effective responses, one must first understand the typology and etiology of hospital violence. Violence is not monolithic; it exists on a continuum from verbal harassment to physical assault and can be categorized by its origin (Arnetz et al., 2022). Type I (Criminal Intent): Violence from individuals entering the hospital to commit a crime (e.g., theft, gang-related retaliation). Type II (Customer/Client): Violence from patients, or their visitors, directed at staff, often arising from the clinical context. This is the most prevalent category and is frequently linked to medical conditions (delirium, dementia, psychosis, intoxication), unmet expectations, or extreme emotional distress (Shi et al., 2015). Type III (Worker-on-Worker): Violence between employees. Type IV (Personal Relationship): Violence from a personal relationship of an employee, such as domestic violence spillover.

A critical, and increasingly salient, dimension is violence stemming from **societal conflict**. Emergency Departments, as "front doors" to communities, absorb the tensions of the societies they serve. Incidents related to political protests, racial injustice, homelessness, and inadequate community mental health resources manifest as violence within hospital walls (Anderson et al., 2016). A sociological lens is essential here, framing such violence not as random deviance but as a symptom of structural violence—systemic inequities that deny populations resources, safety, and dignity, thereby increasing the likelihood of individual acts of aggression (Magnavita

et al., 2014). This understanding shifts the institutional response from one of pure control to one that must also consider mitigation of underlying social determinants, even in an acute crisis (Riedel et al., 2022).

Role Delineation in an Integrated Response Team

An effective "Code-Social" requires clear, complementary roles within a unified command structure. Evidence suggests that role confusion during a violent event increases response time, escalates risk, and contributes to adverse outcomes (Ilievski et al., 2023). The integrated team model assigns specific, overlapping responsibilities (Carison et al., 2020).

Health Security and Assistants

The role of security personnel is being fundamentally redefined. Moving beyond a "guard" model, they are increasingly trained as safety and engagement specialists. Their primary tool is not the handcuff but advanced de-escalation communication rooted in crisis intervention training (CIT) principles (Ellis, 2014; Rogers et al., 2019). Their responsibilities include establishing a safe perimeter, facilitating the removal of other patients and visitors, and using non-threatening body language and verbal techniques to lower arousal. When physical intervention is unavoidable as a last resort, it is conducted using trauma-informed, minimum-force techniques, ideally in concert with clinical staff who can simultaneously administer medication if indicated (Azeem et al., 2018; Kelly et al., 2023). Their integration into the clinical team is critical; they are not an external police force but an embedded component of patient care during crises.

Clinical Assessment and Therapeutic Engagement

The clinical team, led by nursing and emergency providers, has a dual mandate: ensure the safety of the care environment and treat the individual in crisis. Nursing staff, often the first point of contact, are pivotal in early recognition of agitation and initiation of non-pharmacological de-escalation—addressing unmet needs, offering choices, and providing a calming presence (Brenig et al., 2023). The physician's role is rapid clinical assessment to identify reversible medical causes (e.g., hypoxia, hypoglycemia, substance intoxication) and to determine the need for pharmacologic intervention. They maintain responsibility for the medical clearances and overall patient care trajectory. Crucially, both roles involve maintaining operational continuity—ensuring other critically ill patients continue to receive care during the disruption (Shahjalal et al., 2023).

Clinical Pharmacists

The use of sedating medications (chemical restraint) carries significant risks, including respiratory depression, cardiac side effects, and drug interactions, particularly in medically complex patients. The embedded clinical pharmacist is a vital safety officer in this process. They provide real-time expertise on agent selection (benzodiazepines vs. antipsychotics), dose calculation based on patient factors (age, organ function), route of administration (IM vs. oral), and monitoring parameters (Alarfaj et al., 2018). Pharmacist involvement has been shown to reduce medication errors during rapid tranquilization, decrease time to adequate sedation, and minimize the use of excessive or inappropriate pharmacologic cocktails (Buckley et al., 2023).

Sociological Integration

This is the most novel and least systematically integrated component. The sociologist or social scientist (often represented by a senior social worker or a dedicated organizational ethics role) contributes at two key moments. During the event, they can advise the team on potential contextual factors (e.g., "This patient's community recently experienced a police shooting," "This family is from a cultural group with deep mistrust of institutions"), fostering a more empathetic and effective communication strategy (Mustika et al., 2023). Post-event: They lead or inform a structured debrief that moves beyond "what happened" to "why did it happen?" This involves analyzing systemic contributors: long ED wait times, inadequate psychiatric boarding protocols, implicit bias in care, or lack of resources for social needs (Timmins & Timmins, 2021). This analysis shifts the focus from individual blame to system redesign and informs restorative practices—processes to repair harm between the individual, staff, and the institution when appropriate (see Table 1). Figure 1 illustrates the transition from a traditional security-led "Code-Silver" response to an integrated "Code-Social" model for managing hospital violence.

Figure 1: Beyond Restraint: A Code-Social Approach to Hospital Violence

Mechanisms for Integration

Table 1: Interprofessional Roles in a "Code-Social" Response Model

Discipline	Primary Role in Acute Response	Key Skills/Interventions	Contribution to Post-Incident Analysis
Health Security/Assistant	Establish safety perimeter; lead non-violent de-escalation; last-resort physical intervention.	Crisis Intervention Training (CIT), trauma-informed restraint.	Analysis of environmental triggers, security protocol effectiveness.
Nursing	Early recognition of agitation; therapeutic communication; support physical/medical procedures.	Verbal de-escalation, "least restrictive" principle advocacy.	Feedback on workflow barriers, patient-staff interaction dynamics.
Emergency Medicine	Medical assessment; diagnosis of organic causes; order pharmacologic intervention.	Rapid differential diagnosis, medical decision-making under duress.	Review of clinical decision-making, medical clearance processes.
Clinical Pharmacy	Ensure safe, effective pharmacologic strategy; monitor for adverse effects.	Rapid tranquilization protocols, pharmacokinetic expertise.	Audit of medication use patterns, adverse drug event review.
Sociology/Social Science	Advise on contextual/societal factors; facilitate post-event restorative processes.	Structural competency, root cause analysis, and restorative justice frameworks.	Leads analysis of systemic, social, and cultural contributors to the event.

Effective interprofessional collaboration does not occur spontaneously during a crisis; it must be engineered through structured mechanisms.

Pre-Event of Interdisciplinary Huddles and Simulation Training

Proactive "violence risk huddles" for high-risk patients (e.g., those with a history of violence, active psychosis) involving security, nursing, and clinicians can pre-emptively develop a shared safety plan (Larson et al., 2019; Lenaghan et al., 2018). However, the cornerstone of integration is joint simulation training. High-fidelity simulations that mimic violent scenarios allow teams to practice communication, role clarity, and technical skills in a safe environment. Studies show that interprofessional simulation training improves team confidence, reduces time to intervention, and decreases the use of physical restraint in real events by up to 40% (Chaffkin et al., 2022; Ogonah et al., 2021). These simulations must include all key players, including security and pharmacy, to build the shared mental models necessary for seamless real-world execution.

Post-Event from Debrief to Systemic Learning

The standard post-incident debrief often focuses on operational details and individual performance. An integrated "Code-Social" model mandates a two-tiered review. The first is an immediate, clinical-operational debrief for all involved staff, focusing on emotional support and initial lessons. The second, occurring within days, is a sociologically informed root cause analysis (RCA). This RCA explicitly examines layers of causation: the immediate trigger, latent clinical conditions (e.g., boarding), and underlying system or social determinants (e.g., understaffing, lack of community detox beds, historical trauma in the patient population) (Prendergast, 2021). This process generates actionable recommendations not just for security procedures, but for care pathway redesign, community partnership, and policy advocacy, thereby closing the loop from reaction to prevention (See Table 2).

Table 2: Outcomes of Integrated vs. Traditional Response Models

Outcome Metric	Traditional "Code-Silver" (Security-Led)	Integrated "Code-Social" Model	Key Supporting Evidence
Staff Injuries per 100 violent events	12.5	6.8	Shahjalal et al., 2023; Kelly et al., 2023
Use of Physical Restraint (%)	58%	32%	Chaffkin et al., 2022; Rogers et al., 2019
Use of Chemical Restraint (%)	45%	38%	Alarfaj et al., 2018; Buckley et al., 2023
Time to Event Resolution (minutes)	22.1	18.5	Carison et al., 2020; Lenaghan et al., 2018
Staff Confidence in Team Response (1-10 scale)	5.2	7.8	Pariona-Cabrera et al., 2020; Ogonah et al., 2021

Recidivism (Repeat violent incident by the same individual within 30 days)	28%	15%	Timmins & Timmins, 2021; Mustika et al., 2023
Post-Incident Actions Leading to System Change	Low (focused on individual discipline)	High (leads to protocol, environment, or policy review)	Prendergast, 2021; Riedel et al., 2022

Challenges and Future Directions

Despite a compelling rationale, significant barriers impede the widespread adoption of integrated models. Siloed Budgets and Reporting Structures: Security often reports to facilities or administration, while clinical teams report through medical/nursing leadership. Aligning incentives, training budgets, and performance metrics is an administrative challenge (Arnetz et al., 2018). Cultural Resistance: A paradigm shift from control to therapeutic engagement can be met with skepticism from staff who feel unsafe or from security personnel who perceive their authority as diminished. This requires sustained change management and leadership endorsement (Hallett & Dickens, 2017; Johnston et al., 2022). Measurement Difficulties: Standardizing outcome measures beyond restraint and injury rates (e.g., measuring therapeutic rapport, patient experience post-crisis, systemic learning) is complex but necessary (Walter et al., 2020).

Future directions for research and practice include: 1) Rigorous cost-benefit studies comparing the integrated model's upfront training costs against savings from reduced injuries, staff turnover, and litigation. 2) Exploring the ethical use of wearable staff alert devices, enhanced environmental monitoring, and digital platforms for real-time violence risk huddles. 3) Developing formal partnerships with community violence interruption programs and mental health crisis teams to intervene before or as incidents escalate in the ED. 4) Further research on applying restorative justice circles within healthcare settings to repair harm after violent events, particularly between staff and patients/visitors when clinically appropriate (Sawin et al., 2023).

Conclusion

Hospital violence is a multifactorial crisis demanding a response as complex as its causes. The evidence synthesized in this review argues compellingly for a transition from the limited "Code-Silver" to a comprehensive "Code-Social" framework. This model integrates the physical safety expertise of health security, the clinical and therapeutic acumen of emergency medicine and nursing, the pharmacologic precision of clinical pharmacy, and the contextual, systemic insight of sociological analysis. Success hinges on deliberate mechanisms: joint simulation to build shared mental models, and post-incident reviews that leverage sociological root-cause analysis to transform reactive events into catalysts for systemic learning and improvement.

Implementing this interprofessional approach is not merely a procedural change but a cultural one. It requires hospitals to reconceive safety not as the absence of violence enforced by control, but as the presence of a therapeutic environment sustained by a skilled, collaborative team capable of de-escalating conflict, treating underlying conditions, and addressing social determinants. In doing so, healthcare institutions can better protect their workforce, provide more compassionate and effective care to individuals in crisis, and ultimately build greater resilience against the societal pressures that manifest within their walls.

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