Accuracy and Validity Outpatient Diagnosis Code Base On ICD-10 at Imogiri I Health Center Bantul Yogyakarta

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ABSTRACT

Background: Analysis of accuracy and validity fill code diagnosis on medical record document is very important because if diagnosis code is not appropriate with ICD-10, will cause decline in quality services health center, generated data have this validation data level is low, because accuracy code very important for health center such as index process and statistical report, as basis for making outpatient morbidity report and top ten diseases reports, as well as influencing policies will be taken by primary health center management. This study aims to analyze accuracy and validity diagnosis disease code based on ICD-10 fourth quarter in 2020 Imogiri I Health Center Bantul.

Methods: Descriptive qualitative approach, case study design. Subject is a doctor, nurse, head record medical and staff. Object is outpatients medical record document in Imogiri I Health Center Bantul. Total sample 99 medical record file. Obtaining data from this study through interviews and observations.

Results: Number of complete accurate diagnosis codes is 60 (60,6%), incomplete accurate diagnosis codes is 26 (26.3%) and inaccurate diagnosis codes is 13 (13.1%). Inaccuracies include errors in determining code, errors in determining 4th character ICD-10 code, not adding 4th and 5th characters, not including external cause, and multiple diseases.

Conclusions: Inaccuracy factors are not competence medical record staff, incomplete diagnosis writing and no training, no evaluation or coding audit has been carried out, and standard operational procedure is not socialized.

Keywords: Accuracy Code, Diagnosis Code, ICD-10.

INTRODUCTION

Medical record must contain documents will be coded as on front sheet (medical record 1, operation sheet and action report, pathology report and outgoing patient resume) (Hatta GR,2016). Certainty and accuracy diagnosis code in medical record document is very necessary so information can be accounted for explaining the quality of facts have occurred. This will allow information retrieval to meet needs patient management, institutional, educational, research or needs party which is more spacious and is able to protect interest provider services (doctor). Code diagnosis patients if not encoded with accurate information is obtained will have degree data validation is low. It is, would result in inaccuracies report, such as outpatient morbidity report, ten major diseases reports or claim JAMKESMAS (Hatta GR,2011).

Health workers are spearhead government in handling cases of covid-19, including medical recorders and information health. Special attention needs to be paid so their health can be maintained. Pandemic time demands adjustment service activities and management with appropriate health protocols standard (3). Validity data SIMRS more accurate than excel data format. Final decision used as main data is data contained in SIMRS (Rohman H, Nurhamidah, Chanif M Al,2021).
At Imogiri I Health Center Bantul, January 2021, number of patients hospitalized street during month reached 2,093 patients. Classification disease system code is not done by medical record staff because encoding disease carried by doctors and nurses use application information system SIMPUS who called DGS Health. The classification code for diseases, injuries, symptoms and factors affect health at Imogiri I Health Center uses ICD-10 with computerized system. Accuracy coding diagnosis depends on implementation handles medical record.

If diagnosis code is not right will cause decline in services quality health centers, data generated have this validation data level is low, because coding accuracy is very important for health centers such as indexing process and statistical reports, as basis making morbidity ambulatory path report and top ten diseases reports, as well as influencing policies will be taken by primary health center management. This study aims to analyze accuracy and validity diagnosis disease code based on ICD-10, and identify factors influence inaccuracy giving outpatients diagnosis code based on ICD-10 at Imogiri I Public Health Center Bantul.

METHODS

The design used in this research is descriptive correlation with a cross sectional approach. Descriptive correlation is a research method that aims to see the relationship between two or more variables. Meanwhile, Cross Sectional is a way of collecting data at once with the aim of seeing the relationship between nurses' knowledge of medical records and completeness of filling in nursing care documents.

RESULTS

1. Implementation outpatients diagnosis code

Implementation outpatients diagnosis code at Imogiri I Health Center Bantul is carried out by health service providers (doctors, nurses, midwives, psychologists, and others) who provide services in each clinic. Coding activity is carried out after patient has received service, health service provider input patient history, diagnosis data and code in SIMPUS DGS computer system, then DGS system will automatically appear several diagnosis options. Health care providers just choose code according to diagnosis written in medical record patient. To code diagnosis has been memorized, staff stayed entry patient data and codes based diagnosis written in SIMPUS DGS.

2. Accuracy and validity giving diagnostic code

On fourth quarter period, October to December 2020, 99 medical record document were obtained. Number of complete accurate and valid diagnosis codes is 60 (60.6%), incomplete accurate and valid diagnosis codes is 26 (26.3%) and inaccurate and invalid diagnosis codes is 13 (13.1%). The most inaccurate and invalid diagnosis code is due to lack fourth character. This can indicate diagnosis code is less specific, because coder does not attention additional information contained in medical record document. Errors caused no inclusion multiple code indicates coding is still less understand coding rules specific. Fewest errors are lack fifth character and external cause. Therefore, primary health center need to improve knowledge and skills coding staff through codification training according ICD-10.

Code diagnosis is not accurate and valid, inaccurate diagnosis codes in outpatients medical record document for one category three characters or code is not appropriate as much as 13 document. Dyspepsia diagnosis, code on medical record document or Simpus is J00. ICD-10 code is K30. Neuropathy diagnosis, code in medical record document or Simpus is G13. ICD-10 code is G62.9. Diagnosis Check pregnant, code in medical record document or Simpus is Z32. ICD-10 code is Z34.9. Diagnosis Caten, code in medical record document or Simpus is Z32. ICD-10 code is Z02.8. Diagnosis Nutrition consultation,
code in medical record document or Simpus is Z00. ICD-10 code is Z01.8.

Code writing is not accompanied by fourth and fifth character. Code writing diagnosis did not complete medical record document as lacking character fourth and fifth as many as 21 medical record document. Migraine diagnosis, code on medical record document or Simpus is G43. ICD-10 code is G43.9. Baby's diagnosis is born, code in medical record document or Simpus is Z37. ICD-10 code is Z37.9. Diagnosis of Urticaria, code on medical record document or Simpus is L50. ICD-10 code is L50.9. Diarrhoea diagnosis, code on medical record document or Simpus is A09. ICD-10 code is A09.9. Low back pain diagnosis, code in medical record document or Simpus is M54.5. ICD-10 code is M54.59.

Code writing is not included code multiple. Code writing is diagnosis not complete on outpatients medical record document because it does not include as much as 3 multiple code documents. Diagnosis of traffic accidents with abrasions on hands and feet, code on medical record document or Simpus is V28. ICD-10 code is V28, T00.6. Diagnosis of injuries to forehead and neck, code on medical record document or Simpus is S09.9. ICD-10 code is T01.0. Diagnosis of abrasions in several places due to motorcycle traffic accidents, code on medical record document or Simpus is T14.1. ICD-10 code is T00.9 V22.49.

Code writing does not include external cause code, code writing is diagnosis not complete on outpatient medical record document because it does not include multiple codes in medical record document as two files. Diagnosis of traffic accident is a leg injury, code in medical record document or Simpus is S99.9. ICD-10 codes are V28.2, S99.99. Diagnosis of traffic accident injury to leg. Diagnosis of traffic accident is injured in leg, code in medical record document or Simpus is S99.9. ICD-10 codes are V28.2, S99.99.

3. Factors that affect inaccuracy code diagnosis

Accuracy and validity diagnosis coding is very important to improving primary health centre quality as well as accuracy and validity data BPJS insurance claim process. Inaccuracy diagnosis coding caused several factors, don’t have medical record competency. Implementation coding disease carried all providers of health (doctors, nurses, midwives, psychologists, and others), while coding is medical recorder competence. Factor background behind education, they do not exist special education about coding.

Completeness writing diagnosis greatly affects process of coding diagnosis. There is no training about diagnosis coding. Coding staff runs as simple as possible, where nurse will write code if it is listed in medical record document, otherwise if code is not written down, ask doctor. Currently there has never been an evaluation or audit coding related to provision disease codes. Cause inaccuracy coding diagnosis is due to unpublished standard operating procedure on coding system.

DISCUSSION

Various information technologies are used to assist professionals in performing coding functions, including use software as direct instructions for various coding and placement rules for correct diagnostics, procedures, and service codes (5). Coding process is not carried out by medical record staff but is carried out by all health service providers (doctors, nurses, midwives, psychologists, etc.) who provide services in each polyclinic. Coding activity performed after patient received care, health care providers data input patient history and diagnosis as well as code in system computer SIMPUS DGS, then system DGS will automatically appear several diagnostic options.

Accuracy and validity diagnosis code is writing disease diagnosis code in accordance with classification in ICD-10. Code is considered proper and accurate when in accordance with rules of classification were used. ICD-10 classification each chapter is divided according to blocks, each block consists of a three-character list and each category is divided into four-
character subcategories. Four-character subcategories can be further subdivided into subdivisions of fifth and sixth characters. Character first by using letters followed by character of second and third were using numbers (example A00), code is specific to use characters fourth which is preceded by point (e.g. A01.1) (Hatta GR, 2013).

Implementation coding diagnoses still there are not appropriate. The results obtained from total sample 99 medical record documents, number of complete accurate diagnosis codes is 60.6%, incomplete accurate diagnosis codes is 26.3% and and inaccurate diagnosis codes is 13.1%. Coding at Imogiri I Health Center Bantul, some diagnoses are coded inaccurately which found in errors in determining code, lacking fourth character, errors in three character category, errors caused not including multiple code and external cause, and fifth character lacking error. Therefore, primary health center need to improve knowledge and skills coding staff through codification training according ICD-10.

Implementation of employment medical record, competence absolute must be owned by medical record one of them is able to perform classification and codification disease or act in accordance terminology medical right (Permenkes, 2013). Implementation disease coding is not carried out by medical record staff but is carried out by health service providers, they have no specific competence on coding and have not attended training related to determining disease codes based on ICD-10, while coding is competence of medical record staff.

Accuracy coding influenced several factors including writing doctors are difficult to read, diagnoses are not specific, and coding skills in election code staff. Therefore, quality coding results depends on completeness diagnosis, clarity doctor's writing, and professionalism doctor and coding staff (Budi SC, 2011). Inaccuracy disease codification caused incompleteness in writing diagnosis, being illegible and not specific. Supporting competencies possessed by medical record staff to implement training for staff related to health service data system (Permenkes, 2007). Staff code have never attended training related to disease coding. 

Evaluation or audit coding diagnosis is process examination medical records documentation to ensure coding diagnosis process generated accurate, valid and right time in accordance with rules, conditions, policies and legislation in force (Hatta GR, 2013). Evaluation or audit coding implementation at Imogiri I Public Health Center, Bantul, had never been done. Guidelines preparation standard operating procedures, SOP have benefit as standardization way employees carry out special work, reducing errors and omissions. There have standard operating procedure but not published. It is allowing inconsistency between staff were others.

Investigated the accuracy of diagnosis code based claims among medicare beneficiaries, these claims have moderate validity, but given their low sensitivity, incidence might be underestimated (Ku JH, Henkle EM, Carlson KF, Marino M, Winthrop KL, 2021).

The coding accuracy was partly due to the inaccuracy in selecting sub-category for determining the causes of bacterial infection (1 Chi GC, Li X, Tartof SY, Slezak JM, Koebnick C, Lawrence JM, 2019). ICD-10-CM codes can accurately classify diabetes type for persons with youth-onset diabetes, showing promise for rapid, cost-efficient diabetes surveillance (Chi GC, Li X, Tartof SY, Slezak JM, Koebnick C, Lawrence JM, 2019). There is a significant correlation between the completeness of medical information and the accuracy of the diagnosis code based on ICD-10 (Muchlis A, Ramadhantry RA, 2021). The use of specific ICD-10 codes may be a useful indicator to describe epidemiology. However, specific ICD-10 codes underestimate the number of actual infections (Cai W, Tolksdorf K, Hirve S, Schuler E, Zhang W, Haas W, 2020). ICD-9 codes did not reliably capture identified by laboratory testing, because of the high specificities of ICD-9 codes, however, administrative data may be useful in identifying risk factors for resistant organisms. The low sensitivities of the diagnosis codes may limit the validity of organism specific prevalence estimates derived from administrative data (Higgins TL, Deshpande A, Zilberberg MD, Lindenauer PK, Imrey PB, Yu PC, 2020).

Contributing factors pending claim on BPJS Kesehatan vedika system are percentage inaccuracy coding, incomplete files and diagnosis not according to criteria. Efforts were made to provide coding training assignments, approach doctor and disseminate information to all sections directly involved in treating patients (Hendra Rohman, Aris Wintolo ES, 2017).
Management and reporting primary health center data for BPJS is constrained by technical and non-technical problems. Input data needed reported to BPJS, namely BPJS number, history results and diagnosis results. Output data management and reporting is top 10 diseases of BPJS patients (Marataka SK, Rohman H, Arifah IN, 2020).

Administrative data can be used to determine optimal management of febrile infants and aid clinical practice guideline development (Aronson PL, Williams DJ, Thurm C, Tieder JS, Alpern ER, Nigrovic LE, 2015). Administrative data are commonly used to estimate the prevalence of a disease, but the validity of the coding system needs to be evaluated before its use (18). Administrative health data are important for health services. Optimised and validated an International Classification of Disease (ICD) coded case definition, and compared this with an existing definition. The optimised ICD coded definition has a higher validity and should be preferentially considered if used for surveillance purposes (Jolley RJ, Quan H, Jette N, Sawka KJ, Diep L, Goliath J, 2015).

Existence medical record management policy supports filling out accuracy diagnosis code greatly affects course of filling out diagnosis and accuracy diagnosis code, namely between head of medical record, doctor and coding staff (Rohman H, Hariyono W, Rosyidah, 2013). With the increased use of data from electronic medical records for research, it is important to validate inpatient electronic health records or hospital electronic health records for specific diseases identification using International Classification of Diseases, Tenth Revision (ICD-10) codes (Chaves SDA, Derumeaux H, Minh P Do, Lapeyre-Mestre M, Moulis G, Pugnet G, 2020)

It is recommended disease coding is carried out by medical record staff who has competence and validates code staff given by health service provider. It is better to socialize standard operating procedures disease coding. It is recommended to coding staff attend training related diagnostic coding system and conduct coding audit to evaluate accuracy coding.

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