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### Changing Hospital Organisation Criteria: From Clinical Specialties to Different Levels of Care

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**Traditional hospital organisation, structured hierarchically along the lines of clinical specialties, generates duplicate costs and is not able to guarantee adequate answers to the different levels of patient needs. For this reason, the Italian government, both at national and regional level, contemplated the creation of clinical departments where hospital resources (beds, rooms, technologies and nurses) have to be shared by many teams of specialists.**

Organising hospital departments by patients' intensity of need is emerging as the most interesting solution but this organisational reengineering requires a strong cultural and informative change. Careggi Hospital undertook this change process five years ago. Although some cultural resistance still has to be overcome, interesting innovative outcomes tend to emerge in terms of IT and Management by Objective (MBO) systems.

#### The Careggi Hospital and the Organisational Change Process

Careggi Hospital is the main clinical hub of the Health Regional System of Tuscany. It is a teaching hospital and activities are performed in 25 different buildings and 12 departments created on the basis of clinical pathways. This means that in more than 95 percent of cases, patients entering the hospital will receive all the health services they need inside the same department.

The organisational change started at the end of 2004, when there were 141 specialists teams, each of them claiming and managing its own resources. At that time it was clear that dealing directly with a such a large number of clinical units could not be the best solution for the general directorate to manage the system. So those units were grouped inside the 12 new departments (ten clinical and two diagnostic) and new innovative rules were set concerning the production process. The main pillars of the new model were the distinction between the professional dimension (how to produce) and the productive one (what to produce) and the allocation of resources (beds, nurses, technologies and rooms) under the authority of the departmental management.

In this new model the specialists no longer have their own resources but have to manage the care of their patients by negotiating annually the use of departmental resources with the management.

On the other hand, these resources are organised by the department on different areas characterised by different levels of assistance to be provided. Management of these settings was assigned to a new organisational figure, the nursing coordinator. All settings were classified in three different levels:

- Level 1: intended to receive clinically unstable patients needing high intensity care;
- Level 2: designed to provide a medium degree of assistance and organised to take care of the majority of patients entering the hospital for elective surgery; and
- Level 3: containing all low care activities such as outpatient treatments and diagnostic procedures.

As a consequence, each department organisational chart was representable as a matrix characterised by two different middle manager dimensions: a clinical one in charge of managing patients's pathways; and an assistance based one taking care of logistics and resource optimisation.

#### A New System for Recording Costs and Medical Events

Due to the change process and its consequences in terms of responsibility, a new organisational system of coordinates for recording resource consumption and clinical events had to be rebuilt on the basis of this new double dimension.

Indeed, the hierarchical recording system that in the older model identified at the same time the medical team, the nursing team and their own rooms proved to be no longer suitable.

Since both practical experiences and literature about the argument were quite poor in Italy at that time, about five months were spent in thinking about a new informative recording system able to cope with this increased complexity.

The solution that was identified takes into account the need of each event to be recorded by keeping two different kinds of information: who is generating the event (clinical dimension) and the nursing setting where it is generated (the place where the event to be recorded is happening and the level of care characterising it). In this new perspective, it was necessary to map all crossings among these two dimensions and to consider each crossing point as a possible organisational recording centre.

This approach allowed the monitoring and control of costs and medical events in a double perspective simply by calculating sums of rows (costs and events articulated per setting) and columns (costs and events classified per specialist unit).

## An Overview of the Implementation Process

The ADHOC Project, a challenging three year plan worth about five million euro and supported by three external consulting organisations, began in 2005. It aimed at implementing such an organisational change by introducing new criteria based on intensity of care, by stimulating clinicians to think over their activities and by creating strong conditions for cultural change too.

During the first year, all new hospital settings were defined and classified and a comprehensive training programme was started for the majority of hospital personnel; medical, nursing and administrative. At the end of 2006 the new organisational coordinates plan was approved and tested successfully on the human resources administration system. Then, in March 2007, it was activated in the logistic and accountability softwares. This step was undertaken by relying mostly on the involvement of the nursing staff and administrative clerks. The most demanding step was in December 2007, when the new plan was switched on on all remaining clinical and diagnostic software.

Due to the significant risks concerning possible consequences on hospital activities, it was switched on during the night. A call centre devoted to supporting personnel in this change was set up and it proved to be very useful for removing some blocking problems that had emerged, especially in the morning hours of the first two days. After the first week of implementation, calls were reduced to routine level and almost all the reported problems had already been solved.

## The Role of ICT in the Change Process

As shown above, Careggi's change relied heavily on ICT solutions. The percentage of resources invested in ICT in Italy is only 0.8- 0.9 percent of the total health expenditure, compared to the 2.5 percent average of EU countries and 3.5 percent of Northern America (source Gartner Group – 2006). At the same time, ICT provider reliability tends to be less adequate for software solutions than for hardware.

In our experience, we had to deal with both small and big providers. Small providers have sometimes proved to be very flexible and effective in implementing innovative ideas but often had been not able to support the growing scale of the change process. The bigger providers, although reliable in terms of coping with the scale, at the beginning tended to be less flexible and to slow innovation by pushing their standardised solutions. Only when they began to understand that the implementation of this new model of hospital organisation is becoming standard, did they start to adequately support our efforts.

## New Perspectives for the Management by Objectives System

Now, the main ongoing challenge concerns the development and implementation of a new Management by Objective (MBO) system. The new recording system based on intensity of care criteria has a strong latent power but needs a clear and shared organisational context to produce the best effects possible.

Analysing and clarifying the nature of responsibilities of the main actors was the top priority. New nursing responsibilities have emerged and traditional managerial responsibilities of clinical middle managers have to be redefined. Setting objectives, assigning budgets and assessing results can no longer be carried out by the old methods.

In this reconfiguration process, the clinical body is made responsible for effective case management. The nursing middle management, in addition to its traditional assistance tasks, is required to organise and manage the resources of settings by maximising efficiency and personalising assistance to patients. These are the principles driving the process of building the new MbO system, but its implementation is not easy as proclaiming them.

Main opportunities generated by this new system concern:

1. Splitting up responsibility on organisation of resources from responsibility on their use;
2. Flexibility of the allocation of resources, thanks to the annual negotiation of resources between the clinical specialist units and departmental management; and
3. Shifting most of the attention from organisational structures to activities performed so to incentivise the adoption of an Activity Based Costing system.

Also some problems seem to arise:

1. Strong cultural difficulties for the clinical middle managers in accepting their new role; and
2. Risk of burdening the negotiation procedures inside departments (conciliating nursing objectives and constraints with clinical ones.)

## Conclusion

Looking back at the whole process and thinking about the present trends, it seems that the undertaken way is the right one. Certainly, this process has improved several aspects of hospital organisation. The most evident being the significant reduction of inpatient beds, from 1,830 at the beginning of 2005 to 1,615 now, with a higher occupation rate (almost 90 percent) and the same level of production value.

Other positive outcomes will probably emerge in years to come, when all hospitals will be organised on the basis of intensity of care and all actors are completely aware of their new role

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