

Developing an Integrated Register Assembling System: Strengthening Inpatient Data Management for Midwifery Services at Lawang Hospital

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ABSTRACT

A register is a notebook or list containing names, addresses and so on that are contained in a person's identity. The inpatient assembling register activity at Lawang Hospital is still not carried out optimally, officers in the assembling until still record the register of medical record files manually by writing in the register book, this affects the accuracy of writing patient data from medical record files returning from the ward and efficiency when providing medical record files. The purpose of this study is to improve the quality of patient data recording in register activities in the integrated assembling unit using an electronic system. The research method uses qualitative descriptive with 1 respondent who has been interviewed directly and by direct observation. The results of this study show an overview of the Google Form and spreadsheet designs that have been created and also show significant changes after the switch method using electronic systems. The development of the register assembling method for inpatient medical record files has brought positive changes in the efficiency of health information management at Lawang Hospital. This study shows that the application of innovative technology can make it easier for medical record officers to register patient files more efficiently. With the use of Google Forms which is integrated with the spreadsheet of patient data that is inputted, it is easier to read and faster to trace the existence of files that have been assembling.

Keyword: Hospital Data System, Register, Assembling

ABSTRAK

Register merupakan buku catatan atau daftar berisi nama, alamat dan sebagainya yang terdapat pada identitas seseorang. Kegiatan register assembling rawat inap di RSUD Lawang masih belum terlaksana dengan maksimal, petugas di unit assembling masih melakukan pencatatan register berkas rekam medis secara manual dengan cara menuliskan di buku register, hal ini berpengaruh pada ketepatan penulisan data pasien dari dokumen rekam medis yang terdata dari bangsal dan efisiensi pada saat penyediaan berkas rekam medis. Tujuan penelitian ini untuk meningkatkan kualitas pencatatan data pasien pada kegiatan register di unit assembling yang terintegrasi dengan menggunakan sistem elektronik. Metode penelitian menggunakan deskriptif kualitatif dengan responden berjumlah 1 orang yang telah dilakukan wawancara secara langsung dan dengan observasi langsung yang melihatkan gambaran desain Google Formulir dan spreadsheet yang telah dibuat dan juga menunjukkan perubahan yang signifikan setelah peralihan metode menggunakan sistem elektronik. Pengembangan metode register assembling berkas rekam medis pasien rawat inap telah membawa perubahan positif dalam efisiensi pengelolaan informasi kesehatan di RSUD Lawang. Penelitian ini menunjukkan bahwa penerapan teknologi yang inovatif dapat memudahkan petugas rekam medis dalam melakukan register berkas pasien secara lebih efisien. Dengan digunakannya Google Formulir yang terintegrasi dengan spreadsheet data pasien yang terinput lebih mudah terbaca dan lebih cepat untuk telusur keberadaan berkas yang telah di assembling.

Kata Kunci: Sistem Data Rumah Sakit, Register, Assembling

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Introduction:

Assembling is a part of the medical records unit responsible examining the completeness and reorganizing medical records documents originating from the wards or service units. Before storage, if there are incomplete medical record documents, they will be returned to the responsible unit. The consequences of not having assembling activities are that the order of the medical record forms becomes disorganized, and the content of the medical record documents does not meet established standards (Situmorang et al., 2023). The functions and roles of assembling in medical record service include assembling medical record forms, examining the content of medical record data, controlling incomplete medical record documents, and managing the use of medical record numbers and forms. Additionally, assembling involves reviewing notes made by doctors regarding patient treatment.

A system within an organization that meets the needs of transaction processing, management, and strategic activities is part of the information system in a hospital. With an information system in place, the workload of staff in the assembling unit can be reduced, tasks can be completed more easily, and the results obtained are more accurate and timely (Kharismaputra et al., 2022). Therefore, a deep understanding of managing the assembling of medical record files is a necessity (Prisusanti & Yusfarani, 2024).

The activity of recording the medical record register from the inpatient ward to the assembling unit has not yet been fully optimized, the staff in the assembling unit still manually record the medical record register by writing in a register book. This can cause difficulties for the assembling staff and filing staff when searching for medical records, which will ultimately affect the time needed to provide the records. The completeness of the assembling register in the hospital already has standards, which are documented in the Standar Operating Procedures (SOP), where the provisions regarding the recording of the inpatient assembling register are stipulated (Fita Rusdian Ikawati & Ratna Wardani, 2022).

Based on the observations conducted by the researcher, it was found that the inpatient medical record assembling register activities at Lawang Regional General Hospital (RSUD Lawang) still primarily use a non-fully integrated manual method. This impacts the accuracy of patient data entry from medical records returning from the wards and the efficiency of providing medical records. Due to this, the filing unit staff face difficulties in tracking the location of patient medical records newly returned from the wards, as they have to check the status in the register book managed only by the inpatient assembling staff. This study aims to facilitate the work of staff in the assembling unit and other related units in performing their respective duties more effectively, and also serves as a transition from manual to electronic systems.

Methods:

This study employs a qualitative descriptive method, which analyzes and describes the research object, namely the integrated inpatient medical record assembling method at Lawang Regional General Hospital (RSUD Lawang). The focus of this research is on the Medical Records unit at RSUD Lawang. The study was conducted from February to May 2024.

Results:

In this study, a method development was conducted to optimize the registration of inpatient medical record documents. This method development process was based on interview result, observational data collection, and gathering user needs involving assembling staff at the Medical Records unit of Lawang Regional General Hospital (RSUD Lawang). Following development, an electronic-based assembling register method using spreadsheets and Google Forms was successfully implemented and tested to evaluate its performance in enhancing the efficiency of assembling register management. Correct registration of data on medical record documents returning from inpatient wards is crucial, as errors can lead to various issues in other units later on (Rizqiyah & Ernawaty, 2016).

The research result indicate significant differences with the new method used. Before

implementing the electronic system for the register method, staff registered patient medical record data manually, using a paperless system, often resulting in unclear handwriting. Therefore, the use of sreadsheets and Googke Forms will facilitate staff perfotmance and streamline the creation of computerized reports (Lay Here et al., 2023). This effects the time required for providing medical record documents by the filing unit, which takes more time (Salsabila & Nau, 2020).

1. Flowchart

A flowchart diagram is used to explain the process flow of a program (Maulana et al., 2020). The web-based inpatient medical record file registration using sreadsheets and Google Forms is illustrated in Figure 2. First, the assembling staff log in to Google Forms (as a user), then the staff fill in the patient data according to the available fields. After completing the entry in the Google Forms, the patient data will automatically be input into the spreadsheet integrated with Google Forms.

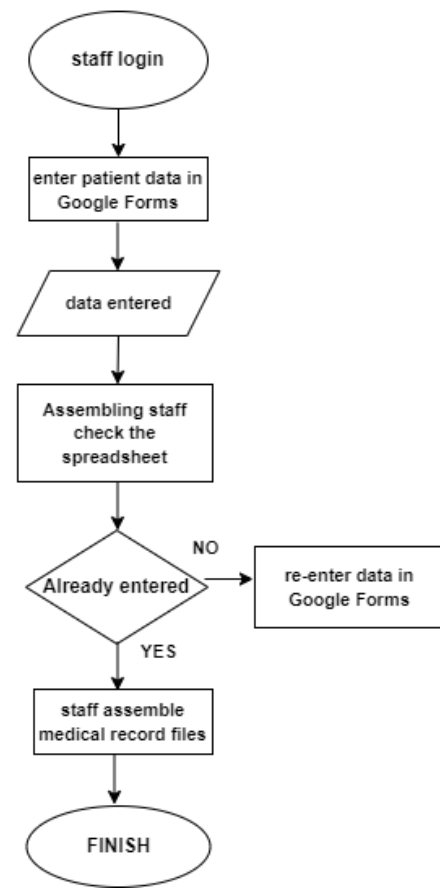


image 1 Flowchart of the registration process MRD

2. ERD

The information system for the return and registration of medical record files at RSUD Lawang consists of several tables, namely the Nurse Table, Return Table, Staff Table, and Register Table. Below is the Entity Relationship Diagram for the return and registration of medical record files.

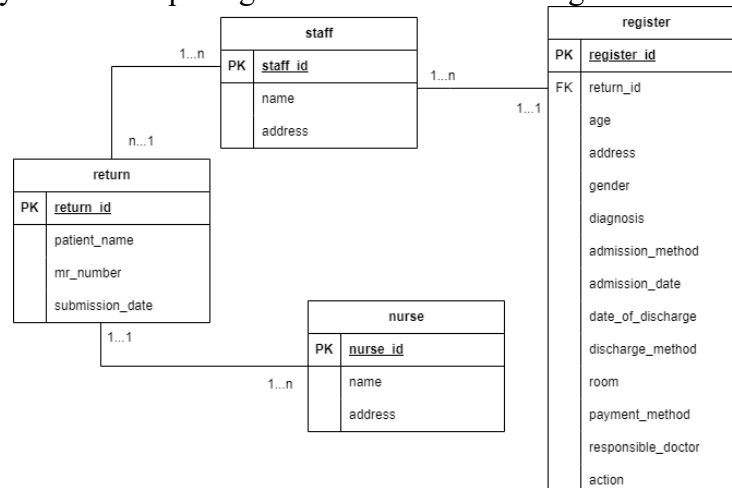


image 2 ERD for MRD return and registration

After creating the entity relationship diagram, it is grouped into several tables that will be used for the web-based inpatient medical record file registration spreadsheet at RSUD Lawang. The process includes naming fields, selecting data types in detail, and determining indexes (primary key/PK) and (foreign key/FK) to establish relationships between tables.

3. Medical Record Document Registration Design

a. Patient Data Registration Form on Google Forms

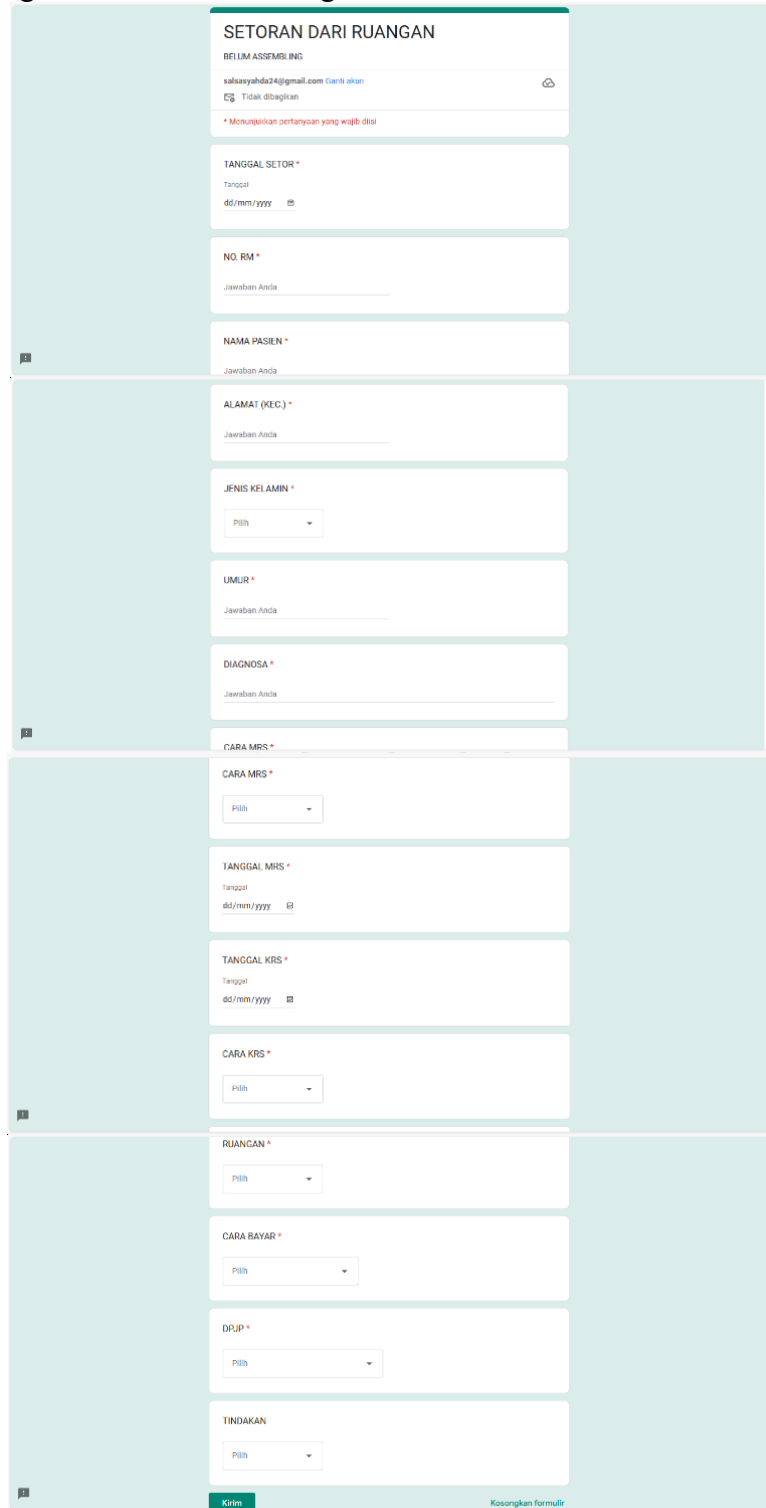


image 3 Google Form for inpatient MRD assembling register

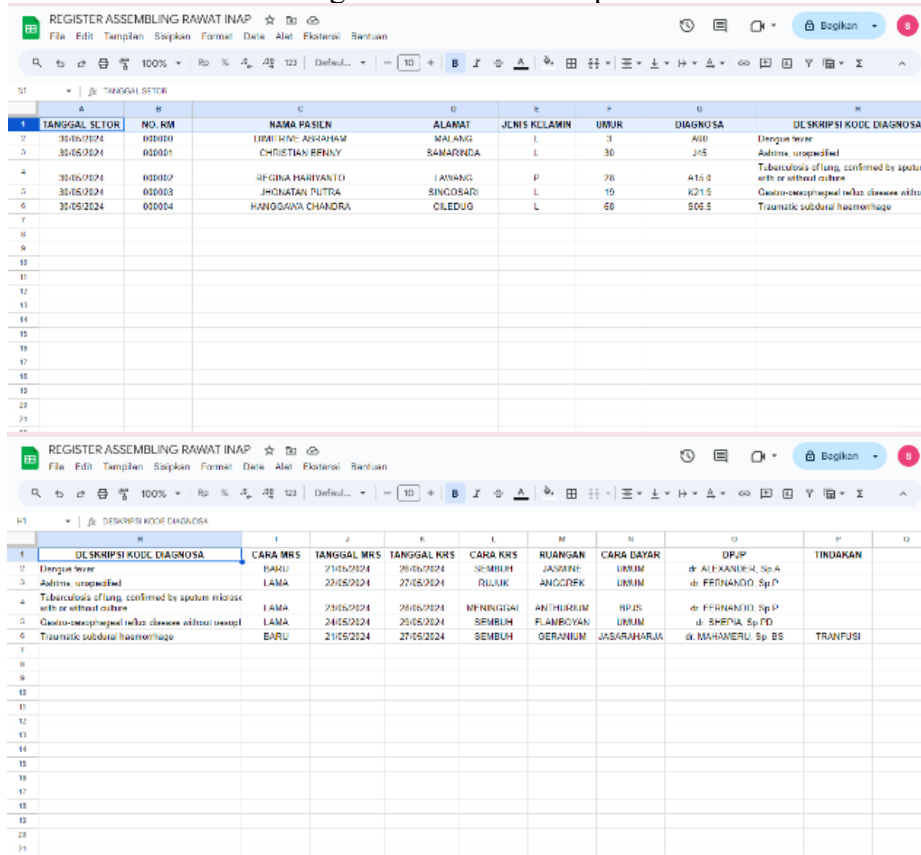
The transition from a paperless method to an electronic system in the inpatient medical record assembling register activities offers various conveniences. The purpose of this transition is to

arrange data more neatly and in an organized way, making it easier for assembling staff to quickly enter patient data.

With the use of Google Forms, it is easier for assembling staff to input patient data as it can be filled in through various devices, such as smartphones and laptops. It also helps the filing staff to track the location of inpatient medical record files. Additionally, assembling staff can quickly and easily register data, ensuring that

patient data is not only accurate but also complete, thus improving both the efficiency and organization of the medical record management process, which ultimately contributes to the overall enhancement of health information management quality in the hospital.

b. Design of the Return and Patient Data Registration Form on Spreadsheet



TANGGAL SEKTOR	NO. RM	NAMA PASIEN	ALAMAT	JENIS KELAMIN	UMUR	DIAGNOSA	DIAGNOSA
30/05/2024	000010	IMAM HAFID AHMAD	MAJANG	L	3	A00	Dengue fever
30/05/2024	000001	CHRISTIAN BERNY	SAMARINDA	L	30	J05	Adenitis unspecified
30/05/2024	000002	REGINA HARIYANTO	LAWANG	P	28	A15.0	Tuberculosis of lung, confirmed by sputum with or without culture
30/05/2024	000003	JHONATAN PUTRA	SINGOSARI	L	19	K21.0	Gastro-oesophageal reflux disease without oesophagitis
30/05/2024	000004	HANGGAWA CHANDRA	CILEDUG	L	68	S06.5	Traumatic subdural haemorrhage

DIAGNOSA	CARA MRS	TANGGAL MRS	TANGGAL KRS	CARA KRS	RUANGAN	CARA DAYAR	DPUP	TINDAKAN
Dengue fever	BARU	27/05/2024	28/05/2024	SEMBUH	JASSEN	UMUM	di ALKANDAR, Sp.P	
Adenitis unspecified	LAMA	23/05/2024	27/05/2024	SEMBUH	ANOREK	UMUM	di FERNANDO, Sp.P	
Tuberculosis of lung, confirmed by sputum microsc with or without culture	LAMA	23/05/2024	28/05/2024	MENINGGAL	ANTHURUM	BPIS	di FERNANDO, Sp.P	
Gastro-oesophageal reflux disease without oesophagitis	LAMA	24/05/2024	25/05/2024	SEMBUH	FLAMBOYAN	UMUM	di SHEPIA, Sp.PD	
Traumatic subdural haemorrhage	BARU	21/05/2024	27/05/2024	SEMBUH	GERANUM	JASARAHARJA	di MAHAMERU, Sp. BS	TRANSFUSI

image 4 Spreadsheet for inpatient MRD assembling register

The analysis of method developments shows positive results. The time required for inputting and searching for patient medical record file information has significantly improved after implementing electronic method. Feedback from users indicates that they are satisfied with the update registration method, which is easier to use. Therefore, the result of this research significantly supports the enhancement of efficiency and accuracy in health data management at RSUD Lawang through the application of innovative technology.

Discussion :

The results of this research highlight the transition of inpatient medical record file registration methods at the inpatient assembling unit of Lawang Regional General Hospital (RSUD Lawang). The use of electronic methods has proven to significantly contribute to minimizing the time required for assembling staff to input patient data during the registration phase. Effectiveness that is achieved not only reduces the likelihood of errors but also improves the efficiency of data management.

The results of this research are important not only in terms of operational aspects but also in

terms of their impact on the quality of medical services. The implementation of an integrated data registration method makes health information management more systematic and organized, while also providing opportunities for staff in the inpatient assembling unit to focus more on other critical clinical tasks.

This study underscores the importance of implementing innovative technology, such as transitioning registration methods, can address complex challenges in patient data management within medical record files. With this transition in registration methods, significant improvements in work efficiency are evident.

This research highlights a specific focus on the method transition in the context of inpatient medical record file registration at the assembling stage. Through direct comparison and the author's analysis on-site, it can be seen that this study provides a specific contribution by presenting more targeted solution to enhance efficiency in patient data management during the registration process at the hospital.

It is hoped that the results of this study will have a significant impact on improving hospital operational efficiency and enhancing overall quality healthcare services. By connecting the findings of this research with relevant literature and events, we can better understand that the application of technology, particularly the spreadsheet-based register method, is a progressive step in enhancing the quality of healthcare services.

This research also provides broader insights into the potential and benefits of developing technology in medical information management. It is important to acknowledge that transitioning registration methods with spreadsheets is a strategic step in enhancing the effectiveness of healthcare information management in hospitals (Saufinah et al., 2023). These findings can be implemented in various hospitals to introduce innovations in patient data management, with the primary goal of improving the quality of healthcare services.

Conclusions:

The development of the inpatient medical record assembling register method has brought

positive changes to the efficiency of health information management at Lawang Regional General Hospital (RSUD Lawang). This research indicates that the use of innovative technology can accelerate and simplify the process of patient record registration by medical record staff. This provides a strong foundation for hospitals and other healthcare institutions to evaluate and adopt similar or further developments to improve service quality and enhance operational efficiency. For future development, it is recommended to continuously evaluate and improve the methods used based on user feedback and to involve more relevant parties in the implementation process. It is also hoped that the method can be integrated with the Hospital Information System (SIMRS). Thus, the use of innovative technology is expected to continue making positive contributions to improving health information management and overall medical services. (Retno Dewi Prisusanti s.st., 2022).

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