

The Critical Role of Accurate ICD-10 Coding in Hospital Discharge Diagnoses and Impact on Healthcare Management

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Introduction: Accurate coding using the ICD-10 is critical for reliable diagnoses, healthcare reimbursement, and thorough patient care; however, the transition to this new coding system is a challenge for many institutions, leading to significant healthcare burden. This study evaluates the frequency of usage of specific versus nonspecific ICD-10 coding in hospital discharge diagnoses, focusing on four common disorders, including diabetes mellitus, heart failure, chronic obstructive pulmonary disease (COPD), and pneumonia. The impact of race, gender, age, and length of stay (LOS) on the use of nonspecific ICD codes was also analyzed.

Methods: A retrospective cross-sectional analysis was conducted using the 2021-2022 National Hospital Discharge Data from the Healthcare Cost and Utilization Project. Patients with primary or secondary diagnoses of diabetes mellitus, heart failure, COPD, and pneumonia were included. Descriptive statistics and logistic regression models assessed the use of specific versus nonspecific ICD-10 codes and the influence of demographic factors.

Results: Among 6,666,752 discharges in 2021, the rates of specified coding by disease were: Diabetes (97.86%), Heart Failure (94.01%), Pneumonia (91.42%), and COPD (77.13%). Age and race were significant predictors of unspecified diagnosis for all four diseases. Older patients and those with extended LOS were also associated with higher nonspecific coding rates ($p < 0.0001$). Gender was significant predictors for COPD and Pneumonia. Females were more likely to receive nonspecific codes, particularly in COPD.

Conclusion: Nonspecific ICD-10 coding is common and more frequent in COPD and is influenced by demographic factors and LOS. Nonspecific coding can lead to inaccurate diagnoses, and subsequent delayed and inaccurate reimbursement. This impacts healthcare statistics and budget planning by insurance companies. Targeted efforts to standardize coding practices and enhance the specificity of ICD-10 codes are necessary to improve data quality, patient care, and financial outcomes.

Keywords: ICD-10 Coding, Nonspecific Coding, Hospital Discharge Diagnosis, Chronic Diseases
