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RESEARCH PROJECT

CODING ERROR AND CODER SKILL IN IMPLEMENTING INTERNATIONAL CLASSIFICATION OF DISEASE (ICD) CASE MIX SYSTEM IN MALAYSIA

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ABSTRACT

Clinical coding develop a rich database that can be used for administrative functions including planning for health service programs and beneficial for health organization with appropriate use of disease and procedure classification system. As the coded clinical data are used in variety of areas, coding errors have the potential to produce far-reaching consequences. This study aims to assess the accuracy of principle diagnosis coding. In particular, (a) the type of coding error and (b) efficiency of medical record practitioners on practicing ICD information in hospital management were examined. A cross-sectional study was conducted and classification of coding error was chosen at fourth digit level. The data was collected through Health Information Technology System (HITS) and diagnosis of patient through inpatient discharge summary. An independent senior coder was appointed to review in a blind audit on the selected disciplines and clinical codes were re-coded. Comparison were made between the original codes and the auditor-assigned codes. Post audit evaluation showed the highest of error from the Pediatrics discipline with 20% of total record contained a coding error in the assignment of diagnosis. Coding errors were also particularly found 18% in Surgical discipline, 12% in O&G discipline and 10% in Medical discipline. The most significant of factors underlying coding error was poor quality of documentation. It was concluded that the auditing process plays a critical role in identification of causes of coding inaccuracy and hence the hospital should carry out regular monitoring of clinical coding quality to prevent any error in the future.

Keywords: coding error, clinical coder, International Classification of Diseases (ICD)

INTRODUCTION

- Hospital is the main emphasis on the efficiency of the department in providing services to patients. The ability of a department in providing good services and decisions making are pivotal in determining an excellent delivery healthcare tools.

- To implement good quality service is depends on the extent of information required to be created, stored, accessed and used.

- Central to the integrity of public service transparency and accountability in the department can only be demonstrate through the complete record, authoritative, easily accessible and can be access.

- Information from clinical coding contribute a rich database that can be useful for health service functions and beneficial for the development of hospital's or health organizations.

LITERATURE REVIEW

- International Classification of Disease 10th Revision (ICD-10) defines all health conditions which includes symptoms, injuries or and health disorder. It is a nosology system that being used to code patients' diagnosis phrases. This system is a clinical coding process of translating written medical terms into alphanumeric and numeric codes (Busse R. *et al*, 2011).

- The coding process begins with the patient medical record ranging from discharge summary, nursing notes, consultation report, operating sheet, pre and post-operative reports and pathology reports either documented in the electronic form or paper-based form (ESRI, 2011)

- A Diagnosis-Related Group (DRG) is a statistical system of classifying any inpatient stay into groups for the purposes of payment. The DRG classification system divides possible diagnoses into more than 20 major body systems and subdivides them into almost 500 groups for the purpose of Medicare reimbursement (Barry A. *et al*,2011)

LITERATURE REVIEW

- The purpose of coding clinical data according to Walker and Nicholson (2009) is to support clinical audit, teaching, performance planning and resource allocation which are all paramount to determining what was done, when and how it was done.

- Clinical coders are responsible in extracting relevant information from patients' medical records and assign relevant diagnosis for extracted information (Pongpirul K. *et al*, 2011).

- Davis N & La Cour M (2007) reported that coders' responsibility are to maintain the facility coded clinical data by ensuring the power of control in that area and facilitating optimal reimbursement.

PROBLEM STATEMENT

- Administrative burden such as accountable care, value based purchasing, meaningful use and enhanced audits are not in clarity and precision without implementation of coding for the medical record.

- Documentation impacts : most of the care personnel such as doctor, nurses, lab technician and others are not clear about requirement to fulfill the coder need on doing the right coding for the diagnosis of the patient after treatment given.

- Coding impacts : problem that had always been face such up coding and down coding

- Payment impacts : many providers are concerned about the potential impacts for payment.

RESEARCH QUESTIONS

1. How many of the Care Personnel are aware about the coding error that will impact the hospital payment?

2. What are the effects of lack of training and knowledge about data completeness on clinical documentation by the care personnel will be intense to get on coding error?

3. Did the care personnel realize that variance in the clinicians' description of the diagnoses will lead to inaccurate coding?

RESEARCH OBJECTIVES

General objective:

- To assess the accuracy of principal diagnosis coding

Specific objectives :

- To identify the type of coding error
- To assess the efficiency of medical record practitioners on practicing ICD Information in hospital management.
- To evaluate the medical record staff knowledge in ICD information management with the medical record administration process.
- To identify users, most often staff medical record, follow ICD method and equipment use health management protocols.

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SIGNIFICANT OF STUDY

- To assist the Ministry of Health in improving coding skill and reducing coding error during the implementation of ICD 10.
- To assist KPJ Healthcare improving the coding skill during the implementation of ICD 10.
- To help the Care Personnel when doing their documentation on the clinical notes.
- To give the clarity and precision that offered by ICD-10, so that it will effectively accomplish the goal of healthcare delivery improvement.

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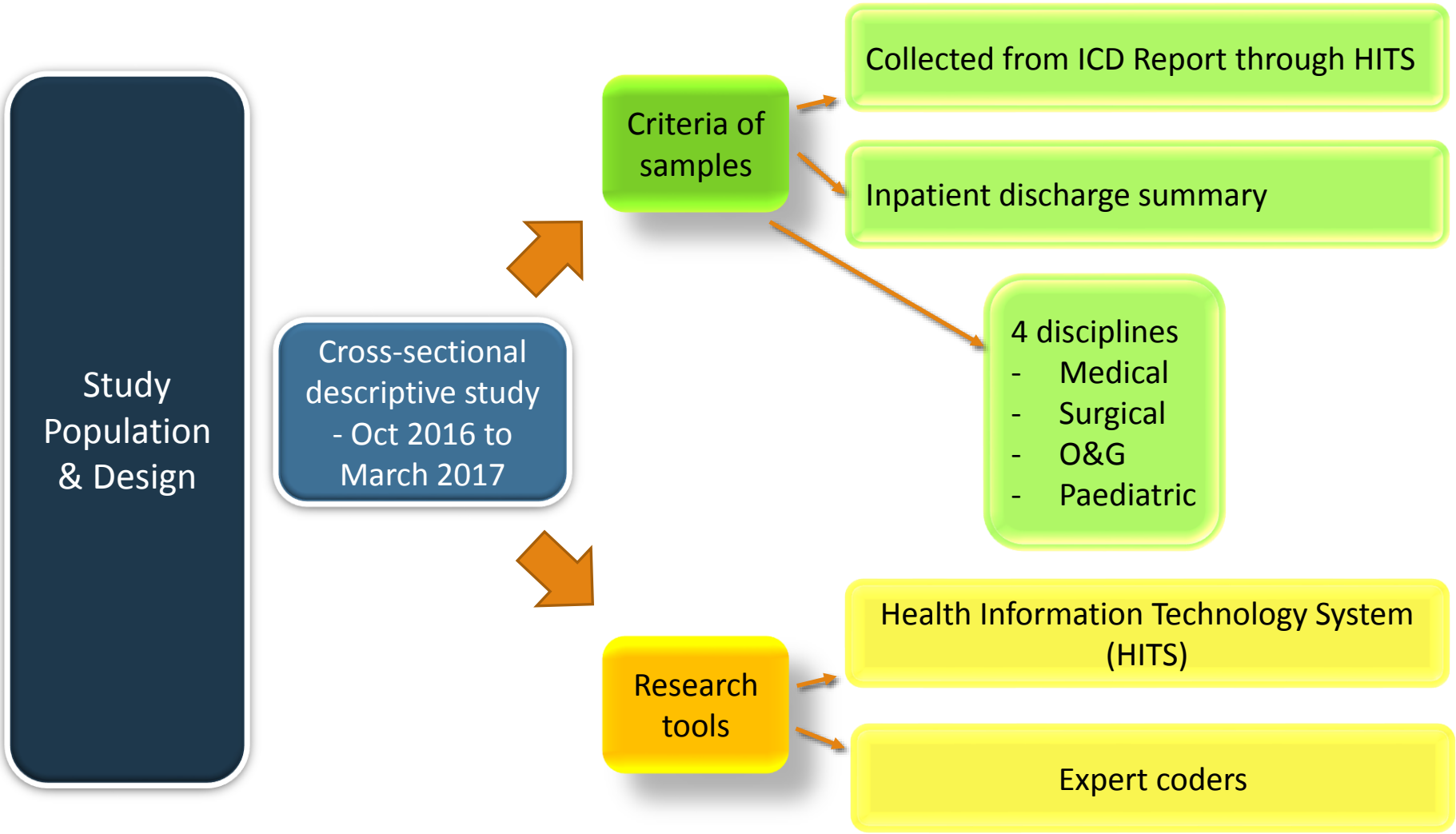
METHODOLOGY



METHODOLOGY

Audit Process

- To implement this process, researcher get services from expert coder from HUKM :
- This expert coders have more than 10 years working experience as a coder and still working on it everyday.
- The expert coder studied the entire blind code that had been given to them.
- Once the codes already assigned by the expert coder, the codes were compared against those codes assigned by the hospital coders.
- Codes by the hospital coder were considered as accurate if the code were similar with those assigned by the expert coder.

METHODOLOGY

Classification of Coding Error

- Type of Coding Error :

i. Error at first digit level – the code has been coded incorrectly at the first digit level

ii. Error at second digit level – the code has been coded incorrectly at second digit level

iii. Error at third digit level –the code has been coded incorrectly at the third digit level

iv. Error at fourth digit level – the code has been coded incorrectly at the fourth digit level.

v.Error at fifth digit level- the code has been coded incorrectly at fifth digit level.

vi.Primary Diagnosis – the original coder has assigned the accurate primary diagnosis or secondary diagnosis

vii.UpCoding – the coder has assigned irrelevant code for the selected episode of care that may lead to higher level of severity or higher reimbursement.

viii.Under Coding – the coder has not assigned the accurate code that was identified by the expert coder

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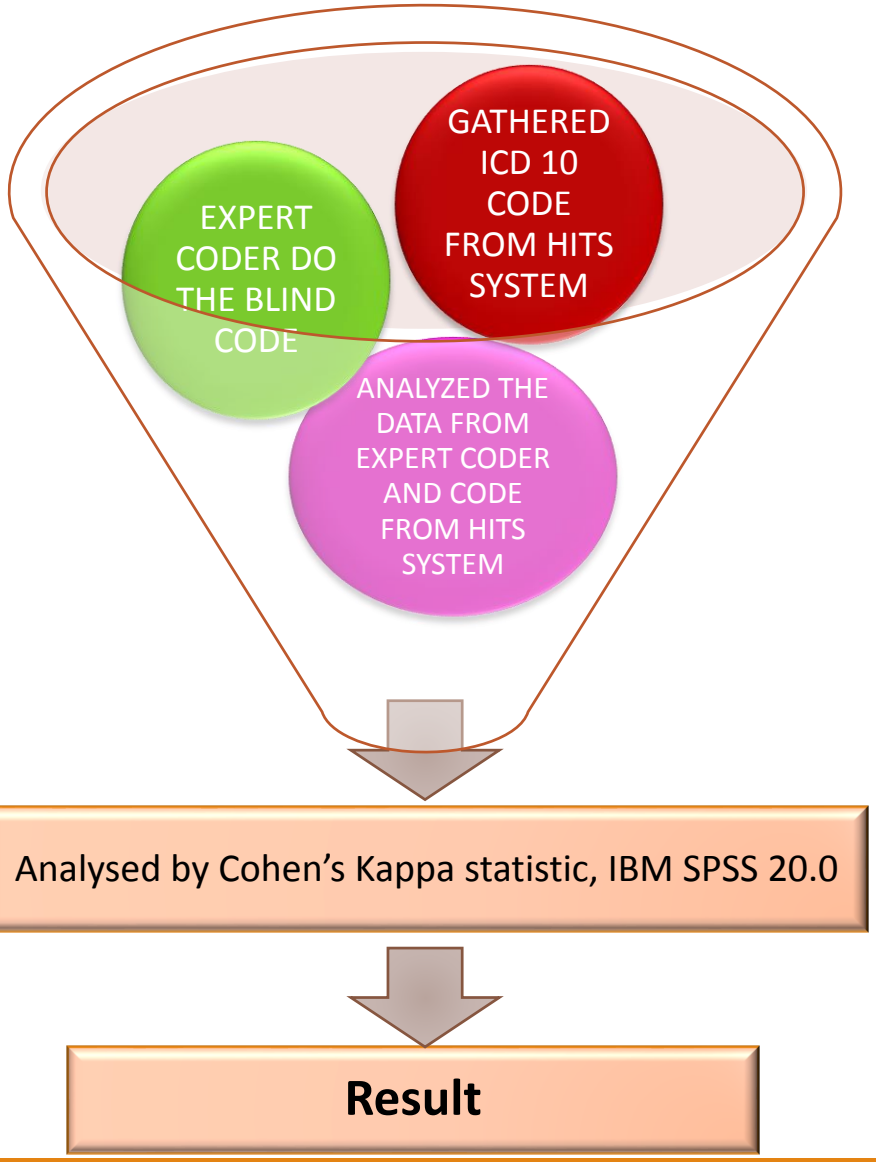
METHODOLOGY PROCESS



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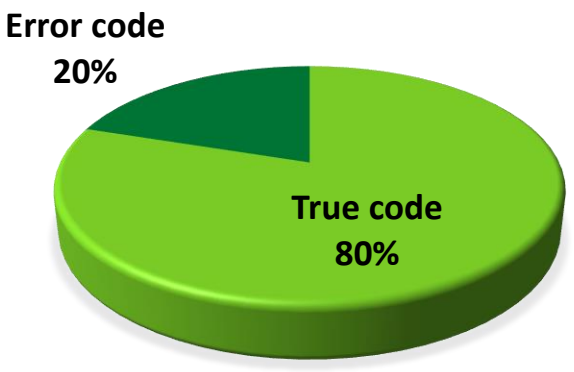
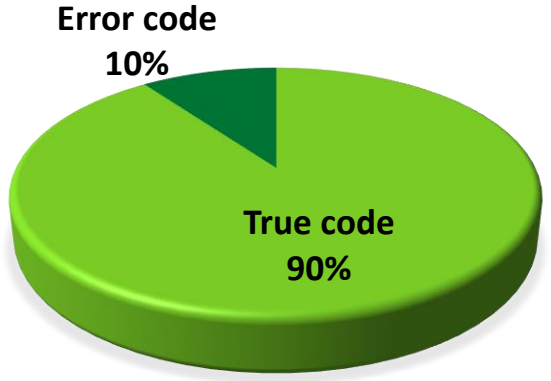
RESULTS

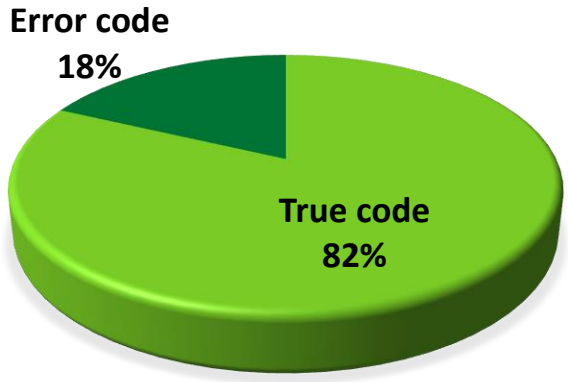
ERROR CODE IN PEADIATRIC CASE



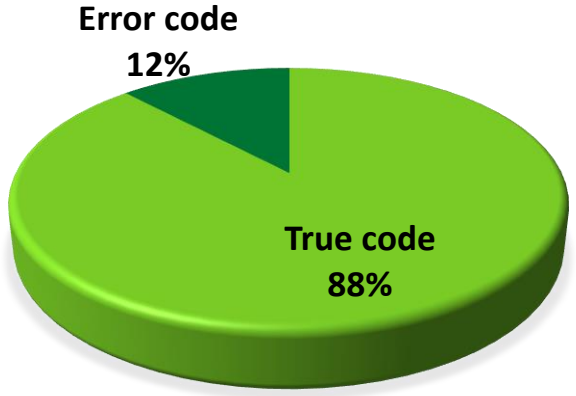
ERROR CODE IN MEDICAL CASE



ERROR CODE IN SURGICAL CASE

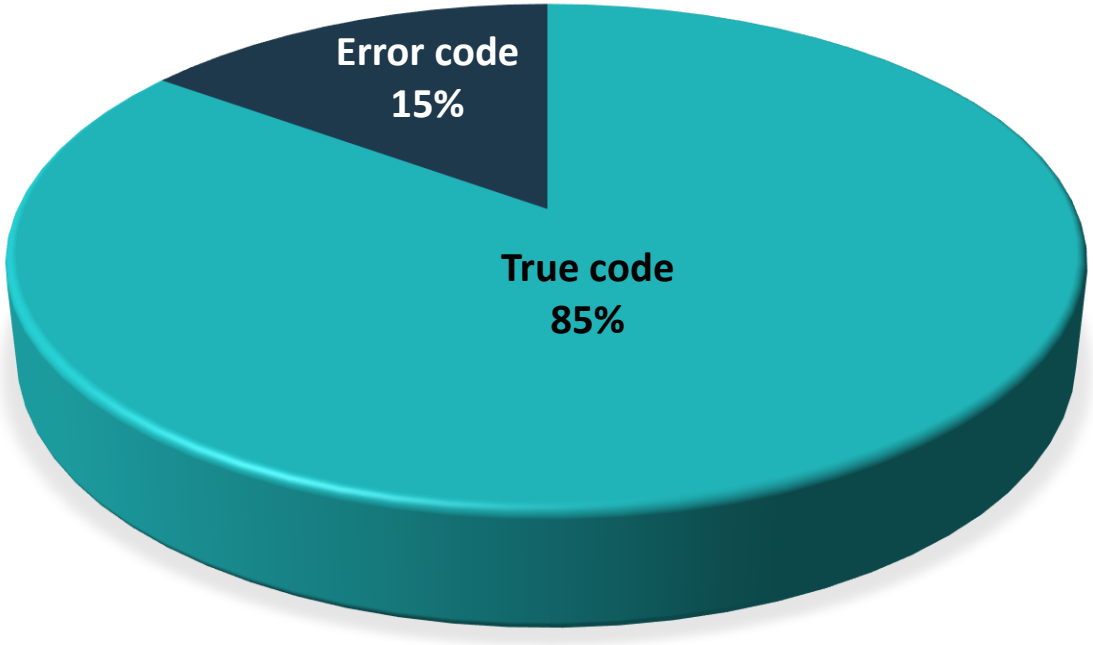


ERROR CODE IN O&G CASE



RESULTS

TOTAL CASE FROM 4 DISCIPLINES



*p<o.o5 is significant

DISCUSSION

- Overall results showed that most of the diagnoses had been coded significantly and true. This showed that the clinical coders have a competent skill to do a coding. However, the most coding error are from pediatric and surgical cases.
- There are several factors that contribute to coding errors.

➢ ICD-10 code entering in the HITS is out dated version that cannot fullfill until the 4-Character and not supported the external code – character 4&5 (condition & place) for the diagnoses that related to the external code. This would contribute to the error which will effect to the hospital's activities, reimbursement and statistics. Previous study was reported that errors affect smooth running of the healthcare system thereby leading to inaccurate statistical figures on hospital morbidity (Santos et al., 2008).

DISCUSSION

- Illegible consultant writing will also lead to the wrong interpretation of final diagnosis and difficulties to the clinical coder. According to Bajaj *et al* (2007), poor documentation in patient medical record is one of the factors that lead to miscoding thereby leaving the clinical coders with the option of assuming what clinicians want to document. Therefore, to improve the documentation, consultant and coders should to give a proper information. Previous study by Harry *et al* (2006) reported that researchers are recommend the working together of clinicians and clinical coders which will have the desired effect on the accuracy and completeness of coded data (Harry et al., 2006).

- The findings from this study revealed that there is no secondary diagnoses and external cause being coded. This could be cause incomplete data in patient medical record. Study by Price, E. and Robinson, K. (2011) stated that clinical coder face the challenges of incomplete and insufficient documentation, missing medical records, upcoding or downcoding and coding deadlines which will affecting the quality of coded data.

CONCLUSION & RECOMMENDATION

- This study revealed that percentage of coding errors in the hospital. The percentage of coding error is believed due to the incomplete data from outdated version of HITS that cause the 4-character is missing. Complete documentation is pivotal to avoid any erroneous assumption during the coding process.

- From this study, it is recommend to :-
  - privileging the coder with frequent sending for ICD coding training course internal and external at least twice a year.
  - immediate update the ICD-10 version in HITS system
  - Frequent awareness to Consultant about data completeness and familiarity with principle diagnosis documentation.
  - Reduce the variance in the clinicians' description of the diagnoses.

- However, there is some limitation during conducted this study as the data collected from 2016. The findings might not reflect the current quality of coding in this hospital as coder becomes more experienced and HITS is improved.

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REFERENCES

- Bajaj Y., Crabtree J., & Tucker, A.G. (2007). Clinical coding: how accurately is it done? Available: www.emeraldinsight.com/1477-7274.htm. *Clin Gov An Int J. 2007; 12(3): 159-69*
- Busse R., Geissler A., Aaviksoo A., Cots F., Hakkinen U., et al. Diagnosis related groups in Europe: moving toward transparency, efficiency, and quality in hospitals. *Vol. 346, WHO. 2011.*
- Cheng P., Gilchrist A., Robinson K. & Paul, L. (2009). The risk and consequences of clinical miscoding due to inadequate medical documentation: a case study of the impact on health services funding. *Health Information Management. 38 (1), p3545.*
- Davis N., & LaCour M. (2007). Health information technology. St. Louis, MO: Saunders/Elsevier.
- Harry L., Higgs A., Korna M., & Macfarlane, P. (2006). Does Senior Clinical Input to Clinical Coding influence Healthcare Resource Group (HRG) allocation in acute childrens Services?. *Clinician in Management. 14 (1), p201-208.*
- Kallaus N. F. & Johnson M. M. (1987) ISBN 10: 0538116900 ISBN 13: 9780538116909
- Palmer G., Reid B. Evaluation of the performance of diagnosis-related groups and similar casemix systems: methodological issues. *Health Serv Manage Res 2001; 14(2):P71-81*
- Price E., & Robinson K. (2011). The coding masterpiece: a framework for the formal pathways and processes of health classification. *Health Information Management Journal . 40 (1), p14-20*.
- Pongpirul K., Walker DG., Rahman H., Robinson C. DRG coding practice: a nationwide hospital survey in Thailand. *BMC Health Serv Res. 2011; 11(1):290*
- S A Zafirah, Amrizal Muhd Nur, Sharifa Ezat, Syed Mohamed Aljunid. Incidence of clinical coding errors and implications on casemix reimbursement in a teaching hospital in Malaysia. *Malaysian Jour. Of Public Health Med. 2017, Vol. 17 (2): 19-28*
- Santos, S., Murphy, G., Baxter, K., & Robinson, K. (2008). Organisational factors affecting the quality of hospital clinical coding. *Health Information Management Journal. 37 (1), P25-37.*
- Barry D. Alexander et al., Medicare, in FUNDAMENTALS OF HEALTH LAW 81, 111 (American Health Lawyers Association 5th ed., 2011).
- Walker, S. and Nicholson, L. (2009). The Relationship between Health Record Documentation and Clinical Coding. Available: http://www.ifhima.org/The_relationship_between_HR_documentation_and_codingFINAL