

Coding Complexity Level Assessment and Representation

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Update: this document has been updated to reflect the requirements for the Diploma of Clinical Coding (HLT50320)

Objective

These complexity levels are used to consistently assess the difficulty and complexity of coding an episode of care. Statements such as moderately complex records have been used in training requirement documentation and this work defines the attributes that clearly specify what that means. In eHRol complexity is a tag on the episode which is used to select cases for practice, assessment or certification.

It is necessary to be able to represent the complexity of a case so that:

- Students have a consistent learning pathway – starting with the simple and moving to the more complex,
- The expectation of coder competence for entry-level coders and more advanced coders is managed appropriately and consistently for all students, employers, and examiners,
- Computers may accurately present cases of relevant complexity when establishing a group of cases to be coded for practice, assessment of competence, certification or ongoing professional development, and
- Researchers can review coding complexity to better understand what makes coding more difficult.

Definitions

The following definitions are extracted from the Diploma of Clinical Coding (HLT50321) published by training.gov.au :

Basic Clinical Coding includes (complexity 1 and 2 in eHRol):

- single condition reason for admission with:
 - up to two comorbidities
 - or
 - an intervention
- including following situations
 - planned day surgery or treatment, or
 - uncomplicated deliveries, or

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- term babies with minor complications, or
- single trauma, or
- acute on chronic conditions.

Moderately complex medical record include:

- single condition reason for admission but with the existence of co-morbidities and/or the need for multiple interventions
- multiple conditions reason for admission without comorbidities/interventions
- episodes as defined by national or jurisdictional guidelines, such as rehabilitation and palliative care or special requirements for injury coding in Queensland.

Source - HLT50321 - Diploma of Clinical Coding <https://training.gov.au/Training/Details/HLT50321>

These are useful but only represent a reflection of the number of codes, they do not reflect the skills needed such as the number or complexity of standards applied to the episode, the clinical knowledge required to code correctly.

Note: there is a need to establish computer-based rules which support the selection of cases which meet these criteria at different levels. This simple two stage approach does not support learning pathways as well as it needs to.

Note: for future use and use in hospitals where more extensive skills are being developed it is necessary to identify additional more advanced complexity levels.

Note: attributes of the episode which impact complexity are included in the complexity tables provided here. These tables reflect the difficulty associated with learning and skill in coding, such as the application of standards and complex sequencing.

Principles

There is a need to be able to select complexity and build towards the moderately complex and beyond. Therefore, the complexity levels begin with the very simple and move into more complex requirements. eHRol uses the following complexity levels which reflect the following attributes:

- Use and ability to follow the code book (coding conventions) accurately
- Complexity of the case as reflected by the number of codes required to represent the episode

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- Applying standards
 - General standards for diseases and procedures
 - Principal Diagnosis
 - Additional Diagnosis
 - Specialty coding standards
 - Neoplasm Sequencing
 - Injury code groups (injury, cause, place and activity) and sequencing
 - Codes for specific episode types (e.g. rehabilitation, palliative, acute care)
- Medical knowledge
 - simple knowledge (e.g. symptoms)
 - more complex medical knowledge of a single condition or intervention
 - complex medical knowledge of related multiple conditions or interventions

Complexity Levels

Note each level includes codes which meet lower levels of complexity plus the specified requirements for the level defined. The maximum number of codes is used to indicate complexity but also as it impacts the time it might take the code the case. For a random selection of cases to be fair a range of size of cases is needed as coding is timed and each code system/country may determine the speed requirement to consider a coder as competent. For example, in Australia, a coder is required to meet the minimum speed of 6 records an hour (as an average).

Note: introductory coding courses (getting students started with the basics) are expected to cover content at levels 1, 2 while more advanced coding incorporates levels 3 and 4 (intermediate) and level 5 (advanced).

Levels 6 episodes are highly suited to class discussion rather than assessment.

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Level	Description	Objective	Ability to use code book	Standards types	Medical Knowledge	Minimum / Maximum number of			
						Diag Codes	Injury and External Causes	Procedures	Additional test components (e.g. COF)
1	Coding conventions	Cases where the use of the index and tabular list is ALL that is required to obtain the correct code (diagnosis or procedure) For example: admission for unspecified asthma (no other information or coding required).	General only	No (the only conditions or interventions need coding)	None other than ability to recognise a medical condition or intervention in the record.	Min 1 Max 1	Max 0	Min 0 Max 1	All acquired outside episode birthweight
2	General Basic Coding	Ability to assign the correct code by correctly interpreting standards for: <ul style="list-style-type: none"> - ACS 0001 Principal diagnosis, - ACS 0002 Additional Diagnoses based upon only the definition of additional diagnosis - ACS 0003 Supplementary codes for Chronic Conditions - ACS 0016 General Procedure Guidelines - ACS 0031 Anaesthesia - Either <ul style="list-style-type: none"> o diagnosis codes OR injury and external cause codes, not both in one episode. o procedure including anaesthesia but no additional diagnoses. - Inclusion of status codes conditions required to be coded if documented - viral hepatitis, AIDS/HIV, diabetes, COVID - Cancelled procedures - External causes not including medical and surgical complications 	Use of modifiers in the Index, use of exclusions and inclusion notes in the Tabular List. Follow references to ACS and Coding Rules.	General Coding Standards and Specialty Standards and Coding Rules (covered in part)	Basic only - may require minor investigation e.g. symptoms of a condition.	Min 1 Max 3 For oncology may go up to 4 to cover metastases	Max 1 event (Max 2 injuries)	Min 0 Max 4	Acquired in and out of episode, birthweight

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		- Use of "other" understanding when this should be used.							
3	Moderately complex coding Principal Diagnosis with comorbidities or multiple procedures	<p>More detailed record content.</p> <p>Ability to code multiple conditions.</p> <ul style="list-style-type: none"> • minor multiple trauma • deliveries with complication • unplanned surgery • care type changes • preterm babies > 32 weeks • diabetes with multiple complications • neoplasms with metastases including single or multiple • single procedural complication or adverse effect of treatment • episodes where a clinical query might be required • Episodes meeting the requirements of ACS 0052 • Procedures with documentation of procedure components, multiple procedures and revised procedures. <p>Be clear on the focus of the episode - if it includes an injury/external code no more than 3 diagnosis codes (reduce comorbidities) can be required in addition to the codes for the injuries.</p>	Full use	<p>General Coding Standards and Specialty Standards and Coding Rules</p> <p>(covered further)</p>	<p>Understand the meaning intended in the record and seek medical information needed for coding... e.g. finding LOC with a head injury.</p> <p>Understand procedures and procedure components</p>	Max 6	Min 0 Max 1	Min 0 Max 5	<p>acquired inside and outside episode, birthweight, hours of mechanical ventilation (without breaks or weaning)</p> <p>Clinician queries</p>
4	Complex practical coding	<p>Complex conditions with multiple issues with causal relationships including:</p> <ul style="list-style-type: none"> - Diabetes and complex - Multiple injuries (single cause) - Complications within the episode of care 	Full use	<p>General Coding Standards and Specialty Standards and</p>	<p>Requires investigation and application of</p>	Min 2 Max 10	Min 0 Max 1	Min 0 Max 10	any requirements

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		- Revision procedures Sequencing required to avoid duplication of diagnosis codes		Coding Rules coding rules	clinical knowledge				
5	Highly complex	Full range of conditions Full range of medical and surgical complications Multiple injuries or accidents(multiple causes) Intensive care complex cases	Full use	Where the rationale for a coding standard/s can result in alternative coding.	Requires investigation and application of clinical knowledge	No limit	No limit	no limit	all
6	Requires documentation	Ability to document the rationale for coding query and debate	Full use	Ability to develop rationale to code based upon analysis of standards	Requires application of clinical knowledge	no limit	no limit	no limit	no limit