

Utilizing design thinking in the administration of emergency departments

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1. To the editor-in-chief

Emergency Departments (EDs) are the primary access point of medical resources for patients who need urgent care. These departments face numerous administrative obstacles and challenges, such as managing large patient populations, providing timely access to treatment availability, and coordinating various medical and non-medical staff. Our ED is in a tertiary-care referral hospital with more than 70,000 visits annually.

Despite moving the ED to a space of about 4000 square meters and doubling the number of beds in the past two years, the overcrowding problem still exists and has even worsened. Solutions that have been proposed to reduce this problem, such as reducing the length of stay of patients by increasing the discharge of patients by emergency specialists or other specialists responsible for patients, limiting the number of emergency beds to reduce the workload of nurses, interacting with hospital outpatient clinics for visiting patients with lower acuity. However, these efforts have not been successful and have increased the dissatisfaction of patients, nursing staff, and physicians. Therefore, it seems that there is a need for innovation in providing solutions to solve the problems. While traditional administrative methods may not help address these issues comprehensively, design thinking (DT), a human-centered approach to innovation, offers a talented alternative. This method focuses on understanding what users need, redefining problems in a human-centric way, and creating innovative solutions. It can significantly improve patient care and ED efficiency (1). DT entails five steps:

1. Empathy (understanding patient and staff needs): Administrators can use interviews, patient and staff observations, or surveys to understand the experiences of both patients and staff in their facility. This stage is crucial for understanding the 'true problem' and creating user-centric solutions.

2. Definition (problem identification): Identify the core problem(s) by analyzing insights, looking for trends, or combining prominent issues.

3. Ideation (brainstorming solutions): In this step, multidisciplinary teams organize to generate numerous and different ideas, often through workshops involving healthcare professionals, administrative staff, and patients.

4. Prototyping (developing solutions): Promising ideas are transformed into prototypes. These models are typically low-fidelity and inexpensive for easy testing and iteration.

5. Testing (pilot testing and continuous modification): Feedback is collected from users in real-world settings to test the prototype to determine how well it achieves its goal. The Discovery workshop is an ongoing process rather than a one-time event. Solutions are continuously adjusted based on current and future ED staff input. One of the principles behind DT is that it evolves with time, which means it develops and improves according to needs.

Empathy and user-centered design of emergency departments can create responsive and cooperative spaces for patients while reducing overall stress. If bottlenecks and inefficiencies are recognized, they can be resolved to streamline processes, resulting in reduced wait times and increased efficiency (2). A culture of creativity and teamwork can be established by including staff in the brainstorming and initial design steps.

This leads to greater job satisfaction and reduced turnover (2). The solutions created through DT are likely to be more scalable and generalizable across other departments or hospitals, thus driving broader systemic change.

While DT has many benefits, its application in EDs is challenging. This refers to any change that is challenging for an organization to implement.

It requires significant time and money and can be particularly difficult because it involves integrating long-standing solutions with new capabilities (3). Solutions to these challenges will require strong leadership, ongoing capacity building, and a dedication to progressive change (3).

DT in ED management holds great promise for improving patient care and efficiency. While hospitals will never operate like startups, prioritizing human-centered design approaches outside of the ED can result in solutions that enable us to address the meaningful and unique challenges faced within them. These solutions often lead to improved patient care, reduced disagreement, and a more satisfying work environment for the staff. Assessing its long-term effects through longitudinal studies and evaluating its impact on populations within real-world contexts will enrich our understanding of this area.

2. Declarations

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2.2. Conflict of interest

None.

2.3. Funding

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