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DIGITALIZATION OF CLINICAL AND ADMINISTRATIVE DOCUMENTATION IN PUBLIC HOSPITALS IN POLAND

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Purpose: The purpose of the study was to identify the processes in which the digitalization of documentation is implemented in public hospitals, both in the clinical area and in the administrative area. Additionally, the study aimed to identify the benefits and risks resulting from the digitalization of documentation in public hospitals within these two areas.
Design/methodology/approach: The research objectives were achieved through a qualitative study using semi - structured interviews.
Findings: The study demonstrated that the digitalization of documentation in public hospitals in Poland encompasses both administrative and clinical areas. However, the level of digitalization of documentation advancement varies. In the administrative area, digitalization is most developed in the following processes: finance and accounting, information flow and documentation management, and human resources and payroll. In the clinical area, digitalization primarily concerns the processes of patient registration, diagnostics and patient monitoring, as well as hospitalization and patient discharge. The findings also indicate that the digitalization of documentation in public hospitals contributes to reduced material consumption, improved process efficiency, and enhanced access to information. The identified risks associated with digitalization include technological and non-technological risks.
Research limitations/implications: Future research may focus on identifying the factors influencing the progress of digitalization of documentation in public hospitals, both in the administrative area and in the clinical area.
Practical implications: The findings may support public hospital managers in planning and implementing digital solutions.
Originality/value: The article provides insights into the key processes subject to the digitalization of documentation in the administrative and clinical areas of public hospitals with varying scopes of activity and levels of economic efficiency. Furthermore, it offers knowledge regarding the benefits and risks associated with the digitalization of documentation in public hospitals in Poland.
Keywords: Digitalization of documentation; public hospitals; Electronic Medical Documentation (EMD); healthcare management.
Category of the paper: Case study.

1. Introduction

Digitalization of documentation, understood as the process of converting documents previously maintained in paper form into digital format (Act of April 28, 2011 on the Information System in Healthcare, Article 13b, Dz.U.2025.302), constitutes one of the most significant directions in the transformation of the contemporary healthcare system. It forms part of the broader processes of informatization and digital transformation of public services, as well as the development of e-health (Sikorska, 2023).

In public hospitals, the digitalization of documentation has become a key component in the development of integrated information systems. It has enabled a transition from traditional registers, paper-based medical charts, and administrative forms to Electronic Medical Documentation (EMD), defined as a structured set of digital data that can be stored, shared, and processed in an automated manner (Płaciszewski, 2022).

With the development of the digitalization of documentation in public hospitals, this issue has increasingly attracted the attention of researchers. Nevertheless, the topic of digitalization of documentation remains relatively underexplored in relation to public hospitals, understood as healthcare entities providing hospital services (Act of April 15, 2011 on Medical Activity, Article 2(1)(9), Dz.U. 2011.654). Studies conducted to date in the Polish context concerning public hospitals have primarily focused on systemic solutions and regulatory conditions (Swałek, Steinerowska-Streb, 2023; Płaciszewski, 2022; Karlińska, 2014; Czerska et al., 2019). The issue of digitalization of documentation in public hospitals has been addressed only to a limited extent. Existing research has examined it mainly in relation to the functioning of information systems (Karlińska, 2018), technological and infrastructural solutions (Kaczmarska-Krawczak, 2023), organizational readiness for digitalization implementation (Sikorska, 2023; Kruszyńska-Fischbach et al., 2022), and changes in hospital management associated with digitalization of documentation (Wielki et al., 2024). Meanwhile, the analysis of actual organizational practices, including internal mechanisms for implementing digitalization within the structures of public hospitals, has thus far received marginal attention (Sikorska, 2023; Wielki et al., 2024). A review of the literature on digitalization of documentation in public hospitals indicates a lack of empirical studies demonstrating in which processes occurring within public hospitals—both in the administrative area and in the clinical area—the digitalization of documentation is implemented. Moreover, there is a scarcity of research providing evidence on the benefits and risks associated with the implementation of digitalization of documentation in these two areas.

The identified research gap motivated the present study, the results of which are presented in this article. The aim of the study was to identify the processes in which the digitalization of documentation is implemented in public hospitals, both in the clinical area and in the administrative area. Additionally, the study sought to identify the benefits and risks resulting

from the digitalization of documentation in public hospitals within these two areas. To achieve these objectives, the following research questions were formulated: (i) within which processes in public hospitals is the digitalization of documentation implemented in the clinical area, and within which processes in the administrative area?; (ii) what are the benefits and risks associated with the implementation of digitalization of documentation in these two areas? The research objectives were achieved through a qualitative study.

2. Literature Review

2.1. Public hospitals in Poland and their evolution toward documentation digitalization

Public hospitals in Poland operate as entities within the healthcare system that provide medical services in the form of hospital services financed from public funds, in accordance with regulations established by national legislation (Dz.U. 2011.654; Dz.U. 2024.146). They constitute key institutions within this system, fulfilling the constitutional obligation to ensure citizens equal access to healthcare services and serving as primary entities responsible for the implementation of national health policy (Constitution of Poland, 1997; Zgliczyński, 2018).

As systemic healthcare providers, public hospitals in Poland are dependent on centralized mechanisms of financing, supervision, and contracting of services by the National Health Fund (NHF), which determines their organizational model and governance structure (Bromber, 2014; Paszkowska, 2019). They are characterized by a high degree of process formalization, an extensive clinical and organizational structure, and multi-level institutional oversight exercised by both central and local government authorities. In this context, public hospitals may be regarded as public organizations with a complex decision-making architecture and limited strategic autonomy (Szetela, 2025; Czerw, 2016).

In public hospitals in Poland, the digitalization of documentation occurred gradually. Its foundation in the clinical area was established by the Act of April 28, 2011 on the Information System in Healthcare, which imposed on healthcare entities the obligation to progressively implement Electronic Medical Documentation (EMD) (Dz.U. 2011, nr 113, poz. 657). In order to comply with the requirements of this Act, public hospitals initially undertook the digital replication of paper-based documentation. This was followed by the computerization of workstations and the implementation of Hospital Information Systems (HIS), which enabled the integration of clinical and administrative data within hospitals. As a result of these measures, documentation began to be created directly within teleinformation systems, leading to the development of Electronic Medical Documentation (EMD). This stage of digitalization of documentation may be regarded as the beginning of the organizational and

systemic transformation of public hospitals, in which digital technologies became an integral component of management and coordination of clinical and administrative processes, and information infrastructure began to function as a strategic organizational resource (Kaczmarska-Krawczak, 2023; Buchelt et al., 2020; Pawuś et al., 2025; Wielki et al., 2024; Glinkowski et al., 2025).

2.2. Characteristics of activities undertaken in public hospitals in Poland within the administrative area and the clinical area

Activities carried out in public hospitals take place within two functionally distinct yet interrelated areas: the administrative area and the clinical area (Libura et al., 2023). The administrative area concerns organizational management and is oriented toward ensuring the long-term stability and development of the entity, as well as coherence between health policy and ongoing operational activities (Lisowska et al., 2024). In contrast, the clinical area refers to medical processes (Budzisz, 2015). The administrative area encompasses, among other elements, the management of human and material resources, the development of strategy and organizational structure, as well as management information systems and mechanisms of control and quality assessment (Karlińska, 2014). Within this area, processes such as strategic planning, resource allocation, contracting of services, settlements with public payers, and the development of internal policies and procedures are undertaken (Budzisz, 2015). These processes also include infrastructure and logistics management, covering procurement, materials and pharmaceutical management, warehousing, supply of hospital units, and the technical maintenance of buildings and medical equipment (Bartnicka et al., 2013). Among these processes, information and documentation management processes may be regarded as particularly critical, including record-keeping and archiving of documentation, statistical reporting, formal reporting obligations, and the operation of information systems (Budzisz, 2015).

The clinical area encompasses diagnostic, therapeutic, and rehabilitative processes, as well as the continuous monitoring of patients' health status, carried out by multidisciplinary medical personnel within organized care pathways (Kaczmarska-Krawczak, 2023). Processes taking place in the clinical area are patient-centered and focused on patient safety. The effectiveness of medical interventions and adherence to quality standards are fundamental to these processes (Czerska et al., 2019).

Despite their functional distinctiveness, both areas are interdependent. The efficiency of administrative procedures determines the continuity and accessibility of healthcare services delivered within the clinical area. At the same time, requirements arising from medical practice shape the actions undertaken within the administrative area (Libura et al., 2023).

The integration of administrative and clinical processes constitutes a key factor in improving organizational efficiency, quality of care, and health outcomes in public hospitals. In particular, it is emphasized that such integration enables the rational use of data, which,

once entered into the system, can be reused at different stages of patient care, thereby supporting the coherence of the decision-making process (Kamińska et al., 2022; Wielki et al., 2024). At the same time, in the administrative area, the integration of Hospital Information Systems (HIS) with financial and settlement modules facilitates the automation of service coding, improves the quality of settlements with the National Health Fund (NHF), and enables more precise calculation of hospitalization costs, thereby strengthening the economic efficiency of public hospitals (Budzisz, 2015; Wielki et al., 2024). From a systemic perspective, these solutions provide the foundation for the development of coordinated care and e-health by enabling seamless information flow across levels of care and supporting a more patient-centered model of service delivery (Libura et al., 2023).

3. Methods

The aim of the study was to identify the processes in which the digitalization of documentation is implemented in public hospitals, both in the clinical area and in the administrative area. Additionally, the study sought to identify the benefits and risks resulting from the digitalization of documentation in public hospitals within these two areas. The scope of the study concerned the digitalization of documentation in public hospitals in both the clinical area and the administrative area. The study population consisted of public hospitals understood as healthcare entities providing hospital services (Act of April 15, 2011 on Medical Activity, Article 2(1)(9), Dz.U. 2011.654). The territorial scope of the study was Poland. The primary research was conducted in the second half of 2024 and the first half of 2025.

Given that the issue of the processes in which the digitalization of documentation is implemented in public hospitals in Poland remains insufficiently explored, the research objectives were pursued through a qualitative study. Such research approaches enable the researcher to gain an in-depth understanding of the phenomenon under investigation and to identify the underlying mechanisms shaping the examined processes (Miński, 2017).

From the broad range of qualitative research methods and techniques, semi - structured interviews were selected for the purposes of this study. The primary rationale for choosing this technique was the opportunity to directly observe the examined processes and to interact with the study participants. Of particular importance was the possibility of asking follow-up questions that had not been anticipated in the initial interview protocol. This approach enabled an in-depth exploration of themes emerging during the interviews and allowed for a comprehensive examination of issues related to the digitalization of documentation in both the administrative area and the clinical area (Miński, 2017).

A purposive sampling was applied to collect information regarding the processes in which the digitalization of documentation is implemented across different public hospitals. The criteria for selecting entities for the sample were the territorial scope of the hospital (local, regional, nationwide) and the level of economic efficiency of the hospitals[1] (low, moderate, high). Consequently, the research sample consisted of nine public hospitals (3 × 3). Table 1. presents a matrix illustrating the public hospitals included in the study based on the adopted selection criteria.

Table 1.
Public hospitals participating in the study

TERRITORIAL SCOPE OF THE HOSPITAL	ECONOMIC EFFICIENCY OF THE HOSPITAL			
		Low economic efficiency hospital	**Medium economic efficiency hospital**	**High economic efficiency hospital**
	National hospital	A national public hospital with low economic efficiency	A national public hospital with medium economic efficiency	A national public hospital with high economic efficiency
	Regional hospital	A regional public hospital with low economic efficiency	A regional public hospital with medium economic efficiency	A regional public hospital with high economic efficiency
	Local hospital	A local public hospital with low economic efficiency	A local public hospital with medium economic efficiency	A local public hospital with high economic efficiency

Source: Own elaboration.

In the selected hospitals semi-structured interviews were conducted with key individuals responsible for managing the digitalization of documentation. Considering the competencies of staff engaged in documentation digitalization, interviews were carried out in each hospital with administrative directors, department heads, and chief nurses. This selection of respondents enabled an in-depth understanding of the processes in which the digitalization of documentation is implemented across different public hospitals and enhanced the validity of the obtained results.

Each interview lasted approximately one hour. With the prior consent of the respondent, all interviews were audio-recorded and subsequently transcribed and analyzed using MaxQDA software.

[1] The economic efficiency of each hospital was determined based on the number of points obtained in its Report on the Economic and Financial Situation for 2023. Hospitals with low economic efficiency achieved less than 50% of the maximum possible number of points; hospitals with moderate economic efficiency achieved between 50% and 75% of the maximum possible number of points; and hospitals with high economic efficiency achieved more than 75% of the maximum possible number of points.

4. Results

The conducted interviews indicate that the digitalization of documentation in the administrative area primarily took place within the following processes: finance and accounting, information flow and document management, and HR and payroll (Table 2.). Within the finance and accounting process, the principal change resulting from the digitalization of documentation was the introduction of an electronic invoice workflow, which was implemented in all analyzed hospitals in 2025. In most hospitals, contracts also began to be signed electronically, indicating a systematic shift away from paper-based contracting procedures. These changes were described in detail by the administrative director of a local hospital with high economic efficiency: *Since January 1, we've launched electronic invoice circulation, so all the invoices in the hospital are now handled electronically (...) We also have new contracts that are already being entered into the system, and the circulation of those contracts is electronic as well.*

Another process in which documentation was digitalized in the analyzed public hospitals within the administrative area was information flow and document management. In most of the hospitals included in the study, measures were undertaken to digitalize archival records, which increased document accessibility for authorized entities and improved the flow of information.

These activities were confirmed by the administrative director of a national hospital with high economic efficiency: *That documentation (...) is continuously being digitalized by the document management department.*

Additionally, in some of the analyzed hospitals, within the information flow and document management process, an electronic workflow for both internal and external correspondence was implemented. A department head from a local public hospital with high economic efficiency stated: *All those shorter messages (...) are sent through messaging apps. (...) In the near future, we're planning to implement electronic external and internal correspondence as well.*

Within the HR and payroll process, the digitalization of documentation involved the implementation of solutions enabling the electronic creation, processing, and archiving of employee records. The analyzed hospitals also introduced electronic conclusion of employment contracts and electronic repositories for contractual documentation. An important component of digitalization was the electronic workflow of HR documents, which enabled the automation of processes related to employment administration, including the transfer of documents between administrative departments and department management.

Table 2.
Activities subject to documentation digitalization in public hospitals within the administrative area divided by process

AREA	PROCESS	ACTIVITIES SUBJECT TO DOCUMENTATION DIGITALIZATION
ADMINISTRATIVE	Finance and accounting	• Electronic invoice workflow. • Electronic processing of settlement documents. • Settlement of healthcare services with the payer. • Contracting of healthcare services. • Financial and operational reporting.
	Information flow and document management	• Electronic workflow of administrative documents. • Electronic correspondence workflow. • Electronic internal communication. • Digitalization and archiving of administrative documentation.
	HR and payroll	• Electronic conclusion of contracts. • Electronic repository of contractual documents. • Electronic workflow of HR documents. • Digital storage of documentation.

Source: Own elaboration.

Within the clinical area, in all analyzed hospitals, the digitalization of documentation covered patient registration, including the recording of referral data and patient data, verification of insurance information, and the establishment of Electronic Medical Documentation (EMD). Subsequent processes in which documentation digitalization was implemented in the clinical area included diagnostics and patient monitoring as well as hospitalization and patient discharge (Table 3). Within the diagnostics and patient monitoring process, electronic test orders were introduced in all analyzed hospitals. This was emphasized by a department head from a regional public hospital with medium economic efficiency, who stated *Orders for vaccinations and things like that—we already do all of that in the computer.* In most of the analyzed hospitals, within diagnostics and patient monitoring, paper-based laboratory and imaging test results were also eliminated in favor of electronic formats. This was confirmed in an interview with a department head from a local public hospital with low economic efficiency: *(...) we don't print test results in paper form anymore—it's only available electronically.*

Within the hospitalization and patient discharge process, the digitalization of documentation primarily covered medical orders. This was discussed in detail by a department head from a national public hospital with high economic efficiency: *It applies not only to medical documentation, but also to medical orders issued by physicians.* Similarly, the digitalization of documentation within hospitalization and patient discharge was confirmed in interviews conducted with nursing staff. In most of the analyzed hospitals, chief nurses emphasized: *Nursing care documentation is in the AMS system—it's not printed.* Additionally, a department head from a regional public hospital with medium economic efficiency indicated that digitalization also encompassed medication management, including electronic medication distribution: *Practically the whole hospital—except for two departments—has switched to the electronic medication cart.*

An analysis of the conducted interviews indicates that within the hospitalization and patient discharge process, in some of the analyzed hospitals, medical documentation was maintained simultaneously in both paper and electronic formats. This phenomenon was observed primarily in local public hospitals with low economic efficiency and local public hospitals with medium economic efficiency. It increased the workload of medical staff: *For now, it's basically double documentation. [Department head, a local public hospital with low economic efficiency]; I see a big problem in duplicating documentation (...) we already have electronic systems, but we still write down a lot of things manually. [Chief nurse, a local public hospital with low economic efficiency]*.

The analysis of respondents' statements regarding the simultaneous maintenance of electronic and paper documentation also indicates that printing medical documentation is sometimes necessitated by the need to provide it to entities outside the hospital. For example, a department head from a local public hospital with low economic efficiency commented: *We print it because not everywhere can the EMD version be accessed (...) not every doctor would probably be able to find it.* It can therefore be observed that the additional printing of medical documentation results from the limited accessibility of Electronic Medical Documentation (EMD) outside the hospital.

Table 3.
Activities subject to documentation digitalization in public hospitals within the clinical area divided by process

AREA	PROCESS	ACTIVITIES SUBJECT TO DOCUMENTATION DIGITALIZATION
CLINICAL	Patient registration	• Admission of a patient for hospitalization. • Admission of a patient for an appointment. • Verification of the patient's insurance data. • Patient registration. • Recording of patient data. • Management of patient queues and sending appointment reminder notifications.
	Diagnostics and patient monitoring	• Electronic referrals for diagnostic tests. • Electronic laboratory and imaging test results. • Electronic monitoring of prescription fulfillment. • Electronically maintained patient medical history. • Electronic Medical Documentation (EMD).
	Hospitalization and patient discharge	• Electronic medical orders. • Electronic medication distribution. • Patient movement within the hospital. • Electronic nursing documentation. • Electronic patient discharge summaries. • Electronic hospital discharge information card.

Source: Own elaboration.

An analysis of the interviews conducted with respondents in both the administrative area and the clinical area indicates that the level of advancement of documentation digitalization in the analyzed public hospitals is differentiated. It can be observed that the level of documentation digitalization in hospitals operating at the local and regional levels is lower than in hospitals operating at the national level, regardless of their economic efficiency. However, national-level hospitals differed from one another depending on their level of economic efficiency.

Documentation digitalization in national public hospitals with high economic efficiency was more advanced than in national public hospitals with lower economic efficiency (Figure 1). The intensity of shading in Figure 1 reflects the degree of advancement of documentation digitalization in public hospitals, with a darker shade indicating a higher level of implementation of digital solutions.

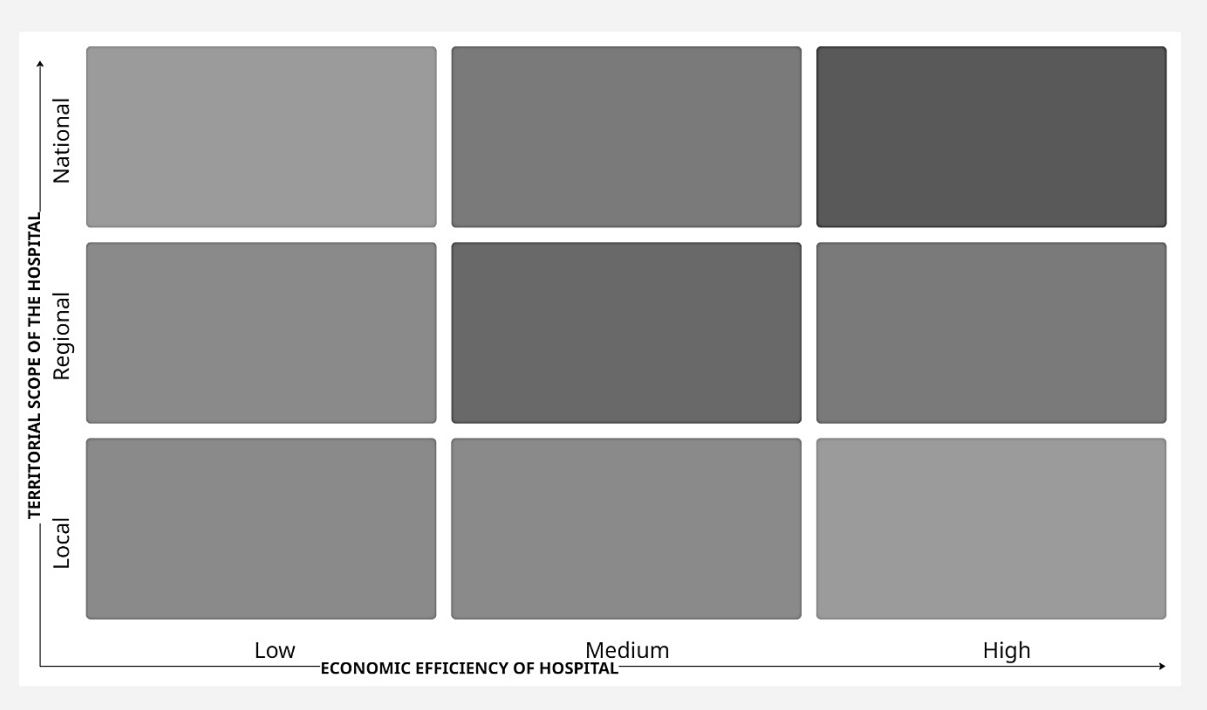

Figure 1. The level of advancement of documentation digitalization in the analyzed public hospitals. Source: Own elaboration.

The interviews conducted for the purpose of this study also facilitated the identification of the main benefits and risks associated with the digitalization of documentation. One of the primary benefits in both the clinical area and the administrative area was the reduced use of paper. This was emphasized by a department head from a national public hospital with high economic efficiency, who considered paper reduction to be one of the most tangible changes. Similar views were expressed in other hospitals, regardless of their scope of healthcare services or level of economic efficiency. The reduction in printing also resulted in lower consumption of toner and energy, as well as decreased costs related to document disposal. The reduction of hospital costs in this regard is reflected in the following statements by respondents: *Toner, electricity (...) disposal of all those things (...) definitely fewer printers; Completely eliminating paper and documentation (...) brings huge financial benefits for the*

hospital; It's (...) a lot of money and (...) a huge saving. [Chief nurse, a national public hospital with high economic efficiency].

Another benefit resulting from the implementation of documentation digitalization in both the administrative area and the clinical area was the acceleration of document circulation. Furthermore, the interviews indicate a reduction in the organizational workload of certain administrative and clinical staff members. An administrative director from a local public hospital with low economic efficiency emphasized: *Introducing digital solutions can also speed up our administrative work and improve the hospital's operational efficiency.* In most hospitals, particularly in national-level hospitals, respondents also pointed to improved internal communication due to the reduced need to distribute information in paper form.

Risks associated with documentation digitalization were also identified in all analyzed hospitals. These risks were particularly emphasized by representatives of the clinical area. Among the primary risks mentioned were failures of IT systems. Interviews conducted with respondents representing the clinical area indicate that they encounter significant difficulties in accessing medical documentation and test orders when IT systems are not functioning properly. A department head from a national public hospital with high economic efficiency stressed that in situations involving disruptions to IT infrastructure, access to key clinical data may be temporarily restricted, thereby affecting the continuity of healthcare service delivery: *(...) when there are system problems, we don't have access to the documentation on the computer. We can't really work then or admit patients. It's even dangerous for their lives.*

Another risk associated with the digitalization of documentation in public hospitals is the insufficient number of devices available for creating and processing medical documentation. It should be noted that in some of the analyzed hospitals, primarily local and regional ones, respondents pointed to infrastructural limitations, particularly a shortage of mobile devices enabling documentation at the patient's bedside. A department head from a local public hospital with medium economic efficiency emphasized: *We don't have that many (...) tablets (...) that's why there's still paper documentation (...) because we simply don't have enough equipment.*

Another risk that may arise in connection with Electronic Medical Documentation (EMD) is the insufficient functionality of IT systems in relation to the needs of medical staff. As indicated by the conducted interviews, in some hospitals the functions available within IT systems were inadequate for delivering certain medical services. For example, modules designed for electronic medication management and distribution were not properly configured: *The medication cart isn't (...) properly set up. [Department head, a regional public hospital with medium economic efficiency]*.

5. Discussion

The analysis of the study results indicates that documentation digitalization in the administrative area was most advanced in the following processes: finance and accounting, information flow and document management, and HR and payroll. A widely implemented solution in this area across public hospitals is the electronic workflow of invoices and contracts, as well as digital repositories of administrative documents. At the same time, within the administrative area, documentation digitalization remained limited in the processes of infrastructure and logistics management. In the clinical area, documentation digitalization in public hospitals occurs primarily in processes related to patient registration, diagnostics and patient monitoring, and hospitalization and patient discharge. However, digitalization has not yet been fully completed in all of these processes. In the analyzed hospitals, ongoing improvements to existing software systems are still being implemented. It is also noteworthy that in some hospitals, paper documentation continues to be maintained alongside electronic documentation.

The obtained results indicate that the level of advancement of documentation digitalization in both the administrative area and the clinical area was highest in hospitals operating at the national level, particularly those with high economic efficiency. In contrast, the lowest level was observed in local hospitals with low and high economic efficiency.

An analysis of the study findings also suggests that legal regulations have had a decisive impact on the development of documentation digitalization in public hospitals within both the clinical area and the administrative area. Since 2011, public hospitals in Poland have been prepared to create and store medical documentation in electronic form, and since 2019, the obligation to maintain medical documentation electronically has been introduced (Dz.U. 2011, nr 113, poz. 657).

The legal foundations for documentation digitalization in the administrative area were established in regulations concerning the informatization of entities performing public tasks, accounting, and employee documentation. Of particular importance was the Act of February 17, 2005, on the Informatization of the Activities of Entities Performing Public Tasks, which enabled the maintenance of documentation in ICT systems and the electronic exchange of data between public institutions (Dz.U. 2005, nr 64, poz. 565). A significant impact on the digitalization of administrative documentation was also exerted by the Regulation of the Minister of Family, Labor and Social Policy of December 10, 2018, on Employee Documentation, which enabled the creation and storage of HR documentation in electronic form (Dz.U. 2018, poz. 2369).

The main benefit resulting from documentation digitalization in public hospitals across both analyzed areas is the reduction in paper consumption. In the administrative area, documentation digitalization has particularly improved processes related to hospital finance and accounting.

In the clinical area, the main benefit of documentation digitalization is reflected in faster access of medical staff to patient information compared to paper-based documentation. It can therefore be concluded that documentation digitalization increases the organizational efficiency of public hospitals and enhances the quality and speed of patient service delivery.

The risks associated with documentation digitalization in both areas can be divided into technological and non-technological risks. As indicated by the conducted study, technological risks primarily include IT system failures and their insufficient functionality. Non-technological risks, in turn, relate to the lack of financial resources for the acquisition of hardware and IT software. The findings of the present study confirm and complement the research of Flis (2020), indicating that many public hospitals also face insufficient digital competencies among staff, infrastructural limitations, and financial burdens associated with the implementation of new tools. The risks associated with documentation digitalization in public hospitals highlight the necessity of ensuring high reliability of IT systems. It is also advisable to maintain a high level of IT system security to prevent unauthorized access to data.

In summary, based on the conducted study, it can be concluded that documentation digitalization in public hospitals requires a process-oriented approach that integrates technological solutions with oversight of key clinical and administrative processes. It is also essential that these efforts take into account the specific characteristics of patient care within the healthcare system.

6. Summary

Documentation digitalization in public hospitals constitutes one of the most important directions of transformation within the healthcare system in Poland. It aligns with the broader digitalization of public services and the development of the e-health system. Digital solutions in documentation management in public hospitals have become the foundation for coordinated patient care, the integration of hospital systems, and greater patient engagement in the treatment process. As demonstrated by the findings presented in this article, documentation digitalization occurs in processes within both the clinical area and the administrative area. As a result of documentation digitalization in public hospitals, there has been a transition from traditional registers, medical charts, and administrative forms to Electronic Medical Documentation (EMD). This development indicates that the digitalization of documentation in public hospitals in Poland has significant implications for the quality of care, patient safety, staff work efficiency, and the overall operational stability of the organization.

By providing information on the processes in which documentation digitalization takes place in public hospitals, as well as the associated benefits and risks, the conducted study may support public hospital managers in making decisions regarding the digital transformation.

This information may also be useful for policymakers responsible for the digitalization of the healthcare sector in Poland.

The findings on documentation digitalization in public hospitals are significant from an academic perspective. Within the management and quality sciences, this research provides new information concerning work organization in the public sector. Thus, the research results extend the knowledge in the field of public entrepreneurship. Future research may be aimed not only at identifying the factors influencing the progress of documentation digitalization in public hospitals.

This study has several limitations. First, due to its qualitative design and the use of semi - structured interviews, the findings cannot be generalized statistically to all public hospitals. Second, the study focused exclusively on public hospitals in Poland, which limits the transferability of the results to private healthcare providers and other national contexts. Finally, the division of hospitals according to territorial scope and economic efficiency, although analytically useful, may not fully capture other relevant organizational differences influencing the implementation of documentation digitalization.

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