KEY POINT SUMMARY

OBJECTIVES

The objective of this study was to explore the relationship between visibility metrics, different ED configurations or layouts, and staff perceptions of security risks.

# How Visibility May Reduce Security Issues in Community Hospitals' Emergency Departments

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Key Concepts/Context

Research shows that many environmental factors have been employed to improve emergency department (ED) safety. Visibility as a design factor, an operational factor, and a layout characteristic can be leveraged to improve both safety and care efficiency. General visibility refers to visual connectivity within a defined environment, whereas targeted visibility is concentrated between two specific points. Maximizing both general and targeted visibility to support staff awareness can help with risk recognition, patient surveillance, and teamwork.

Methods

This was a qualitative, exploratory, cross-sectional study investigating the impact of visibility on ED staff perceptions of security in five different community hospitals. Data collection methods included staff interviews and on-site observations. Researchers used observations to observe work patterns and behaviors and to familiarize themselves with ED unit operations, design attributes, and security issues. After piloting the observation process and the interview questions at one facility (site 1), refinements were made and data collection proceeded at four additional sites (sites 2-5). Inclusion criteria for interview participants included three years of experience in the ED and one year at their respective facility. Researchers selected interview participants based on the inclusion criteria and the number of ED units to which they had been exposed. Across all sites, 25 participants were identified and informed, but researchers achieved data saturation after 17 interviews (including two registered nurses and one physician) and cancelled those remaining. Interviews took 20-30 minutes, were audio recorded, transcribed, and checked against interview notes for accuracy.
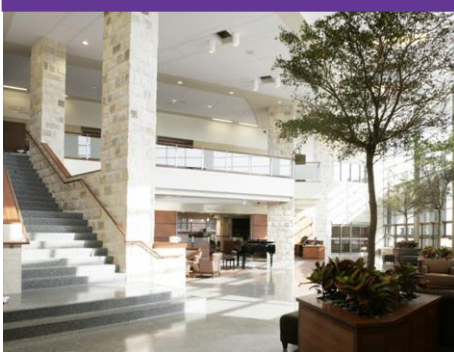
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Observations took place at five locations including: site 1, which had a racetrack layout; site 2, which was linear with three staff workstations; site 3, which had a distributed layout; site 4, which had two pods with different patient loads, and site 5, which had one main area with a nurse station at each end, and separate trauma and fast-track areas. The PI observed and took notes during two two-hour blocks at site 1, and 12 hours at sites 2-5. With each observation the researcher sought to maintain a position that afforded visibility of staff workstations and work traffic routines during busy hours and changed locations to follow bouts of activity.

Findings

After separating transcribed interviews into data units and then clustering like information into categories, the following four interview themes and sub-themes were identified: Theme 1) the importance of visibility to a) preferred face-to-face communication; b) overall unit surveillance, c) acquiring assistance from colleagues, and d) monitoring psychiatric patients; Theme 2) the importance of security issues due to increased levels of threats; Theme 3) visibility and security risks related to a) entrances, b) security personnel being able to see and be seen, and c) psychiatric patient supervision; and Theme 4) ED design considerations regarding a) visible workstations and visibility from workstations, and b) preference for compact unit layouts where staff can see one another.

After comparing the preliminary, observational data from the pilot site (site 1) with the other sites, researchers decided not to include it in the final analysis. Observation data from the remaining sites was categorized into two main themes with seven overlapping subthemes. The first theme, visibility, highlighted the benefits of visibility in mitigating risk and responding to emergencies. Subtheme topics included: a) the challenge of differing visibility levels across locations; b) different types of visibility; c) different visibility priorities, and d) visibility related to security and security staff. The second theme was specific to security and included subthemes regarding a) the presence of security officer(s), b) risks associated with psychiatric patients, c) psychiatric patient room location, and d) conflicts between staff.

Researchers concluded that EDs with high levels of visual connectivity to all locations could prevent, control, or at least minimize security issues more easily. Further, they noted that centralized unit layouts demonstrated greater unit-level visibility. Finally, participants identified critical ED areas that needed higher levels of visibility to be the entrance, waiting room, and triage area.

Limitations

Noted limitations include the lag between data collection in 2016 and publication in 2023, the need to include a wider variety of ED settings and layouts, the potential to include perceptions of different staff groups, and the need to explore post-

pandemic care routines of psychiatric patients due to changing dynamics. Other limitations include the lack of differentiation between perceptions of physicians, nurses, and other ED personnel since 17 medical staff members in five different facilities were interviewed but only two RNs and one physician were noted.

Design Implications

 The ED environment can influence perceptions of safe and efficient care such that nurses prefer visual connectivity with colleagues to facilitate care delivery, and staff generally prefer layouts that facilitate awareness of unit activities. To maximize staff perceptions of safety, priority should be to ensure that security personnel can see and be seen and that staff can visualize the ED entrance, waiting room, triage area, and areas in which psychiatric patients receive care.

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