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Factors influencing agitation, de-escalation, and physical restraint at a children's hospital

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Abstract

Background: Children hospitalized in medical hospitals are at risk of agitation. Physical restraint may be used to maintain patient and staff safety during de-escalation, but physical restraint use is associated with physical and psychological adverse events.

Objective: We sought to better understand which work system factors help clinicians prevent patient agitation, improve de-escalation, and avoid physical restraint.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article

Design, Setting, and Participants: We used directed content analysis to extend the Systems Engineering Initiative for Patient Safety model to clinicians working with children at risk for agitation at a freestanding children's hospital.

Intervention, Main Outcome, and Measures: We conducted semistructured interviews to examine how five clinician work system factors affected patient agitation, de-escalation, and restraint: person, environment, tasks, technology and tools, and organization. Interviews were recorded, transcribed, and analyzed until saturation.

Results: Forty clinicians participated in this study, including 21 nurses, 15 psychiatric technicians, 2 pediatric physicians, 1 psychologist, and 1 behavior analyst. Work system factors that contributed to patient agitation were medical tasks like vital signs and the hospital environment including bright lights and neighboring patients' noises. Supports that helped clinicians de-escalate patients included adequate staffing and accessible toys and activities. Participants indicated that organizational factors were integral to team de-escalation, drawing connections between units' teamwork and communication cultures and their likelihood of successful de-escalation without the use of physical restraint.

Conclusion: Clinicians perceived that medical tasks, hospital environmental factors, clinician attributes, and team communication influenced patients' agitation, de-escalation, and physical restraint. These work system factors provide opportunities for future multi-disciplinary interventions to reduce physical restraint use.

INTRODUCTION

Increasing numbers of youth are presenting to children's hospitals with primary and comorbid mental health conditions such as depression, attention-deficit/hyperactivity disorder, developmental disorder, and autism spectrum disorder.^{1,2} Many require hospital admission while awaiting psychiatric disposition.³ Hospitalized children with mental health conditions are at risk of exhibiting agitation or aggression during their admissions,^{4,5} behaviors which may pose a safety risk to both the patient and their clinicians.⁶ Multi-disciplinary teams work together to de-escalate patients at children's hospitals, balancing the child's physical and psychological safety with their own.⁷

Physical restraint refers to the manual application of material devices that fix patients' extremities to their bed frame, and is considered an intervention of last resort when less restrictive de-escalation efforts fail to maintain patient and staff safety.^{8,9} The use of physical restraint has been associated with adverse physical and psychological outcomes for both patients and clinicians.^{10,11} Clinicians working in children's hospitals report experiencing moral distress when caring for agitated children and describe difficulty identifying feasible techniques for avoiding physical restraint.^{12,13} Individual teams have utilized quality improvement approaches to safely reduce physical restraint use at children's hospitals; however, physical restraint use and employee injuries secondary to patient agitation remain prevalent at children's hospitals. Little evidence is available to guide children's hospitals on the most effective interventions toward safe physical restraint reduction.¹⁴

Given the high risk of physical and psychological harm associated with physical restraint, improving our understanding of clinicians' perspectives on patient agitation and de-escalation is critically important to reducing harm in children's hospitals. Front-line clinicians, including physicians, nurses, and mental health support staff (e.g., psychiatric or behavioral health technicians), have extensive experience with patient agitation, de-escalation, and restraint. Therefore, we used qualitative inquiry through interviews with these clinicians at a children's hospital to characterize their perception of the factors within their work system that positively and negatively influence patient agitation, de-escalation, and physical restraint.

METHODS

Study design

We utilized directed content analysis methodology described in Hsieh et al. to conceptually extend the Systems Engineering Initiative for Patient Safety (SEIPS) model of work system and patient safety to the work system structure of clinicians at a children's hospital who work with children at risk for agitation, their process of de-escalation, and the outcome of physical restraint (Figure 1).¹⁵ The SEIPS model provides a framework for understanding structures, processes, and outcomes in health care and explains how the design of work systems impacts patient safety and employee outcomes.¹⁶ We conducted semistructured in-depth one-on-one interviews to characterize clinicians' experiences with and perceptions of agitation, de-escalation, and physical restraint in the children's hospital setting.

Participants and setting

Interviews were conducted between May and August 2022 at the Children's Hospital of Philadelphia. This 594-bed freestanding children's hospital has a 10-bed Medical Behavioral Unit (MBU), which is a medical unit with enhanced behavioral supports, a 20-bed adolescent medicine unit offering medical management of eating disorders, and four emergency department (ED) psychiatric triage beds.¹⁷ While there is no inpatient psychiatric unit, 4% of annual admissions are children hospitalized for boarding who receive daily assessment by a mental health clinician while awaiting psychiatric disposition. Approximately 26% of hospitalized children report a comorbid mental health condition; these patients receive care on general medical units with as-needed psychiatric support.¹⁸ We used email outreach to recruit clinicians who worked with children with mental health conditions or agitation, purposively sampling a multi-disciplinary group including psychiatric technicians, nurses, pediatricians, psychologists, and behavior analysts. Psychiatric technicians employed at our hospital are responsible for 1:1 observation of patients with risk of agitation or unsafe behaviors. They are bachelor's prepared and receive 1 week of orientation and 4 weeks of on-the-job training focused on behavior management. Participants provided written consent before their interview and were remunerated for their time with a \$50 gift card. Our study was reviewed by the hospital's institutional review board and deemed exempt.¹⁹

Data collection

We used the five work system factors (clinician, environment, tasks, technology and tools, and organization) within our adapted SEIPS model to develop our interview guide (Appendix A). One interviewer (E. M. D.) conducted the semistructured qualitative interviews, which lasted between 20 and 50 min. Interviews were audiorecorded and transcribed verbatim. The interviewer inquired about each participant's perceptions of how patient agitation, de-escalation, and restraint were impacted by these 5 work system factors. Participants then completed a demographic survey that was distributed via e-mail (Appendix B).

Data analysis

To structure the direct content analysis, two coders (E. M. D. and D. W.) met and discussed operational definitions for five categories associated with each of the five work system factors in their adapted SEIPS model.¹⁶ They independently reviewed transcripts and coding based on these predetermined categories. Coding discrepancies were discussed between the two coders at regular intervals. After coding, data in each category was examined and sorted into three subcategories based on its association with agitation, de-escalation, and physical restraint. Saturation was reached when no additional data was revealed in subsequent interviews.²⁰ NVivo 12.0 was used to organize the thematic analysis.²¹

RESULTS

Approximately 500 clinicians were invited to participate and 40 responded, each completing a semistructured interview and demographic survey. Participants predominantly self-reported their gender as female (80%) and their race as White (55%) (Supporting Information: Table 2). Most participants worked as nurses (53%) or psychiatric technicians (38%); others included a pediatric hospital medicine attending, a resident pediatrician, a psychologist, and a behavior analyst. The participants' median age was 32 years and their median number of years employed at our institution was 4 years.

Findings from the interviews are presented by category based on the five clinician work system factors discussed during interviews and subcategory when directly influencing patient agitation, de-escalation, or physical restraint.

Clinician's role

Agitation—Clinicians described the utility of having strong interpersonal skills like empathy, sensitivity, patience, and the ability to remain calm and neutral to prevent patient agitation. One nurse said, “We need to treat everybody like they're a human being” (ID 14). Clinicians' behaviors may also increase patient agitation when presenting demands forcefully, providing inconsistent messaging, or appearing distracted.

De-escalation—Many clinicians reported learning their de-escalation skills on the job, as opposed to receiving formal training. When asked about de-escalation training, one nurse described the utility of informal mentorship stating, “seeing it in action is how I really learned” (ID 10). Clinicians acknowledged receiving Crisis Prevention Institute® (CPI)

training,²² but some could not recall specific elements of this training. Many clinicians requested simulation-based practice, suggesting that role-playing scenarios with real-time feedback would be helpful for practicing de-escalation techniques. Others specifically recommended education on appropriate phrases to use during verbal de-escalation to avoid restraint.

Physical restraint—Clinicians’ beliefs regarding the necessity of physical restraint varied across a continuum from “unacceptable” to “often necessary for safety.” One nurse declared, “I hate putting patients into restraints. It’s the last thing I want to do” (ID 32). Yet, others felt that physical restraint was an unavoidable part of their job. When describing their decision to use physical restraint, clinicians weighed their perception of both the patient’s safety and their own. One nurse remarked that “not everyone has the same tolerance for agitation. Some people want to put the kid in restraints because [the kid has] just been going at it for too long” (ID 8). Clinicians described restraint as physically and psychologically traumatic to the patient and themselves. A nurse associated physical restraint with moral distress and burnout stating, “you’re inflicting so much more harm on them...it is like emotionally hard to do it, especially if you do it continuously over days...I feel like you get burned out a little bit” (ID 31). A psychiatric technician added, “you could be literally re-traumatizing a lot of these kids” (ID 25).

Hospital environment

Agitation—Clinicians described many aspects of the hospital environment which agitated children, as displayed in Figure 2. One provider portrayed how the foreign nature of the hospital could be agitating: “the noise is definitely hard...just the hospital itself. Like you’re out of your routine, that’s not your bed, the showers are weird” (ID 11). The environmental source of agitation most commonly noted by clinicians was the noise of other patients having outbursts. As one nurse explained, “kids hearing other kids escalate is very triggering” (ID 13).

De-escalation—Clinicians reported modifying the hospital environment to de-escalate children by reducing the amount of sensory stimulation. One nurse used “certain [lights] so you don’t have the big, bright overhead lights on” (ID 37). Some placed children in rooms further away from the nursing station to decrease the ambient noise. Others gave children earplugs or headphones to help reduce noise, but a nurse admitted this approach had limited efficacy: “if one patient’s escalating two doors down the other patient is going to hear them no matter what” (ID 15).

Medical tasks

Agitation—Clinicians described how routine medical tasks frequently agitated patients, with the most commonly reported agitating tasks listed in Table 1. Some of these tasks were medically necessary, like the provision of meals and medications. The necessity of other tasks depended on the clinician’s enforcement of unit rules, such as waking patients up in the morning and removing patients’ electronic devices from their possession. One nurse said, “taking their personal stuff gets people agitated. The phone is the biggest. I feel like not everyone takes the phone” (ID 35).

De-escalation—When performing medical tasks on children, clinicians recommended planning as a de-escalation tactic, with one psychiatric technician endorsing “more warning and more opportunities for them to relax” (ID 33). Clinicians also perceived a benefit to multi-disciplinary planning for potentially agitating tasks early in the patient’s hospitalization. One psychiatric technician advised, “collaboration is always the best, so everybody has at least some kind of say” (ID 3). Clinicians also advocated for consistency in plans between patients, as one nurse stated, “if you bend the rule for one kid, then the other kids see it” (ID 31).

Technology and tools

Agitation—Clinicians were asked about the technology they used to communicate about patient agitation, including phones, the electronic medical record (EMR), and physical alert buttons. Most clinicians agreed that devices requiring overt communication risked further agitation. A psychiatric technician explained, “I don’t like talking [on the phone] in front of the kids. I think that’s a trigger” (ID 1). The EMR helped clinicians identify triggers for patients’ agitation, but many cited difficulty navigating patient charts. Alert buttons on the walls of patient rooms allowed for emergency communication, but patients frequently pushed these buttons when seeking attention, producing noise that agitated other patients and created clinician alarm fatigue. One nurse said, “I honestly don’t know sometimes when my co-workers need help, when a button’s being pressed all day” (ID 10).

De-escalation—Clinicians identified tools they frequently used to de-escalate children, with the top 10 reported in Table 2. Importantly, clinicians described having variable access to toys and activities, especially during nights and weekends. Hospital protocols restricting toys and activities deemed unsafe were difficult to enforce by one nurse: “there’s certain things they can play with, certain things you can’t. Some [clinicians] are very strict on it, some are not” (ID 35). Clinicians reported that technology-facilitated clinician communication during de-escalation, but had preferences for different levels of agitation. When clinicians first identified signs of patient agitation, they preferred sending text messages requesting additional help to avoid verbal conversations that might trigger patients. When patients were more agitated, clinicians preferred direct face-to-face or nonverbal communication.

Organization

Agitation—Clinicians associated organizational elements like staffing and patient–clinician continuity with the likelihood of patient agitation. Insufficient staffing was linked to a slower clinician response to patient needs, causing agitation. One psychiatric technician said, “if they’re short on nurses then [patients] have a very low tolerance for waiting” (ID 2). Clinicians reported that continuity with patients helped avoid agitation, with one nurse affirming, “you just know the patient better and you know what upsets them” (ID 26). Maintaining continuity, however, risked clinician burnout, depending on the acuity of the patient. As one psychiatric technician explained, “you could have four day shifts in a row that were easy breezy or you could have four day shifts in a row that were like World War III” (ID 10).

De-escalation—Clinicians described the impact of units’ collective experience treating agitation on clinicians’ communication during de-escalations. One psychiatric technician cited their unit’s experience working with agitated patients as a facilitator of successful de-escalation explaining, “there are way less concerns on the [unit]...because we know what to do” (ID 3). One nurse from a unit with fewer agitated patients felt that communication during de-escalations was “very nurse and psych tech dependent” (ID 37). Another nurse on the same unit explained the challenge of using the word “agitation” to communicate about patient behaviors because “what agitation is for you is not an agitation for me” (ID 34).

Physical restraint—Clinicians felt that organizational policy did not stipulate which specific behaviors necessitated physical restraint, leaving the decision up to them. Clinicians shared that they typically understood their supervisor’s perception of restraint, although some described uncertainty, citing supervisor turnover and a lack of direct supervision overnight. “My direct supervisor has always communicated that we don’t do [restraints] unless we have to,” stated one psychiatric technician (ID 17). A nurse added that their supervisor was “open to conversations about what could we do better and how to decrease restraints” (ID 13). Clinicians’ top priorities for organizational mental health improvement included outdoor space access, multi-disciplinary team involvement, and availability of individual psychotherapy among other improvements to clinician work system factors (Supporting Information: Table 1).

DISCUSSION

This structured qualitative study of 40 clinicians working in medical units at a freestanding children’s hospital characterized their perceptions of factors contributing to patient agitation, successful de-escalation, and avoidance of physical restraint. Participating clinicians reflected that the hospital environment and medical tasks were key contributors to patient agitation and subsequent use of restraint. Clinicians identified specific tools and technologies like toys and communication devices that enable successful de-escalation. When children became agitated, clinicians reflected that their units’ collective experience with agitation contributed to efficient team communication during de-escalation.

Clinicians in our study associated their work system factors with barriers and facilitators to reducing patient agitation and improving de-escalation in the children’s hospital setting. Clinicians requested expanded de-escalation training, akin to clinicians in EDs,²³ and correlated their perception of safety with restraint use, like clinicians from inpatient psychiatric units.^{24,25} Clinicians in our study also described feeling moral distress when caring for agitated children, heightened by the fact they often had limited training in de-escalation. They identified organizational factors like inadequate staffing as additional barriers to successful de-escalation. Our participants described benefits to using standardized, objective assessments and language to communicate about agitation on medical units, as has been described previously.²⁶ For teams on units with de-escalation experience, shared language became a part of their usual workflow; whereas clinicians working on less experienced units described a need for intentional guidance on the use of standardized language when communicating about agitation.

Individual clinicians: Medical tasks, technology, and tools

Individual clinicians at children's hospitals can leverage work system factors to mitigate patients' agitation and facilitate successful de-escalation. Clinicians in our study described medical tasks (e.g., vital signs, venipuncture) as agitating, similar to recently identified hospital-related triggers for aggression,⁴ which may be ordered judiciously to reduce patients' risk of agitation. When medical tasks are deemed necessary, clinicians can collaborate with certified child life specialists to provide children with psychological preparation and coping strategies.²⁷ Clinicians can also ensure approved toys and activities are physically located in easily accessible spaces to facilitate swift de-escalation.

Hospital operations: Hospital environment and organization

Our participants highlighted operational interventions that can readily be implemented in current hospital care models to prevent or reduce patient agitation. Clinicians suggested expanding child life availability to cover nights and weekends, which would both increase access to tools for distraction and provide enhanced support for patients during agitating tasks. In addition, clinicians identified factors that would require more capital investment, such as modifications to physical infrastructure and enhanced staffing. Studies have previously described effective hospital environmental features that can reduce patient agitation, especially for children with neurodiversity, including the use of natural light, access to outdoor spaces, and reduction of sensory stimuli.^{28,29}

Quality improvement: Organizational initiatives

Quality improvement methodology will be an important tool for testing and implementing these proposed interventions in the medical hospital setting. Hospitals can test interventions targeting work system factors through Plan-Do-Study-Act cycles while monitoring patient and staff outcomes for improvement. The identification of consensus process and outcome metrics for pediatric agitation management (e.g., medication administration, physical restraints, and staff injuries) will be critical to national improvement efforts. Once identified, best practices in agitation management for pediatric hospitals can be shared through standardized guidelines similar to those developed for the pediatric ED.^{8,30}

Clinical research: Clinician de-escalation training

Future research priorities for this space include the investigation of (1) novel approaches to preventing agitation and supporting de-escalation, (2) effective methods of training hospital staff in de-escalation, and (3) the implementation of effective de-escalation techniques. As restraint reduction interventions are identified, researchers can employ hybrid effectiveness-implementation trials to test the clinical effectiveness and implementation outcomes simultaneously.³¹ Assessing the feasibility, acceptability, and sustainability of de-escalation trainings is a priority for future research. Requested by clinicians in our study, simulation-based de-escalation training programs have been shown to increase comfort and confidence among pediatric clinicians,^{32,33} yet the curricula of existing de-escalation programs vary in their inclusion of simulation.³⁴

Features of our study may limit the generalizability of our findings. This was a single-center study of a children's hospital, and other medical systems may face different challenges.

Our study did not include perspectives of several clinician disciplines, including nurses aides, advanced practice providers, security officers, or the youth and their families. Finally, interviews were completed by a physician, which may have influenced clinicians' responses and introduced bias through the focus of the interview guide. To minimize power differentials, the interviewer utilized a standardized interview script, was not actively working on clinical teams with any participants at the time of the interviews, and did not have direct supervisory relationships with any participants.

CONCLUSION

Pediatric clinicians working across disciplines and units in a freestanding children's hospital identified that the hospital environment, medical tasks, individual clinician attributes, and characteristics of clinical teams influenced patients' agitation, de-escalation, and risk of physical restraint. Future initiatives to reduce restraint use can focus on improving these work system factors through multidisciplinary interventions.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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APPENDIX A: CLINICIAN INTERVIEW GUIDE

Introduction

Thank you for agreeing to participate in this study. As we discussed during informed consent, everything you say is confidential. Today, we will be asking you a series of questions about your experience caring for children with behavioral health conditions that have been physically restrained at CHOP. This interview has several sections relating to factors that influence physical restraint use in the hospital. I expect the interview to take between 30 and 60 min.

If you want to stop the interview or skip a question at any point, just let me know and we can stop or take a break. There are no right or wrong answers. Your perspective is incredibly valuable and we appreciate your honesty and candor.

Section 1: Role of the Clinician

We are going to start by discussing your role at CHOP and how you work with children that may display behaviors such as pacing, verbal threats, or physical aggression toward

themselves or others. Subsequently, we will refer to these children as “agitated” throughout this interview. When we ask for examples, please do not share patient identifiers such as names.

1. What brought you to this role at CHOP?
 - i. How long have you been in this role at CHOP?
 - ii. How long have you worked in this role overall?
 - iii. What unit do you work on most frequently?
 - iv. What do you like most about your job?
2. Tell me about a recent patient that become agitated while you were caring for them.
 - i. What emotions did you feel in this situation?
 - ii. Was this patient placed in a physical restraint?
 - iii. Can you tell us about a time when an agitated patient you were caring for was able to be de-escalated without physical restraint?
 - iv. What was different about that situation versus one that ended in restraint?

Section 2: Hospital Environment and Tasks

Now we’d like to talk a little bit about your daily tasks when working with patients with behavioral health conditions and how the environment of the hospital impacts your ability to perform these tasks. The environment can include the layout of the room, the ambient noise, the lighting, and even the temperature.

1. What tasks do you perform when caring for a patient with a behavioral health condition?
 - a. Tell me about tasks or scenarios that tend to agitate patients more often?
 - b. What would you change about your daily tasks to make it easier to de-escalate agitated patients?
2. Are there aspects of the hospital environment that can agitate patients with behavioral health conditions?
 - a. How have you utilized changes to the environment to help de-escalate patients?

Section 3: Technology and Tools

Now we’d like to talk a little bit about the technology and tools you use to de-escalate agitated patients, including strategies for de-escalation like Crisis Prevention Institute (CPI) training, objects for distraction like toys, video games, or phones, and technology used for communication during de-escalation like phones and the electronic medical record.

1. So what do you think someone in your role needs to know to be successful in de-escalating patients?
 - a. What are these skills?
 - b. In which training did you learn those skills?
 - c. How would you improve the de-escalation training for staff in your role at CHOP?
 - d. Are there skills you learned at another institution that you would like to use at CHOP?
2. Can you tell me about what tools you have used with agitated children to avoid physical restraint?
 - a. How often are you able to access these tools once a patient becomes agitated?
 - b. What could help you feel more prepared to use these things?
3. Can you describe how you communicate with other members of the patient's team during a de-escalation?
 - a. What device do you use?
 - b. How well do you feel like this device allows you to communicate with others?
 - c. What language do you use to talk about an agitated patient?
 - d. How do you involve the patient's family in the de-escalation?

Section 4: Organization

For our last section, let's talk about how organizational factors like teamwork, supervision and culture impact your use of physical restraint.

1. Do you think CHOP is supportive of the work you do in this role?
 - a. What could CHOP do to help you be successful?
 - b. How does your supervisor perceive physical restraint use?
2. Do you feel like there are things that can be done early in the patient's admission that can make it less likely for them to be restrained?
3. Does staffing on your unit impact the likelihood of physical restraint use?
 - a. If yes, how so? If no, explain.
 - b. What changes would you make to the staffing model to make it easier to care for an agitated patient without using physical restraint?
 - c. What benefits do you see from continuity in staffing, whether it is being staffed to the same unit or working with the same patient or nurse?

Section 5: Conclusion

1. If you could wave a magic wand and change one thing about how you work with patients with behavioral health conditions who may become agitated, what would it be?
2. Is there anything else about your experience with agitated patients at CHOP that we did not cover?

APPENDIX B: CLINICIAN DEMOGRAPHIC SURVEY

Age (years)

Sex (assigned at birth)

1. Male
2. Female
3. Intersex

Gender identity

1. Male
2. Female
3. Trans male
4. Trans female
5. Genderqueer/gender nonconforming
6. Other

Race

1. American Indian or Alaska Native
2. Asian American
3. Black or African American
4. Hispanic or Latino
5. Nativz Hawaiian or Other Pacific Islander
6. White or Caucasian
7. Other

Do you speak any language other than English?

1. Highest Level of Education
2. Less than high school diploma or GED
3. High school diploma or GED
4. Some college

5. College degree
6. Some graduate school
7. Graduate degree or higher
8. Prefer not to answer
9. Marital status
10. Married
11. Separated
12. Divorced
13. Widowed
14. In a relationship, living with partner
15. In a relationship, not living with partner
16. Single
17. Prefer not to answer

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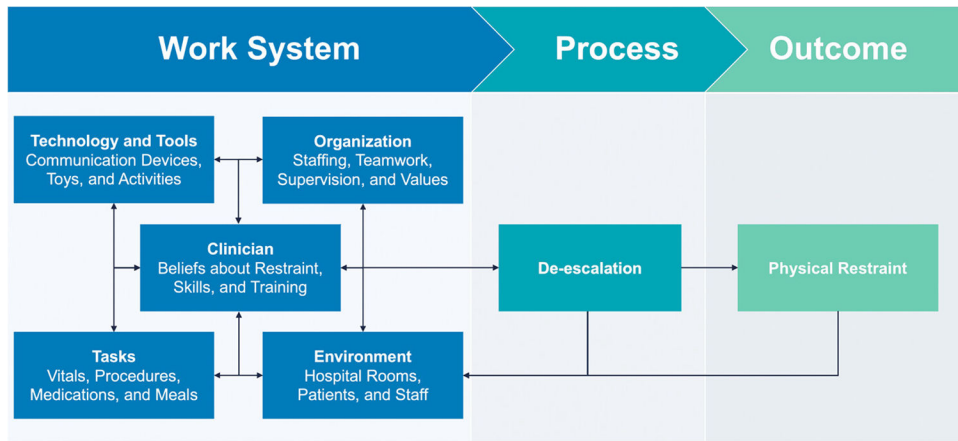


FIGURE 1. Systems Engineering Initiative for Patient Safety model of work system and patient safety adapted for agitation, de-escalation, and physical restraint at a children’s hospital.

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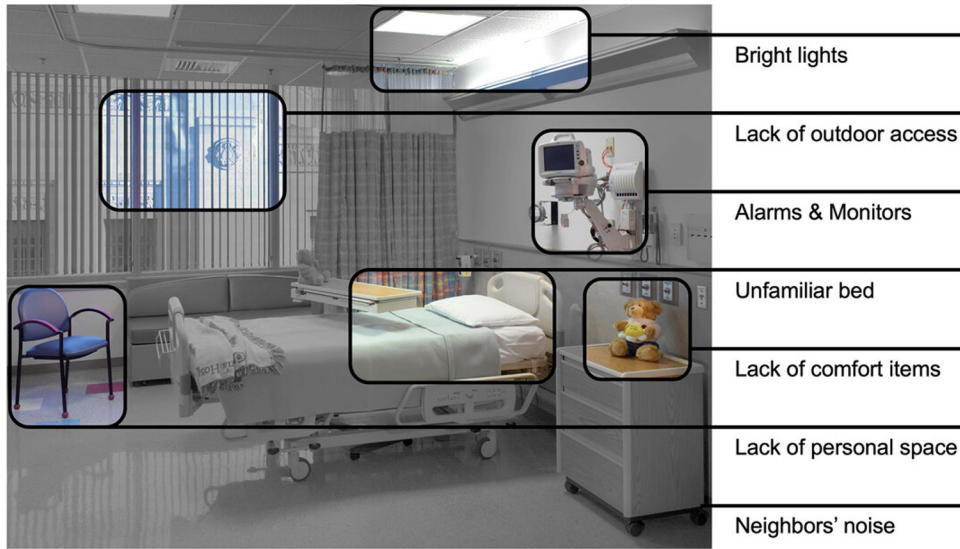


FIGURE 2. Top environmental sources of patient agitation identified by clinicians. These sources of agitation within a children’s hospital room were coded most often in clinician interviews.

TABLE 1

Top 10 task-related sources of agitation identified by clinicians.

Agitating medical task	Illustrative clinician quote	Interviews coded
Delivery or removal of meals	Definitely mealtimes. Presenting the meal. Presenting the supplement and dropping nasogastric tubes. Those agitate patients. (Nurse—ID 30)	9
Performance of vital signs	Vitals can be difficult, especially getting blood pressure...kids that can't sit still or don't really understand exactly why they need to get a blood pressure. (Nurse—ID 12)	8
Family visits or lack thereof	When certain family members visit or don't visit, is one that I think triggers a lot of kids. (Provider—ID 27)	8
Transition during shift change	Change of shift sometimes [agitates] patients, just having the faces change, but we can't work forever. (Nurse—ID 8)	6
Medication administration	Some people don't feel like taking any medication. (Psychiatric Technician—ID 24)	5
Removal of unsafe items	They're like, why are you going through my stuff? And it just makes them unnecessarily pissed off because we're going through their stuff. (Nurse—ID 22).	5
Being woken up	At 9:00 A.M., all the lights have to come on...having to turn them on, having to have the blinds up, and be awake, or attempt to be awake during the day time, I think sometimes those things can be agitating. (Nurse—ID 37)	4
Going to hospital school	School comes in and try to just get them a little sharper on whatever they feel like they should be working on, and a lot of them aren't happy. (Psychiatric Technician—ID 3).	2
Having blood drawn	They can get pretty agitated with blood draws. (Provider—ID 27)	2
Wearing a hospital gown	I've had some patients just be really picky about what kind of gown, if they're too stiff or if they're soft enough for them. (Provider—ID 7)	2

TABLE 2

Top 10 tools requested by clinicians for patient de-escalation.

De-escalation tool	Illustrative clinician quote	Interviews coded
Arts and crafts	A lot of the kids do sticker books...it's very intuitive and it's just right to the point and then they feel like they accomplished something, and it looks like a piece of art. (Nurse—ID 12).	13
Stress balls	They can't really hurt themselves too much with a stress ball. Those are a good one. It also keeps their hands busy. (Nurse—ID 31).	11
Playing cards	These kids know more card games than I have ever heard of in my entire life. I don't know who comes up with them, but the kids really like card games. (Nurse—ID 40)	9
Video games	I think it's great that the video games are available because these kids are a different era...they prefer electronics and it keeps them occupied. (Psychiatric Technician—ID 3).	8
Fidget toys	I would love for them to have sensory toys, like chewy and those squirmy things, and those fidget things. (Nurse—ID 4).	7
Snacks	Yeah. I mean, you're grumpy, you want a snack? Yeah. Maybe that's all I needed, was a snack. (Nurse—ID 9)	5
iPads	Kids love their iPads these days, which is not amazing, but it definitely does keep them occupied. (Nurse—ID 12)	5
Play Doh	I like the Play-Doh because you can't really hurt someone with Play-Doh and especially the sensory kids, they like just touching those. (Nurse—ID 22)	5
Music	I think definitely music is one that I really like because it's very personalized. And if they're able to speak to us, we can ask them, what do you like to listen to, what can we put on for you specifically? (Nurse—ID 22)	5
Journals	I mean some kids like journaling but use some paper. (Nurse—ID 4)	4