

THE RELEVANCE AND DEVELOPMENT OF CLINICAL CODING

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Assessment of the quality of healthcare is an increasingly important business, and the use of computers to store the necessary information and report activity is the norm. Along with a large amount of patient-related information the diagnostic and procedural data is of great interest to many. The stored data, along with the clinical coding element is used to produce the National Clinical Indicators and High Level Indicators required for comparing hospitals nationally. The data is the main source for securing financial resources for each health authority and ultimately each hospital trust. As computers are now widely used, coding of all diagnostic details is possible in GPs' surgeries, consulting rooms and on wards. The future of electronic patient records will expand this to include nursing practice, clinical care pathways and drug prescribing. There is a need to promote understanding of the process of clinical coding and increase reporting to clinicians.

The process of clinical coding has been carried out within all NHS hospitals for many years. The collection of diagnostic details for research has its origins from the time of Florence Nightingale and the Crimean Wars. The complexity of the classifications has changed along with the development of medicine and the discovery of diseases and their impact on society. As with all sciences medicine and the treatment of diseases continues to expand. The World Health Organization established the International Classification of Diseases for mortality coding. In 1948 the sixth revision was published and with this the potential to record morbidity. The latest revision was published in 1995 as ICD-10⁽¹⁾. The standard publication for recording of operative procedures OPCS-4.2 was published in 1993⁽²⁾.

The definition of clinical coding is the process of translating written medical terminology into code or codes. The written terminology describing the reason for a patient's encounter appears in numerous documents contained in the case notes. These records include discharge letters, theatre operation notes, clinical worksheets and specialist reports from radiology and pathology. The accuracy, completeness and legibility of these source documents is very important to clinical coding staff. The clinical coder is performing an essential function in providing good quality, accurate and uniform data. The coder's role is to extract the relevant information from the case notes and to assign codes that represent a complete picture of the patient's stay in hospital. All codes assigned must represent an accurate translation of the diagnostic statement used by the clinician. The accuracy of the clinical coding is dependent on

- an understanding of the medical terminology
- adherence to the principles for the use of ICD-10 and OPCS-4
- the development of coding skills through training and experience

In addition to this the following points must be recognised and adhered to by the clinical coding staff in order to maintain uniformity of standards agreed nationally:

- *individual codes* Each statement of diagnosis and procedure should have a correct code assignment. Patients may have many diagnoses or procedures and therefore many codes assigned
- *totality of codes* It is vital to record all codes necessary to give an accurate clinical picture of the patient's diagnoses, problems and procedures
- *sequencing of codes* Codes should be organised in a sequence which is statistically consistent. An important aspect of sequencing is the selection of the main diagnosis and main procedure.

The Committee for Regulation Information Requirements (CRIR)⁽³⁾ issued guidelines to all clinical coding departments throughout the NHS on 1st April 1997 mandating the definition of the primary diagnosis as follows:

'The first field(s) of the coded clinical record will contain the main condition treated or investigated during the relevant episodes of healthcare. Where there is no definitive diagnosis, the main symptom, abnormal finding, or problem should be selected as the main condition.'

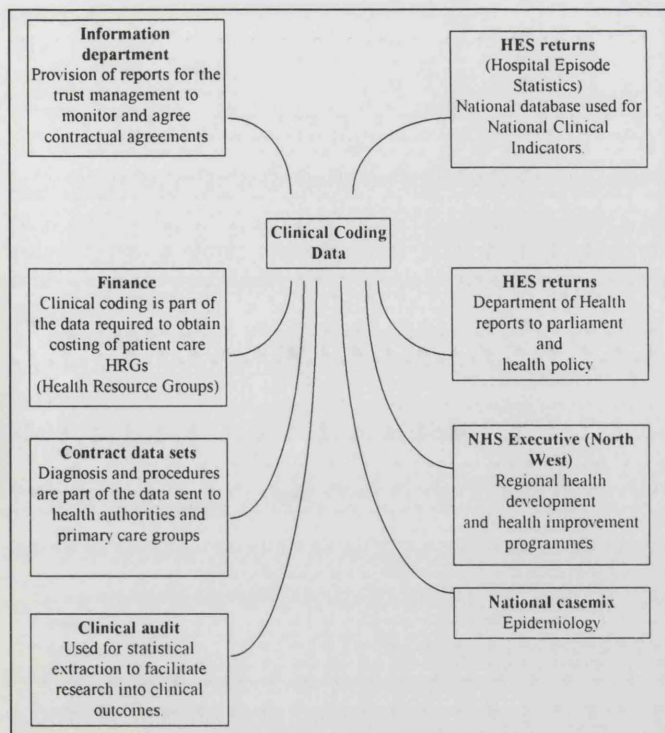
The general rules for accurate coding are given as:

- code every problem which affects the care or influences the health status or is the reason for the hospital stay on the episode being coded
- assign the minimum number of codes which accurately describe the patient's care for the episode being coded
- code to the furthest level of specificity
- do not code background information or chronic problems which are no longer active or do not affect the health care being provided

The diagnostic and procedural information entered onto the Patient Administration System is used by a number of health professionals. Statisticians, epidemiologists, planners and managers use the data, as well as clinicians.

Contained within the Clinical Coding Training Manual⁽⁴⁾ is the process which leads to the correct selection of the diagnostic and procedural codes to be assigned. The process in each contains four steps. Looking at the diagnostic coding process in more detail the sequence of steps is:

- analysis of the clinical statements describing the patient's diagnosis, complaint, problem and/or the procedures



Clinical coding: acknowledgment to Wendy Goldspink,
Clinical coding, RLI

carried out. Determine what condition, circumstance and procedure is to be coded

- identification of the lead term, and modifiers. This assists the correct assignment of a tentative code
- assignment of a tentative code from the index volume. Once the appropriate lead term has been located in the index, several conventions and principles must be understood and followed before the tentative code is taken forward to the verification stage. These conventions include the use of:
 - modifiers: essential (sub-terms) and non essential (descriptive)
 - aetiology and manifestation: the use of two codes to give the underlying general disease and the manifestation in a particular organ or site which is a problem in its own right. An example of this is insulin-dependent diabetic retinopathy: E10.3+ (IDDM with manifestation) and H36.0 * (retinal disorder in diabetes)
 - cross references: these are used in the index to ensure that all possible modifiers for the term or its synonyms are referred to by the coder ('see-', 'see also' and 'see category' are used in the index for this purpose)
 - instructional notes: these are given to instruct the coder to obey conventions which are additional in certain categories of disease

For example, the term 'cyst' has an instructional note:
'In general, cysts are not neoplastic and are classified either as specific entities or to the appropriate category ...'

- verification of the tentative code using the tabular volume, taking into consideration the notes, inclusion and exclusion clauses listed at the beginning of each chapter, block (sub chapter), category or sub category
- notes in the tabular list describe the general content of

the succeeding category and give instruction regarding the use of the category and provide fifth character sub-classifications

- inclusion notes appearing under chapter and block titles give a general definition of the content of the section. In the category and sub-category divisions the use of inclusion notes may give a general definition as in that for chapter and block sections, but may provide an incomplete list of specific terms which are applicable to that category and subdivision
- exclusion notes are listed to prevent a category or sub-category being used incorrectly, for example, "if you are looking for 'xxx' you are looking in the wrong place". An alternative code usually follows this statement directing the coder to seek further verification or reassess the original clinical statement. Prohibitive exclusions are used to indicate a more exact code (example: 134.1 Mitral (valve) prolapse. *Excludes: Marfan's syndrome (Q87.4)*)
- "use" notes indicate that additional codes are required to give a full account of the diagnosis (example: N39.0 Urinary tract infection. *Note: Use additional code (B95 - B97) to identify infectious agent. (B96.2 Escherichia coli as the cause of disease classified elsewhere).*)

There is a similar process for the selection of procedure and operation codes. A further complication with procedure coding is that the classification has not kept pace with developments in operative techniques. A good example of this is in the coding of keyhole surgery. The clinical coding officers have been given the correct sequence of codes with the use of a subsidiary code from chapter 'Y' of the OPCS-4 manual.

If all the conventions are followed by the clinical coding team and are known to doctors and clinicians who supply the team with information, then the consistency and accuracy of the data are assured.

The trust is in the process of implementing a Patient Administration System (PAS), which will impact on the work and classifications of the clinical coding team. In adopting the integrated clinical systems the trust is well placed to implement the NHS Information for Health strategy 1998-2005, in which the electronic patient record is a key development. Throughout the electronic patient record the challenge will be accurately to record all aspects of patient care and in line with this the implementation of 'Read' classification is expected. 'Read' coding classification was developed by a GP, James Read, to assist doctors to record patient diagnostic and social detail on computers. The NHS bought the copyright, enabling the 'Read' classification to be used throughout the health service. The 'Read' classification is a coded clinical thesaurus which is compatible with and mapped to the ICD-10 and OPCS-4. In 1988 'Read' codes became the UK primary care standard for the majority of computerised patient record systems.

In 1995 Furness General Hospital adopted the 'Read' classification to use as a framework for their PAS. This is the main classification adopted by the trust to support the development of an integrated clinical system, and allows a wide range of professionals to use 'Read' coding to store and retrieve clinical information. The clinical coding team will also be using the same classification to code the patient episodes. This increases the pressure on the clinical coding officers as the returns to the NHS of HES data are still required to comply with ICD-10 & OPCS-4 rules and

conventions. The 'Read' classification is a computer-generated system, so there are no guidelines as in the paper volumes of ICD-10 and OPCS-4. To counteract this, there needs to be an increased awareness of all users of coded data and those whose information contributes to the selection of the codes, in addition to retaining the ICD & OPCS as reference books. A number of initiatives are being looked at to increase the accuracy and completeness of clinical coding across the trust. The coding of a patient at discharge is a beneficial option as medical secretaries will be able to use the clinically coded data to enhance the discharge letters to GPs. A problem which needs to be solved is that case notes are sometimes routed to another department for urgent clinic appointments or further treatment. Coding delays can occur. Another development which is underway is the allocation of a named clinical coding officer to one or a group of specialities. This will allow the named coders to increase their specialist knowledge and also provide the consultants direct contact with a clinical coding officer.

From a recent publication by the Data Quality and Clinical Coding Unit the following statements of good practice are recommended⁽⁵⁾:

- a review of existing practices
- pilot studies
- increased involvement and communication from clinicians
- awareness sessions
- training and development
- review of staffing resources
- establishing a data quality working group. Some of the above initiatives are in progress and it is hoped that papers and articles will be published to support the development of quality clinical coding throughout the trust. The current clinical coding team complement is 13 members of staff. The number of episodes which require coding across the trust is approximately 85,000 per year. This equates to 150

cases every week per team member. The clinical coding team is looking forward to increasing contacts with clinicians and to using the new classification. They need support from all parties, managerial and clinical, to enable them to provide an enhanced service to the trust.

The future of clinical coding is one of change and development. It is acknowledged that clinical coding is an essential function for the NHS to monitor and develop hospital services for the future. The challenge for this trust is to develop systems and policies which allow the collection, analysis and dissemination of data from the PAS system to be of a recognised quality and consistently reliable, clinical coding being only part of the complex data set collected throughout the hospitals. In the clinical coding department the way forward is to develop cross-boundary links with all interested parties. This will not be easy as each specialty is individually complex but I am certainly looking forward to working with many consultants and managers to improve clinical coding.

REFERENCES

- 1 World Health Organisation International Statistical Classification of Disease
- 2 Office of Population Censuses and Surveys. Tabular List of the Classification of Surgical Operations and Procedures. 4th Revision. (OPCS-4)
- 3 NHS Committee for Regulation Information Requirements. DSCN April 1997
- 4 NHS Information Management Group Clinical Coding Instruction Manual. Version 1.5 (January 1999)
- 5 Data Quality and Clinical Coding Unit (North Western) Good practice guide for clinical coding. October 1999