

# coding matters



Newsletter of the **National Centre for Classification in Health**

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## Introducing the *ICD-10-AM Early Parenting Manual*

The screams echoed into the night. The baby opened his mouth and screamed. Now what is wrong? He'd been fed, his nappy was freshly changed, so why is he crying? His mother felt like screaming too and tears of desperation rolled down her cheeks. Now the household would be disturbed again. She wanted some sleep and so did her husband. They were tired and irritable, having been woken over and over again during the past few weeks. No one seemed able to help. Her mother and mother-in-law offered advice, to no avail. Tomorrow she would go and see her GP then maybe she would find the answer.

The GP was caring and understanding and, whilst not able to supply a reason for the screaming, immediately referred both mother and baby to an early parenting centre (EPC). The EPC staff were friendly, helpful and calm. The training solved the problem and mother and baby went home happy.



*The Saad family – Patricia, baby Emmanuel and Mark. Patricia is an NCCH Project Officer.*

Administratively, the diagnosis was 'unsettled baby' and the help given classified as 'parenting skills' and 'sleep management'. The notes also recorded that the new mother was stressed and exhausted and the baby had eczema that undoubtedly exacerbated their problems. So what should be coded and could ICD-10-AM provide all the codes? You may even be wondering what is an EPC and how do they collect their data?

EPCs provide a range of services to parents with young children who need professional help dealing with the stress and challenges of parenthood, especially in the early childhood years (0-5 years).

The requirements to report diseases and interventions according to ICD-10-AM poses some problems for EPCs, because the nature of their services is quite different from that of acute care facilities. For example, an infant is admitted ▶

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to an EPC with the diagnosis of 'irritable behaviour' and the treatment is 'instruction in settling techniques' given to the parent. Such concepts are difficult to code using ICD-10-AM, because both parent and child are well and do not fit into the criteria for a disease or even a related health problem.

In August 2000 the NCCH and EPCs throughout Australia, with the in-principle support of the Australian Association of Parenting and Child Health Inc, collaborated in the Early Parenting Centres Coding Study. The study's objective was to modify and expand ICD-10-AM so that it would more accurately reflect the problems of EPC clients and the interventions used to treat them. The study had two approaches. The first approach examined the medical records of EPC clients, and the use of the ICD-10-AM codes used by EPCs. Diagnoses and interventions were examined as were the range of other clinical practices (nursing and allied health interventions) that are not currently reflected in coded data sets. The second approach was a retrospective dual coding study using ICD-10-AM and the Early Parenting Classification (EP Classification) compiled by Angela Randall (Randall 1999).

A report of the Early Parenting Coding Study was presented at the Tresillian Family Care Centres 2001 Conference and at the 2001 NCCH 7<sup>th</sup> Biennial Conference.

In April 2001 NCCH and Tresillian Family Care Centres staff started work to produce a manual incorporating a list of terms extracted from the Early Parenting Coding Study and the EP Classification. The intention was to revise or enhance some ICD-10-AM codes and terms for the Third Edition. However, due to the complexity of the issues encountered, it became evident that little could be achieved for incorporation in ICD-10-AM Third Edition.

Consequently this manual has been produced to provide guidance on the use of ICD-10-AM Third Edition for EPCs. It includes:

- Extracts from ICD-10-AM Volume 1 tabular list
- Extracts from ICD-10-AM Volume 2 alphabetic index **with additional index entries not included in the full ICD-10-AM Third Edition**
- Intervention codes from ICD-10-AM Volumes 3 and 4 **with additional index entries and added inclusion terms not included in the full ICD-10-AM Third Edition**

In answer to the question: what should be coded and could ICD-10-AM provide all the codes? Yes it can be coded, with a little help from the new *ICD-10-AM Early Parenting Manual*. Coding the episode of the mother with the unsettled baby is as follows:

	EPC documentation	Code	Code title
Mother Diagnoses	Adjusting to parenthood	F43.2	<i>Adjustment disorders</i> (becoming a parent)
	Family discord	Z63.8	<i>Other specified problems related to primary support group</i> (family discord NOS)
Interventions	Mothercraft skills	96145-00 [1878]	<i>Skills training in parenting techniques</i>
	Sleep management	96169-00 [1914]	<i>Assistance with activities related to parenting</i>
	Counselling (parenthood)	96080-00 [1867]	<i>Counselling or education on preparing for parenthood, parenting skills or family planning</i>
Baby Diagnoses	Irritable infant	R68.1	<i>Nonspecific symptoms peculiar to infancy</i> (excessive crying of infant, irritable infant)
	Sleep wake schedule disorder	G47.2	<i>Disorders of the sleep-wake schedule</i>
	Eczema	L30.9	<i>Dermatitis, unspecified</i> (eczema NOS)

## Future developments

Feedback about the *ICD-10-AM Early Parenting Manual* is welcome and should be directed to Sheree Gray, Classification Support Co-ordinator, [s.gray@fhs.usyd.edu.au](mailto:s.gray@fhs.usyd.edu.au) phone 02 9351 9461.

The NCCH will review feedback to inform future enhancement of ICD-10-AM. Orders may be placed using the order form in this issue.

### Reference

Randall A (1999) *Development of a classification (ICD) system for early parenting centres*. Thesis submitted in fulfilment of Masters of Public Health, La Trobe University.

# Classification corner

## The International Classification of Primary Care (ICPC-2 and ICPC-2 PLUS)

With the wide adoption of computerised clinical systems in general practice in Australia, interest in coding and classification of data for purposes of later data retrieval is increasing. Until the mid-1970s most morbidity data collected in primary care were classified with the International Classification of Diseases (ICD). While this provided international comparability of results many researchers found that symptoms and ill-defined conditions managed in primary care were difficult to classify in terms of aetiology, pathology and morphology.

In 1972 the Classification Committee (WICC) of the World Organization of Family Doctors (WONCA) agreed it was time to design a classification specifically for primary care.

WICC first developed the International Classification of Health Problems in Primary Care (ICHPPC) retaining the ICD structure. However, this proved not to be a satisfactory solution and the International Classification of Primary Care (ICPC) was restructured to classify patient reasons for encounter, the problem managed (the clinician's label for the problem) and the process of care provided. It was designed to apply in episodes of care, from patient presentation through to final diagnosis, irrespective of the number of labels required to describe the problem, as the disease developed or new results emerged.

ICPC has 1,330 codes. Concepts with an individual code (not grouped with others) are those that: arise frequently in primary care; are important for public health; or which when identified can be readily treated with a positive outcome. ICPC has a biaxial structure with 17 chapters based on body systems, plus chapters for psychological, social and general problems. On the other axis are seven components. Component 1 includes symptoms and complaints, components 2-6 describe the process of care, and component 7 incorporates the diagnostic disease labels.

ICPC was released in English in 1987 and has been translated into more than 45 languages. It has been used widely throughout the world, particularly by primary care researchers and academics. However, as general practice moved towards computerised clinical systems concerns

arose about reliability of its electronic application by clinicians untrained in classification. During the early 90s an extension codeset, largely based on ICD, was built in the Netherlands. Others recognised a need for local extended terminologies which retain international standard classification. In Canada, Belgium, Australia and Romania, extended local vocabularies or interface terminologies were subsequently developed. In parallel with the 1998 WONCA release of ICPC Version 2 with minor changes to the classification and the addition of inclusion and exclusion criteria for each rubric, the extended terminologies were also updated.

In Australia the Family Medicine Research Centre, University of Sydney produced ICPC-PLUS in 1995, initially based on terms recorded in 400,000 encounter records from GPs participating in research projects. A further 600,000 records and GP end-user requests have been used in its ongoing development over the past seven years. Logical keywords provide easy access to pick lists and the system runs on a selection of terms rather than on typing the required label.

ICPC-2 PLUS is used in the BEACH (Bettering the Evaluation and Care of Health) program, a continuous national study of general practice activity and was adopted by the Australian Bureau of Statistics for the 2001 and future Australian Health Surveys. It is currently in daily clinical use in electronic health records in approximately 500 general practices. Other users include health insurance groups, Northern Territory Health (in community settings), and the Royal Flying Doctor Service.

More information: <http://www.fmrc.org.au>

### Contact details:

A/Professor Helena Britt  
Director, Family Medicine Research Centre  
Acacia House, Westmead Hospital, Westmead

Ph: (02) 9845 8150 Fax: (02) 9845 8155  
E-mail: [helenab@fmrc.med.usyd.edu.au](mailto:helenab@fmrc.med.usyd.edu.au)

# EDUCATION and QUALITY

## Third Edition Education Workshops

The education program for users of ICD-10-AM Third Edition was designed, produced and delivered as an interactive, self-learning tool on the Internet and on CD-ROM. The program material has been supplied to more than 1400 people (800+ Internet users and 600+ CD-ROM users). Hardcopy versions of the material were prepared for state and territory health authorities to assist users unable to access the electronic media.

The delayed distribution of ICD-10-AM Third Edition meant that queries from the education program could not be answered and published in this edition of *Coding Matters* as originally planned. **However, queries on the education material may be submitted until the end of June 2002.** A frequently asked questions (FAQ) page will be added to the NCCH web site and published in future editions of *Coding Matters*.

Face-to-face workshops commenced 2 May 2002 and are being conducted throughout Australia until the end of June. Over 900 ICD-10-AM Third Edition users have registered to attend the workshops. Coding Educator Network (CEN) members who attended a train-the-trainer session in March will conduct the workshops.

Topics discussed at the workshops will also be reported in *Coding Matters* and at the NCCH web site <http://www.fhs.usyd.edu.au/ncch/>.

## Mental Health Manual Education

A train-the-trainer session presented by Professor Aleksandar Janca (Department of Psychiatry and Behavioural Science, University of WA), Daniel Rock (Centre for Clinical Research in Neuropsychiatry, WA) and Kay Bonello (HIM Consultant, Victoria) was held on 15 May 2002. 34 mental health clinicians and state and territory health authority representatives attended the session.

The train-the-trainer session was videotaped and copies will be available to purchase. The interactive self-paced education program material is also available on a CD-ROM. Please contact the NCCH for information about price and availability.

## PICQ and ACBA updates

PICQ users will be pleased to know that a version supporting ICD-10-AM Third Edition will be released in December 2002. Third Edition data indicators are being developed and tested at present. Current PICQ users will be provided with a list of indicators that are invalid for Third Edition data for use until the new release in December.

A number of enhancements including the option of AR-DRG version 4.2 have been included in an ACBA update which will be distributed in June 2002.

## PICQ<sup>™</sup> 2000

**Performance Indicators for Coding Quality (PICQ)** is a set of predetermined performance indicators which identify coding variation in a defined dataset. When coding variations are identified, causes can be investigated and corrective action taken.



### PICQ

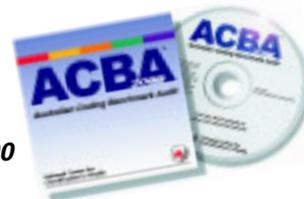
- **identifies** data problem areas
- **identifies** specific records for correction

## ACBA<sup>™</sup> 2000

Health care decisions are dependent on good quality morbidity data.

### Australian Coding Benchmark Audit 2000 (ACBA)

provides a mechanism to assess quality of coded morbidity data. **ACBA 2000** is a coding audit method that involves re-coding a sample of hospital-admitted patient episodes and uniformly recording results.



### ACBA

- **identifies** errors in coding practice
- **automates** results reporting

See enclosed order form or call 03 9479 1811 for further information

# About the committee

## Health Information Development in Australia: The National Health Information Agreement

The National Health Information Agreement (NHIA) came into effect on 1 June 1993 for an initial period of five years. A medium for co-operation across the Australian health sector, the NHIA ensures nationally important health information is collected, compiled and interpreted correctly and efficiently. It provides a structure and mechanisms for consultation to further improve national health information. The agreement has been extended to 31 May 2003, and a further extension beyond 2003 is planned.

The parties to the Agreement are:

- the Commonwealth Department of Health and Ageing
- state and territory government health agencies
- the Australian Institute of Health and Welfare
- the Australian Bureau of Statistics
- the Health Insurance Commission (as of 1999).

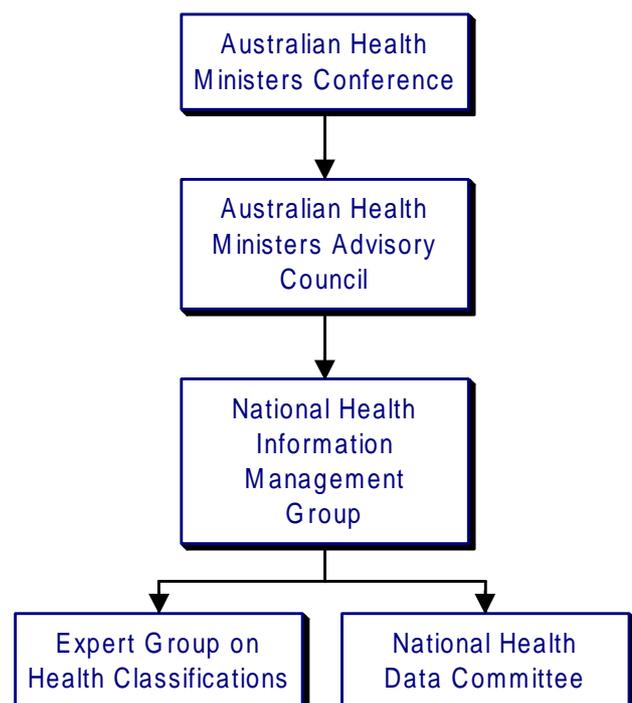
As a subcommittee of the Australian Health Ministers Advisory Council (AHMAC), the National Health Information Management Group (NHIMG) directs the implementation of the NHIA. It provides an effective structure and mechanisms for coordination of information requirements for the planning and provision of health services and programs.

The NHIMG is responsible for:

- developing and implementing the National Health Information Development Plan
- overseeing the direction, development, review and implementation of the National Health Information Agreement
- making recommendations to AHMAC on national health information work programs, funding implications and other policy issues
- specifying the content of national minimum data sets, which identify standards for national health information collections all state and territory health agencies must provide

- ensuring all parties to the NHIA use and comply with the agreed definitions and standards for collecting data, including the validity, format, completeness and timeliness of standards
- negotiating with other groups and individuals for the collection and dissemination of information that will enhance the provision of health care
- overseeing the role and function of the National Health Data Committee, in particular its review and maintenance of the National Health Data Dictionary
- overseeing the AIHW's Knowledgebase – Australia's Health, Community Services and Housing Metadata Registry, which is an electronic version of the National Health Data Dictionary.

### National Health Information Infrastructure in Australia



## National Health Data Committee

The National Health Data Committee, as a sub-committee of the NHIMG, considers proposals brought to it by expert groups that develop the data definitions. Acting as a committee concerned with quality control and coordination, its membership comprises representatives from the signatories to the NHIA together with representatives from the Australian Private Hospital Association, the Australian Health Insurance Association, the Department of Veterans' Affairs and the National Centre for Classification in Health.

Some key aspects of the NHDC include:

### ■ **National Health Data Dictionary**

Now in its eleventh version, the Dictionary is the authoritative source of national health data definitions. It is presented in a format based on the international ISO/IEC 11179 standard that is designed to promote effective understanding and interchange of data. This format has been successful in providing consistent and thorough descriptions of data element definitions. A number of national minimum data set agreements have been established, resulting in a significant increase in the availability of nationally consistent health information.

### ■ **The Knowledgebase—Australia's Health and Community Services Data Registry**

The Knowledgebase is an electronically accessible repository of the National Health Data Dictionary metadata registry items. It integrates information about the Dictionary, the National Health Information Model, and National Minimum Data Sets. It also acts as a repository for data definitions of other bodies approved to do so by the National Health Information Management Group.

### ■ **National Health Information Model**

The National Health Information Model provides a high level conceptual reference framework for the National Health Data Dictionary, enabling users to access metadata registry items grouped according to broad entities in the model.

These documents can be found on the Australian Institute of Health and Welfare's web site: [www.aihw.gov.au](http://www.aihw.gov.au)

## The Future - coordinating health statistics and information in Australia

Commonwealth, state and territory health ministers have identified national standards for health information management and information technology as a priority. They have established the National Health Information Management Advisory Council (NHIMAC) to develop a national plan for the use of information and communication technology to improve health care.

Crucial to the work of NHIMAC is the *National Health Information Standards Plan for Australia*. The plan is a collaborative initiative that sets the framework for the future growth and adoption of compatible electronic health products and systems. The *Plan* is a key strategic tool. It formalises the importance of national standards in achieving an integrated approach to health information management and information technology (IM/IT).

Within this plan the National Health Data Dictionary has been identified as the logical repository for data definitions related to health records and an important part of the infrastructure necessary for progress towards a standard for an electronic health record.

Links between the specialist groups in the health sector, including health services providers and IT software developers, have been strengthened and formalised through the establishment and membership of the National Health Information Standards Advisory Committee (NHISAC) under the auspice of NHIMAC.

### ▶ **David Neilsen**

National Data Standards Unit  
Australian Institute of Health  
and Welfare

## Alex's Q & A

**Q:** What condition has previously been known as **the devil's backbone**?

**A:** See page 16.

# the 10-AM commandments

**T**his regular feature provides guidance to clinical coders about frequently asked questions and aims to address those areas of coding which require immediate attention by clinical coders. Any major changes in practice (such as change of principal diagnosis sequencing for certain conditions) which may affect the integrity of state and national morbidity data collections will be flagged and should be introduced from the July following publication. If you find that any advice published in this section significantly changes your current practice, you should not do so until a suitable time in the collection year (January or July). You may feel it necessary in such circumstances to also seek advice from your state or territory health authority for a suitable date for implementation.

## Eradicated conditions in diabetes

NCCH has received a number of queries concerning patients with diabetes who previously had a diabetic complication that is now eradicated (usually by surgery).

It is important to capture the true profile of a patient's diabetes. The number and type of diabetic complications a patient may have is an indication of the severity and progression of the patient's disease.

A specific complication may have been eradicated (eg diabetic nephropathy eradicated by kidney transplant), however, the patient will still have the causative condition (ie diabetes with microvascular complications) even though the specific site of the microvascular complication (ie the kidney) is no longer current.

If a patient has complications that meet the criteria for multiple microvascular complications and one of these complications has been eradicated, still assign E11.71 *\*diabetes mellitus with multiple microvascular complications*.

For example, a patient with Type 2 diabetes mellitus, retinopathy and nephropathy previously treated by kidney transplant will have the following codes assigned:

E11.71	<i>Type 2 diabetes mellitus with multiple microvascular complications</i>
H35.0	<i>Background retinopathy and retinal vascular changes</i>
Z94.0	<i>Kidney transplant status</i>

Please note, however, that not all complications of diabetes may be eradicated by treatment; the treatment is for **management** of the condition and/or its symptoms (eg laser treatment for retinopathy).

The use of Z codes, where available, may be used to show the 'eradicated status' of a condition.

In ICD-10-AM Third Edition the following section has been added to Australian Coding Standard 0401 *Diabetes mellitus and impaired glucose regulation* to help when coding eradicated conditions in diabetes.

## Eradicated conditions in diabetes

When a complication of diabetes has been eradicated, often as a result of surgery, assign an 'other specified complication' code from the appropriate diabetes section (E10 – E14). Do not assign the specific code for the complication as it has been eradicated.

### EXAMPLE 1:

A patient with a history of Type 2 diabetes mellitus with nephropathy treated by kidney transplantation.

E11.29	<i>Type 2 diabetes mellitus with other specified renal complications</i>
Z94.0	<i>Kidney transplant status</i>

### EXAMPLE 2:

A patient with a history of Type 1 diabetic cataract previously removed with insertion of IOL.

E10.39	<i>Type 1 diabetes mellitus with other specified ophthalmic complications</i>
Z96.1	<i>Presence of intraocular lens</i>

## Spinal cord injury

### Background

The NCCH received a public submission on non-traumatic spinal cord injury in the call for public submissions in 2001.

In summary, the submission has two main objectives:

- to distinguish traumatic and non-traumatic spinal cord injury patients on the initial presentation (ie when the injury/disease process is first diagnosed/treated)
- to distinguish the same groups of patients on subsequent readmissions.

A strong and valid argument, based on epidemiology and clinical research, was made in the submission, to allow differentiation between these two groups of patients.

The public submission was based on the codes and coding standards in ICD-10-AM First Edition. In the Second Edition, both the codes relating to non-traumatic spinal cord injury and Australian Coding Standard 0625 *Quadriplegia and paraplegia, non-traumatic* were revised. These changes have answered the first point of the public submission, ie traumatic and non-traumatic spinal cord injury is coded quite differently on the first (initial) presentation.

There remained the issue of distinguishing these patients on subsequent admissions. Following both Australian Coding Standard 0625 *Quadriplegia and paraplegia, non-traumatic* and Australian Coding Standard 1915 *Spinal (cord) injury*, the same codes (from G82 *Paraplegia and tetraplegia*) would be assigned to indicate the spinal cord condition. The fifth character of this category indicates whether the paraplegia/tetraplegia is acute or chronic, but there is no indication of aetiology, ie traumatic or non-traumatic.

### Classification

#### Traumatic spinal cord injury (subsequent episode of care)

Sequelae codes are to be assigned for subsequent episodes of care of traumatic spinal cord injury. These codes have not been routinely assigned to date and are not included in the Example 3 of Australian Coding Standard 1915 *Spinal (cord) injury*, ICD-10-AM Second Edition. It is acknowledged that some specialist centres

may currently assign sequelae codes to provide further information on the aetiology of the paraplegia/quadriplegia.

#### Non-traumatic spinal cord injury (subsequent episode of care)

Sequelae codes (where available), personal history codes and general disease codes are to be assigned to indicate the underlying cause of the paraplegia/quadriplegia in subsequent episodes of care of non-traumatic spinal cord injury. Where there is no documentation of the aetiology of the spinal cord injury, clinical coders are encouraged to seek clarification from the clinician.

Minor rewording is required for Australian Coding Standard 0002 *Additional diagnoses*, Australian Coding Standard 0625 *Quadriplegia and paraplegia, non-traumatic*, Australian Coding Standard 1915 *Spinal (cord) injury* and a revision to Example 7 in Australian Coding Standard 2104 *Rehabilitation*. Please refer to the enclosed errata for full details of these changes.

### Non-invasive ventilation (NIV)

At the December 2001 meeting of the Clinical Casemix Committee of Australia (CCCA) non-invasive ventilation was discussed. NCCH and the Department of Health and Ageing (DoHA) had received correspondence from several respiratory physicians requesting non-invasive ventilation be considered as a separate DRG. CCCA recommended that non-invasive ventilation be included in the respiratory MDC in AR-DRG V5.0. The following codes will be assigned to a new DRG, rather than the current grouping of cases to diagnosis-based DRGs:

- 92038-00 [568] *Continuous positive airway pressure [CPAP]*
- 92039-00 [568] *Bi-level positive airway pressure [BiPAP]*
- 92040-00 [568] *Intermittent positive pressure breathing [IPPB]*
- 92041-00 [568] *Continuous negative pressure ventilation [CNP]*

The CCCA recommended that NIV should be coded when NIV is applied for  $\geq 24$  cumulative hours during an episode of care. The CCCA requested that the NCCH develop a coding standard for non-invasive ventilation for implementation from July 2002.

Currently in ICD-10-AM Third Edition, Australian Coding Standard 1006 *Respiratory support* includes a section on 'Other types of respiratory support' which includes information on non-invasive ventilation. There is no mention of duration being a factor in determining when to code non-invasive ventilation.

Consequently, changes have been made to Australian Coding Standard 1006 *Respiratory support* to direct coders to assign non-invasive ventilation codes when performed for  $\geq 24$  cumulative hours.

### Classification

Hours of non-invasive ventilation should be interpreted as cumulative hours. For the purpose of calculating the duration of NIV, a period of  $\leq 1$  hour between cessation and restarting NIV should be interpreted as continuous NIV.

### Codes for non-invasive ventilation

**should** be assigned for:

- neonates (age < 28 days), **any** duration
- all other patients when given for  $\geq 24$  cumulative hours

**should not** be assigned when:

- it is used as a method of weaning from continuous ventilatory support
- performed by intubation or tracheostomy (In these cases assign the appropriate codes from block [569] *Continuous ventilatory support*)
- performed for <24 cumulative hours

Please refer to the enclosed errata for full details of these changes.

### HIV / AIDS coding...some helpful reminders

- Documentation of HIV status should always be coded even if the criteria for an additional diagnosis are not met. This instruction has been added to Australian Coding Standard 0102 *HIV/AIDS* in ICD-10-AM Third Edition

- Ensure the appropriate stage of HIV disease is being coded. Once a B20-24 *Human immunodeficiency virus (HIV) disease* code is used, you cannot go back to using Z21 *Asymptomatic HIV infection status*.

*Hint:* Consult the whole record. Information in previous episodes of care should be taken into account.

- Use two (or more) codes to fully reflect the condition. Ensure the codes are sequenced according to the guidelines in Australian Coding Standard 0102 *HIV/AIDS*. Take particular care in sequencing dagger and asterisk codes.

*Hint:* Index entry:  
Pneumonia  
- *pneumocystis (carinii)* B59† J17.3\*  
- - resulting from HIV disease B20

Three codes are assigned. The B20-B24 code should be assigned, as well as the codes for the pneumocystis.

Use Z29.2 *Other prophylactic therapy* as principal diagnosis (and sequence the HIV status code second) where a potential manifestation is being treated prophylactically and is not a current condition – for example, nebuliser treatment for a potential respiratory problem.

*Hint:* To ward off opportunistic infection, prophylactic treatment may be initiated when T-cell counts fall. As the infection has not yet occurred, or is not current, the manifestation should not be coded.

- Clarify with the clinician if it is unclear whether the presenting condition is associated with the HIV disease. Test results such as antibodies, viral loads, or T-cell counts may provide an indication of disease progression. These should be interpreted by the clinician.

*Hint:* Even if the condition is clearly **not** a manifestation of HIV, remember to still code the HIV status as an additional code. If a B20-B24 code has been previously assigned then B24 *Unspecified HIV disease* must be used (and not Z21 *Asymptomatic HIV infection status*).

ICD-10-AM

# Early Parenting Manual

The *ICD-10-AM Early Parenting Manual* provides guidelines to help ensure codes for diagnoses and interventions specific to early childhood care are appropriately selected and assigned.

The *Manual* provides a common link between the language and terms used by clinicians, nurses, coders and early parenting centres staff.

Available for shipment in July 2002

ICD-10-AM

# Mental Health Manual

The *ICD-10-AM Mental Health Manual* is a classification of mental and behavioural disorders with glossary descriptions and diagnostic guidelines based on ICD-10-AM Third Edition.

The *Manual* is a diagnostic and coding tool that offers a common morbidity data language between the acute and community health sectors.

Available NOW  
See enclosed brochure

# Literature Review

## Germany's Choice - AR-DRGs

A recent article in *Australian Health Review* (Vol 24 No 4, 2001) "Empirical comparison of DRG variants using cardiovascular surgery data: initial results of a project at 18 German hospitals" provides a rationale for Germany's choice of AR-DRGs as their preferred DRG variant.

The German Hospital Financing Law of May 2000 requires that a classification system for use in reimbursing all hospital inpatient care be operational from January 2003. A stipulation is that the selected classification system must currently be in use for payment purposes in at least one country. To aid the selection process a project was initiated by the University of Muenster, the German Society for Thoracic and Cardiovascular Surgery and the German Hospital Association to apply 1999 cardiac surgery data from 18 hospitals (private, community and university) to 8 different DRG variants in order to evaluate them. The 8 DRG variants selected were:

1. Health Care Financing Administration DRGs, version 17.0 INTERNOVA (HCFA-DRGs)
2. All-patient DRGs, version 12.0 3M (AP-DRG)
3. Groupes Homogènes de Malades, France (GHM)
4. Refined DRGs, INTERNOVA (R-DRGs)
5. All Patient Refined DRGs, version 15.0 3M (APR-DRGs)
6. Australian Refined DRGs, version 4.1, Australia (AR-DRGs)
7. International All Patient DRGs, 3M (IAP-DRGs)
8. Leistungsgerechte Diagnosefallgruppen, Austria (LDF)

### Why cardiovascular surgical data?

Due to a national quality assurance program established in a German hospital in 1992, cardiovascular surgery data is of higher quality in comparison with general data. As well, cardiac surgery has the highest rate of per case payment enabling verification of cost homogeneity of the cases assigned to the various groups.

A set of clinical and logistical criteria was established to evaluate the 8 variants:

- Is every case group unambiguous and reproducible?
- How do the existing German diagnosis and procedure coding systems influence grouping and how do they need to be altered when the DRG variant is introduced?
- Are comorbidities and complications taken adequately into consideration?
- Are main and expensive procedures taken adequately into consideration?
- How sensitive is the system to 'extreme' cases and what is the level of residual cases? Do they remain infrequent, and are the residual groups adequately cost homogeneous?
- Is the system resistant to gaming (such as that undertaken through clinical documentation)?
- Are modern treatment procedures covered?
- Is the administrative health care system in Germany covered?
- Are the groups homogeneous in regard to cost?
- Are paediatric groups formed correctly?
- What changes to the DRG variant would be necessary?
- Is the system easy to use and easily computerised?

### Grouping results

The degree of differentiation of a variant, that is, its effective granularity, is suggested by the number of groups that contain 90% of all cases. AR-DRG came in second with 8 groups following R-DRG variant with 15 groups. 50% of all cardiac surgery cases were sorted into 2 groups (bypass and valve surgery) and even the R-DRG variant with its high granularity only needed 3 groups. Another indication of effective granularity is the gradient of reduction of cases in each group. Each of the 10 largest groups in both R-DRG and AR-DRG contained at least

500 cases, whereas the use of other variants resulted in more groups with a smaller number of cases within those groups. For example, the HCFA-DRGs created only 6 groups with more than 500 cases.

**Unusual and high-cost procedures**

Regardless of the principal diagnosis extensive procedures like organ transplants are grouped into special Pre-MDCs. All variants evaluated used this general approach. Only AR-DRGs and

*Table 1: Grouping results in cardiac surgery*

	HCFA-DRG	AP-DRG	GHM	R-DRG	AR-DRG	LDF
Maximum number of groups	499	641	600	1,198	661	867
Groups in sample (including error groups)	53	66	52	106	86	55
Sample as proportion of total (%)	10.6	10.3	8.7	8.8	13.0	6.3
Number of cases in the 20 strongest groups	31,333	31,233	31,307	29,849	31,234	31,337
Proportion of cases (%)	99.8	99.5	99.7	95.0	99.4	99.8
Number of groups with 90% of cases	5	7	5	15	8	3

**Multiple treatments**

None of the evaluated DRG variants adequately dealt with multiple procedures as mostly they are not taken into consideration at all. The article suggested that when implementing a German solution “it may be better to classify and sort procedures regardless of the MDCs (Major Diagnostic Category). Thus all performed procedures and not only those belonging to the specific principal diagnosis would be taken into consideration for grouping.”

**Specificity of the systems when identifying extensive modern treatments: implantation of defibrillator**

Of the 40,061 cases used for the final analysis, 1,021 were cases where only an automatic defibrillator was implanted or changed. Since the same information is given to each variant the precision of the grouping process can be shown by the total number of DRGs. It also serves as an indicator of its medical currency. The fewer groups used the better the grouping. Only the LDF and AR-DRG variants grouped most of the patients (97.94% for LDF, 99.71% for AR-DRG) into 2 of the most frequently used groups. The LDF variant takes special consideration of procedures and the AR-DRG has a special group for defibrillator patients with procedures.

the AP-DRGs use Pre-MDCs for heart transplantation with the others grouping these cases into MDC 5. Additionally AR-DRGs has a group for multiple organ transplantation. The only variant to ignore age and group all patients into the transplantation group was AR-DRGs which the evaluators saw as making more sense.

**New therapies**

The AR-DRG system creates more special groups for new therapies than any of the other variants evaluated.

**Short term therapy**

AR-DRGs and GMH were the only 2 variants to assign day care or short term stay patients to their own specific groups.

**Conclusions and recommendations**

The authors noted a need to further review the issue of homogeneity of the classes, because as in their sample, cost homogeneity was questionable in valve surgery (since the reconstruction of one valve is allocated to the same group as multiple valve replacement). They felt a process such as that applied in Australia whereby possible splits are identified and subjected to clinical evaluation was needed.

“A process that tests ideas and provides statistical evidence is essential if care providers are to be increasingly willing to accept the validity of per case payment.”

The number of AR-DRG classes (661) is seen to be reasonable from a payment point of view although, whatever the number, an adequate IT infrastructure is required. However too many classes will lead to average cost estimates being less robust and there will be an additional administrative overhead even where computers are used.

As well as having the best medical logic AR-DRGs was evaluated the most current and forward-looking. AR-DRG was rated superior in terms of quality and quantity of design and operational explanation and among the best in statistical performance in resource use homogeneity. Also, the application of PCCL logic whereby there are up to 5 levels of severity for adjacent DRGs based on additional diagnoses, was considered an added advantage.

The study did not provide a definitive answer to the question of selection of a DRG variant but has shown significant differences between the variants in the following respects:

- Transparency of the grouping process
- Degree and usefulness of manuals
- Availability of coding standards for the system
- Correct consideration of levels of severity
- Consideration of modern treatments

However, the authors had no hesitation in recommending AR-DRGs from the point of view of cardiac surgery.

In summary the authors stated:

“Our analyses favour AR-DRGs overall, because of the open nature of the classification design and software implementation, and because of the degree to which clinical logic has been taken into account over several years of ongoing refinement.”

# CODER CONNECT

linking concepts in health

## 8<sup>TH</sup> NCCH CONFERENCE 2003

**Wednesday 26 – Friday 28 March**

Hilton on the Park  
MELBOURNE

### **Key dates:**

- Call for papers August 2002
- Call for sponsors  
and exhibitors September 2002
- Registration opens November 2002

### **Key events:**

- Pre-conference workshop
- National and international  
key note presenters
- Full social program

For detailed information contact:

Karen Peasley  
NCCH Quality and Education Manager  
ph: 03 9479 1135  
fax: 03 9479 5657  
e-mail: [k.peasley@latrobe.edu.au](mailto:k.peasley@latrobe.edu.au)

More information will be regularly  
posted at:

<http://www.fhs.usyd.edu.au/ncch>



National Centre for Classification in Health  
Australia

# QUIZ

## Test your knowledge about the demise of the famous

**Test your knowledge of causes of deaths of famous people and ICD-10-AM Third Edition codes. Match the famous person with their cause of death, and then provide ICD-10-AM Third Edition codes.**

**For example:**

Famous person	Biography	Cause of death	ICD-10-AM Third Edition code/s
Diana, Princess of Wales	Member of British royal family	Motor vehicle accident	Y92.40, V47.60, U73.9

### WIN! the NCCH lifestyle pack:

- Designer backpack
- T-shirt from the NCCH's own couturier collection
- Fashion chapeau (OK, it's a baseball cap)
- ABC shop - \$50 gift voucher

Individual and group entries are welcome. Results will be published in *CM9(2)*, September 2002 with the solution. In the event of more than one correct entry, the winner will be selected from a draw. Entries must be received before 29 July 2002. Judge's decision is final.

**Match the cause of death below with the correct person from the list on page 15:**

1. Murder: gunshot wound
2. Alzheimer's disease
3. AIDS
4. Helicopter crash
5. Murder: blow from ice pick
6. Motorcycle accident
7. Anorexia nervosa
8. Breast cancer
9. Motor neurone disease
10. Accidental, injuries sustained in a fall at home
11. Porphyria
12. Asthma attack
13. Tuberculosis
14. Mesothelioma
15. Murder: fractured skull
16. An eagle dropped a tortoise on the head
17. Suicide, drank hemlock
18. Accident: hit by train whilst crossing tracks. Train derailed
19. Assassination: poisoned wine, poisoned food (potassium cyanide), shot (twice), drowned in freezing river
20. Suicide, by stab wound from sword
21. Prostate cancer
22. Laryngeal cancer



23. Abdominal haemorrhage
24. Nose bleed, while asleep (and drunk)
25. Mastoiditis
26. Fournier's gangrene
27. Suicide, by drowning
28. Heroin overdose, leading to aspiration of vomitus
29. Cerebral haemorrhage
30. Congestive heart failure
31. Renal failure, due to metastatic prostate cancer
32. Hypothermia (in an attempt to preserve a chicken by freezing it in snow)
33. Complications from surgery to repair a perforated gastric ulcer
34. Cancer of the uterus
35. Cerebral haemorrhage
36. Acute epiglottitis
37. Cirrhosis of liver
38. Accidental strangulation: scarf entangled in motor vehicle's wheel
39. Syphilis
40. Accidental, skiing injury – hit tree
41. Suicide, oven gas inhalation
42. Lung cancer



Famous person	Biography	Cause of death	ICD-10-AM Third Edition code/s
Eva (Evita) Peron	Argentine celebrity	34	C55, M8000/3
Rasputin	Siberian 'Mad Monk'		
David Niven	Actor		
Ludwig van Beethoven	Composer		
Maurice Ravel	Composer		
George Washington	US president		
Emperor Frederick III	German monarch		
Mata Hari	WWI spy		
Henry VIII	British monarch		
Jimi Hendrix	Rock performer		
Isadora Duncan	Dancer		
George II	British monarch		
Leon Trotsky	Russian revolutionary		
Rudolf Nureyev	Ballet performer		
Karen Carpenter	Pop performer		
Francois II	French monarch		
Stevie Ray Vaughan	Blues guitarist		
Duane Allman	Rock performer		
Jumbo	Circus performer		
Charles Lindbergh Jr	'the Lindbergh baby'		
Joseph Stalin	Russian dictator		
Virginia Woolf	Author		
Rudolf Valentino	Actor		
John Banner	Actor		
Nero	Roman emperor		
Sylvia Plath	Poet		
Socrates	Philosopher		
Kingsley Amis	Author		
Franklin D Roosevelt	US President		
Dr Christiaan Barnard	Surgeon		
Ingrid Bergman	Actor		
Sonny Bono	Pop performer		
Yul Brynner	Actor		
Richard Burton	Actor		
Jane Austen	Author		
King Herod	Judean monarch		
Sir Harry Secombe	Actor		
Frank Zappa	Rock performer		
Steve McQueen	Actor		
Attila the Hun	Despot		
Francis Bacon	Author		
Aeschylus	Playwright		

Entry submitted by: _____ (if a team entry, please provide a contact name)	<b>Send entries to:</b> Coding Matters Quiz National Centre for Classification in Health The University of Sydney PO Box 170 LIDCOMBE NSW 1825
Address: _____	<b>Or fax to:</b> 02 9351 9603
Phone: ( ) _____ Fax: ( ) _____	
E-mail: _____	

## Tried the ICD-10-AM Third Edition browser?

For the first time, all Third Edition book sets supplied include a copy of the browser version of the classification. The browser is an electronic version of the five volume ICD-10-AM Third Edition book set and it's very user friendly. If you haven't tried the browser, take a look. You'll be pleasantly surprised.

### Here are 10 good reasons to try the browser:

1. it takes up much less space on your desk than the books
2. you can toggle between volumes
3. it reduces wear and tear on your page-flipping fingers
4. books can wear out – the browser won't
5. you will receive updates to the classification electronically – no more cutting and pasting
6. it's portable
7. there is a reduced risk of broken toes if you accidentally drop the books
8. you can recycle old CD-ROMs – they make great coffee mug coasters
9. licences are available to create network versions of the browser
10. it's much easier to use than you think!

## Did you know... Informatics

**informatics** A word that first appeared in Russian (informatika) in 1966 with the following definition (Oxford English Dictionary): the scientific discipline that investigates the structure and properties (not specific content) of scientific information, as well as the regularities of scientific information activity, its theory, history, methodology, and organisation. It has since acquired a less specialised meaning and a wide usage in German (Informatik) and French (l'informatique): broadly, the study and practice of computer science, information technology, and information processing.

from Oxford Reference Online  
<http://www.oxfordreference.com/pub/demo/index2.html>

## Alex's Q & A

- Q: What condition has previously been known as the devil's backbone?**
- A: Spina bifida**

*El espinazo del diablo* is Spanish for the devil's backbone. Until the early 1900s, this was the name given to the condition now known as spina bifida in many Spanish towns.

The name has its origin in a dark and unenlightened age, where all sorts of medical conditions were ascribed to either a miraculous or demonic origin. In the case of spina bifida, what attracted the eye of the credulous was the prominent developmental anomaly characterised by the defective closure of the bony encasement of the spinal cord, through which the spinal cord and meninges may protrude.

Given such an obvious deformity, and the fact that it emerged with a newborn infant, gave rise to the belief that this was a baby that should not have been born in the first place (ie God did not will it). The baby's presence in the world was therefore ascribed to the devil's intervention, the proof of which was his mark on the baby (the exposed spinal cord).

### Reference

Miller-Keane Encyclopedia and Dictionary of Medicine, Nursing and Allied Health, Sixth Edition (1997) WB Saunders Company, Philadelphia.



ICD-10-AM Third Edition  
booksets include  
the new CD-ROM Browser

Visit <http://www.fhs.usyd.edu.au/ncch/>  
for ordering information

# International

## Clinical placements for German students at NCCH Brisbane

**Kerstin Fenkl is one of two students from Ulm in Germany who have been undertaking clinical placements managed by the NCCH Brisbane over the past six months. Kerstin completed a degree in hospital management last year at the University of Applied Science in Neu-Ulm. She approached the NCCH with a request to gain some hands-on experience of the Australian healthcare system and, in particular, the use of AR-DRGs. Two hospital-based assignments were arranged for Kerstin, carried out over a twelve week period.**

Kerstin's first experience was a placement with the Mater Misericordiae Hospitals Group, arranged through the Casemix and Clinical Benchmarking Service. As well as visiting a number of hospital departments (health information service, admissions and booking offices, finance department etc) and attending in-service casemix education seminars and team meetings, Kerstin was responsible for the redevelopment of a series of pamphlets designed to educate clinicians about DRGs relevant to their specialities. The Mater Misericordiae Hospitals Group provided a useful situation for Kerstin because it has both public and private facilities co-located, and has adult, children's and maternity sections.

The second hospital visit was arranged with the Royal Brisbane Hospital's Clinical Costing Unit, which is part of the Finance Department. During this placement, Kerstin undertook a project designed to investigate reasons for perceived increases in the acuity index (weighted separations/separations) for patients admitted over the preceding 12 months. Possible reasons investigated were the admission of 'sicker' patients, possible changes in coding practice, changes in private/public patient split, changes in emergency/elective patient status and variances in same day versus non-same day admissions.

Here are Kerstin's thoughts about her time in Brisbane: After the three months internship at the Mater Hospital and the Royal Brisbane Hospital, I am quite familiar with the Australian financial and casemix system. The projects I was working on were based on two different

perspectives. On the one hand, I got to know the coding process and developed a pretty good understanding of Queensland's health and funding system. On the other hand, I also learnt a lot about general hospital management.

I am very glad that I got the chance to work in Brisbane. Even if Germany doesn't adopt the coding and clinical costing system exactly like it is here, it has still been a great experience for me to get to see hospital management from another perspective. I am going to take many good ideas and a lot of different kinds of experiences back to Germany.

Beside my work experience... I had a great time in Brisbane!

I got (unintentionally) to know and accept the wildlife of Brisbane. Because of the perfect climate and a good swimming teacher (Caroline Stahl, NCCH's other German student), I grew to love swimming.

What I liked:

- \* the climate
- \* living so close to the coast
- \* the rainforest
- \* fireworks at Southbank
- \* helpful and open minded people
- \* getting to know exactly what I wanted
- \* Australian Christmas
- \* living in Paddington
- \* the nightlife
- \* drinking water from the tap
- \* summer school courses at QUT
- \* pies, muffins and barbecues
- \* stubbyholders
- \* super sales at the shops
- \* the pool at the Mater Hospital.

What I didn't like:

- \* Australia's insects
- \* having trouble with housemates
- \* mowing the grass in the garden
- \* freezing in the air conditioning at the office
- \* being far away from family and friends.

I'd like to say thank you to Sue Walker who organised the two projects and always looked after me. Without her help I would have been freezing in Germany.



# NCCH Prize for Clinical Coding

The NCCH Prize for Clinical Coding is awarded annually to outstanding graduating students who have completed health information management and clinical coding courses.

## 2001 NCCH Prize for Clinical Coding recipients are:

Sarah McEwan	La Trobe University
Rachel Watson	Queensland University of Technology
Rosemarie Radici	Curtin University
Margaret Duncan	Health Information Management Association of Australia Ltd
Rodney Holmes	Open Training and Education Network – Distance Education
Maria Nguyen and Ben Rohrer	The University of Sydney



**Sue Walker of NCCH (Brisbane) and Rachel Watson**



**Rosemarie Radici**



**Rodney Holmes**



**Sarah McEwan**

## NEONATOLOGY AND IMMUNOLOGY CCCGS

### Clinical coder positions vacant

Susanna Pang from the Royal Alexandra Hospital for Children, Sydney recently resigned from her position on the Neonatology Clinical Classification and Coding Group. Carmel Langley from the Women's and Children's Hospital, Adelaide, has also resigned from the Immunology CCCG. Thanks to Susanna and Carmel for providing valuable advice to the NCCH and Department of Health and Ageing (DoHA) on coding and DRG issues.

Expressions of interest are sought from appropriately experienced clinical coders from any state or territory to replace Susanna and Carmel on these groups. CCCGs meet infrequently face-to-face but do provide ad hoc advice to NCCH and DoHA via e-mail and mail. A member of a CCCG can expect to be asked to respond to questions about draft coding standards, DRG issues, or proposals for changes to ICD-10-AM.

Time spent on responding to issues raised by a CCCG is not financially reimbursable. However, membership on such a national committee provides the clinical coder with a valuable insight into the development of codes, coding standards and DRGs at the national level and is regarded by many who are involved as furthering their personal education. Through the CCCGs, the NCCH and DoHA greatly benefit from receiving advice from clinical coders who are involved in the application of ICD-10-AM and AR-DRGs on a regular basis.

Those interested in becoming a member of the Neonatology or Immunology CCCGs should write to Kerry Innes including a brief resume, specifically including their experience in neonatology or immunology coding using ICD-10-AM. For further information telephone Kerry Innes (02 9351 9461) or Katrina Chisholm at DoHA (02 6289 8499).

# Report

## US moves to establish a national coding authority and coding standards

The American Health Information Management Association (AHIMA) has announced its intent to lobby the US National Committee on Vital and Health Statistics (NCVHS) to establish national coding standards and a central coding authority<sup>1</sup>.

AHIMA is aiming to investigate and develop submissions regarding:

- development of national coding standards
- the potential implementation of the ICD-10-PCS (Procedure Coding System)
- the potential implementation of ICD-10-CM (Clinical Modification)
- the establishment of a central; national coding authority
- use of a single procedural coding system in the US. Procedural coding systems currently used in the US are: ICD-9-CM; CPT (Current Procedural Terminology) and HCPCS (Common Procedure Coding System). Note: HCFA is now CMS: Centres for Medicare and Medicaid Services.
- a system to ensure that insurers and health care providers and facilities adopt and adhere to a single set of coding rules and conventions, definitions and guidelines
- an assessment to recommend a single coding system in the US
- development of a process to create and maintain codes, rules and guidelines of its classification system
- development of national codes to replace the fragmented use of 'local' codes.

Reference:

1. Rode D (2002) Advocating HIM issues in an election year *Journal of AHIMA* 73(4): 18-19 April.

## AR-DRG V4.2: Addendum to the Definitions Manual

The Australian Refined Diagnosis Related Groups (AR-DRG) classification needs to be modified from time to time in line with changes to medical, surgical and coding practices. AR-DRG version 4.2 is a revision to the classification.

It accommodates changes that occurred between the First and Second Editions of ICD-10-AM, and includes a number of 'fixes'.

The AR-DRG version 4.2 *Addendum to the Definitions Manual* provides details of what is new and different about AR-DRG version 4.2. It is a single volume, with CD-ROM.

The AR-DRG version 4.2 *Addendum to the Definitions Manual* is \$50 plus GST. Copies may be purchased from the NCCH.



# Geek Speak

# GALEN

NCH has begun an investigation of **GALEN** to examine potential benefits for Australian **health terminology** development. A common problem with traditional classifications is their sheer size, and probably more importantly their specificity and hierarchical structure. These limitations are not a problem when classifications are used primarily for their original intended purpose (ie statistical reporting). But these characteristics present difficulties when data coded using classifications needs to be re-used for other purposes (Carlsson et al 2000)<sup>1</sup>. The development and implementation of **EHRs** means that medical abstracting and coding tools have to be smarter in order to access and use both classifications and terminologies.

## Classification

the action of classifying or arranging in classes, according to common characteristics or affinities; assignment to the proper class (OED)

The systematic collecting and recording of medical information is based on the use of traditional **classifications** – you'll be familiar with ICD-10-AM – which have been in existence for the past 130 years or so. Until relatively recently, the primary use of classifications was to record cause of death data and to gather some diagnostic information for statistical and **epidemiological** purposes.

## Morbidity

the incidence or prevalence of a disease or of all diseases in a population

The *International Statistical Classification of Diseases and Related Health Problems* (ICD) has been successful in supporting the collation and comparison of national and international statistics on **morbidity** and **mortality** and to advance our understanding of the distribution and cause of disease.

## Bibliographic systems

terms that are arranged in either or both an alphabetic and a hierarchical structure. An example of a bibliographic system is MeSH – Medical Subject Headings <http://www.nlm.nih.gov/mesh/meshhome.html>

Now there is a growing demand for this information to be used for other purposes, such as computer-based medical information systems, medical **knowledge-based systems** and **bibliographic systems** which all make use of medical terminologies. This increase in demand for terminologies has resulted in a qualitative change in the requirements placed on the various coding and classification schemes which now require:

- complex, detailed descriptions – eg clinical descriptions used in medical records
- extended uses for captured information in areas such as patient care, quality assurance, clinical audits, health services management, literature retrieval, decision support
- automatic manipulation by computer-based information systems
- multi-lingual and cross-cultural use
- extensions/specialisations for local use.

## GALEN CORE

GALEN COmmon REference

## Schemata

the set of primitive, high level categories in knowledge representation scheme together with any taxonomy which structures those categories<sup>1</sup>

Because of the demand for terminologies rather than just classifications, GALEN has come up with an approach called the **GALEN CORE** model. It is a set of building blocks and rules that allow the composition of **concepts** in clinically relevant relationships. GALEN CORE is comprised of high-level **schemata** and an extension and implementation into subject areas, such as anatomy, diseases, clinical signs and surgical deeds. The GALEN CORE is systematically expressed in **GRAIL** – a description logic with special constructs to handle part-whole and other transitive relations.

## GRAIL

GALEN Representation and Integration Language

## GALEN

Generalised Architecture for Languages, Encyclopedias, and Nomenclatures in Medicine <http://www.openGalen.com>

## Health terminologies

Various electronic systems that describe the vocabulary of health

## EHR

Electronic Health Record

## Epidemiology

the study of the distribution and causes of disease in populations

## Mortality

relative frequency of death in a population

## Knowledge-based systems

a computer system that provides mechanisms for solving problems in a given field or application area by drawing inferences from a knowledge base. The term is sometimes used synonymously with expert system. An example of such a system is DxPlain – a clinical decision support system <http://dxplain.mgh.harvard.edu/dxp/dxp.sdemo>

## Concept

an idea or mental picture expressed in words

Following is an example<sup>2</sup> of GRAIL for a surgical procedure rubric:  
 Surgical deed **which**  
 is characterised by (performance **which** is enactment of  
 (Excising which  
 has extent organ Total  
 has surgical open Closedness surgically Open  
 acts specifically on stomach>)))

**Mapping**  
 the process of finding an equivalent code/concept between two classification systems enabling interpretation of one classification in terms of another

The NCCH is investigating whether GALEN can be used to re-engineer ICD-10-AM into a terminology by modelling concepts from the classification to GALEN CORE. The classification might then acquire a number of benefits: access to multilingual capabilities; *cross-mapping* to other classifications and coding schemes; and the ability to draw inferences. Most importantly, re-engineering ICD-10-AM will allow the terms from the index to be explicitly represented in the terminology, and will allow ICD-10-AM concepts to be represented in a multi-axial fashion, not in the strict hierarchical fashion that presently characterises the classification.

**OpenKnoME**  
 a tool created by TopThing (University of Manchester Medical Informatics Group)  
<http://www.topthing.com>

GALEN and its CORE are now available for use through different vendor software implementations. *OpenKnoME* allows users to browse, maintain and enhance GALEN CORE. This tool is important because the CORE expressed in GRAIL is extremely complex and it's difficult for humans to read and understand (not to mention that it is expressed in about 1300 text files).

**Kermanog BV**  
<http://www.kermanog.com>

*Kermanog BV* is a Nordic company which provides a vendor software built around GALEN CORE – Classification Workbench (Claw) to build, maintain, extend or translate medical classification schemes into different languages. This environment comprises a number of applications for modelling, classifying and manipulating medical terminologies and information within GALEN.

Hopefully, by using the GALEN approach we will be able to transform the ICD-10-AM classification into a health terminology. Not only will it allow access to clinical concepts relevant to ICD-10-AM statistical reporting, but will provide more specific, comprehensive, multi-axial access to medical terms and concepts. It will also mean that we will have flexibility to use ICD-10-AM for purposes other than statistical reporting such as use in EHR and decision support systems.

**Reference**

1. Carlsson M, Lofstrom L, Rogers J, Ahlfeldt T (2000) Modelling and reclassification of surgical procedures – experiences from the use of GALEN methods in the domain of thoracic surgery, *Medical Informatics and the Internet in Medicine* 25(2):109-122.
2. Guarino N & Giaretta P (1995) Ontologies and knowledge bases: towards a terminological clarification. *Towards very large knowledge bases*. N Mars, Amsterdam, IOS Press:25:32.



“The chief merit of language is clearness, and we know that nothing detracts so much from this as do unfamiliar terms”

***Claudius Galen***  
*Father of sports medicine and surgeon to the gladiators*

**GALEN (AD 129-199)**

## A minute with... Imelda Noti



**Position at NCCH (Sydney)**  
Administrative Assistant

**Star sign**  
Aquarius

**Birthplace**  
Stalden, Valais, Switzerland

**Favourite music**  
Sound of water

**Favourite movie**  
Everything featuring Mr Bean

**Favourite book**  
*The Great Creators - a History of Heroes of the Imagination* (by DJ Boorstin)

**Hobbies**  
Walking, singing, eating, reading

**Sport**  
Walking, occasional jogging

**My life motto is**  
Keep learning

**Something few people know about me**  
There is a hidden blonde in the brunette

**My ambition is**  
To better understand and communicate Aussie humour

**My ideal holiday is**  
Riding very slowly on a camel, in the desert (with my partner)

**Two words that describe me are**  
Slow & crazy

**I would spend my last \$10 on**  
I would give it to my godson

## ICD-10-AM Early Parenting Manual



The NCCH wishes to acknowledge the work of Jane Kookarkin (left) and Jenny Seems, who developed the *ICD-10-AM Early Parenting Manual*.

**coding  
matters**  
Volume 9 Number 1 June 2002



**National Centre for Classification in Health**

### NCCH (Sydney)

Faculty of Health Sciences, The University of Sydney  
PO Box 170 ph: 02 9351 9461  
Lidcombe NSW 1825 fax: 02 9351 9603  
Australia e-mail: [j.hunt@fhs.usyd.edu.au](mailto:j.hunt@fhs.usyd.edu.au)

### NCCH (Brisbane)

School of Public Health, QUT  
Victoria Park Rd ph: 07 3864 5809  
Kelvin Grove QLD 4059 fax: 07 3864 5515  
Australia e-mail: [ncch.brisbane@qut.edu.au](mailto:ncch.brisbane@qut.edu.au)

### NCCH (Melbourne)

School of Public Health  
La Trobe University ph: 03 9479 1135  
Bundoora VIC 3086 fax: 03 9479 5657  
Australia e-mail: [qed@latrobe.edu.au](mailto:qed@latrobe.edu.au)

<http://www.fhs.usyd.edu.au/ncch/>

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Production: Jacqui Hunt

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# 2002 Conference & Event Calendar

4-6 August	<b>Health Informatics/HIMAA Conference</b> Melbourne, Victoria <a href="http://www.hic.org.au/">http://www.hic.org.au/</a>	25-27 September	<b>ADS/ADEA Annual Scientific Meeting 2002</b> <i>Australian Diabetes Society</i> Adelaide, South Australia <a href="http://www.racp.edu.au/ads/news.htm">http://www.racp.edu.au/ads/news.htm</a>
11-15 August	<b>ISO/T C215 Melbourne</b>	25-29 September	<b>Practising in a wired world</b> RNZCGP Rotorua, NZ
25-29 August	<b>European Conference on Health Records Dublin 2002</b> Dublin, Ireland <a href="mailto:info@conferencepartners.com">info@conferencepartners.com</a>	29 September - 2 October	<b>Public Health Association of Australia Annual meeting</b> <i>Mobilising Public Health 2002</i> Adelaide <a href="http://www.pha.org.au/conferences/frame_conferences.htm">http://www.pha.org.au/conferences/frame_conferences.htm</a>
27-29 August	<b>2002 Linking Health Innovations and Management Congress</b> A national congress presented by The Australian College of Health Service Executives (ACHSE) Perth, Western Australia <a href="http://www.linkinghealth.com/index2.html">http://www.linkinghealth.com/index2.html</a>	2-5 October	<b>PCS/E</b> Innsbruck, Austria
30 August	<b>Towards a professional identity</b> <i>Meeting of Ireland's clinical coders</i>	13-19 October	<b>World Health Organization Heads of Collaborating Centres Meeting</b> Brisbane
1-4 September	<b>14th National Casemix Conference</b> Department of Health and Ageing Conference 2002 <i>Health Care in Focus - Best Practice, Best Management, Best Measurement?</i> Melbourne, Australia <a href="http://www.health.gov.au/casemix/">http://www.health.gov.au/casemix/</a>	5-8 November	<b>19<sup>th</sup> International Conference of ISQua (International Society for Quality in Health Care)</b> Paris, France <a href="http://www.isqua.org.au/isquaPages/Conferences.html#Anchor-PARIS-11481">http://www.isqua.org.au/isquaPages/Conferences.html#Anchor-PARIS-11481</a>
12-14 September	<b>Social and Cultural Psychiatry</b> ANZ College of Psychiatrists, Cairns. NCCH Poster presentation <i>ICD-10-AM Mental Health Manual</i>	9-13 November	<b>AMIA (American Medical Informatics Association)</b> San Antonio, Texas, USA <a href="http://www.amia.org/meetings/annual/current/Call/intro.html">http://www.amia.org/meetings/annual/current/Call/intro.html</a>
21-26 September	<b>2002 AHIMA National Convention and Exhibit</b> San Francisco, CA, USA <a href="http://www.ahima.org/">http://www.ahima.org/</a>		

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