Qualitative Study of Factors Causing Double Numbering of Medical Record Documents at Dharma Yadnya Hospital Denpasar

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ABSTRACT

Introduction: Duplication is when two medical record numbers have the same identity or patient. Duplication or double numbering of medical records occurs because the patient's medical record file is not found when the patient comes for treatment, or the patient needs to remember to bring the Medical Index Card (MIC). This study wanted to determine the factors that cause duplication or double numbering of medical record documents. Method: Data collection was carried out by in-depth interviews, observation, and documentation using case study research with qualitative descriptive methods. The Miles and Huberman method is used in data analysis. The sample of this study amounted to 5 people with purposive sampling techniques. Results: The results of the study showed that the implementation of medical record documents in the registration section uses a computerized system, numbering system using the Unit Numbering System (UNS), alignment system using the Straight Numerical Filling (SNF) system, storage system using a Decentralized system, and the leading cause of duplication of medical record numbers at Dharma Yadnya Hospital is that when patients come for treatment often do not bring MIC or other identity cards. Conclusion: From the study results, the implementation of taking medical record documents has not followed the Standard Operational Procedure (SOP) because it has yet to implement tracers. So, tracers are recommended, and officers must be careful in carrying out health services following existing SOP regulations.

Keywords: Duplication, Medical Records, Hospital

Introduction

According to the Ministry of Health Number 24/2022, medical records contain patient identity data, examinations, treatment, actions, and other patient services. Health information is an implementation system that is not just a record of activities but also has the meaning of a patient information management system. The system of administering medical records in the development of digital technology in society resulted in a transformation in society, and it has resulted in the change of digitalization of health...
services so that medical records need to be held electronically with the principles of security and confidentiality of data and information. An Electronic Medical Record is made using an electronic system to implement medical records [1].

Implementing medical record units can improve the quality of health services in hospitals, namely registration, identification, naming, numbering, and storage. Numbering in medical reporting services explains how to write the number given to patients who come for treatment for the first time and who can be examined or treated at health services, among others, based on the patient’s identity. The provision of medical record numbers should be systematic so that each patient is assigned a one-time visit medical record number and that medical record number [2].

Registration for patient admission can use the system area to organize patient reports. Several systems related to the registration system, namely registration system, naming system, numbering system, and Patient Main Index Card (KIUP) system, can be started when a patient registers for medical examination services and returns home, is sent for referral, or is hospitalized.

The medical record numbering system is a procedure for writing medical record numbers given to patients who come for treatment as part of a patient’s identity, as records and documentation about treatment, examinations, and health service actions to patients. The numbering system is the most essential key in organizing patient medical records. Hospital numbering systems usually use a single number system where each patient is assigned only one patient information number, which is used for both outpatient and inpatient purposes. The purpose of medical record numbering is to distinguish the medical records of one patient from another. However, there are still obstacles to providing medical record numbers, such as overlapping or multiple medical records, which can cause health problems, and patients’ medical history needs to be better documented [3].

Duplication or double numbering of medical records occurs because the patient’s medical record file is not found when the patient comes for treatment, or the patient needs to remember to bring the MIC. Therefore, a new medical record number with a different number is made [4].

The SOP numbering system in the inpatient room still needs to be created. This is what causes duplication or double numbering of medical records to be found, and one medical record number is indicated to be owned by several patients [5].

The duplication of medical record numbers still occurs in hospitals in Indonesia. Based on the research conducted by Arianti et al. (2020) at Siloam Hospitals Surabaya, 4,412 results were obtained. The most duplication of medical record numbers occurred in outpatient units in 2019. Based on the number of visits, the highest number of duplications occurred in the medical check-up unit 2016. Several factors influence the duplication of medical record numbering. For example, officers must recheck patient data through systems or programs HOPE. The officer does not check again when the patient does not carry the Patient’s Main Identification Card (KIUIP). The system used by Siloam Hospitals Surabaya uses two methods to register patients, namely the first system called HOPE and the second named MY SILOAM.

A preliminary study was conducted in December 2022 in the registration unit and outpatient medical record unit of Dharma Yadnya General Hospital. At Dharma Yadnya General Hospital, medical record documents are stored by aligning patient documents based on straight numerical filling. While the storage system uses a decentralized system, the filling room unit for outpatient and inpatient documents is in 2 separate rooms, and medical record documents are stored in medical record storage racks. Active medical record racks are stored in medical record installations, and inactive medical records are kept separately. In the preliminary study conducted, it was found that there was duplication or double numbering of medical records, especially in outpatient medical records.

Duplication incidents that can be said to still occur in hospitals have a significant impact on health services. The effect of duplication or double numbering of medical record documents is the hampering of services due to the time spent searching for medical record...
documents and the unsustainable content of medical records. According to Pinerdi et al. [7], discontinuous patient data can lead to errors in the execution of medical procedures because the last diagnosis or treatment recorded is different from the last record used on the patient’s treatment. This proves that it is still essential to conduct in-depth research on the factors that cause duplication or double numbering of medical record documents in hospitals.

Based on the above, researchers are interested in conducting further research entitled "Qualitative Study of Factors Causing Double Numbering of Medical Record Documents at Dharma Yadnya General Hospital Denpasar." The purpose of researchers in this study is to determine the factors that cause duplication or double numbering of medical record documents at Dharma Yadnya Hospital in order to find the best solution to overcome it.

**Materials and Methods**

The type of research used is a case study with a qualitative descriptive method. The approach used is observational and data aggregators.

**Subject**

The study used purposive sampling techniques, which are sampling techniques with certain considerations or characteristics [8]. The consideration of participants is applied with inclusion and exclusion criteria. The inclusion criteria are as follows: Registration officer and outpatient medical records officer with minimum education D1 and work for at least one year at RSU Dharma Yadnya Denpasar. The exclusion criteria are the registration officer and outpatient medical records officer who withdraw as a participant before or during the interview process.

**Research Instruments**

The research instruments used in this study are interview guidelines checklist sheets for observation and documentation (Table 1). Interview guidelines are as follows:

1. What system is used in the Registration unit at RSU Dharma Yadnya?
2. Has the registration section used an SOP?
3. Do you know how patients are admitted to RSU Dharma Yadnya?
4. When an old patient registers to become a new patient because he doesn’t bring a medical card or other reasons, what will the registration officer do to handle this problem so that there is no duplication of medical record numbers patient?
5. What do you know about medical records?
6. What do you know about the hospital numbering system?
7. What numbering system is used at RSU Dharma Yadnya?
8. Do you know what a hospital storage system is?
9. Do you know how many storage systems there are in hospitals?
10. What storage system does RSU Dharma Yadnya use?
11. What is the reason for RSU Dharma Yadnya to use this storage system?
12. What do you know about the alignment system in hospitals?
13. What alignment system is used at RSU Dharma Yadnya?
14. When registering a patient, it is discovered that there is a duplication of prospective patients registered, what steps do Dharma Yadnya RSU officers take?
15. What are the main factors causing duplicate medical record numbers at RSU Dharma?
16. Yadnya?
17. What solutions or methods have been used to overcome the duplication problem at RSU Dharma Yadnya?

Table 1 | Observation checklist

| 1. Registration Manual System Computerized Systems |
| 2. Numbering System Serial Numbering System Unit Numbering System Serial Unit Numbering System |
3. Alignment System
   - Straight Numerical Filing System
   - Terminal Digit Filing System
   - Middle Digit Filing System

4. Storage System
   - Centralization
   - Decentralization

5. Double Numbering Occurrence
   - Officers Are Less Careful
   - Patients Often Forget to Bring Cards

Data Analysis Techniques
The selection of thematic analysis was based on its ease of use and adaptability [9]. An analytical method employing deductive reasoning was utilized. The data were extracted from those papers to facilitate a comprehensive comprehension of nursing advancement in Indonesia, encompassing education, practice, and research aspects. Subsequently, the texts were carefully reviewed again to ensure that any irrelevant information unrelated to the essential notion was eliminated. The remaining subjects underwent re-evaluation, and the results were examined and evaluated with reference to the objective that highlighted the importance of this study.

Ethical considerations
This study was carried out after obtaining ethical approval from the Institutional Review Board. Participants were provided with information regarding the trial, including the potential risks and benefits. Questionnaires were distributed subsequent to the completion of the informed consent form. During the data collection procedure, respondents were provided with the option to decline or retract their participation.

Results and Discussion
Research Site Overview
RSU Dharma Yadnya was established in 1996, starting with the status of a clinic known among the community as an emergency poly-clinic. Since its establishment, it has become the first destination for patients who experience traffic accidents in the East Denpasar area to get first aid before receiving advanced treatment in the RSUP Prof. Dr. IGNG Ngoerah. This is because Dharma Yadnya is located on the main road connecting Denpasar with Gianyar and very close to the bypass road connecting Denpasar with Gianyar, Klungkung, and Karangasem regencies. There are often traffic accidents. The Emergency Department of Dharma Yadnya Hospital is always crowded with patients who are victims of accidents every day, and this condition is the basis for management to choose traumatology services as superior services, in addition to the support from specialist doctors in the field of traumatology.

Participant Characteristics
Based on the results of the study showed that most participants were over 23 years old and had worked for more than one year. Based on gender, most of the participants were female, as many as five people. All participants have been educated Diploma – Bachelor degree medical records based on education.

Identifying Registration at RSU Dharma Yadnya
Based on the observations of researchers at Dharma Hospital, the registration system used is a computerized system that uses SOPs. Officers also often find patients who come for treatment without carrying any identity.

Based on observations at Dharma Yadnya Hospital, SOPs are available or used for patient registration. However, medical records still use paperless files or patient records, and patient calls are made manually according to the queue number called by the registration officer. So, it has not fully used electronic medical records.

An electronic medical record is any record or interpretation made by a doctor in diagnosing a patient, which is stored in the form of electronic (digital) storage by a computer system. Suppose electronic medical records have been used in medical record management. In that case, duplication of medical records can be eliminated because medical records are not in paperless form but in electronic format, where all patient information is stored automatically. This can result in the clerk performing less detailed registration procedures and duplication of the registration officer’s work i.e. registering and writing medical documents for
undocumented persons, which can lead to fatigue and risk of getting lost in the wrong registration process in the event of duplication of medical record numbers. According to Karlina et al. (2016), fatigue is characterized by decreased performance and the need to work, which reduces performance.

SOPs are essentially instructions that provide standard operating instructions for activities carried out as an organization and are only implemented to ensure that all decisions and actions taken by Justice and Human Rights staff and process tools work effectively, efficiently, consequently, standardized, and systematic [11].

In the research conducted by Pinerdi et al. [7], SOPs that are not written or clearly explained cause the duplication of patient numbers. The SOP is based on the installation practice of PERMENKES No. 269/MENKES/PERS/PER/2008, which concerns medical records, stating that each medical record service unit must have a Standard Operating Procedure (SOP).

Identifying the Numbering System at RSU Dharma Yadnya

Based on the results of observations made by researchers, a numbering system was used in the filing section of Dharma Yadnya Hospital, which used a unit numbering system (Unit Numbering System) and patient record numbers were used at the next visit. The numbering system at Dharma Yadnya Hospital The method used is convenient because the storage system is centralized, making it easier for officers to find medical records. According to Budi [12], there are three patient numbering systems: Serial Numbering System, Unit Numbering System, and Serial Unit Numbering System.

This research is supported by previous research by Parulian Gultom and Wati Pakpahan [5]. Researchers stated that the Unit Numbering System numbering patients are only entitled to one medical record number for either outpatients or inpatients. Unit Numbering System: if the patient comes to the hospital for the first time, the patient will be given a medical record number that is used every time he visits for treatment or his lifetime so that the patient only has one medical record number and one medical record file.

According to the researcher’s analysis, the numbering system used at Dharma Yadnya Hospital has been effective. Using the Unit Numbering System numbering system will facilitate officers in the filling department in the process of finding medical records if needed because each patient only has one medical record number, which is used on every subsequent visit of life, and information or data related to patients and services provided is contained in one medical record folder.

Identifying the Alignment System at Dharma Yadnya Hospital

Based on the observations and interviews that researchers have conducted in the field, the alignment system used in the filing section of Dharma Hospital uses an alignment system (Straight Numerical Filling). Medical record files are sorted in direct order by medical record number on the storage rack. The relevant alignment system is an example from the table below:

<table>
<thead>
<tr>
<th>Primary Digit</th>
<th>Secondary Digit</th>
<th>Tertiary Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>11</td>
<td>80</td>
</tr>
<tr>
<td>01</td>
<td>11</td>
<td>81</td>
</tr>
<tr>
<td>01</td>
<td>11</td>
<td>82</td>
</tr>
<tr>
<td>01</td>
<td>11</td>
<td>83</td>
</tr>
<tr>
<td>01</td>
<td>11</td>
<td>84</td>
</tr>
</tbody>
</table>

When storing medical record documents, officers in the filling department of Dharma Yadnya Hospital must see medical record documents based on the sequence number of medical records from the beginning to the last. To use this system, prepare a storage rack and
store it by sorting the medical record numbers from beginning to end. The first digit of the medical record number in the 2-digit group (primary number) is the reference value, then sequentially after it and the reference value in the 2-digit middle group number as the second digit (secondary number), and so on. The reference value is the third of the last 2-digit group number (tertiary number). According to the researchers’ analysis from the observations, the alignment system used at Dharma Yadnya General Hospital is not effective enough to be used. The SNF system is said to be ineffective because it has drawbacks, namely the difficulty of using SNF alignment reflected on the front and back numbers. Workers sometimes have problem retrieving patient medical records because they have to remember the location of the number, which can lead to errors and duplication of medical records. According to some library sources, hospitals are better off using the Terminal Digit Filling System (TDF) alignment system than SNF.

This research is supported by previous research by Zulham and Faradila [13], which states that the alignment of the TDF System is more recommended in theory because it is more effective and efficient to use in hospitals. Pujilestari [14] states that SNF alignment is problematic when viewed from front to back. Officers sometimes have problems taking patient medical records because they have to remember the location of these numbers. There may be a slowdown in patient care due to file errors. If the patient’s doctor listed in the document cannot be identified, the medical information cannot be sorted, which causes duplication.

**Identifying Storage Systems at Dharma Yadnya Hospital**

Based on field observations, the storage system used at Dharma Yadnya Hospital uses a decentralized storage system, which is a separate medical record file storage system between outpatient medical records and inpatient medical records. The decentralized storage system is considered more time-efficient for patient care because the outpatient medical record filing room is close to the service place, so patients get service quickly. According to Depkes RI [15], The centralized system is better than the decentralized way the system is.

Using a centralized system in the file room is the most appropriate system, considering that services are more easily accessible to patients because outpatient, hospital, and emergency medical records are combined into one folder or binder so that medical history can remain continuous (Depkes RI, 2006). Implementing outpatient medical record storage at Dharma Yadnya General Hospital, which uses a decentralized storage system, does not follow the theory.

This research is supported by Wiguna and Safitri [16], who state that medical record files should use centralization because, in theory, the way of centralization is better than decentralization so that medical record files are stored in one unit. It is also supported by research Aulia Sagita Putri et al. [17]. They stated that centralized storage systems are better than decentralized storage systems because they can reduce the duplication of effort involved in maintaining and storing medical records and allow officers to be more efficient in storage.

According to the researcher’s analysis, using the decentralized storage system at Dharma Yadnya Hospital experienced problems that resulted in busier officers. The patient reception system was mandatory 24 hours a day and could cause problems for users or users of medical documents. There are also common reasons for using distributed storage systems, namely duplicate patient record numbers or the presence of missing or misplaced files (miss files), as well as increased search times due to the need to determine when patients were last admitted and in which polyclinics were returned or not archived or patients hospitalized.

**Identifying the Factors Causing Double Numbering at Dharma Yadnya Hospital**

Based on the results of observations and interviews that researchers have conducted, the occurrence of double numbering or duplication of medical record numbers at Dharma Yadnya Hospital is due to patients forgetting to bring identities such as ID cards or other identities, the use of abbreviated names or spelling letters at the time of registration when not carrying an...
identity card and changes in address on the patient's identity card, causing patients to be registered as new patients because the address changes.

Filling rooms or storage racks use distributed storage systems, but there are cases where medical record numbers overlap. This problem can cause social workers to waste time because searching for lost medical records can take a long time. If they can't find a lost medical record, workers must create a new one, which can result in duplication of medical records.

### Table 3. Duplicate Medical Record

<table>
<thead>
<tr>
<th>No</th>
<th>Month</th>
<th>sumDRM</th>
<th>Duplicated</th>
<th>Not Duplicated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>July</td>
<td>958</td>
<td>10</td>
<td>948</td>
</tr>
<tr>
<td>2</td>
<td>Aug</td>
<td>787</td>
<td>9</td>
<td>778</td>
</tr>
<tr>
<td>3</td>
<td>Sepr</td>
<td>1131</td>
<td>8</td>
<td>1123</td>
</tr>
<tr>
<td>4</td>
<td>Oct</td>
<td>1342</td>
<td>9</td>
<td>1333</td>
</tr>
<tr>
<td>5</td>
<td>Nov</td>
<td>810</td>
<td>6</td>
<td>804</td>
</tr>
</tbody>
</table>

Most of the duplication of patient records that coincided occurred in July with ten medical record documents, while the duplication of medical registration numbers was low in September at eight medical record documents. Of the many incidents of duplication of medical record numbers, ten documents were declared to have been duplicated in July (Table 3). This is because officers are often less careful in documenting medical records.

Duplicate medical record numbers cause significant disruption to patient care as clerks struggle to retrieve duplicate medical record documents, resulting in medical records officers providing only the polymorph patients need, so patients are not followed up. This is contrary to the main purpose of hospital medical records, which is to support the achievement of regular governance in improving hospital health services [18].

The medical record numbering system at Dharma Yadnya Hospital uses the Unit Number System. However, it is still observed that patients have more than one medical record number. Therefore, if the unit number system is a numbering system where the system assigns a single medical record number to outpatients or inpatients, this is incompatible with the unit number system care and newborns. Each visiting patient receives a patient number during their first visit to the hospital, which is used permanently for subsequent visits. Thus, the patient's medical record is only stored in one folder with one number. Therefore, social workers must be more diligent in providing medical registration and records to avoid duplication.

According to Sudra [18], there are three types of medical record numbering systems. Regardless of which method is used, each new medical record must be assigned a chronological sequence number used by all units or departments of the hospital concerned. According to Parulian Gultom & Wati Pakpahan [5], to avoid duplication of patient numbering, the person in charge of the patient record should ask the patient record department whether the patient has been treated or not so that the patient record numbering does not overlap and the officer needs more numbering when treating patients.

According to Budi [12], the admissions officers must be able to manage the flow of patient care, patient medical records, and patient admission procedures so that social workers provide services and information consistent with the findings of research by Arianti et al. [6], states that there has been double numbering that one patient has two medical record numbers, that the factor causing the double numbering is that the registration officer lacks attention and discipline in filling out the registration according to the procedure.

According to the results of the researcher's analysis, the duplication of medical record numbers often occurs in hospitals, one of which at Dharma Yadnya Hospital is also still re-doubling medical record numbers. To avoid the
duplication problem of medical record numbers, trackers should be integrated into storage systems, as labels that indicate where medical records should be stored after return are important to improve the efficiency and accuracy of loans. Without a tracker, when medical record numbers are duplicated and file errors, officers find it difficult to find medical records. The archivist should get used to tracking duplicate with a file space tracker so that if a duplicate error occurs, he can know where the duplicate is. Muzaffatul [19] stated the importance of using tracers when borrowing medical record files so as not to cause missfiles or difficulties when searching or returning medical record files.

Based on the results of observations, literature data, and interviews, it is known that there are factors causing duplication, namely because patients often do not bring identity cards. Besides that, the discovery of missfiles in the filling room is also one of the duplication factors. RSU Dharma Yadnya currently does not use tracers. According to several library sources, using tracers is very important because implementing tracers on storage racks can prevent missfiles that will cause duplication.

Limitations
The study did not take place according to the schedule set by the researcher at the beginning because the researcher had dropped, so the research was carried out after things returned to normal.

Researchers had difficulties determining the interview time because the interview participants had a busy schedule, and work was ongoing. Therefore, researchers must arrange schedules and ask participants for time during breaks or after work.

Implications
The registration department should exercise greater diligence in verifying the information of both existing and new patients to prevent issues arising from the duplication of patient records during subsequent treatments.

The hospital should consider switching from a decentralized storage system to a centralized storage system, as per established theory, which suggests that a centralized system is superior to a decentralized one.

Introduce tracers to aid medical record officers in documenting medical papers, hence preventing errors and duplication of medical record numbers.

It is advisable to carry forward this study's findings for future researchers investigating the same problem area.

Conclusion
The registration system employs a computerized system and successfully integrates Standard Operating Procedures (SOPs). However, patients frequently neglect to bring their identification cards, and officers frequently overlook and confuse old and new patient data. Furthermore, officers exhibit a lack of attentiveness or discipline in adhering to established protocols.

The archive area employs the Unit Numbering System (UNS) for its numbering system. The numbering system for medical records is a singular numerical system in which each patient is assigned a unique medical record number to be used during subsequent visits.

The filing method utilizes the Straight Numerical Filing (SNF) system for alignment. The medical record documents are arranged in a sequential order according to their respective medical record numbers, starting from the beginning of the storage rack and ending with the last number. This system exhibits inherent deficiencies that may result in the misplacement or replication of medical record documents.

The filing system utilizes a decentralized storage mechanism. A decentralized storage system refers to a method of storing medical record files where the data are maintained individually, with outpatient medical records and inpatient medical records being stored in different locations.

The patient fails to provide a medical card (KIB), ID card, driver’s license, or any other kind of identification. Additionally, the patient’s previous records do not indicate registration as a new patient. Authorities frequently exhibit negligence and commit errors while examining both historical and recent patient records.
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References