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Status Report on Computerized Management of Patient Files in Hospitals in the City of Kananga

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Abstract

Introduction: The computerization of medical records reveals a capital importance not only in the care of patients but also in the conservation of data for subsequent research. The objective of our study is to report on the computerized management of patient files in certain hospitals in the city of Kananga in the Democratic Republic of Congo. **Methodology:** We carried out a cross-sectional descriptive study, by direct interview, which included 86 health professionals. Data analysis was carried out using Epi-Info 7.2.5.0 software. **Results:** We found that 46.51% of our respondents were in the age group between 18 and 23. Nine (9) health structures or 90.7% had computerized medication management. In 80.2% of cases, lack of resources was the reason for not using software to computerize the management of patient files. In 88.37% of cases, the information was shared on social networks. The DHIS2 software was used in 97.7% of cases. In 90.7% of cases, medication management is done computerized. The cards (paper format) were used to manage patient information in the hospital (53.5%). **Conclusion:** The State or the government must invest in sponsoring the computerized management of patient files within the framework of new information technology which spares no area of life including that of the medical sector.

Subject Areas

Public Health

Keywords

Status Report, Computerized Management, Patient Files, Kananga, Hospitals

1. Introduction

A patient's file represents the complete and written memory of his or her time in a hospital establishment. It is also an element of centralization of the actions of all stakeholders in the field of health 90% to 100% of health personnel have knowledge of IT medical management [1].

Improving patient care inevitably involves maintaining an exhaustive medical file containing all the information necessary for patient treatment; this implies that it is adjusted to the doctor's daily practice and that the data collected are well structured, adapted and personalized for all specialties 70% to 90% of patient information is in electronic version [2].

As a result, the personalization of an adapted computerized medical record is a priority for the health system, capable of meeting several functions, the main of which is the ease of maintaining, storing, and managing all data relating to this discipline, which will lead to an improvement in the quality of care 80% worldwide their electronic records [3].

Today, paper files formerly administrative, medical and care coexist in computerized files totally or partially designated by the acronyms of Computerized Patient File (DPI).

The patient file (PD), "written memory of a patient's administrative, clinical, biological, diagnostic and therapeutic information is a fundamental and essential tool for medical practice". It is built around the accumulation of data related to a patient's care over time. The computerization of the DP has become essential, even if the computerization process is difficult, because copying the "paper" model is insufficient and "zero paper" is not an end in itself. If the steps to achieve the implementation of such a computerized file are quite different from one hospital institution to another, the reasons which led to this computerization are generally common: the increase in storage volumes, the need to reduce access and delivery times for medical information as well as the need to share information between different health partners and their different institutions. The hospital today can no longer be considered an isolated island. Its traditional image is changing with the establishment of healthcare networks, and the need to communicate is becoming a priority [4].

In Geneva, the Council of State set up the IRIS (Integration into the Health Information Network) foundation (private law and public utility foundation) which is responsible for creating a Community Medical Informatics Network. The RCIM is made up of public and private actors authorized to practice the various health professions. At the center of the network is the patient equipped with an electronic key which allows them secure access to their computerized file. The big

challenge of setting up care networks and creating a common network between the two cantons Vaud and Geneva would be to cope with the diversity of the computer systems of the network members. Given that the two groups of university hospitals, the Hospices-Centre Hospitalier Universitaire Vaudois and the University Hospitals of the canton of Geneva constitute the core of the respective networks, the approach to mitigating the great heterogeneity of the information systems and IPRs put in place must start with these two hospital groups. It would first be necessary to carry out an analysis of the current situation by identifying and analyzing the differences and commonalities of the two systems put in place [5].

Maintaining the patient's medical record is the responsibility of all healthcare professionals within the healthcare establishment. Neglecting this recipe will result in unwanted medications in the study concerning the wrap, among other quality care provided to patients [6].

The absence of the culture of IT tools: still to this day, few health training structures in Africa offer the possibility of training their students in basic IT and the Internet. Consequently, almost all health professionals begin to practice their profession without learning this necessary basis for the deployment of information systems. If fewer African health professionals are familiar with Internet technologies, they have not been their methods of rigor, organization, and monitoring of processes and procedures [7].

The observation is that the medical sector of the city of Kananga today is almost non-existent in the computerization of patient files and even the poor management of these files. A complete computerized medical record even makes it possible to advance research in the field of health.

Our reflection focuses on the advantages of the computerization of files in the health service, their individual or shared use by health professionals, their classification and their computing to propose a structure to meet the expectations of professional liver repositories. Thus, our question revolves around the following main question: What will the level of management of medical records in state hospitals in the city of Kananga in DR. Congo be in 2024?

The general objective of our study is to take stock of the computerized management of patient files with a view to contributing to the improvement of the computerized management of patient files in hospitals by managers of health institutions through the different information management software for health personnel, in the city of Kananga in 2023.

2. Methodology

2.1. Study Framework

Our study was carried out in 7 hospitals in the city of Kananga, which is the provincial capital of Kasaï Central, in the Democratic Republic of Congo. These are: The Kananga Provincial Hospital; Bon Berger Reference General Hospital in Tshikaji; Reference St Georges General Hospital; Lukonga Reference General Hospital; SNCC Reference General Hospital; Ndesha State Reference General Hospital and

José Odney Reference General Hospital.

The city of Kananga is the capital of the Kasaï-Central province in the Democratic Republic of Congo. The town's history dates to the 18th century, when the first farming villages settled in the region. The town then bears the name Luluabourg because it is located on the banks of the Lulua River.

2.2. Data Collection

We used a questionnaire, interview and observation to collect data.

2.3. Study Period

Our study covers a period of 12 months, from January to December 2023.

2.4. Methods

The present study is descriptive cross-sectional, it concerns the computerized management of patient files.

2.5. Study Population

Our study population is made up of healthcare providers (doctors and paramedics) as well as administrative staff.

2.6. Sampling and Sample Size

Seven hospitals made up our study unit and 86 personnel were conveniently chosen as key people from whom the information should be drawn.

2.7. Inclusion and Exclusion Criteria

All workers present at the time of our visit to the hospitals and who agreed to answer our questionnaire were included in our study while any personnel not present at the workplace (Hospital) during our visit were excluded from our study.

2.8. Data Analysis and Processing Method

The data collected was with Kobocollect and analyzed using Epi-Info software version **7.2.5.0** and Excel 2013. We collected the data using a questionnaire as a tool and the individual interview was the technique used.

2.9. Conflict of Interest and Ethical Approval

No conflict of interest were declared and on an ethical level, we are committed to confidentiality, respect for human dignity as well as autonomy.

3. Results

Table 1 reveals that the age group from 18 to 23 was the most represented. The average age was 32 (±6.03), the minimum age 18 and maximum 30 years.

It appears from Table 1 that the majority of participants were male (69 or 80.23%).

Table 1. Distribution of respondents according to socio demographic and professional profile.

Variable	Frequency	Percentage
Age		
18 - 23	40	46.5
24 - 29	30	34.9
30 - 35	10	11.6
35 and above	6	7.0
Gender		
Female	17	19.8
Male	69	80.2
Professionnal profile		
Administrator manager	10	11.6
Secretary	6	6.9
Nurse	25	29.1
Doctor	35	40.7
Pharmacist	3	3.5
Receptionist	7	8.1
Study level		
Secondary	10	11.6
Undergraduate	20	23.3
Graduate	56	65.1
Total	86	100

Table 1 reveals that 40.7% of the respondents were doctors, followed by nurses with 25 or 29.1%.

Table 1 tells us that 56 or 65.1% of respondents had a higher level of study (Graduate).

It appears from Table 2 that 43 or 50% of the respondents were either from the Laboratory, the imaging department, or the administration.

Table 2. Distribution of respondents according to the service of the respondents.

Service	Frequency	Percentage
Gynecology	10	11.6
Internal medicine	15	17.4
Pediatrics	8	9.3
Surgery	3	3.5
Receptionist	7	8.2
Other (Lab, imaging, administration)	43	50
Total	86	100

Table 3 shows us that 80, or 93% of our respondents had knowledge of medical management IT.

Table 3. Distribution of respondents according to knowledge of IT for managing patient records.

Knowledge of medical management IT	Frequency	Percentage
No	6	7.0
Yes	80	93.0
Total	86	100.0

It appears from Table 4 that 53.5% of respondents use the forms to manage patient information at the hospital.

Table 4. Distribution of respondents according to the management of patient information at the hospital.

Patient information management in hospital	Frequency	Percentage
On paper	20	23.3
Electronic	4	4.7
Form	46	53.5
Register	10	11.6
Others	6	7.0
Total	86	100

Table 5 reveals that in 90.7% of cases, medication management is computerized.

Table 5. Distribution of respondents according to computerized medication management in the health facility.

Computerized medication management in the health facility	Frequency	Percentage
No	8	9.3
Yes	78	90.7
Total	86	100

It appears from Table 6 that in 64% of cases, respondents considered electronic file management good.

Table 6. Distribution of respondents according to the assessment of the management of electronic patient files.

Appreciation of the management of electronic patient files	Frequency	Percentage
Good	21	24.4
Poor	10	11.6
Very good	55	64.0
Total	86	100

93% of respondents spoke about security as a mechanism to combat information leaks in data management (Table 7).

Table 7. Distribution of respondents according to the mechanism for protecting files against information leakage.

Mechanism	Frequency	Percentage
Monitoring	6	7
Code security	80	93
Total	86	100

Table 8 tells us that the DHIS2 software was used in 97.7% of cases.

Table 8. Distribution of respondents according to software used at the hospital.

Software used	Frequency	Percentage
DHIS2	84	97.7
Other	2	2.3
Total	86	100

Table 9 tells us that in 88.37% of cases, the information was shared on social medias.

Table 9. Distribution of respondents according to patient information, their results are shared on the networks.

Sharing information on networks	Frequency	Percentage
No	10	11.6
Yes	76	88.4
Total	86	100

We observed that 69, or 80.2% of respondents, spoke of lack of resources as a reason for not using software to manage patient files (See Table 10).

Table 10. Distribution of respondents according to constraints that prevent them from using computer software.

Constraints that prevent using software	Frequency	Percentage
Lack of IT tools	17	19.8
Lack of means	69	80.2
Total	86	

4. Discussion

Social demographic and professionnal profile

We observed that the age group from 18 to 23 years old was more represented

as shown in Table 1 with an average age of 32 (±6.03); the minimum age and maximum age being 18 and 30 years respectively. Most respondents were male (Table 1) 80.23%. A study carried out in Lubumbashi also found a predominance of the female gender (65.83%) while the age group between 24 and 28 was the majority represented (40.83%) [1].

Table 1 reveals that 40.7% of respondents were doctors, followed by nurses with 25 or 29.1%. Our results are similar to those found by Georges *et al.* in Lubumbashi [1]. Most respondents had a higher level of education, *i.e.* 65.1% of respondents had a higher level of education (Graduate) (**Table 1**).

Service of respondents

The laboratory department, that of imaging as well as the administration are full of half of our respondents as shown in Table 2. Our results are contrary to those of the study conducted by George in Lubumbashi where the PMTCT/AIDS service had more respondents [1].

Knowledge of computer management of patient records

In 93% of cases, the respondents had knowledge of medical management IT (Table 3). The World Health Organization found similar results [8].

Management of Patient information in hospital

Most respondents, 53.5%, use the forms to manage patient information in the hospital (Table 4). Our results are contrary to those of Niu, W., Huang, Z., & Zhang, M [9]. as well as those of the World Organization for Health [8].

Computerization of computerized medication management in the health structure

We observed from Table 5 that nine respondents (90.7%) believe that medication management is done in a computerized manner in their health structures. Our observations were also made by Torki [9].

Appreciation of the management of electronic patient records

Table 6 shows us that in 64% of cases, respondents considered electronic file management good. The results of George's study indicate that 61 or 50.83% of respondents spoke very well, followed by good with 39 or 32.50% [1].

Mechanism to protect files against information leakage and software used

93% of respondents believe that respondents had talked about security on the side as a mechanism to combat information leaks in data management Table 7.

DHIS2 is the most used Software used (Table 8) in the hospital. The same result was found in a study conducted in Lubumbashi by George [1]. and also in Dali by Gao à, J., and Li, W. [10].

Sharing patient information on networks

In 88.3% of cases, patient information was shared on social networks (Table 9). The networks of the Universities of Geneva maintain that social networks allow patients to interact and can represent a good source of sharing experiences and advice. However, as with websites, vigilance must be exercised [2].

Constraints that prevent the use of computer software

In our study, 80.2% of respondents cited lack of resources as the reason for not using software to manage patient files in their hospital structures (Table 10).

5. Conclusions

The computerized management of disease records is an effective means for the continuity of care and the tracing of diseases. It also plays a big role in documentary research because non-computerized records are often not well preserved, hence the interest in our study.

We conducted a study on the status of computerization of medical records in some health structures in the town of Kananga in the Democratic Republic of Congo.

We observed that the lack of resources was a reason for not using software to manage patient files in their hospital structures.

In 93% of cases, the respondents had knowledge of medical management IT; Most respondents, 53.5%, use the forms to manage patient information in the hospital; 93% of respondents believe that respondents had talked about security on the side as a mechanism to combat information leaks in data management.

It is important to strengthen the capacities of medical providers in medical management IT, and provide computer hardware and online software to store health personnel information.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Georges, L., *et al.* (2024) Computerized Management of Medical Records in Lubumbashi Hospitals: Current Situation and Prospects in 2024 Gestion Informatisée Des Dossiers. https://www.researchgate.net/publication/378392286

[2] HUG (2020) Informations santé sur internet et les reeaux sociaux. Comment les chercher et évaluer leur qualité.

[3] Huang, M. and Sheng, X. (2020) The Application of Big Data in Hospital Financial Management under the Background of Social Credit. *Journal of Physics*: *Conference Series*, **1496**, Article ID: 052112.

[4] OMS (2004) Interventions prioritaires pour renforcer les systèmes nationaux d'information sanitaire: Rapport du Directeur régional. OMS. Bureau régional de l'Afrique.

[5] OMS (2021) Mobiliser le secteur privé de la prestation de services de santé grâce à la gouvernance des systèmes de santé mixtes: Stratégie du Groupe consultatif de l'OMS sur la gouvernance du secteur privé pour la couverture sanitaire universelle.

[6] OMS (2017) Cadre et normes applicables aux systèmes nationaux d'information sanitaire.

[7] Li, Y., Zhang, H., Wang, X. and Liu, C. (2020) Hospital Financial Management System Based on Internet of Things. *Journal of Ambient Intelligence and Humanized Computing*, **11**, 1295-1306.

[8] Rajat-Kumar, B., Pradip-Kumar, B. and Amandeep, D. (2019) Le rôle émergent de l'informatique cognitive dans les soins de santé: Une revue systématique de la littérature. *Journal International d'Informatique Médicale*, **129**, 154-166.

[9] Luo, X. and Jiang, C. (2022) Design of Hospital Operation Management System Based on Business-Finance Integration. *Computational Intelligence and Neuroscience*, **2022**,

1-11. https://doi.org/10.1155/2022/8426044

[10] Gao, J. and Li, W. (2021) Information Design of Hospital Financial Management System Based on Data Visualization. *Journal of Physics*: *Conference Series*, **1747**, Article ID: 012094.