

## Project report

# Training for quality management: report on a nationwide distance learning initiative for physicians in Spain

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## Abstract

Under the sponsorship of a pharmaceutical firm, a distance-learning course on Quality Management methods was developed at the University of Murcia (Spain) and offered nationwide to primary health care physicians working in the public system. A total of 7104 physicians (47.7% of the census) signed up (at least one in 92.2% of the health centres). The course content follows the author's model of quality improvement, monitoring and design trilogy, but focuses mainly on methods for a quality improvement cycle using a learning-by-doing and problem-solving approach. The unexpected success of this initiative has led us to reflect on the interest in learning about quality improvement methods shown by physicians, the usefulness of the distance-learning approach, and also to continue the project with new initiatives such as: a summary poster, software containing all the necessary tools and data analysis for quality improvement, and a manual.

**Keywords:** distance learning, quality management training

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'There is an increasing interest in quality'. This statement should be familiar to anyone who has read, with any regularity, publications on health care quality during the last 15 years. Often, it is not very clear if it is more a wish than a reality – subjective magnification of any glint perceived here and there. However, during recent years it has been possible to observe objective signs more frequently; this indicates that the interest in quality is real. There is an increasing number of administrations, managers and health systems determined to lay the foundations and to establish a quality management system or programme. Some professional associations are introducing quality of care into their concerns and explicit objectives. It seems to be true that we are in a 'melting moment' [1]. But, what about the professionals who provide health services directly? To what extent are they sensitized and ready to manage quality – their quality? The response to a proposal for a distance-learning course on methods for quality evaluation and improvement showed much higher levels of interest than those that would be expected according to the most optimistic predictions. It is this overwhelming response that has encouraged us to report on this experience.

## The response from primary health care physicians

At the request of a pharmaceutical firm (DuPont Pharma) we prepared, at the University of Murcia, a course on evaluation methods, and techniques and tools to improve quality in primary health care [2]. The distance-learning course was to be offered, through the laboratory's own commercial network, to physicians working in primary health care. Previous small surveys carried out by the laboratory's marketing department indicated a considerable interest in the subject of quality and some estimates of the possible levels of response were made: these ranged from 2000 to a maximum of 3500 or 4000 enrolments. The reality was much more positive: the final number of enrolments was 7104, with the regional distribution shown in Table 1. Such a high number of applications made us design two ways of organizing the course. The first, as it was planned at the beginning, required attendance at two 1-day seminars and had a mentor assigned to each group of 50 participants. The second method was 'distance learning', without seminars and without a specific

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**Table 1** Number of physicians enrolled from each region (by option) and percentages of the total number of primary health care physicians

Region	Number of physicians enrolled			% of total PHC physicians <sup>3</sup>
	Option A <sup>1</sup>	Option B <sup>2</sup>	Total	
Andalucia	706	297	1003	44.2
Aragon	174	168	342	70.9
Asturias	114	80	194	39.8
Balearic Islands	53	84	137	54.6
Canary Islands	170	95	265	51.0
Cantabria	32	28	60	21.7
Castille-la Mancha	143	290	433	54.2
Castille-Leon	177	196	373	89.2
Catalonia	463	514	977	40.7
Extremadura	94	155	249	45.9
Galicia	276	240	516	45.5
The Rioja	26	9	35	35.3
Madrid	288	461	749	43.1
Murcia	136	82	218	42.6
Navarra	95	60	155	60.8
Vasque Country	228	85	313	40.6
Valencia	426	589	1015	52.0
Not specified	36	34	70	—
Total	3637	3467	7104	47.7

<sup>1</sup> Option A – with two seminars and a mentor for groups of 50.

<sup>2</sup> Option B – entirely distance learning, with the option of telephone inquiries.

<sup>3</sup> The denominator is the census of primary health care (PHC) physicians in the public network at the time the course was offered, excluding provinces to which the course was not offered (Huelva, Córdoba, León).

mentor, with only a telephone line for inquiries. For reasons of logistics, the number of enrolments for the first option was limited and therefore there were participants who had to opt for the option with neither mentors nor seminars.

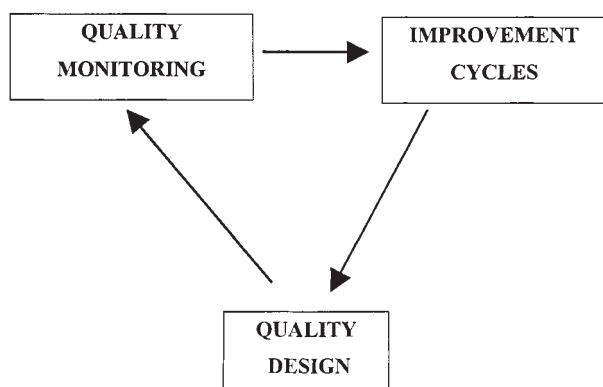
A total of 47.7% of primary health physicians who had access to the course decided to register. According to region the percentage of primary health care physicians enrolled ranged from 35.7% to 89.2% (Table 1). In 1527 of the health centres to which the course was offered, there was at least one physician who enrolled – at least one for 92.2% of the 1649 health centres in the provinces that were visited by the laboratory's commercial network. This very high level of interest, shown by professionals to learn about quality improvement methods, was a very pleasant surprise for the people who had accepted the challenge of organizing the course.

## Course contents and training methods

How was the course planned? First a general framework was designed for quality evaluation and improvement methods; these methods were then presented in an orderly, sequential way, and adapted to the context of the Spanish health system. As for training methods, the 'learning-by-doing' approach

was used and most of the tools and techniques were applied in a series of sequential practical assignments, leading to the completion of a quality improvement cycle. This cycle is real, and was applied to the participant's work environment in the best of the cases; if the circumstances of the environment could not support it, it was simulated. Thus, the participants would, at least, be able to 'touch' part of what guaranteeing quality means, obtain the required methodological knowledge to identify and solve quality problems and have opportunities to improve when the circumstances allow it.

Methods and activities that pertain to quality management programmes are much more numerous than those revised and practised in the course. In this model, the different activities are grouped according to principal points of departure for a quality management programme: (i) the identification of improvement opportunities; (ii) the construction of indicators and their monitoring; and (iii) the design of new services or substantial changes to those that already exist. These three departure points relate to three areas of distinguishable activities in the programme: improvement cycles, monitoring and quality design (Figure 1) which, at the same time, have different immediate objectives (Table 2). This framework is conceptually parallel to Juran's trilogy (quality improvement, control and planning), and Feigenbaum's system for total quality control (quality



**Figure 1** The groups of activities in quality management programmes.

improvement, quality maintenance and quality development). Initially proposed by the author and used for the first time in the Evaluacion y Mejoramiento de la Calidad (EMC) programme, Chile, the framework was adapted later in a generalized way by the University Research Corporation, in the second phase of the quality assurance project financed by USAID.

Each of the three groups of activities can be performed by applying different methods and approaches. The course focuses mainly on the activities and methods for an improvement cycle. We assumed that it was neither possible, nor strategically recommended to try to learn or teach everything at once. It was intended that after completing the course the majority of participants should have an interest in broadening their knowledge of methods and activities related to quality monitoring and quality design; such concepts could only be introduced in the course.

The course material is divided into two modules and 11 units, seven of which correspond to the principal steps of an improvement cycle, starting with the identification of a

quality problem or opportunity to improve, and ending by documenting the improvement. All units have reading materials to study and a self-assessment questionnaire to check the understanding of the unit contents. The majority of the units also require the completion of a practical assignment, to be submitted to the mentors in the case of the students enrolled in the course with seminars, and to the University of Murcia itself in the distance-learning course. Both of the units and the practical exercises are presented in a logical and interdependent sequence, corresponding to the improvement cycle steps (Figure 2). The specific way in which the units have been structured is outlined in Table 3.

Course completion demands continuous work, averaging 2–3 hours per week during 6–9 months. This time commitment is a considerable amount for the majority of the participants, and requires a certain self-discipline, which necessarily implies that not all of the physicians enrolled are able to follow it at the stated pace. Furthermore, the initial offering of the course coincided with the public competition (including an exam) for a permanent post in the health system in various regions. Nevertheless, the percentage of active physicians who managed to keep up-to-date in the second module (that is, they attended the seminars and sent the practical exercises to be assessed, along with the first module self-assessment test), was close to 60%. There are, obviously, differences between the various regions, provinces and groups, ranging from 45% to 87%. Nevertheless, all participants have the course material to use as a reference and aid as needed in the future.

### Distance learning and the role of health professionals in the improvement of quality

This experience leads us to two major reflections: (i) the great interest health professionals have shown concerning

**Table 2** The groups of activities in a quality management programme: departure point and immediate objective

Group of activities	Departure point	Immediate objective
Improvement cycles	Identification of a quality problem or improvement opportunity in any aspect of the services offered	Problem solving React to and take advantage of the improvement opportunity discovered
Monitoring	Identification of relevant aspects in the services offered and construction of indicators to monitor their quality Selection of the indicators on the aspects subjected to improvement cycles or to quality design projects	Identification of quality problems or improvement opportunities
Design	Planning of a new service to be offered Identification of clients' new needs and expectations Identification of parameters and results to be achieved in a given service	Design of the care processes to obtain the predetermined, desired, results

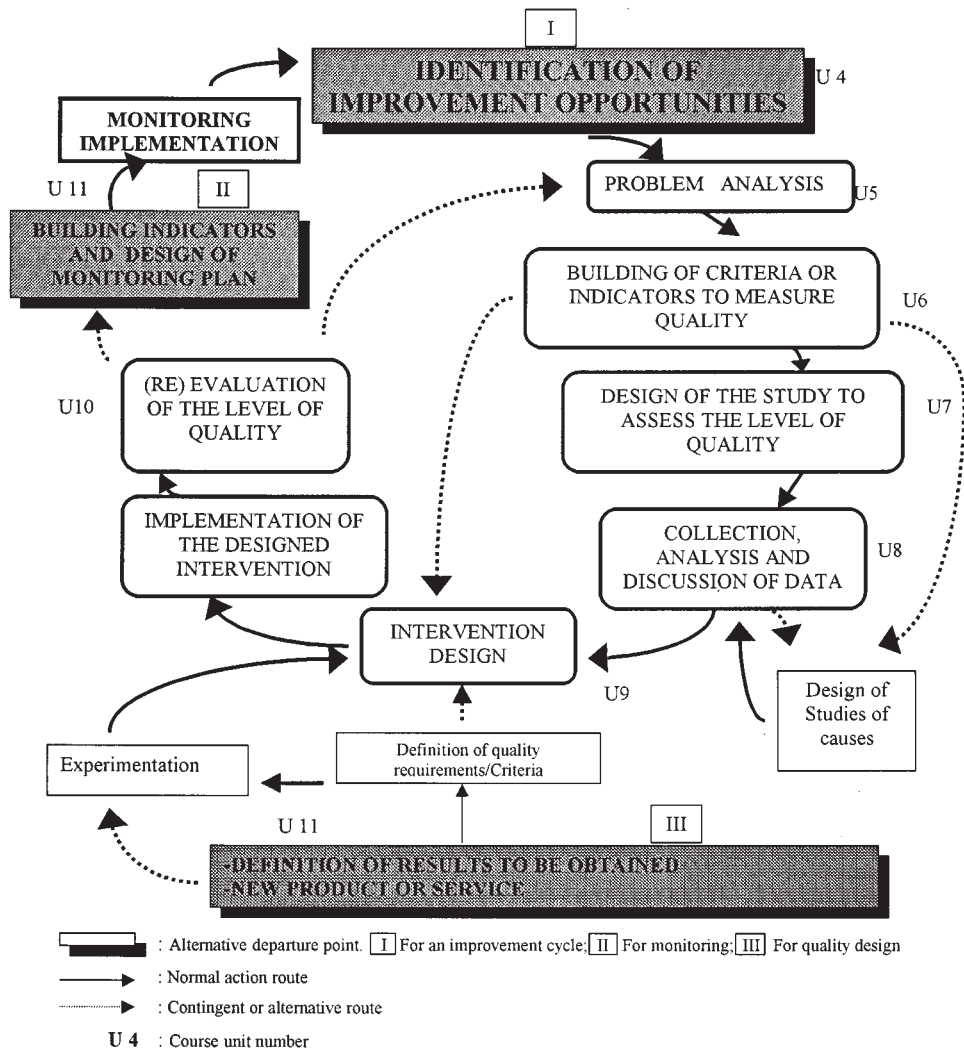


Figure 2 Course content and its relationship to the steps of the improvement cycle, quality design and monitoring.

quality improvement, together with their unavoidable responsibility and their need to be trained in this subject in order to be able to put it into practice; and (ii) the suitability of distance learning as a method for achieving the necessary change in knowledge, skills and attitudes about and towards quality in a rapid and efficient manner.

In relation to the interest in quality improvement, it seems that managers and health professionals now see the necessity for improving the management of health services in an environment of persistent resources restriction. Consequently, initiatives are being arranged to develop methods, techniques and activities to ensure that quality is not damaged but rather improved as much as possible. In this situation, the role of health professionals – those responsible for the direct provision of services – has proved to be essential. There can be no improvement in quality management without their commitment and without their responsible exercise of the profession, which consists of their responsibility to the population served and to the scientific basis of their actions. It does not seem to be too difficult to put this commitment

into practice; once continuous improvement has commenced, good professionals will not abandon it. That is why this course may be important: it is intended to satisfy the interest of primary health care physicians in quality which, as we have already seen, is very considerable. Most importantly, however, it is intended to provide the means to put it into practice, and for this training is obviously needed.

In this sense, distance learning, still considered by some people as a ‘second rate’ methodology compared to traditional teaching, has proved to be one of the methods, perhaps the best one, for reaching many people in a fast and effective way. The ‘time’ element normally limits the existence, in the short term, of a sufficient critical mass for the change. The rapidity with which this critical mass can be achieved is one of the advantages of distance learning. However, pedagogical methods should be rigorous and appropriate in order to be effective. The course was designed using the principles of problem solving-oriented training and learning-by-doing, principles that have been shown to be more effective than more traditional ones [3]. Furthermore, technological

**Table 3** General structure of the course

Module 1	
Unit 1	The concept of quality and its measurement Mission, vision and design of strategic lines in primary health care centres
Unit 2	Programmes of quality management in primary health care centres Approaches, responsibilities and components Evaluation, monitoring and design of quality
Unit 3	Strategies to implement quality of care evaluation and improvement activities The quality improvement cycle
Unit 4	Identification and determination of priorities in improvement opportunities
Unit 5	Methods to analyse quality problems
Unit 6	Defining criteria to evaluate quality
Unit 7	Design of quality of care studies and the search for causes Components of an evaluation
Module 2	
Unit 8	Analysis and presentation of evaluation data
Unit 9	Designing and implementing actions to improve
Unit 10	Re-evaluation. Data analysis and presentation. Documenting the improvement
Unit 11	Initiation to 'monitoring methods and techniques' and 'planning or design of quality'

development in electronic communications has permitted a spectacular advance in distance learning.

### What next?

Apart from any other possible initiatives, the tremendously positive response to the course has engaged the interest of the same pharmaceutical firm in further investment in training and in materials for quality management for primary health care physicians. A summary poster of the course has been distributed showing the activities and tools of a quality improvement cycle and its relationship to quality monitoring and design activities. At the same time a software package known as IQual has been produced. This software facilitates the computerized completion of all of the tools, and includes the graphics and statistical analyses commonly used in quality improvement, as they are explained in the course [2] and in the three-volume book that was provided with it [4]. A new manual addressing the methods for all three groups of activities (improvement, monitoring and design) with the same practical focus as that used in the course, is also underway. All of these materials can be adapted with relative ease in other settings and countries, and it is very likely that this will be done in the near future.

It is very encouraging to observe that this kind of collaboration between private industry, the University and the Health System is possible and produces these results. There is indeed an increased interest in quality.

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