



IMPROVEMENT AND CONSOLIDATION OF THE QUALITY MANAGEMENT SYSTEM IN THE EXTERNAL DOSIMETRY LABORATORY

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Introduction: The External Dosimetry Laboratory (EDL) of the Radiation Protection and Hygiene Center (RPHC) has implemented a Quality Management System based on international and national requirements, since 1999 when it was accredited for the first time, this process has been constant in terms of adopting the updates of these standards, which has contributed to the improvement of the work of the EDL. This article shows how the transition to the new NC ISO/IEC 17025:2017 standard has been developed, highlighting the improvement and consolidation in its implementation and the results of the accreditation of the laboratory, which is evidenced in the EDL's Quality Management System, its documentation, aspects of its organization and management, as well as its operation.

Material and method: The documentary analysis was used, which made it possible to review the current laboratory documentation and national and international regulations and to determine the update to the Quality Management System to transit to the new standard NC ISO/IEC 17025:2017, evidenced in the Quality Manual and other documents, which support the operation of the laboratory.

Results: The adjustments made to the laboratory documentation for the implementation of the NC ISO/IEC 17025:2017 standard are identified as results, which is evidenced in the Quality Manual in different sections, such as the impartiality requirements, confidentiality and competences. In addition, the modification and adaptation of technical procedures that describe, based on national and international recommendations, how to execute each stage of the service, who is responsible for executing it and when it should be carried out. They also provide a detailed description of the measurement methods, the use, calibration, maintenance and quality control of the equipment, the reception and dispatch of the dosimeters and the reporting and conservation of the evaluated doses, the main topics of these documents. The procedures make up the EDL Procedures Manual.

Other elements are the records that constitute the evidence of the traceability of the entire process and of the quality controls. These include the registry refer-

ring to the risk and opportunities plan, which takes into account the strengths, weaknesses and opportunities in the services provided by the laboratory and how to take advantage of these elements to improve the quality of these services and minimize problems. A model of each current record in the system can be found in the EDL Records Manual. Results are also shown in the consolidation of the service based on organizational and management aspects reflected in the general operation of the laboratory and as part of the EDL accreditation.

Conclusions: Precisely to fulfill its purpose, the EDL of the RPHC has implemented a Quality Management System in its individual monitoring service. This was the result of a long process that began with the improvement of personnel and the implementation of a discipline and technological culture. Dozens of documents were prepared: work procedures, records and a Quality Manual that have been constantly modified and updated as a result of the improvement of the system and based on the new requirements demanded by the international standard NC ISO/IEC 17025:2017, which had as one of the results the accreditation of the laboratory and whose purpose is the constant improvement of the service.

References:

1. International Organization for Standardization, General requirements for the competence of testing and calibration laboratories (ISO/IEC-17025), Geneva, Switzerland: ISO Central Secretariat, 2017, pp. 1-32.