Creating a Document Management System to Ensure Clinical Laboratory Documents Are Standardized

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ABSTRACT

There is a large amount of documentation available for use in accreditation inspections, which is why it is so important. Nonetheless, the majority of laboratories struggle to efficiently handle the organization, storage, and documentation procedures. This study aimed to assist in the development of a standardized document management system that is both strategically effective and long-lasting.The document list data obtained from three major university hospitals was compared in order to modify a document code formatting system. To create document classifications and a standard coding scheme, a questionnaire about standardizing document codes was also created and distributed to 268 institutes. A system for managing documents digitally was created. All hospital laboratories may use our documentation system as a model for standardizing documents and developing a document management system.

Key Words: Document management, Laboratory standardization, Clinical laboratory, Laboratory accreditation

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Introduction

When it comes to the creation and application of new medical technologies, laboratory medicine is the specialty area in medicine that is expanding the fastest. The need to create a global system that is uniform and applicable to all areas of medical laboratory science as well as to standardize test results in medical laboratories has grown recently in several areas of laboratory medicine.The KLAP inspection checklists, which include 1,539 questions categorized into 12 areas, including laboratory management, were created by taking into account local circumstances and consulting a number of foreign accreditation programs, including the CAP's. Sub-items for external quality assessment, quality improvement, internal quality control, field personnel, physical facilities, and laboratory safety are included in each area. The checklist items related to laboratory management cover things like collecting and handling specimens, controlling water quality, cleaning glassware, evaluating lab skills, and using computers in the lab. These items are scored, and adjustments—including updates and corrections—are made every year (Wagner , 1997).

This study aimed to improve the quality of laboratory medicine in the medical laboratories of domestic hospitals by developing methods for document classification and document code standardization. This would enable the establishment of a strategically effective and sustainably standardized document management system (Lee , 2001).

METHODS:

1. Initial research into the reference institutes' document classification guidelines:

By comparing the document list data obtained from three tertiary hospitals (>1,000 beds), the document code format was changed.

2. Classifying documents and creating standardized identification codes:

To establish document classifications and create a standard coding scheme, a questionnaire about standardizing document codes was created and distributed to 268 institutes. Of those, 25 institutes responded. Documents utilized in every laboratory department and unit were categorized, and descriptive document titles were paired together based on shared traits. For the purpose of enabling efficient document management in every department and unit, document titles were standardized. From them, a document code format was created (Kwak, 2003).

3. The document management system's establishment:

A database, along with data input and output functions, was established based on the standard code scheme and document classification that were generated earlier. Additionally, a document management system was established to facilitate document scanning, storage, and searching.

Unification of file names:

After files were assigned identification codes, the issue of non-standardized file titles was resolved by first allocating sub-major codes in accordance with document attributes and then appending thorough record descriptions (Lee , 2001).

The purpose of this arrangement was to guarantee uniformity and standardization.

Creation of the system for managing documents:

The scans of the documents were done by month. By extracting standardized document codes, algorithms were developed to automatically sort and store the documents. Using an image converter, the scanned documents were formatted to allow storage as PDF files. A document viewer was formatted to enable ListView (arranged by file name), TreeView (arranged by grouping system), monthly view, and searching to make it easier to review the documents (Wagner, 1997).

Astandardized method for managing documents:

Just 32% of interviewees (8 out of 25) indicated that their institute practiced document management, and they were able to identify the different types of documents and their corresponding numbers. This indicates that most institutes did not properly manage the laboratory documents that were prepared for accreditation inspections. Nonetheless, 40% of the institutes assigned unique identification numbers to their documents and had document system manuals. Furthermore, 95.2% of respondents acknowledged that different sections within the same laboratory had different titles for the same types of documents, emphasizing the need for document titling standards to be standardized (Kwak ,2003).

Clinical laboratories:

The essential elements of procedure writing and management for clinical laboratories, particularly those that are concentrated on the development of laboratory procedures, are presented in the CLSI GP-A5 guideline. Our study was centered on the standardization of document identification, and we demonstrated how our scheme could be used to implement a document management system. We suggest organizing disorganized document files using our method of classifying them into 8 major groups based on their characteristics. Files and documents within each major group were then arranged into sub-major groups and assigned the relevant codes. Together with this coding system, the designations used by various departments were unified to standardize file and document titling. This makes it possible to manage documents in an organized manner and offers a foundation for interoperability in the exchange of documents between hospitals (Kwak, 2003).

Theefficiency and convenience of communication within and among laboratories will be improved if hospital laboratories across the country implement such a methodical and successful system of document code standardization. This will facilitate quality improvement in the field of laboratory medicine.

Recommendations:

1- The terms described in this study did not fully match CLSI terms, as the identification codes originated from document types in Korean laboratories whose situations do not seem to be identical with those of laboratories in the United States. This was one limitation of the study. Additionally, our results did not comply with the International Organization for Standardization (ISO).Therefore, more work is required to make our document identification scheme more widely applicable.

2- Document identification, timely review and approval of previously approved documents as well as their retention and disposal, and document identification should all be included in the document management system. In particular, it is crucial to manage the prompt review and approval of previously approved documents.

Conclusion:

All hospital laboratories may use our documentation system as a model for standardizing documents and developing a document management system. in order to help laboratories achieve their primary inspection goals of accreditation accurate test results and quality improvement we offer a fundamental framework for the organized classification and management of a variety of documents. Standardizing document classification and coding will not only be useful for on-site inspections but also for systematic management and review, which will support efficient quality control in laboratories. With reasonable effort, periodic document reviews were made possible by our document management system.

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