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Process Management in a Radiological Management

Improving the Quality System

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This article focuses on the efforts of the The Department of Diagnostic Radiology of the Hôpital Sud in Rennes, France, in upgrading their ISO 9001 Quality System. The transformation of the department's internal processes allowed workflow optimisation, better identification of processes and a more holistic vision of the department. This approach is essential in today's competitive healthcare climate, which demands quality patient care at the lowest cost possible.

The Department of Radiology and Medical Imagery at the "Hôpital Sud" is part of the hospital of Rennes which services approximately 55,000 patients per year performing about 76,000 interventions. In the previous process management system, patient care was more of a priority than education and research. The department documentation system was structured according to ISO 9000 standards, divided into twenty chapters based on these.

Subsequently, two external auditors were asked to evaluate the new quality system using major quality standards, the French Movement for Quality (MFQ) and the National Agency for Accreditation and Evaluation of Health (ANAES). Finally, the department documentation system was evaluated by means of two questionnaires: a qualitative one dealing with staff acceptability and a quantitative one on research effectiveness.

Evaluating Process Management

The "process Approach" considers the organisation in terms of flows and successions of transformations adding value to the ISO 9001/2000 certification model which imposes process management and integrates both management and quality assurance. In order to visualise relationships among processes a Data Flow Diagram (DFD) was made, representing the organisation in terms of inputs and outputs.

As a management tool the "process approach" favours results, in the form of products supplied to the hospital's clients: patients, correspondents and students. A process is a transformation that adds value, and takes place between inputs and outputs of the process. The DFD, based on clients' needs, is the systemic representation of these processes. It permits the realisation of the mission of the organisation and requires breaking down each level of transformation into several major processes. These processes are chosen according to their direct link with the organisation's activities. At each step it is recommended to ensure that processes do not generate superfluous data regarding client needs.

In order to effectuate this evaluation MFQ and ANAES standards were translated into tables stating their requirements. Then, the following question was asked: "Does the quality system allow us to know…?" Five possible answers were chosen: no, partially, mostly, completely, and nonapplicable (N/A). These answers corresponded respectively to the five columns of the tables annotated 0, 1, 2, 3, and N/A. By listing non-applicable criteria and answering applicable questions we determined the system's percentage of nonapplicability as well as its accordance with each requirement.

The DFD was then compiled into a table of contents outlining processes. The major processes became the plan's primary titles and from sub-headings a table of contents was generated. This table of contents constituted the basis for the re-classification of existing procedures and working instructions previously filed into the twenty chapters of the previous ISO 9001 standard. After the introduction of the DFD

General Plan into the department intranet, a qualitative evaluation was made by means of a survey of user satisfaction. Quantitative evaluation of the system was made by means of a poll: one week after the launch of the new intranet, a representative sample of the staff was timed in order to evaluate how fast they were in researching their documents.

Benefits of a Data Flow Diagram

The DFD allowed us to better identify the department mission. Its division into four major processes was carried out according to the four chapters of the new ISO 9001 standard, further sub-divided into the following headings:

"“Leading”, based on “The Department as a Project”, behind the realisation of primary, or leading processes

"“Managing”, looking at interaction between management processes

"“Patient Care”, based on ‘non-conformities’ that occur when the patient is under the responsibility of the department, resulting in preventative actions

"“Measuring, Analysing and Improving”, based on “preventive and corrective actions” that can be applied in each process

Evaluating the New System

Evaluation according to the ISO 9004 standard showed 2.5% of non-applicability and 95.8% of accordance with standard requirements. Weaknesses related to regular identification of the needs and expectations of clients. Evaluation according to the MFQ standard revealed that the new standard's criteria were all applicable and that the system reached 83.9% of requirements. Weaknesses related to the efforts of staff members, as well as the quality of services offered by suppliers and outsourcers. Finally, evaluation according to the ANAES standard revealed that 64.63% of the standard's criteria were not applicable and that the system reached 93.93% of requirements. Weaknesses related to the management of the patient's registration form as well as that of human resources.

Comments were positive concerning all areas of improvement. A major benefit of process management is that it underlines the real mission of the department of radiology and permits checking suitability between supplied services and the real needs of users. It also eliminates useless processes and data generated by some processes. Involvement of staff was found to be essential, reducing isolation between departments by allowing a better understanding throughout the medical facility.

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