

Development and evaluation of clinical indicators in a CQI project involving 72 Sicilian Hospitals

Frazzica P., Giambelluca S., Perraro F.

Objective:

The main objective is to measure the quality improvement of clinical performances in 210 departments of the 72 public hospitals in Sicily through the development and evaluation of a set of clinical indicators.

Methods:

The wide variability in the quality of care and services offered to the population pose relevant equity problems for the Sicilian Health Service. CEFPAS, the Centre for Training and Research in Public Health and Clinical Sciences of the Sicilian Region has designed, and is carrying out, a three year project (named QUOS) in 72 Sicilian Public Hospitals comprising 77 Radiology, 68 Laboratory and 63 Emergency Departments. The aim is to improve appropriateness, effectiveness and efficiency of these departments in three selected aspects of quality: managerial, perceived and professional. The project is based on a *bottom up* approach and on *benchmarking*. A set of simple, shared, relevant clinical indicators (33 in total) were developed by a group of regional experts. These indicators, related to the expected results of the project, are reproducible in all 72 hospitals because they are based on data that should usually be available. They refer particularly to: minor head injuries and cardiac markers in E.D.; chest x-rays and blood electrolytes for non-urgent hospitalized patients; preparation for urography and barium enema; abdominal ultrasonography and protein electrophoresis for outpatients. The selected indicators are all linked to guidelines and protocols. The main aspects of the survey refer to waiting lists, appropriateness of requests and services, possible wastes.

The validity of these indicators was pre-tested in 4 hospitals. Two workshops involving about 200 hospital professionals were held at CEFPAS to share and finalise them before their implementation. In order to determine the starting point, the first data collection (retrospective and relative to December 2001) was carried out in March 2002. A second data collection was carried out in December 2003 and these are still under elaboration. Data analysis shows a wide variability in terms of data availability and clinical performances.

Results:

The improvement of performances of indicators between the starting situation and the prospective evaluation is evident (this goes from 5% to 25%) especially for the appropriateness of requests and the decrease of wastes and shortening of waiting lists. These are some examples:

Indicator:	Dec. 2001	Dec. 2002
Abdominal ultrasonography	%	%
• Requests with diagnostic query	67.0	72.2
• Pathological Reports	31.6	46.0
• Confirmation of diagnostic query	36.4	43.7
Minor head injuries in Emergency Departments		
• Patients who have undergone cranial x-rays	59.6	49.9
• Patients who have undergone CAT	12.4	24.9
• Patients sent back home with guide-lines	55.4	87.4
Incomplete preparation of patients for urography and barium enema		
• Hospitalised patients	16.5	8.4
• Ambulatory patients	19.0	11.0

While monitoring on the above indicators will continue, a new set of indicators has been defined using a *bottom-up* approach. These involve: spinal cord injury; acquired certification in basic and advanced life support; INR /PTT (prothrombin time/partial thromboplastin time) in emergency departments; management of acute asthma attacks. Data collection on these indicators will be forthcoming.

Conclusions:

The present results are promising. The involvement of health personnel has grown; data availability and quality have increased; appropriateness of requests and services is progressively improving. Several departments have linked these indicators to their performance results and economic motivation. Training

activities and continuous monitoring of processes and outcomes will allow the reduction of the main shortcomings. The third data collection is underway.