

# Physicians' and Managers' Approach to Quality - Experience in Italian Hospitals

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Literature provides many contributions about quality management and quality improvement. A few authors investigated the kind and strength of contribution to quality from physicians and managers. This study investigates the different approaches of physicians and managers towards managing and improving quality within healthcare organizations. Research questions are focused on the existence of any kind of correlation between physicians' and quality managers' skills as regards quality management. Do they work independently or is it possible to find out some relationship between their effort in enforcing service quality. In addition to that, the paper investigates if there is a correlation between organization's characteristic (dimension, ownership, teaching/not-teaching hospital) and quality of services. The study investigates an Italian regional-wide external assessment program (performed by Joint Commission International) focusing on a selection of item/standard related to physicians and quality managers' behaviours. The study did not found significant correlation between behaviours and hospitals' structural characteristics as well as between physicians' managerial behaviours and managers' behaviours as regards to quality. Physicians' and managers' contributions are independent to each other. The influence of managers on clinical behaviours is weak. Quality management depends mainly on people, not on structural elements.

*Keywords:* healthcare organizations, quality management, physicians' behaviours, quality assessment, clinical management, clinical governance

## Introduction

There are many contributions about the importance of quality management and quality improvement. Contributions are mainly focused on issues such as defining what "quality" is and how it can be measured (Braithwaite, Greenfield, & Westbrook, 2010; WHO, 2003; Øvretveit & Gustafson, 2003; Shaw, 2001). This article aims at investigating a different and specific aspect of quality in healthcare organizations by focusing the attention on the different contributions that managers and professionals give to quality. Particularly, the research

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done aimed at investigating an important and little studied topic by placing a specific question: is there any kind of relationship between the contributions given by quality managers and the contributions given by physicians with a direct responsibility in patient care?

Research has considered both quality of managers' and physicians' behaviours at the same level according to two considerations. First of all, many clinical and managerial choices have considerable implications in the use of resources and, as a consequence, in economical performances of healthcare organizations. For example, adopting different clinical procedures and/or practices can result in higher or lower costs. Secondly, from the organizational point of view, physicians' behaviours can create different working conditions, such as managers' one. For instance, the criteria for the selection of team members or the leadership style (more or less participative) can widely influence the professional team's motivation and, as a consequence, performances. Furthermore, it is possible to investigate many interactions between quality and/or clinical risk managers and physicians affecting the way clinical performances are achieved. In fact, clinical choices are affected on one side by technical and scientific knowledge and, on the other side, by organizational procedures, organizational behaviours, and organizational culture. Clinical outcomes are measured and valued not only by professionals, but also by different levels of management. While, on one side, it is clear that real clinical behaviours arise from these interactions, on the other side, a better knowledge of these interactions is really useful in order to create an organizational environment that fits with the need of a continuous improvement. On this basis, the research aims at measuring the contribution from physicians and quality managers to improve quality and understanding if there is any connection with hospital's structural characteristic. After an analysis of the literature, the paper highlights the methodology used, the results achieved, and the conclusions obtained.

### **Literature Review**

The study focuses on physicians and quality managers. Physicians have a direct responsibility on the quality of care, since they concretely carry out healthcare services. Quality of care, anyway, can also be influenced by quality managers, who are the managers asked to influence, guide, and coordinate professionals' actions. Physicians' behaviours can be observed from both professional and managerial point of view (Viitanen, Lehto, Tampusi, Mattila, Virjo, Isokoski Hyppölä, Kumpusalo, Halila, Kujala, and Vänskä, 2006; Davies & Harrison, 2003). Literature highlights that the main drivers for clinical decision making have always been patients and their needs. However, the more recent evolution of clinical practices and the change in functioning of healthcare organizations made it increasingly important for clinicians to understand the organizational, economic, and qualitative aspects of their choices (Stoller, 2009; Lane & Ross, 1998). Moreover, physicians have to appraise these impacts not only at the single patient level, but also at the whole set of patients level, considering the healthcare organization where they operate. Finally, they also have to take into consideration the financial sustainability of different protocols and programs and the quality implications related to an inappropriate use of resources. So the clinical perspective is related to many different elements, such as (Francesconi & Ramponi, 2004):

- the continuous evaluation of population needs (clinical effectiveness);
- the connection between health needs and availability of resources (efficiency and appropriateness);
- the impact of introducing new technologies on efficiency and quality;
- the design and implementation of quality policies, standards, and procedures;
- the design of organizational processes and clinical protocols;

- the assessment and evaluation of social and professional needs (accountability and innovation).

A second contribution to quality achievement in healthcare organizations is given by quality managers, whose assignment is to coordinate professionals' actions paying attention to quality of services. In order to reach their aims, quality managers often use coordination tools, such as protocols, procedures, guidelines, etc. (Favalli & Mangiacavalli, 2011) and integration processes (Jones, 2007). Differences between clinicians' and managers' behaviours are summarized in Table 1 (Riley, 1998).

Table 1

*Clinical and Managerial Behaviours*

Clinical behaviours	Managerial behaviours
Focused on the needs of patients	Focused on epidemiological needs at the local level
Not interested in the economical impacts related to clinical decision	Look for appropriate levels of efficiency
Always in touch with patients	Seldom in touch with patients
Immediate response to the patient's needs	Priority setting approach to the patient's needs
Independent and competitive with colleagues	Shares responsibilities and cooperates with colleagues
Scientific approach to problem solving	Pragmatic approach to problem solving
He/she remains in the same company for a long time (all life in some cases)	He/she often changes company

Differences and conflicts between the two roles arise particularly for economic and financial issues and are related specifically to decisions regarding the allocation and use of resources. However, since the 90s in many advanced countries, the strong emphasis on accountability led managers to become more and more interested in evaluating aspects since then previously considered as strictly belonging to physician's behaviour; as a result, conflicts between the two roles strongly increased (Davies, Hodge, & Rundell, 2003; Edwards, 2003; Edwards, Marshall, & McLellan, 2003). In some healthcare organizations, the emphasis on such elements is so strong that clinicians really fear about managers' interference in those areas previously considered as a "professional kingdom"; so in order not to lose their organizational influence, they really change their behaviours (Davies & Harrison, 2003; Nash, 2003). In fact, since the mid 90's, it is widely recognized that, in order to effectively accomplish their professional role, physicians need to integrate both their managerial and professional competences.

On this theoretical background, the study investigates if there is any kind of correlation between physicians' and quality managers' skills as regards quality management, or better, if they work independently or if there is any kind of relationship between their effort in enforcing service quality. In addition to that, the research investigates if there is a correlation between organization's characteristic (dimension, ownership, teaching/not-teaching hospital) and quality of services, or better, if similar hospitals have similar levels of quality. Both the issues focused on an Italian case, significantly contribute to the advancement of the studies of quality management in the healthcare sector providing interesting questions for further investigation on the field at the same time.

### Research and Methods

The study has been focused on a specific quantitative analysis, whose data result from a region-wide program aimed at assessing all the public and private hospitals accredited to the Regional Health System in Lombardy (Italy). The region-wide assessment program was based on several parameters and standards according to Joint Commission International's approach. The study has selected 13 standards specifically focused on measuring physicians' and managers' behaviours. These standards have been assessed by independent external

surveyors within a quality improvement program promoted in Italy by Lombardy Region from 2002 to 2010 with Joint Commission International (2010) (see Appendix). So two separate groups of standard have been selected:

(1) PB (Physicians' Behaviours): 10 behaviours which are particularly related to physicians' activities (both clinical and organizational) and their clinical responsibility.

(2) QME (Quality Management Effort): three behaviours referring to quality managers' capability of defining, monitoring, and sustaining the quality improvement process (quality plans, priorities identification, and improvement programs).

The selection was performed through a focus-group with JCI senior surveyors, who experienced this methodology for long time. The selected behaviours are detailed in Table 2.

Table 2

*Relevant Behaviours*

Group	Standard	ME	Content
PB	ACC.2.1	1	A physician is responsible for the patient's healthcare process.
	AOP.1.3	1	An initial assessment of the patient's clinical needs is performed by the physician.
	AOP.1.3	3	The patient's needs are documented in the clinical chart.
	AOP.1.5.1	1	The physician assesses the patient before surgery.
	AOP.1.5.1	2	The pre-surgical assessment is documented in the clinical chart.
	ASC.7	1	The patient's assessment before invasive procedures is documented in the clinical chart.
	COP.2.1	1	The care plan of the patient is defined by the physician, the nurse and other required healthcare professionals within 24 hours from the admission.
	COP.2.1	5	Changes in the care plan are documented by the physician in the clinical chart.
	MCI.19.3	1	Each entry in the clinical chart identifies the author.
	QPS.2.1	1	On an annual basis, clinical leaders determine at least five priority areas on which to focus the use of guidelines, clinical pathways, and/or clinical protocols.
QME	QPS.9	1	The organization plans and implements improvements in quality and safety.
	QPS.9	2	The organization uses a consistent process for identifying priority improvements that are selected by the leaders.
	QPS.9	3	The organization documents the improvements achieved and sustained.

The analysis was performed for a sample of hospitals in Lombardy region (Italy). The hospitals were classified according to the following criteria:

- ownership: public hospital or private hospital, for profit or not for profit;
- dimension: according to the number of beds (both day-hospital and hospitalization);
- type of activity: (teaching or not-teaching hospital; research or not-research hospital; general or specialized hospital).

The entire regional population was composed by 192 hospitals, 41 of them were not assessed because not acute hospitals or small hospitals, 4 hospitals were also excluded from the analysis because some structural information (dimension, number of beds) were not available. The study is then based on 147 hospitals that are the 77% of the population.

### Research Results

A factor analysis conducted on the sample, according to the PB selected MEs, highlighted four different dimensions (see Table 3):

(1) Initial assessment: elements regarding the patient's first assessment (AOP.1.3 EM.1; AOP.1.3 EM.3)—it is a clinical factor.

(2) Pre-surgery assessment (AOP. 1.5.1 EM 1; AOP.1.5.1 EM.2; ASC.7 EM.1)—it is a clinical factor.

(3) Care plan: a care plan (and every further change) is defined by professionals and documented in the patient chart (COP.2.1 EM.1; COP.2.1 EM.5; MCI.19.3 EM.1)—it is a clinical factor.

(4) Physicians' clinical responsibility: physicians' responsibility and the use of clinical protocols are defined (ACC.2.1 EM.1; QPS.2.1 EM.1)—it is an organizational factor.

These four dimensions required a further study to search for possible correlations between them and hospitals' structural characteristics (such as ownership, dimension, and type of activities).

Table 3

*Factor Analysis Results*

Variables	Factor 1	Factor 2	Factor 3	Factor 4
AOP.1.5.1 EM.1	0.0428	0.9714	0.0467	0.0210
AOP.1.5.1 EM.2	0.0447	0.9709	0.0475	0.0242
ASC.7 EM.1	0.1177	0.8568	0.0481	0.0501
AOP.1.3 EM.1	0.9580	0.0872	0.0710	0.0482
AOP.1.3 EM.3	0.9517	0.0896	0.1252	0.0506
COP.2.1 EM.1	0.2034	-0.0271	0.7745	0.0618
COP.2.1 EM.5	0.0169	-0.0243	0.7665	-0.1051
MCI.19.3 EM.1	-0.0010	0.1866	0.5725	0.1767
ACC.2.1 EM.1	0.0728	0.1082	-0.0973	0.8173
QPS.2.1 EM.1	0.0141	-0.0391	0.1862	0.7095

As shown in Table 4, there is no significant correlation between the variables. Only in the case of ownership, there is a higher correlation with Dimension (4) physicians' clinical responsibility. The estimated coefficient indicates a lower level of clinical leadership in private for profit and not-for profit hospitals than the one observed in public hospitals. This fact therefore indicates that private and not-for-profit hospitals pay relatively less attention to protocols and to issues related to the responsibility for the patient's healthcare process.

Table 4

*Correlation Between Four Dimensions and Hospitals' Characteristics*

	Factor 1	Factor 2	Factor 3	Factor 4
Parameter	DepVar = initial assessment	DepVar = pre-surgery	DepVar = care plan	DepVar = clinical responsibility
Interc.	0.2802	-0.7485	0.3237	0.2002
Nr. Ordinary beds	-0.0003	0.0001	-0.0011	-0.0012
Nr. DH beds	0.0025	0.0005	-0.0022	0.0011
General H	-0.3940	0.1660	-0.2077	0.5931
Mono-specialistic H				
Non-teaching H	-0.5306	0.0129	0.1279	-0.0869
Teaching H		-		
Not-for-profit H	0.3201	-0.0126	0.1010	-0.6235***
Private H	0.3245	0.0788	0.0413	-0.5901***
Public H				
Non-researching H	0.4422	0.5870	0.0409	-0.1635
Research H				
$R^2$	0.0620	0.0400	0.8780	0.1209

Note. \*\*\* = Significance at 95% hospital's structural characteristics and quality management peculiarities.

Due to the fact that, for various reasons (lack of time, priority given to other issues, and so on), surveyors did not express a score during on-site visits a high rate of missing scores was registered (about 50% of the sample). The high rate of missing scores influenced the study leading to take into account a smaller sample. This smaller sample included only those hospitals with QME measurable elements score. Once again a factor analysis was performed. Results confirmed that MEs can be considered as a unique factor, that was called “Quality Management” (QM). QM represents the effort of quality managers (non-clinical) in promoting and improving quality.

A further step of the research was focused on the search for correlation with hospitals’ structural characteristics. Evidence from the analysis did not lead to any significant result. This is a very interesting first evidence. In fact, a greater complexity of quality management was expected in large and/or in public hospitals.

The fact that this evidence does not occur suggests that the effectiveness in quality management depends directly on the experience and on the amount of investments made in the past by the hospitals. This means that quality management depends on strategic decisions taken by the hospital in the past, which are not connected to features such as ownership or dimension, but to decisions that management took in order to make the hospital more competitive.

This is a first fundamental result achieved by the study. Strategic commitment is a qualifying element for QM and, therefore, a first indication for hospital clinical governance. Defining a strategy for quality is the primary key for getting a quality management able to define and implement patients’ safety plans, to define and to manage quality improvement projects.

The last step of the study was related to the evaluation of the correlation between the various factors, both clinical and managerial. As shown in Table 5, no significant correlation was observed between “quality management” and “anamnesis”, “pre-surgical assessment” and “clinical leadership”. The only positive correlation (about 30%) was observed with “care plan”.

Table 5

*Correlation Between Clinical And Managerial Actors*

			Physicians			Quality managers	
			Clinical factor			Managerial factors	
			Initial assessment	Pre-surgery assessment	Care plan	Clinical leadership	Quality management
Physicians	Clinical factor	Initial assessment	1	-0.15199	0.04273	-0.14139	0.15644
		Pre-surgery assessment	-0.15199	1	-0.10283	-0.03903	-0.10113
		Care plan	0.04273	-0.10283	1	0.09425	0.28021***
Quality managers	Managerial factors	Clinical leadership	-0.14139	-0.03903	0.09425	1	0.09726
		Quality management	0.15644	-0.10113	0.28021***	0.09726	1

Note. \*\*\* = Significance at 95%.

### Analysis

Research evidence leads to the following conclusions:

- Physicians’ behaviours and contribution to quality can be explained through three clinical factors (patient

first assessment; pre-surgery assessment; attention and accuracy in entering care plan) and one managerial factor (clinical leadership). These factors can be considered as drivers in order to evaluate the level of physicians' involvement in quality management.

- The factor that can be used to assess quality managers' contribution is called "quality management" and summarize their inclination in defining and spreading over coordination tools and quality programs.
- Joining the managerial factors (the one from physicians and the one from quality managers) and performing the factor analysis once again, two different managerial factors can still be observed that is to say that managers' and physicians' contributions to quality are different and independent.
- A significant correlation may be observed only between two factors ("quality management" and "care plan") and no correlation between the different factors considered and hospitals' characteristics has been observed.

Three very significant considerations arise from this study:

- First of all, the large number of organizations that have been observed (147 hospitals—77% of the population) is very significant and allows to represent Italian trends and Italian organizational behaviours.
- Secondly, the evaluation method used (based on external independent audit performed by professionals specifically skilled to evaluate professionals and managerial performances using specific standards) allows to obtain neutral data which strengthen the relevance of the research.
- Thirdly, two groups of very significant behaviours within hospitals have been explained. On one side, clinical behaviours directly related to the search for patients' quality and safety on an individual basis and, on the other side, quality managers' behaviours searching for the best organizational practices are able to reduce variability in managing patients and to provide appropriate services related to the needs of patients (outcome evaluation).

The results of the research are unexpected. No significant correlation was found with the only exception of two elements:

- in private hospital, clinical governance is less significant than it is in public hospitals;
- QME has a positive impact on designing and managing care plans (for all kind of hospitals).

Furthermore, there is a great independence between managerial and clinical actions, in contrast with some studies (Smith, 2003).

## **Conclusions**

Research findings suggest a lack of effectiveness of tools usually used by QM in hospitals compared to professional behaviour. This is an important indication that should lead to rethink managerial activities at least for those items concerning quality improvement in hospitals.

In fact, a detailed analysis of various elements considered in the research results in a very interesting consideration. Taking into consideration two specific elements: (1) planning and implementation skills of quality managers; (2) the systematic evaluation of patients every 24 hours and the focus on five clinical protocols related to the most important cases managed by every hospital unit (these elements are particularly relevant in all considered hospitals), an interesting correlation (over 0.5) has been observed.

In particular, evidence indicates (for all the hospitals in which these elements were assessed):

- In 68% of hospitals, effective planning and implementation of quality processes strongly influence results in terms of systematic re-evaluation of patients every 24 hour and in terms of focusing on at least five clinical protocols. In other words, the existence of a quality manager that supports the planning and implementation

processes lead to more relevant results than in hospitals where these programs are not managed.

- But, in 32% of hospitals, evidence shows both good planning and implementation and poor results. This is definitely a matter to be explored with an ad hoc analysis of individual cases, in order to understand if other variables also affect the results.

- Furthermore, evidence highlights that good results are not achieved without quality managers involved in carrying out the planning and the implementation of effective quality processes. This result provides an interesting starting point for future in-depth research of the topic.

In summary, the following observations emerged from the study:

- the only positive relation observed is between “quality management” and “care plan” factors.
  - quality efforts depends mainly on people’s values and habits and less on hospital’s structural characteristic.
- Quality managers and professionals are the key elements in order to evaluate quality of care within a healthcare organization. In any case, quality managers did not have a strategic role in influencing physicians’ clinical and organizational behaviours. So, it is possible to assume that quality offices do not guarantee a change in behaviours except for what concerns their abilities and their commitment in managing and implementing quality processes.

### Research Limits

The first limit is related to the fact that research is focused only on a selection of standards and measurable elements; another limit is the focus on a regional-base in a single country: Italy. It could be interesting to extend the analysis to other regions and countries. Again, another limit is related to the period of data collected; a longer time perspective could be more interesting.

Finally, as regards to possible future implications, the assessment of the whole set of standards and the analysis of a more complete set of variables could be interesting. Another possibility for deepening the research is developing an international benchmark analysis basing on JCI data and evidences.

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## Appendix

### Joint Commission International

Joint Commission International is a not-for-profit organization, whose mission is improving the safety of patient care through the provision of accreditation and certification services as well as through advisory and educational services aimed at helping organizations implement practical and sustainable solutions. JCI provides accreditation for hospitals, ambulatory care facilities, clinical laboratories, care continuum services, home care and long term care organizations, medical transport organizations, and primary care services, as well as certification for 15 types of clinical care programs. Both accreditation and certification programs are volunteer based. Through these services, JCI supports health care organizations in using an international quality measurement system for benchmarking, defining risk reduction strategies, aiming at best practices, and defining tactics to reduce adverse events. Since 1994, JCI has been working with healthcare organizations, healthcare public entities, and institutions in over 80 countries.

The criteria for accreditation are collected into a Manual (Joint Commission International, 2010) and organized into subject areas and standards. A “standard” is a sentence which describes an expected behaviours regarding healthcare management and/or patient assistance. The specific meaning and aim of a standard is also better explained in a short paragraph called “intent”. Furthermore, each standard is set up into different “measurable elements” (ME), which are specific requirements that will be reviewed and scored during the accreditation survey process. The MEs simply list what is required to be in full compliance with the standard, in order to provide greater clarity to the standards and help organizations educate staff about the standards and prepare for the accreditation survey. Standards are named through an acronym (which refers to the Chapter of the Manual they are located in), followed by a progressive number; measurable elements are listed through progressive numbers too (i.e., standard MCI.2, measurable element ME.1).

Standards assessment is at the basis of the Hospitals Accreditation, a volunteer program where an organization asks to be evaluated in order to achieve “accreditation”. Accreditation is a status, a “praise”, that means the organization meets all the quality and patient safety standards included in the program.

### The Joint Commission International assessment program in Lombardy Region (Italy)

Over the last seven years, the Lombardy Department for Health made a partnership with JCI, in order to use part of their accreditation standards to assess hospitals and to promote some fundamentals in assuring patient safety. This program is compulsory for all the hospitals (public and private) connected to the Regional Health System and is based on a certain number of standards which increased over the years; in 2011 (after seven years from the beginning), the program provides for 125 standards and an overall amount of 461 Measurable Elements (ME).

The assessment process is developed through on-site visits, performed by JCI surveyors, spending one or two days in every hospital (according to its dimension) and observing organizational behaviours in order to collect enough information and score the various MEs. Every ME can be scored as follows:

- 0: not achieved element;
- 0.25: rarely achieved element;

- 0.50: partially achieved element;
- 0.75: often achieved element;
- 1: fully achieved element;
- -1: not applicable element (the ME refers to a situation that is not in place in the hospital).