ICD-10-AM/ACHI as the building blocks for Activity Based Funding (ABF)

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What are coded data used for?

Many uses, including:
- ABF/Casemix, diagnosis related groups (DRGs)
- Research
- National morbidity statistics
- Health services planning and evaluation
- Quality assurance activities
- Epidemiology
What is ICD-10-AM/ACHI/ACS?
WHO ICD-10 does not have a companion intervention classification

An Australian intervention classification was produced to be used in conjunction with ICD-10-AM (Australian modification)

- Codes are numeric only – five digits with a two digit extension
ACHI - Conceptual methodology

ACHI classifies these concepts first by site (principal axis e.g. middle ear), then by procedure (secondary axis), as follows:

**Examination**
- 41629-00 Exploration of middle ear
- 41650-00 Inspection of tympanic membrane, unilateral

**Application, insertion, removal**
- 41647-00 Ear toilette, unilateral

**Incision**
- 41626-00 Myringotomy, unilateral
- 41632-00 Myringotomy with insertion of tube, unilateral
Timeline of DRG development in Australia
Australian National DRGs (AN-DRGs)

- 1985: First research into DRGs undertaken in Australia
- 1992: AN-DRG v1.0 (USA ICD-9-CM)
- 1993: AN-DRG v2.0 (USA ICD-9-CM)
- 1994: AN-DRG v2.1 (USA ICD-9-CM)
Australian National DRGs (AN-DRGs) continued

- Dec 2000: AR-DRG V4.2 (ICD-10-AM 2\textsuperscript{nd} Edition)
- Sept 2002: AR-DRG V5.0 (ICD-10-AM 3\textsuperscript{rd} Edition)
- Sept 2004: AR-DRG V5.1 (ICD-10-AM 4\textsuperscript{th} Edition)
- Sept 2006: AR-DRG V5.2 (ICD-10-AM/ACHI 5\textsuperscript{th} Edition)
- Nov 2008: AR-DRG V6.0 (ICD-10-AM/ACHI 6\textsuperscript{th} Edition)
- Sept 2011: AR-DRG V6.0x (ICD-10-AM/ACHI 7\textsuperscript{th} Edition)
ICD-10-AM and ACHI codes are the building blocks of AR-DRGs used in many settings as health care funding mechanisms (ABF).

The principal diagnosis, additional diagnoses and interventions, as documented in the clinical record, are converted into ICD-10-AM and ACHI codes. These codes are then used in the grouping process.

Activity based funding
The ACS provide coders with national guidelines and advice on how to apply and interpret ICD-10-AM/ACHI.

As well as specialty standards, the primary ACS are:

- ACS 0001 *Principal diagnosis*
- ACS 0002 *Additional diagnoses*
Calculating an AR-DRG: Data Items Required

**ICD-10-AM/ACHI Codes**
- Principal diagnosis
- Additional diagnoses, such as complications and comorbidities
- Intervention/s

**Mode of separation (discharge status)**
- Includes died, transferred

**Sex**

**Length Of Stay**
- Or Admission and Separation Dates

**Same-day Status**

**Newborn admission weight**
- For age 28 days or less, plus older if less than 2500 grams
DRG Calculation: Overview

The process

- Step 1
  - Preliminary Checks

- Step 2
  - Allocation to a MDC (and Pre-MDC DRG allocation)

- Step 3
  - Allocation to partitions

- Step 4
  - Assign an AR-DRG
Episodes are checked to ensure that the quality of the information is of a high enough standard to allow grouping to occur.

- **Demographic edit examples**
  - Presence of data items required, such as either admission date or birth date

- **Clinical edits examples**
  - ICD-10-AM/ACHI codes are accepted codes
  - ICD-10-AM/ACHI codes are valid in combination with the sex and age of the patient
  - Principal Diagnosis meets valid definition
The **Principal Diagnosis** is used to place the episode into a **Major Diagnostic Category** (MDC)

- There are 23 MDCs
- Most are based on body systems or disease type
- Each diagnosis code leads to one MDC only (some Pre-MDC exceptions)

**Pre-MDC Process**

- Exceptions to the usual MDC allocation for procedures or conditions that are particularly resource intensive
  - Examples: transplants, tracheostomies, mechanical ventilation, newborns, HIV, multiple major trauma
- Sometimes allocates the episode to a DRG, other times, redirects to another MDC
Within an MDC, there are 3 partitions

- Allocation depends on the intervention codes (ACHI)

**Surgical Partition**
- Presence of a *significant operating room (OR) procedure*
- Grouped according to type of surgery, for example, major, minor, other, unrelated to principal diagnosis

**Other Partition**
- Presence of a *non-operating room (OR) procedure*
- Grouped according to principal diagnosis and non-OR procedure

**Medical Partition**
- Grouped according to principal diagnosis, for example neoplasm, specific conditions, symptoms, other
DRG Calculation: Step 4

Grouping within partitions produces Adjacent DRGs (ADRG)

- 3 character codes

- ADRGs can be split into several AR-DRGs, by taking into consideration additional variables, most often:
  - Complication and comorbidities (CC), and interventions (ICD-10-AM codes)

AR-DRGs are 4 character codes

Other data items used less frequently:
- Mode of separation, Length Of Stay, Newborn admission weight, Same-day Status
Most episodes are grouped to a DRG by:

- Being allocated to a MDC
  - Driven by Principal Diagnosis

- Being allocated to a partition
  - Driven by ACHI intervention codes

- Using codes and other data items to be allocated to an AR-DRG
<table>
<thead>
<tr>
<th>Clinical record</th>
<th>ICD-10-AM</th>
<th>AR-DRG V6.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal diagnosis</strong></td>
<td></td>
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<tr>
<td>Atherosclerotic heart disease</td>
<td>I25.11</td>
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<tr>
<td>of native coronary artery</td>
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<td><strong>Additional diagnoses</strong></td>
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<td>Hypertension</td>
<td>I10</td>
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<tr>
<td>Type 2 diabetes mellitus</td>
<td>E11.31</td>
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<tr>
<td>with background retinopathy</td>
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<tr>
<td><strong>Procedures</strong></td>
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<tr>
<td>Coronary artery bypass,</td>
<td>38500-00 [674]</td>
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<td>using 1 LIMA graft</td>
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<tr>
<td>Coronary artery bypass,</td>
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<td>using 1 radial artery graft</td>
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<td>Cardiopulmonary bypass,</td>
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<td>central cannulation</td>
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<tr>
<td>General Anaesthesia, ASA 2</td>
<td>92514-29 [1910]</td>
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</tbody>
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**MDC 05**
Diseases and disorders of the circulatory system

**AR-DRG F06B**
Coronary bypass without invasive cardiac investigation w/o reop cat or severe complication and/or comorbidity
The effect of good clinical documentation on coding quality/ABF

How this effects AR-DRG allocation/ABF
If it’s not written, it didn’t happen!

- The production of quality clinical data is a collaborative effort.
- Channels of communication between clinicians and clinical coders should be open and frequently used.
- Quality documentation supports quality coding which results in appropriate AR-DRG allocation and ABF.
The most appropriate AR-DRG can only be assigned to an episode of patient care when relevant clinical information is accurately documented in the clinical record.
Some issues for consideration

- Understand principles of ABF
- Coding staff interaction with clinicians
- Better clinical documentation = quality, not quantity
  - Recording the full complexity of an episode of care is critical in maximising the funding allocated
- Analysis, interpretation of performance data
  - Reports that are complex and foreign
  - Interpretation of variance
- Input into future resource allocation
  - Using this data to drive best practice
- Learn and improve from efficiencies
Engagement of health professionals at all levels will be crucial to the success of ABF. ABF promotes evidenced based practice. The costs associated with each DRG reflect the cost of evidence based treatment options.
Good documentation = quality coding

= appropriate AR-DRG allocation

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Activity based funding