REVIEW OF THE ACCURACY OF DISEASE DIAGNOSIS CODES TO SUPPORT THE EFFECTIVENESS OF ELECTRONIC MEDICAL RECORDS AT EDELWEISS HOSPITAL BANDUNG

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Abstract

The level of accuracy of diagnosis coding in patients has an important role in the smooth running of health services. studies show the level of accuracy of diagnosis coding in electronic medical records (RME) is relatively high. The purpose of this study was to measure how much the level of accuracy and inaccuracy and the factors of accuracy and inaccuracy of diagnosis coding at Edelweiss Hospital Bandung. The type of research used in this article is qualitative analysis with descriptive methods. The sample used was the inpatient coding data file of Edelweiss Bandung Hospital as many as 90 samples. the results showed that the accuracy of diagnosis coding was 53.45% and the inaccuracy was 37.55%. the accuracy factor of this diagnosis code occurred due to increased accuracy and data quality, optimizing the use of ICD 10 and ICD 9 CM and reducing coding errors. The inaccuracy factor occurs due to the coder's inaccuracy in coding, lack of medical support information and lack of coder training and experience. The conclusion of this study is that from 90 samples of patient medical records at Edelweiss Bandung Hospital, the accuracy of the diagnosis code has not reached 100%, this happens because of the inaccuracy of the coder in reading the diagnosis code, lack of medical support information, and lack of medical support information and lack of training and experience of the coder in determining the patient's diagnosis code at Edelweiss Bandung Hospital.

Keywords *: Accuracy of Diagnosis Codes, Effectiveness, Hospital*

INTRODUCTION

People can receive health services through hospitals. Therefore, for patients to appreciate, hospitals must provide adequate and high-quality services to each patient to ensure optimal health care. Hospital administration is required to follow established standards of care to ensure that all patients receive high-quality care that effectively and

efficiently improves their health. Medical records are now an important part of the development of health services in hospitals. Electronic medical records are a digital system designed to support the management and administration of medical records, according to Minister of Health Regulation Number 24 of 2022 (Praxis, 2022). According to the Decree of the Minister of Health Number 312 of 2020 concerning Professional Standards for Medical Recorders and Health Information (PMIK), PMIK personnel must have the ability to accurately identify disease codes and medical procedures in accordance with the classification applicable in Indonesia (ICD-10). Coding applications simplify the data collection process, support indexing of disease reports, provide data for health reporting systems, help identify services that need to be developed according to current needs, and provide important data for price evaluation and health service planning related to patient diagnosis. The disease classification system is the grouping of various diagnoses into one set with other diagnosis codes according to ICD-10 and ICD-9-CM (Pramono et al., 2021).

In coding, data elements are represented by codes assigned using characters, numbers, or combinations of characters and integers. Coding and indexing diagnoses, actions, and activities in medical records will help display service information. Encourage health sector planning, management and research activities. The diagnosis should be valuable information according to the specific ICD category. If there are any discrepancies or errors in these diagnosis recording requirements, you should discuss this with the treating doctor. Coders will be greatly helped in determining accurate diagnoses and action/procedure codes if the doctor completes and documents the entire medical history (Trisna, 2018). A coder must be able to carry out tasks based on their knowledge, abilities and competencies, which are supported by a work attitude that develops into unique qualities. Competency is the capacity to carry out or complete a task based on information and abilities and reinforced by the personal work attitudes required for that position. (Maimun et al., 2018) Electronic medical record, or health information technology, is the application of instruments to collect, store, process, and retrieve patient information from database systems contained in hospital health records. Many contemporary hospitals have combined electronic medical record with other functions including administration, billing, scorecard dashboards, nursing documentation, reporting, and billing with the main application of the Hospital Management Information System (SIMRS). (Handiwidjojo, 2009). Electronic medical record is used in registration, polyclinics, inpatient wards, support units, and cashiers to record demographic information, disease history, treatment, actions, and payments. To meet user expectations and demands, Electronic medical record

is still in the development stage. An important component to achieve perfect electronic medical record is the user. (Rosalinda et al., 2021)

Based on initial research in April 2024 at Edelweiss Hospital in Bandung, 814 inpatient medical record claim files were obtained in April 2024, then samples were taken of 90 files. Researchers found accuracy rates for diagnosis coding in 53 sample files and inaccuracy rates for diagnosis coding in 37 files.

The researcher decided to choose a title based on the background above, namely "**Review Of The Accuracy Of Disease Diagnosis Codes To Support The Effectiveness Of Electronic Medical Records At Edelweiss Hospital Bandung**"

METHODOLOGY

A descriptive qualitative approach was used in this research. According to Moleong, (2007:6) qualitative research is research with the aim of understanding the phenomenon of what the research subject experiences as a whole by means of description. Whether in the form of words and language, the specific context experienced and by utilizing various scientific methods. Researchers took 90 samples from 814 inpatient coding data files in April 2024, including the population analyzed for this study. Data collection methods include interviews and observations with medical records staff at Edelweiss Hospital Bandung.

RESULTS

A. Research Results

Diagnosis coding procedures in Electronic Medical Records (RME) based on ICD-10 standards at Edelweiss Bandung Hospital include:

1. Inputting the patient's medical record number: The coder inputs the patient's medical record number into the RME before coding
2. Manual Coding: The coder carries out coding by looking at the diagnosis in SOAP and then adding the code to the database according to the applicable provisions of ICD 10 and ICD 9 CM.
3. Use of Diagnostic Coding Aids: Coders carry out diagnostic coding using tools such as ICD 10 VOL 1-3 and ICD 9 CM to facilitate the diagnosis coding process.
4. Monitoring and Correcting: Coders check and correct when there are diagnosis codes that are inaccurate or do not comply with the provisions of ICD 10 and ICD 9 CM and carry out coding manually to ensure accuracy.

Tabel 1. Accuracy of disease codes in electronic medical records

Ketepatan Kode Penyakit	F	%
Tepat	53	53.45%
Kurang tepat	37	37.55%
Total	90	100%

Source: Processed by the author (2024)

Based on table 1, even though a thorough examination of 90 samples of electronic medical records at Edelweiss Hospital has been carried out, it is evident that several disease codes are still incorrect. With a percentage of 53.45% found in 57 medical records with the correct disease code, while 37.55% was found in 37 medical records with the wrong disease code.

B. Discussion

Based on the results of observations and interviews at Edelweiss Hospital, there were several factors that caused errors in entering diagnosis codes into the Electronic Medical Record, one of which was due to a coder being less careful in reading and understanding the diagnoses in the doctor's SOAP.

However, use of the ICD-10 coding system will have an impact if there are more inaccurate diagnosis codes in the electronic medical record (RME) than accurate ones. Additionally, ICD-10 coding requires proof from a health authority. Obtaining reliable data is also important to ensure patient safety. To reduce the frequency of communication disruptions and improve patient safety, this can be achieved by strengthening ties between various health professionals and by evaluating clinical information from other professions.(Zebua, 2022)

Based on the research results, it was found that the accuracy rate for coding diagnoses in electronic medical records (RME) was 37.55%. There are several things that can trigger diagnostic coding errors in electronic medical records (RME) as follows:

1. Coder inaccuracy: Lack of understanding of written medical terminology can cause errors in coding diagnoses. The coder's lack of accuracy in reviewing the doctor's SOAP can lead to diagnostic coding errors.

2. Lack of supporting medical information: Incomplete medical information can cause errors in coding diagnoses.
3. Coder training and experience: Coders who have never had any coding training can cause serious coding errors.

Implementers who handle electronic medical records have a significant influence on the accuracy of diagnosis codes (RME). To ensure the accuracy of the diagnosis code, the medical record officer should ask the doctor in charge to check the diagnosis if they have difficulty reading it to ensure accuracy in the diagnosis.

The accuracy of coding diagnoses in electronic medical records is 53.45%, this shows that there has been progress in coding diagnoses in electronic medical records (RME) compared to coding in medical record files. There are several things that are advantages in the accuracy of coding diagnoses in electronic medical records (RME), including:

1. . Improve data accuracy and quality: coding diagnoses using systems such as ICD-10 ensures that the data collected is accurate and consistent.
2. Optimizing utilization of ICD-10 and ICD-9-CM: implementation of codes in ICD 10 and ICD 9 CM in the electronic medical record (RME) system can increase data precision and specificity.
3. Reduce coding errors: coding training can improve the ability of coders to provide correct diagnoses.
4. Integrate with the RME system: codes in ICD 10 and ICD 9 CM can be easily integrated with the RME system allowing for a more efficient and simpler documentation process.

Based on the research results, this proves that the coder's accuracy in reading the diagnosis on the doctor's SOAP is a problem that causes the patient's diagnosis code to be inaccurate. Because the doctor types the diagnosis code, errors in determining the code can occur if the doctor's typing is not clear or there are abbreviations that are not understood. Medical professionals assess the accuracy in entering disease diagnosis codes to be precise and comprehensive in accordance with relevant laws and protocols. Medical professionals determine the accuracy of the diagnosis; in this case, a doctor are the primary diagnostic authorities because they are the only ones authorized and responsible to make such decisions for patients.

The accuracy of the diagnosis code determined by the medical officer is the coder's responsibility. Therefore, to corroborate the information in the medical record, coders must assign codes according to ICD-10 guidelines. If something is unclear, wrong, or

incomplete, it is communicated to the doctor who made the diagnosis before a diagnosis code is assigned.

Training in diagnosis, coding and management of medical records must be provided to all medical records officers. Therefore, an appropriate coding system needs to be used when figuring out a patient's diagnosis code. Doctors and nurses need to collaborate and provide feedback to each other when completing medical record documents. The involvement of doctors in diagnostic coding and education in medical record administration is necessary in order to increase the accuracy of disease diagnosis codes in accordance with predetermined norms

CONCLUSION

According to the research results, from ninety samples of medical records at Edelweiss Hospital Bandung, the level of accuracy of diagnosis codes has not reached 100%. The accuracy of the diagnosis code reached 53.45% and the inaccuracy of the code reached 37.55%. Nevertheless, this level of accuracy shows quite good results, but still needs improvement. This creates added value in electronic medical records. and there are several factors that cause inaccurate diagnoses, namely the coder's inaccuracy in determining the diagnosis, lack of supporting medical information and lack of coder training and experience in determining the patient's diagnosis code.

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