INFORMEDICA
Vol. 1, No.1, 2025, pp 20-21

Identification of Coding Discrepancies in Diabetes Mellitus Diagnosis Based on ICD-10

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ABSTRACT

This study aims to identify discrepancies in the coding of Diabetes Mellitus diagnoses based on the International Classification of Diseases, Tenth Revision (ICD-10). Accurate medical coding is essential for ensuring reliable medical records, appropriate hospital claims, and valid epidemiological data. The research employed a descriptive quantitative design involving patient medical records diagnosed with Diabetes Mellitus at a hospital. The study analyzed the concordance between physician-assigned codes and ICD-10 standards. Findings indicate a significant proportion of discrepancies, particularly in distinguishing primary and secondary diagnoses, leading to inaccuracies in coding practices. These results highlight the importance of continuous coder training and regular audits to minimize errors and improve the quality of health information systems.

Keywords: Diabetes Mellitus, ICD-10, coding accuracy, medical records, diagnosis discrepancies.

1. BACKGROUND

The accuracy of diagnosis coding is a cornerstone in medical record management, as it ensures the validity of patient data, facilitates hospital financing, and supports health policy development [1]. Coding discrepancies can lead to misclassification, affecting statistical reporting and hospital claims [2].

Diabetes Mellitus (DM) remains a major global health issue. The International Diabetes Federation (IDF) reported that over 500 million adults worldwide were living with diabetes in 2021, with numbers projected to rise [3]. In Indonesia, DM ranks among the top ten leading causes of morbidity and mortality [4]. Thus, accurate coding of DM diagnoses in medical records is critical for proper clinical management and national health statistics.

The ICD-10 provides standardized coding guidelines that classify diseases and health conditions, including DM under codes E10–E14 [5]. However, inconsistencies often occur between physician documentation and coders' interpretation of ICD-10 rules, resulting in discrepancies [6].

Given these challenges, this study investigates the degree of coding discrepancies in DM cases by comparing physician-assigned codes with ICD-10 standards. It further explores factors contributing to inaccuracies and offers recommendations to improve coding quality.

2. RESEARCH METHODS

This study applied a descriptive quantitative research design. The population consisted of medical records of patients diagnosed with Diabetes Mellitus at a general hospital. A total of 73 patient records were sampled using purposive sampling.

:Data were obtained from medical records, focusing on diagnosis codes documented by physicians and coders. The ICD-10 Volume 1 (Tabular List) and Volume 2 (Instruction Manual) served as the coding reference.

Data were analyzed by comparing assigned codes with ICD-10 standards. Discrepancies were categorized as primary or secondary diagnosis errors. The percentage of accurate vs. inaccurate coding was calculated and presented in tabular form.

3. RESULTS AND DISCUSSION

Table 1 shows the accuracy of primary and secondary diagnosis coding in Diabetes Mellitus cases.

Table 1. Accuracy of Diagnosis Coding in DM Cases

Diagnosis Type		
	Primary	Secondary
Accurate	23	50
In-accurate	50	23
Total Cases	73	73
Accuracy (%)	31.5%	68.5%

The findings reveal that **primary diagnosis coding accuracy was only 31.5%,** while **secondary diagnosis accuracy reached 68.5%.** This indicates a significant gap in coding accuracy, especially in identifying primary diagnoses.

The low accuracy in primary diagnosis coding may stem from ambiguous physician documentation or insufficient coder understanding of ICD-10 rules. Previous studies also report that inadequate training and lack of auditing contribute to coding errors [7], [8].

Secondary diagnosis coding was relatively more accurate, suggesting coders are more confident in documenting comorbidities or complications. Nevertheless, discrepancies in both categories underscore the need for better standardization and continuous education.

Consistent with [9], coding accuracy directly influences hospital claims and national health statistics. Improving coder competence, updating ICD training, and strengthening physician documentation are critical measures.

4. CONCLUSION

This study identified substantial discrepancies in Diabetes Mellitus coding using ICD-10, with primary diagnosis accuracy lower than secondary. These findings emphasize the importance of accurate coding practices for reliable health information. Continuous training, documentation improvement, and routine audits are recommended to enhance coding quality.

5. THANKS

The researcher expresses gratitude to the hospital staff, academic supervisors, and all individuals who supported this study. Their contributions were invaluable in completing this research.

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