



KEY POINT SUMMARY

OBJECTIVES

This research sought to develop a conceptual framework for engaging clinical, social, and spatial dimensions to promote face-to-face interaction, within the context of patient care, among clinicians in hospitals.

Hospital Design and Face-To-Face Interaction Among Clinicians: A Theoretical Model

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Key Concepts/Context

Current research focusing on collaboration between medical professionals has shown the importance of face-to-face interactions on patient and staff outcomes. However, most strategies for increasing these interactions among clinicians have focused on operational changes that are intended to facilitate a cultural change within the organization. This research looks to examine how the physical design of a healthcare facility can create opportunities for face-to-face interactions between clinicians through spatial programs and structure.

Methods

Utilizing a multidisciplinary approach, a review of existing literature was conducted to generate a conceptual framework linking clinical, social, and spatial factors with clinician interactions. For this study, the researcher synthesized insights from multiple disciplines to address the following questions: (1) Is it possible to categorize patients to help define the type of clinician interaction that is most appropriate for their medical care? (2) Who among the caregivers is responsible for taking care of these different categories of patients? (3) What kind of communities do these caregivers create for themselves? (4) What is the nature of the interface among these hospital communities in the context of patient care? (5) How do these interfaces influence the production and reproduction of clinical knowledge? (6) How does hospital design influence the production and reproduction of clinical knowledge through its moderating effects on clinical interfaces and communication?



DESIGN IMPLICATIONS

This research suggests that hospital building layout should incorporate both weak and strong programming within the design. Different parts of the building should reflect different spatial programming, depending on clinical, social, and functional needs.

Findings

Clinical factors relating to patient type and clinician interaction were explored. Through the literature, four categories of patients were characterized through two factors: (1) acuity and (2) complexity. Patients ranging from low acuity-low complexity to high acuity-high complexity were then analyzed to determine the kind of interaction most appropriate for each category of patient. Clinician interactions were distinguished on a continuum from rich to impoverished communication channels. Face-to-face interactions were considered to be the richest form of communication, while telephone communications and personal documents such as e-mails and letters were considered to be less rich forms of communication. Impersonal and numeric documents were considered to be the most impoverished channels of communication. The literature revealed that high acuity-high complexity patients would benefit the most from face-to-face interaction between clinicians, due to the fact that rich communication channels help to increase awareness, clarify ambiguous issues, and overcome different frames of reference.

Social factors within this framework were addressed through the context of distinct communities that are formed by clinicians to facilitate distribution of knowledge and resource support. Through the literature, two distinct communities were analyzed: (1) communities of practice (CoPs) and (2) communities of interest (CoIs). CoPs are formed by practitioners who perform similar work within a particular practice domain. Members within this community learn from each other based upon their collective knowledge and are ongoing, creating knowledge reproduction. In contrast, CoIs are formed by members from different practice domains and knowledge backgrounds that come together to perform a specific task. CoIs are usually dissolved once a task is completed and are instrumental in knowledge creation. Within this discussed framework, high acuity-high complexity patients that require a new clinical regimen would benefit most from face-to-face interactions within CoIs that assist in knowledge creation. Inversely, face-to-face interactions within CoPs are beneficial to patients with low acuity-low complexity that are in need of a prescribed clinical pathway.

Spatial dimensions were assessed within the literature through the concepts of strong and weak program buildings and sightlines. Within a strong program building, functional needs and categorical identities determine spatial relationships. The literature suggests strong building programs create predictable interfaces that facilitate strong relationships and assist in knowledge reproduction. In contrast, not all spatial relationships within weak program building are determined by functional needs and categorical identities. As boundaries between categorical identities become blurred, opportunities for unpredictable interfaces occur, allowing weak program building to assist in knowledge creation. The literature also revealed that sightlines are important descriptors of structure in two areas: (1) connectivity (local property) and (2) integration (global property). To bring coherence to a weak



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program building and increase opportunities for interaction, increased connectivity and integration are necessary. Within a strong program decreased connectivity and integration are needed to guide and restrict opportunities for interaction.

Limitations

One limitation to this study is that the research focused only on face-to-face interactions between clinicians. Further research is needed to assess interactions with other stakeholders such as patients and their families, social workers, administrators, and other caregivers. This model also did not explore the nuances between clinician interactions. Another limitation to this study is that the model only explores two dimensions related to patients within the hospital. Patients who are receiving palliative, rehabilitative, or psychiatric care would all possess different nuances and needs for clinician interactions. The interpretation of spatial structure as it pertains to sightlines was also a limitation. For more complete assessment of the complex environment within a hospital other areas such as size, shape, lighting, texture, and furniture should be considered. Due to the broad approach of the topic, the application of the literature, and the numerous research questions being addressed, findings from this study should be seen as a conceptual framework that highlights areas in need of further research.