

The effectiveness of a fast track in reducing waiting times, length of stay, total costs, mortality rate and overcrowding in emergency departments

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Abstract

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Protocol

Objective: To evaluate the effectiveness of a fast track (FT) area in reducing waiting times, length of stay (LOS), total costs, mortality rate and overcrowding in the emergency department (ED). **Methods:** This cross-sectional study utilized a prospectively collected quantitative record from the ED of an urban teaching hospital in Shenzhen, China, from October 1-28, 2016. The FT area was open for two weeks, followed by another two-week period in which the FT area was closed. On FT days, non-urgent cases, defined as those designated as category 4 or 5 on the Canadian Triage Acuity Scale (CTAS), were assessed and processed in the FT area. On non-FT days, all ED patients, including non-urgent patients, were assessed and processed using the traditional procedure. **Outcomes included:** 1) all patients' waiting times for assessment; LOS; total costs; consumer complaint rate; number of patient leaving without being seen (LWBS); mortality in the ED; the National Emergency Department Overcrowding scale (NEDOCS) score, which was used to evaluate the overcrowding level in the ED; and the ED personnel's satisfaction level. **Results:** A total of 11048 patients presented to the ED during the FT days, and 10283 presented during the non-FT days. During the FT days, the waiting times decreased from 23 minutes to 12 minutes, the LOS was shortened from 58 minutes to 29 minutes, and total ED costs were reduced from 211 to 97 yuan (RMB). The consumer complaint rate on FT days was significantly decreased compared with the rate on non-FT days (5 vs. 15, respectively, $P=0.016$). The LWBS and mortality rate on FT days were lower than on non-FT days (1.65% vs. 3.21%, $P<0.001$, and 0.25% vs. 0.41%, $P=0.048$, respectively). The NEDOCS score during the FT days was reduced from 200 to 114 ($P<0.001$). ED personnel's job satisfaction improved during FT days. **Conclusion:** FT lessened ED overcrowding according to the NEDOCS score, reduced patients' WTs, LOS, total costs, consumer complaint rates, LWBS rates, and the mortality rate in the ED. In addition, ED personnel's job satisfaction level was also improved by FT.

Step 1.