

Quality indicators for the assessment of ST-segment elevation acute myocardial infarction (STEMI) networks. How hospital discharge records could be integrated with Emergency medical services data: the Emilia-Romagna STEMI network experience

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Abstract

BACKGROUND:

The assessment of the regional network for ST-segment elevation acute myocardial infarction (STEMI) is fundamental for quality assurance. Since 2011 all Italian Health Authorities, in addition to hospital discharge records (HDR), must provide a standardized information flow (ERD) about emergency department (ED) and emergency medical system (EMS) activities. The aim of this study was to evaluate whether data integration of ERD with HDR may allow the development of appropriate quality indicators.

METHODS:

Patients admitted to coronary care units (CCU) for STEMI between January 1 to December 31, 2013, were identified from the regional HDR database. All data were linked to those of the regional ERD database. Four quality indicators were defined: 1) rates of EMS activation, 2) rates of EMS direct transfer to the catheterization laboratory (Cath-lab), 3) transfer rates from a Spoke to a Hub hospital with angioplasty facilities, and 4) median time spent in ED.

RESULTS:

In 2013, 2793 patients with STEMI were admitted to the CCU. Of these, 1684 patients (60%) activated EMS and were transported to Spoke or Hub hospitals; 955 (57%) entered directly in CCU/Cath-lab; 677 were transferred directly to a Hub hospital ED without being admitted to a Spoke hospital. The median ED time in Hub hospital was 47 min (IQR 24-136) and in Spoke hospital 53 min (IQR 30-131).

CONCLUSIONS:

The integration among administrative data banks (i.e., HDR with ERD) allowed the assessment of the regional STEMI network and the identification of potentially useful quality indicators. Their easy availability should enable comparisons with local, national and international standards, and may favor quality improvement