

## Overcrowded emergency departments: A problem looking for solution

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Emergency Department (ED) is the gateway of our health system. In the absence of an effective primary health care in Pakistan, emergency rooms may be the first point of contact for many patients with acute illnesses or complications of chronic health problems.<sup>1</sup> Everyday thousands of patients visit emergency rooms with various problems that range from simple sore throat to life threatening emergencies, complex medical issues, acute surgical conditions, psychiatric illnesses and trauma. The EDs serve as a safety net for patients without access to general practitioners as well as speciality care, which is more expensive and often difficult to obtain in a non-emergent situation.<sup>2</sup> The after-hour availability of diagnostic services also tends to overwhelm EDs with low-acuity patients.<sup>3</sup> In all circumstances, emergency physicians play a very important role in the evaluation of undifferentiated patients, identification and treatment of life threatening conditions as well as appropriate disposition of patients after proper stabilization. To-date many developed countries' emergency rooms (ERs) are facing problems as a result of high patient volume, high acuity patients boarding, insufficient space, delays in lab and radiology, hospital bed shortage, patient dissatisfaction and stress among health care providers.<sup>4,5</sup>

As the Emergency Medicine is progressing as a specialty in Pakistan, EDs of tertiary care hospitals are becoming crowded and expectations from ED physicians are also on the rise. From a patient's perspective, most people would like to have swift assessment, cost effective treatment and prompt disposition.<sup>6,7</sup> However, the reality is not as simple. Many times the patients wait long hours to be seen in ED by a physician, undergo sophisticated work up and get frustrated by the delays in getting in-patient beds. This phenomenon is found to have a profound impact on ED overcrowding and access block, which means new patients cannot be seen and treated in ED.<sup>8</sup>

It seems however, that this situation is not limited to developed countries. In Pakistan, large urban EDs of government hospitals have a staggering numbers of both walk-in as well as high acuity patients because the majority of the population cannot afford private

emergency services and is therefore forced to use the public sector hospitals.<sup>6</sup> Although the data from the public sector is lacking; however, in a study conducted at a private tertiary care hospital of Karachi, 48% of patients reported a delay in getting inpatient beds.<sup>9</sup> Moreover, there is an observed trend of making a definitive diagnosis before discharge or admission to in-patient services. The task of assessment and management of acute illness is now extended to lengthy and time consuming workup to reach a diagnosis and involvement of many consult services. In a study from Saudi Arabia, multiple consultations done in ED could be the lone cause of delay in almost 48% of cases.<sup>10</sup> This results in long delays, patient dissatisfaction, as well as poor ED outcomes. Detailed evaluation of complex disease process consumes ED resources, prolongs the time for patients' disposition as well as reduces the number of ED treatment beds available to accommodate sudden rise in patient visits.<sup>11,12</sup> A report from a busy ED suggested that among factors potentially associated with increasing ED length of stay, the use of more than five diagnostic tests and advanced diagnostic imaging was the most significant cause of delay.<sup>13</sup> The delays become critical because the emergency room is one area of hospital whose working capacity could be adversely affected by the external factors very quickly and profoundly.<sup>14</sup>

Overcrowding of EDs is not a new problem; it has been the topmost agenda for health policy reforms in most developed emergency medical systems.<sup>4,5,15</sup> ED output block is a reflection of overall throughput processes of a medical institution and in some circumstances could be interpreted as rationing of care: in the form of delays in decision making, denial to admission, deterrence by blocking beds for certain elective patients, selection of patients with favourable outcome and those who can afford high treatment costs.<sup>16</sup> Ambulance diversions, increasing the number of ED beds, transferring critical patients to other hospitals and premature discharges have all done little to solve the crisis; in fact, poor outcomes are more likely to occur in such circumstances.<sup>5,11</sup>

In our local setup there is a paucity of observational data on ED overcrowding for finding evidence based

solutions. As physicians working in a low-income country, we have a professional and moral obligation to recognize that all acutely ill patients visiting the ED have the right to get quality care, even when the resources are limited. Given the current status, identification, quantification and determination of causative factors of ED overcrowding is of foremost importance. There is an urgent need for all the stakeholders i.e., emergency physicians, hospital administrators, local and provincial health departments and ambulance services to focus on policy making to better distribute the case load, to upgrade emergency services of secondary and tertiary care hospitals as well as training of emergency physicians and staff to ensure better care to all patients visiting EDs. Strategies directed towards improving throughput, such as better triage, applying response-time limit, ED length of stay guidelines and designation of single admitting service rather than specialty admissions which would eventually reduce ED overcrowding and errors caused by delays.

### References

1. Razzak JA, Kellermann AL. Emergency medical care in developing countries: is it worthwhile? *Bull World Health Organ* 2002; 80: 900-5.
2. Glauser J. Rationing and the role of the emergency department as society's safety net. *Acad Emer Med* 2001; 8: 1101-6.
3. Penson R, Coleman P, Mason S, Nicholl J. Why do patients with minor or moderate conditions that could be managed in other settings attend the emergency department? *Emerg Med J* 2011; May 11 (Epub ahead of print).
4. Derlet RW, Richards JR, Kravitz RL. Frequent overcrowding in US emergency departments. *Acad Emer Med* 2001; 8: 151-5.
5. Viccellio P. Emergency department overcrowding: an action plan. *Acad Emer Med* 2001; 8: 185-7.
6. Qidwai W, Ali SS, Baqir M, Ayub S. Patients expectations from an emergency medical service. *J Ayub Med Coll Abbottabad* 2005; 17: 3-6.
7. Wellstood K, Wilson K, Eyles J. "Unless you went in with your head under your arm": patient perceptions of emergency room visits. *Soc Sci Med* 2005; 61: 2363-73.
8. Richardson DB. The access-block effect: relationship between delay to reaching an inpatient bed and inpatient length of stay. *Med J Aust* 2002; 177: 492-5.
9. Imam SZ, Syed KS, Ali SA, Fatima K, Gill M, Hassan MO, et al. Patients' satisfaction and opinions of their experiences during admission in a tertiary care hospital in Pakistan-a cross sectional study. *BMC Health Serv Res* 2007; 7: 161.
10. Tashkandy MA, Gazzaz ZJ, Farooq MU, Dhafar KO. Reasons for delay in inpatient admission at an emergency department. *J Ayub Med Coll Abbottabad* 2008; 20: 38-42.
11. Vieth TL, Rhodes KV. The effect of crowding on access and quality in an academic ED. *Am J Emer Med* 2006; 24: 787-94.
12. Hillier DF, Parry GJ, Shannon MW, Stack AM. The effect of hospital bed occupancy on throughput in the pediatric emergency department. *Ann Emer Med* 2009; 53: 767-76. e3.
13. Herring A, Wilper A, Himmelstein DU, Woolhandler S, Espinola JA, Brown DF, et al. Increasing length of stay among adult visits to US Emergency departments, 2001-2005. *Acad Emer Med* 2009; 16: 609-16.
14. Falvo T, Grove L, Stachura R, Vega D, Stike R, Schlenker M. The opportunity loss of boarding admitted patients in the emergency department. *Acad Emer Med* 2007; 14: 332-7.
15. Institute of Medicine. Committee on the Future of Emergency Care in the United States Health S. Emergency medical services at the crossroads. *Natl Academy Pr* 2007.
16. Cross E, Goodacre S, O' Cathain A, Arnold J. Rationing in the emergency department: the good, the bad, and the unacceptable. *Emer Med J* 2005; 22: 171-6.