

## Emergency Evacuation in Hospitals: A Neglected Necessity

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### Dear Editor,

Given the rising incidence of natural and man-made hazards, hospitals—critical institutions in delivering healthcare—face significant risks.<sup>1,2</sup> The inherent nature of hospitals, where care is provided to patients with diverse conditions, makes them particularly vulnerable during emergencies. Such incidents may necessitate the partial or complete evacuation of these facilities.<sup>2</sup> Emergency evacuation is defined as the immediate departure of individuals from an area facing an imminent or ongoing threat that presents a danger to lives or property.<sup>3</sup>

Crucially, emergency evacuations must occur as swiftly as possible, as the speed of transporting the injured can significantly reduce mortality rates.<sup>4</sup> Unfortunately, despite many hospitals being built to world-class standards, compliance with safety regulations is often lacking, leaving them vulnerable to accidents. Experience shows a concerning low level

of preparedness for the timely, effective, and safe evacuation of employees and patients.<sup>1,5</sup> In crises, while everyone aims for survival, hospital staff bear the additional responsibility of ensuring the safety of their patients. Therefore, preparing hospital personnel for disaster management—especially in patient evacuation and safety—should be a top priority for medical centers<sup>3</sup>. The decision to evacuate a hospital stands as one of the most challenging choices for an incident commander. Once the need for evacuation is confirmed, the incident command team must activate the response phase, adhering to the risk management cycle approach. Evacuation occurs in five stages: decision, warning, movement, deployment to a safe assembly area, and return (Figure 1).<sup>6</sup>

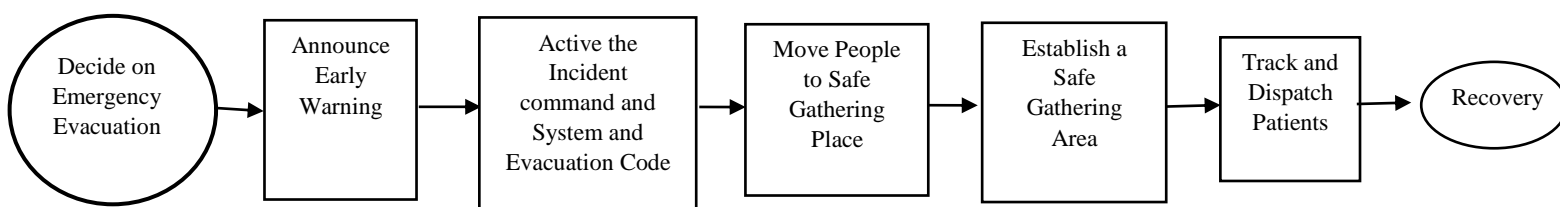


Figure 1: Evacuation Process for Medical Centers in Emergencies

Following the declaration of evacuation, the evacuation team must determine the appropriate type of evacuation based on the incident. There are three distinct methods for evacuation: horizontal evacuation (moving to another part of the same floor), vertical evacuation (relocating to a different floor), and complete evacuation (exiting the building).<sup>7</sup> During an emergency evacuation, prioritization is key. After triage, patients are classified into three categories: green, yellow, and red. The green group consists of patients who can walk; the yellow group includes those with limited mobility who require wheelchairs or manual assistance; and the red group encompasses individuals who are immobile and confined to a lying position.<sup>8</sup> Following triage, patients are moved to predetermined safe areas, where their status is monitored by designated personnel, and further transfers may be arranged if necessary. Once the immediate emergency response concludes, recovery and return represent the final stages of the evacuation process. This involves assessing the area affected by the incident to determine whether the hospital can safely return to normal operations.<sup>9</sup>

### Principles of Hospital Evacuation:

1. **Patient Safety:** Effective evacuation procedures are critical for ensuring patient safety during disasters such as fires, earthquakes, or severe weather events. Well-conceived and regularly rehearsed evacuation plans can significantly lower the incidence of injury or fatalities among patients.<sup>2</sup>
2. **Staff Preparedness:** Strong evacuation strategies are crucial for equipping hospital staff to respond promptly and effectively in emergencies. Training exercises and simulations enable staff members to familiarize themselves with evacuation routes, emergency equipment, and established protocols, resulting in a more coordinated response.<sup>3</sup>
3. **Resource Allocation:** Implementing evacuation protocols enables hospitals to manage resources efficiently during crises. With a well-defined evacuation plan, hospitals can swiftly deploy staff, equipment, and

supplies to facilitate the safe and efficient evacuation of patients.<sup>3</sup>

4. **Communication:** Effective communication is crucial during evacuation procedures to ensure that both staff and patients are informed about the situation and the actions required. Evacuation plans should incorporate strategies for disseminating critical information and instructions to all individuals involved.<sup>8</sup>
5. **Minimization of Chaos:** Properly conducted evacuation procedures are instrumental in reducing chaos and confusion during emergencies. A well-structured plan helps hospitals prevent panic and supports a more orderly evacuation process.<sup>9</sup>
6. **Legal Compliance:** Adhering to established evacuation protocols is not only vital for maintaining patient and staff safety but also for meeting legal requirements. Several regulatory organizations require healthcare facilities to have evacuation plans in place to protect the health and safety of everyone on-site.<sup>10</sup>
7. **Continuity of Care:** Finally, the proper execution of evacuation procedures is essential for ensuring continuity of care for patients. By safely relocating patients to designated areas or alternative healthcare facilities, hospitals can continue to provide necessary care despite the challenges posed by a disaster.<sup>3</sup>

In a nutshell, given the nature and urgency of providing timely, quality care, especially in emergencies, hospitals must anticipate the potential for catastrophic outcomes in their incident planning. Hospital managers are encouraged to evaluate risks, enhance infrastructure, develop comprehensive emergency evacuation plans, establish and train evacuation teams, and mark emergency exit routes. They should also define safe areas and conduct tabletop exercises, as well as separate emergency evacuation drills for each department. Establishing memoranda of understanding with organizations involved in emergency evacuation is a crucial foundational requirement for ensuring safe and effective evacuations. In light of the critical importance of timely and safe hospital evacuations during

disasters, it is hoped that health system managers will give this issue the attention it deserves.

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### Declaration of Generative AI and AI-assisted technologies:

None.

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