Bulletin of Emergency And Trauma

The Role of Electronic Triage System in Management of Hospital Emergency Department

Amin Daemi

Department of Health Services Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran

*Corresponding author: *Amin Daemi*
Address: Department of Health Services Management, School of Health Management and Information Sciences, Iran University of Medical Sciences, Tehran, Iran.
e-mail: daemi.a@tak.iums.ac.ir

Dear Editor,

Emergency department (ED) is one of the most important parts of hospital through which a considerable proportion of hospitalized patients enter the hospital. In addition, it has a significant role on the picture of the hospital in the mind of the general public. Because you may know by a handful the whole sack! Thus the management of ED and optimized use of the available resources in it deserves attention. Within the ED, triage is used to prioritize the visitors. The triage is a process for sorting the patient according to their acuity. Although the primary purpose of the triage is to identify those patients who cannot wait safely, the data produced during it can be used for secondary purposes. Such data can be interesting for managers, policy makers and researchers. The Electronic Triage System (ETS), which recently is developed and used in the country, can accelerate such secondary uses of the triage data and provide the authorized individuals with the quick reports [1,2].

One of the reports that the ETS provides, is the number of ED visitors during the work shifts and during the user-defined time period. The report is presented as total number and the number of visitors in each triage category. This report can show the patterns of ED visits for working shifts (morning, afternoon, night), weekdays, and for the months of the year. People may know some patterns of visits by working in the ED, for example the reduced number of visits between 2 to 6 AM. But the reports of the triage system replace such subjective patterns with objective statistics. Then the officials, by using these reports, would be able to predict and supply the ED with the needed resources (human, physical, and financial resources) in different times. Furthermore, at the national level, knowing the case-mix of the visitors (distribution of the visitors in triage categories) would clarify and simplify the works of comparing performance of EDs, and allocating financial and other resources to the EDs.

Another report that the ETS provides is the triage time. The report includes the average time of filling the triage form for the ED visitors and the average time between the triage and the first visit by the ED

physician. The report is presented as overall average times and as divided by the triage categories during a user-defined time period. Since it is expected that higher acuity triage categories experience shorter waiting time for being visited by ED physician, this report can help us in monitoring this issue. So that when it is needed, appropriate measures take place to achieve the goal. The average time of completing the triage form can reveal the need for attending fast typewriting courses. Finally, the triage time and the waiting time for the first visit by the physician are two indicators of Ministry of Health to assess the performance of EDs in the national level [3].

The ETS also has the capability to provide us with the rate of over-triage and under-triage. This report is based on the opinion of the physician who first visited the patient. It can be used to feed back the triage nurses or to hold retraining courses of triage for them. The report also can be used to calculate the inter-rater reliability of triage (nurse-physician agreement). Age and gender mix of the ED visitors and the main complaint of them are other reports that a triage system should provide. These reports can be used to disease surveillance and early detection of epidemics. Furthermore, since the needed resources of traumatic patients are different from those of non-traumatic ones, the report of number of traumatic patients and their proportion to all patients that admitted to the ED may help us in optimized providing and allocating resources within the ED. The data about vital signs and the consciousness level of patients may be interesting for researchers and availability of them on the triage system would facilitate the research.

This paper described some important reports that a triage system may provide and the usage of such reports. The reports can provide valuable information for managers, policy makers, and researchers. The viewpoints are mainly resulted from the experience of implementing the Electronic Triage System (ETS) for the first time in the country. The discussed reports are either the features of the ETS or the recommendations for next versions of it or any other triage systems.

Conflict of Interest: None declared.

References

1. Pourasghar F, Tabrizi JS, Ala A, Daemi A. Developing Intelligent Electronic Triage System Using Emergency Severity Index. *Health Information Management.* 2014;**11**(5):538-49 [in Persian].
2. Pourasghar F, Daemi A, Tabrizi JS, Ala A. Inter-rater Reliability of Triages Performed by the Electronic Triage System. *Bull Emerg Trauma.* 2015;**3**(4):134-137.
3. Razavi SHE, Masoumi G, Jalili M, Siah-tir M. Indexes for the emergency department (1): Ministry of Health and Medical Education- Deputy for Health- Center for Accreditation and Supervision on Treatment- Administration of Hospital Emergency Department [in Persian].