

### 339: A STUDY ANALYSIS OF EMERGENCY DEPARTMENT QUALITY

Cremonesi P., Sartini M., Tamagno R., Perdelli F., Orlando P.

#### Objective:

Scope of the present study was to evaluate the quality of an emergency department by monitoring the lengths of stay (LOS), the number of inpatients and the number of patients who leave without being seen by a physician (LWBS).

#### Methods:

The study was performed at the Emergency Department (ED) of one of the bigger city hospital in Genoa (Italy) which is equipped with a computerized system for recording the data. The survey was carried out during a 4 months period. During this period, we analyzed indicators of performance such as waiting time, and we evaluated the ratio of inpatients *versus* all ED patients, and the ratio of patients who leave without being seen by a physician (LWBS) *versus* all ED patients.

The patients were classified according to triage classification (Class 0 white: non urgent patients, not requiring investigation; Class 1 green: non urgent patients requiring investigation; Class 2 yellow: severe patients; Class 3 red: very severe patients). Next, we correlated the waiting time to the class of each patient. Our results were compared with data from other local and international studies.

#### Results:

The ED hospital treats approximately 53.000 patients a year. During the examined period, the ED treated 14.828 patients.

The percentage of inpatients/all ED patients was 19.04 %, whereas the LWBS/all ED patients percentage was 4.71%. In more details, we observed that the rate of inpatients increases with the severity of the illness, whereas the LWBS rate decreases with the severity of the illness. In addition, the value for the non-urgent patients not requiring investigation was 19.13% (see table 1).

Table 1. Percentage of inpatients and LWBS according to the severity.

	Inpatient/all ED patients	LWBS/all ED patients
Class 0 White	1.79	19.13
Class 1 Green	13.69	3.97
Class 2 Yellow	60.03	0.43
Class 3 Red	87.25	1.93

In the attempt of understanding the reasons for the percentage of patients who leave without being seen by a physician, we considered the waiting time. In fact, the LWBS rate can be used as a clinical indicator that reflects patients' satisfaction with care: Patients waited an average of 33.48 minutes (median 17 minutes, range 0-424). We correlated the waiting time with the severity of the patients. Non-urgent patients (class 0) waited an average of 48.35 minutes (median 23 minutes, range 0-424 min). Class 1 patients waited an average of 35.36 minutes (median 21 minutes, range 0-424 min). Urgent patients (class 2) waited an average of 12.82 minutes (median 9 minutes, range 0-118 min). Class 3 patients were immediately helped and the waiting time (median 6 minutes, range 0-23 min) was related to the delay in the registration made by the physician after the initial medical assessment.

A study conducted in ED in California reported that the average waiting time is about 56 min (median 38 minutes). Following a CQI (Continuous Quality Improvement) project, a separate study reported a median waiting time of 46 minutes for LOS of non-urgent patients not requiring investigation.

#### Conclusions:

The present study reveals a good flow of patients with reduced waiting time. As a consequence, the service provided by the ED in Genoa can be considered of good quality. However, the percentage of LWBS is high for the non-urgent patients. Other studies reported a 2.4% LWBS versus our 4.71%. Possible explanations could be a not efficient

primary care and/or long waiting time for specialist services. As a consequence, patients may go to the ED without a real necessity. The solution could be to organize, nearby the ED, outpatients ambulatory for patients of class 0.

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