

Management of Emergency Department Overcrowding (EDOC) in a Teaching Hospital

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ABSTRAK

Kesesakan Jabatan Kecemasan (EDOC) telah menjadi masalah yang tidak pernah selesai. Ia ditakrifkan sebagai permintaan perkhidmatan kecemasan melebihi keupayaan Jabatan Kecemasan (ED) untuk menyediakan penjagaan yang berkualiti dalam kadar masa yang sesuai. Penutupan wad hospital atau penyekatan akses untuk menahan kemasukan pesakit adalah salah satu punca yang penting dalam menyebabkan kesesakan Jabatan Kecemasan. Keadaan ini menjadi semakin teruk dalam situasi bencana. Kaedah yang tertentu perlu dirangka untuk mengatasi masalah ini. Langkah-langkah dalam menguruskan EDOC adalah: 1. Mengenalpasti EDOC, 2. Memulakan tindakan, 3. Membaikpulih aliran pesakit, 4. Menetapkan matlamat rawatan pesakit dan 5. Menggerakkan sebuah pasukan untuk Pendahuluan triage atau laluan cepat.

Kata kunci: kesesakan, Jabatan Kecemasan, bencana, katil hospital

ABSTRACT

Emergency Department Overcrowding (EDOC) has been a longstanding problem. It is defined as a situation where the demand for emergency services exceeds the ability of an Emergency Department (ED) to provide quality care within appropriate time frames. Hospital beds closure or access block to ward admission is one of the most important cause of Emergency s e.g. disaster. A surge response entails even greater responses including implementing Department overcrowding. This could be compounded further in events of a patient surge eg affirmative measurement in order to mitigate the issue in tackling the situation. The steps in managing EDOC were: 1. Recognizing EDOC, 2. Initiating action, 3. Maintaining patient flow, 4. Setting clinical goals and 5. Deploying a Surge Team for Advance Triage or Fast Tract.

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Keywords: Emergency Department, overcrowding, surge, hospital beds

INTRODUCTION

Hospital beds closure or access block to ward admission is the single most important cause of Emergency Department overcrowding (EDOC) (Forero & Hillman 2008). This could be compounded further in events of a patient surges e.g. disaster. Despite increased political, administrative, and public awareness, EDOC situations continue to rise in frequency and severity (Bond et al. 2007). A surge response entails even greater responses including implementing affirmative measurement in order to mitigate the issue in tackling the situation.

We report a case of EDOC and surge management of this situation. Our Emergency Department of UKM Medical Centre (ED UKMMC) receives high volume of patients (>72,000/year) (Emergency Department 2011). Cases vary from critical to non-critical, pediatric, geriatrics, medical and trauma. Treatment area is divided into dedicated areas of red (critical), yellow (semi-critical) and green (non-critical) zones. Patients who arrive at the ED are triaged according to vital signs and red flag signs/symptoms into these three triage categories.

Patients are assessed and necessary treatment is given. Disposition of the patients are either to home, admitted to the wards, admitted to the observation ward or to the mortuary. The red (critical) zone is a 5 bedded area, including 1 pediatric and 1 cardiac bed, the yellow zone

has 13 beds area and the observation ward was 13 bedded areas. When all of these beds occupied, any new patients are lodged at the walking space, either on hospital beds or on foldable beds. The situation required surge intervention when patients that arrived to the ED exceeded the capacity of all available beds. The green zone are 6 cubicle areas which are wall partition convertible to individual room and sees walk in patient. This area receives an average of 150-180 cases per day.

CASE REPORT

Wednesday 21st March 2012 was a historical date for ED UKMMC. Starting from 1500 hours that day we stopped taking all non critical cases that came to our doorsteps. Prior to the historical date, we received increasing number of patients started on Monday (274) and Tuesday (243). On Sunday alone, total number of patients admitted to all ward was 37. On Monday, the planned admission was 37 patients, but since the medical wards are full, only six patients are accepted for admission. This brought a backlog of patients to the following day, where an addition of 16 medical patients that needed admission. Since the admission to ward and patient arrival to ED is continuous, at any one time of the day there were over than 30 medical patients temporarily placed throughout the ED.

On Wednesday 21st March after our ED ceased to accept any non-

emergency cases, the total registered patients dropped 15% to 173. On Thursday the number dropped even further to 84.

Admission to wards was constant throughout the days which were 22 on Wednesday and 20 on Thursday. This cleared up the backlogged patients and made ED more manageable.

DISCUSSION

We identified and implemented several key principles that are critical in the management of the surge.

RECOGNIZING EDOC

The definition of EDOC is an increase in the demands placed on an ED, given the normal capacity in which the ED can maintain standard of care (Forero & Hillman 2008). Several criteria have been used to help define overcrowding; these include ambulance diversion, staffing, availability of beds and ED volumes (Lynn & Kellermann 1991; Schull et al. 2002; Kollek 1990; Graff 1999). In this case EDOC was recognized by the lack of space and portable beds for placement of critical and semi-critical patients in the ED, hence translating to inability to provide necessary patient care.

INITIATING ACTION

Once the surge causing EDOC has been recognized, disaster plan activation was necessary.

The ED consultant and Director of hospital were informed. Nearby

hospitals were also informed. Strategies such as capacity enlargement plan have been implemented. The ED has been reorganized to facilitate the overcrowding of patients in the yellow and red zones.

MAINTAINING PATIENT FLOW

There is a need to maintain flow of critical and semi-critical patients throughout the system and avoid any bottlenecks where possible. Intake of green (non-critical) patients were halted and advised to be treated at nearby hospitals. The non-sick, non-surge patients were attended and discharged to community providers. Inbound EMS patients were diverted to nearby hospitals, e.g Hospital Kuala Lumpur or Serdang. Once the green zone was cleared, patients from the yellow zone can be relocated there. Staff and necessary equipments such as defibrillators and emergency trolley are transferred to the green zone. Reallocating resources specifically permits more space and beds for critical and semi-critical patients.

SETTING CLINICAL GOALS

Notification of EDOC should prompt review of staff work practices in anticipation of increased workloads. The issue is not to work faster or harder than normal, but is to do the most for the most. The standard of care is not changed and priority patients such as life/limb threat, urgent bedside procedures (analgesia, splitting), disposition and patient comfort are not jeopardized.

DEPLOYING A SURGE TEAM FOR ADVANCE TRIAGE OR FAST TRACT

Advance triage role is to divert non-emergency patients to a non-ED destination, provide immediate care necessary. It is to prevent passive reception of patient at triage that can swamp the ED, causing overcrowding and lead to impaired clinical care. Other alternatives such as dissuading ED use through media campaigns and diversion of patients to walk-in clinics have been proposed; however, most evidence suggests these are ineffective strategies (Hutchison et al. 2003; Affleck & Innes 2003). The difference between total diversion and advance triage / fast tract is that the latter was 1) safe and did not appear to provide lower quality of care; 2) because they require less resources and cost-effective (Yoon 2003). Several reports conclude that the operation of an ED fast-track system appears to be efficient, operationally cost-effective, safe, and improves patient satisfaction with care (Yoon 2003). In this case several senior doctors were placed in the secondary triage to provide immediate care and necessary referral to the non-emergency patients even prior to their registration at ED. Patients with pre-existing hospital numbers were registered for medicine only and discharged from the secondary triage.

CONCLUSION

The most common surge and EDOC confronting EDs is the overwhelming demand on a very busy day and aggravated by access block. This

overcrowding of patients has shown to be associated with adverse patient outcomes. We believe that the identification of EDOC strategies can lead to better outcome in disaster or overcrowding situations. These measures managed to bring down the number of patients and improve working space. Future plans include creating a temporary inpatient ward where patients admitted to wards can be lodged.

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