

coding matters



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NOSOLOGY

Everything old is new again

Disease classification, or more formally, nosology^{1,2}, is not a new science. Its origin lies with the ancient Greeks and their attempts to make sense of illness and healing. The evolution of this science, and the science of medicine, owes much to the classification efforts of the past. Aristotle (384-322 BC) established a framework for scientific investigation that is still used today.^{3,4}

In the early sixteenth century, the London Bills of Mortality were established as an attempt to forewarn about the appearance of the plague. The Bills represented an attempt at statistical disease classification by lay people and *Table 1* is an extract from the Bills of the eighteenth century.⁵

Nosology is the science and technology of naming and classifying clinical concepts.

Nosologists are specialists in this field and experts in the analysis, presentation and interpretation of coded data



Michelle Bramley

In the eighteenth century, Linnaeus (1707–1778), better known for his botanical classification (*Systema Naturae*), also attempted to classify diseases (*see Table 2*).⁶

Linnaeus' classification of mental diseases now appears extraordinary, when viewed in hindsight of the current classification. Bear in mind that his species and sub-species of mental diseases (*see Table 3*) reflect a classification based on the knowledge of mental diseases in those times. Moore⁶ has not been so kind in his review – he believed Linnaeus' classification of mental diseases to be “not so much a classification of sickness as a sickness of classification”! ▶

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Table 1
Extract from the London Bills of Mortality, Eighteenth Century

Chart of all the Fatal Diseases and Casualties in London, 1701–1777		
Disease	1701–1732	1747–1777
Ague	278	208
Fevers: malignant, spotted, scarlet and purple	104,285	94,215
Smallpox	566,667	65,441
Measles	4,590	6,418
Quinsy, sore throat	395	615
Pleurisy	986	728
Rheumatism	815	303
Gout	958	1,813
Consumption	92,221	130,698

Linnaeus' genera of diseases

Exanthematic	feverish, with skin eruptions
Critical	feverish, with urinary problems
Phlogistic	feverish, with heavy pulse and topical pain
Dolorous	painful
Mental	with alienation of judgement
Quietal	with loss of movement
Motor	with involuntary motion
Suppressorial	with impeded motions
Evacuatorial	with evacuation of liquids
Deformities	changed appearance of solid parts
Blemishes	external and palpable

Table 2
Linnaeus' genera of diseases

Reviewing past classification efforts provides us with the evidence that as our knowledge of diseases improves, so too does the classification. Will the current classification of mental diseases appear extraordinary to the nosologists of the twenty-fourth century?

Nosology defined

Porter⁷ describes the eighteenth century as a period in which “nosology was in vogue”. Nosology is again in vogue, mainly due to current efforts to describe the language of health in a consistent and comprehensive way that computers can process and ‘understand’. It is true to say that few people understand the meaning of ‘nosology’. It cannot be described as a term in popular usage. Therefore, the NCCH has redefined the term, to capture the essence of what we believe to be its true meaning in the twenty-first century (see box page 1). Our

definition reflects that a nosologist's expertise extends to the classification of all clinical concepts, not simply diseases, and is modelled on the American Society for Testing and Materials in their standard E1284-97⁸. The definition was refined in consultation with the heads of the Australian schools of health information management.

Nosological skills

Clinical coding, in the sense that we now understand it, will be an automated process with the introduction of electronic health records. Yet, this does not necessarily mean that the clinical coding profession will disappear. Opportunities will be available to those who are prepared to develop new skills and understand technology at a deeper level than is currently required⁹.

If you are interested in extending your coding skills to nosological skills, then your continuing

IDEAL	
Delirium	<i>acute and transitory with fever</i>
Paraphrosyne	<i>acute and periodic without fever</i>
Amentia	<i>chronic and innocuous</i>
Doemonia	<i>chronic, partial and furious, from demons</i>
Vesania	<i>chronic, partial and tranquil</i>
Melancholia	<i>chronic, partial, gloomy and meditative</i>
IMAGINARY	
Syringmos	<i>perception of a false ringing sound</i>
Phantasia	<i>perception of a false visible object</i>
Vertigo	<i>perceptions of false circumgyration</i>
Panophobia	<i>imagination of false evil in solitude</i>
Hypochondriasis	<i>imagining a deadly fate from a slight disorder</i>
Somnambulismus	<i>strong imagination in a sleeping person giving rise to voluntary movements</i>
PATHETIC	
Citta	<i>desire to eat what is not food</i>
Bulimia	<i>insatiable desire for food</i>
Polydipsia	<i>continuous desire for drink</i>
Satyriasis	<i>enormous desire for sex</i>
Erotomania	<i>indecent desire for lovers</i>
Nostalgia	<i>desire for country and relatives</i>
Tarantismus	<i>desire for dancing, often caused by an insect bite</i>
Rabies	<i>desire to bite and lacerate the harmless, often caused by a mammal bite</i>
Hydrophobia	<i>aversion to drink</i>
Cacositia	<i>aversion to food, accompanied by horror of it</i>
Antipathia	<i>aversion to a particular object</i>
Anxietas	<i>aversion to ordinary things, with pain in the heart</i>

Table 3 Linnaeus' species and sub-species of mental diseases



Alchemical signs from the earliest manuscript of Linnaeus

education focus must be aimed towards gaining a true understanding of the language of health and how terms are related and linked to concepts. This will entail developing a detailed understanding of:

- General principles of terminology and classification development – history, philosophy, established criteria, basic structures, conventions applied, concept representation, meaningful and meaningless concept identifiers.
- Terminologies – nomenclatures, vocabularies, taxonomies, ontologies and classifications – differentiating between them, identifying the purpose of each and the domain they serve. Understanding compositional terminologies and the method by which they deal with concepts (pre-coordination or post-coordination). Mapping concepts between related and disparate ▶

terminologies. Validating mappings, particularly automated algorithmic translations. Development, implementation, maintenance and evaluation of terminological systems.

- Linguistics – recognising preferred terms, synonyms, lexical variants, alternative phrasings, developing extensional and intentional definitions for concepts
- Health informatics – data modelling, data dictionary development, messaging systems such as HL7 or XML, relational and object-oriented databases, terminology models, terminology servers, knowledge representation systems (description logics), algorithmic translations, decision support systems, digital signatures and other electronic methods of authorisation/consent, data linkage and inter-operability of systems.
- Medical terminology and medical science – knowledge of the disease process, related contextual factors, functioning, impairments, medications, interventions or activities, surgical procedures and the technologies applied in the healthcare sector.
- Data quality control infrastructure – developing quality indicators, data analysis, data interpretation, data mining, data validation and audit, education, research.

- Medico-legal requirements – user access to information, security, privacy and confidentiality of information, consent, release of information.
- Healthcare standards development – National Centre for Classification in Health (NCCCH), Australian Institute of Health and Welfare (AIHW), National Health Information Management Group (NHIMG), The National Electronic Health Records Taskforce (NEHRT), The National Health Information Standards Advisory Committee (NHISAC), Standards Australia (SA), International Organization for Standardization (ISO).

Conclusion

Opportunities exist for all health information managers and clinical coders to extend their skills in nosology. An expression of interest was advertised in *Coding Matters* (Vol 7 No 3 p.15). If you are interested, speak to the heads of the schools of health information management about the new courses being offered.

If the thought of extra study does not appeal, you can seek employment opportunities at the NCCCH and learn on the job. After six years of serving my 'apprenticeship', I have the title of 'Nosologist'... and I am thrilled about the direction that my career has taken.

▶ **Michelle Bramley**
Nosologist

PICQTM 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
- **suggests** possible problem causes
- **suggests** possible corrections

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vital signs

Establishing an international training and credentialling program for mortality and morbidity coders and nosologists

The World Health Organization Heads of Collaborating Centres for the Classification of Diseases has recently established a Training and Credentialling subgroup, as part of the existing Implementation of ICD-10 committee. A working party consisting of representatives from the Heads of Centres and the International Federation of Health Records Organizations (IFHRO) has been established to progress the work of the group and Sue Walker is co-chairing this group.

The original motivation for the establishment of the group came via the International Collaborative Effort (ICE) on Automating Mortality Statistics which requested assistance from the Collaborating Centres on the establishment of an international training and certification program for mortality coding. The international need for trained mortality coders for both automated and manual systems is great. The majority of today's mortality coders learned their skills on the job with little formal training. Many are close to retirement and there is no structure to ensure that new coders will be available to continue the profession.

Due to the lack of status of this profession, the low salaries and the relatively few positions available, there is little interest from those looking for health care careers to think of mortality coding as a profession. This raises the concern that the future collection of mortality data may be compromised. Mortality nosologists are also needed to train and qualify new mortality coders, implement special projects and maintain and enhance automated systems.

Members of the group also agreed that an international training and certification program for mortality coding would be beneficial for the international collection and comparison of *morbidity data*. There are well-established morbidity training programs leading to degrees in a few countries (notably Australia and the US). However, for most countries, no established training program exists even with the increasing importance of morbidity coding.

It is being proposed that an international training and certification program for mortality and morbidity coding be established under the auspices of IFHRO, an existing non-governmental organisation in official relations with WHO. There are significant differences in using automated systems versus manual coding for mortality. There is different logic for multiple cause coding versus underlying cause selection. Differences also exist between selection of the main condition versus listing of secondary conditions for morbidity coding. It is being proposed that the international training and certification be established in phases due to differences in approach to coding.

The initial phase will consist of training and credentialling for underlying cause of death coding. The second phase will be the establishment of training and credentialling for the main condition for morbidity. The third and fourth phases will focus on multiple causes of death and secondary conditions/diagnoses in morbidity respectively. However, the third and fourth phases cannot be established until international rules for multiple cause and secondary conditions are approved by all participating countries.

The following model outlines the current proposal:

- The International Federation of Health Record Organizations (IFHRO) will oversee the international coding certification program with the direct administration of the program being maintained by either the professional health information management association ►

of a particular country or the participating country's health ministry. It would also be possible, for those countries that wish, to establish a working association with a formal educational program of another country.

- Those seeking certification should possess formal training in anatomy and physiology, medical terminology, and the fundamentals of disease prior to, or as a component of, taking the training offered for the certification program.
- Subjects deemed essential for a professional mortality or morbidity coder, as well as the annual examination, would be certified by IFHRO.
- Those individuals who are currently working as mortality and morbidity coders would be eligible to sit for the certification examination regardless of their educational background. Morbidity coders who already possess certification from their home country would automatically be deemed certified for main condition and secondary condition morbidity coding internationally.
- For underlying cause, the training program will be based on existing training materials for the ICD-10 that have been designed for the selection of underlying cause developed by National Centre for Health Statistics (NCHS), the United Kingdom Collaborating Center and Australia, as well as relevant

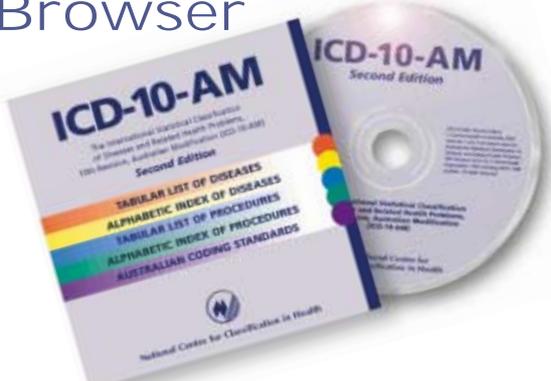
training materials developed by other countries.

- For main condition coding the training program will be based on the rules and conventions of Volume 2 of the ICD-10.
- For multiple cause and secondary conditions, the training program will be based on the rules established by the international community prior to the implementation of these phases.
- All countries electing to participate in a credentialing program must adhere to the same set of coding rules and conventions. This would involve acceptance of credentialled mortality and morbidity coders and nosologists as professionals responsible for the quality of the data collected on death certificates and medical records.
- For those countries with an established health information management association the certification should be offered as an extension to existing programs. The concept of having at least one trained mortality coder in each hospital or nursing home should be developed. Their role would be to assist physicians with the completion of death certificates and validate the accuracy of the death certificate for all patients who die in the facility. This may encourage people interested in the health information management field to pursue the additional mortality coder credential, could improve the quality of death certificate data, and will provide a needed supply of trained mortality coders for future national and international needs.
- For countries without an established health information management association, the certification should be considered an essential qualification for those individuals selected to maintain death certificate data for the country.
- Formal examinations will be administered by IFHRO on an annual basis for those persons who have completed the training program established by each person's respective country.
- They would also assist with application of criteria for reporting relevant deaths to the coroner.

The program is still in its infancy with an e-mail discussion group in the process of being established and a detailed work plan under development.

▶ **Sue Walker**
Associate Director, NCCH Brisbane

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the language of health

NCCH 7th Biennial Conference

The NCCH, in conjunction with the Clinical Coders' Society of Australia (CCSA), conducted the NCCH 7th Biennial Conference from 1-3 April 2001 at the Landmark Parkroyal Hotel in Sydney's Potts Point. The conference's theme was the language of health.

The conference's 250 delegates included representatives from all Australian states and territories, New Zealand, Singapore, the United Kingdom, Germany and the USA.

Clinical coders workshop

The clinical coders workshop was presented by the CCSA and the New Zealand Health Information Service (NZHIS). A full report on the workshop's outcomes appears on page 10.

Conference program

The conference's program showcased the scope of clinical coding today. A coder working in a hospital might be at risk of forgetting where 'the codes' come from and how they are developed, or where their coding goes to and how it might be used. While most papers were Australian, seven papers were from other countries providing an international view of a universal issue.



I-r Suzanne Bakken, Rosemary Roberts, Kerry Innes, Dianne Aschman, Christopher Chute, Sue Walker and Donna Turan

Conference theme – the language of health

Keynote speaker, Dr Christopher Chute of the Mayo Clinic at Rochester Minnesota, spoke about medical concept representation in his presentation. Professor Suzanne Bakken, from New York's Columbia University, explored health language in nursing. Dianne Aschman provided a perspective of health language and SNOMED. These presentations helped the audience to appreciate the evolution and complexity of health language.

The program included clinical updates on diabetes mellitus and obstetrics. A clinician and a coder presented each session.

While some papers were academic, others were light-hearted. One coder mused on her childhood aspirations of what she might be when she grew up. Another provided some background on the myths and legends of electronic health records. Associate Professor Johanna Westbrook's opening address discussed the language of health. The informative presentations proved popular. ▶



*Conference organisers
Karen Peasley (left) and Shannon Watts*

Social program

Delegates quickly created high decibel level conversation while enjoying canapes and drinks and being entertained by two roving magicians at the evening's Welcome Reception.

The conference dinner was held on 2 April at the WatersEdge Restaurant, Walsh Bay, which – true to its name – provided a wonderful background of lights on the Harbour Bridge and passing water traffic.

Exhibitors

The schools of HIM, the CCSA and the Health Information Management Association of Australia (HIMAA) Ltd provided displays of their services and useful information relevant to coders.

Delegates' evaluations

The results of the 102 evaluations indicate that delegates' professions were fairly evenly distributed between clinical coders and health information managers. Others represented included data managers, health authority representatives, health service managers and software vendors. Overall satisfaction was rated as 'satisfied' to 'very satisfied'. As always, delegates' comments will be considered for future events.



I-r Linda Best, Joanne Williams, Kerry Innes and Gordon Senator



Nicole Schmidt (r) demonstrates PICQ



Johanna Westbrook gave the welcome address



I-r Chien Earn Lee, Peter Lee and Christopher Chute



Coll Fisher and Sheree Gray



I-r Roger Farrar, Donna Turan, Jennie Shephard, Irene Kearsay and Mark Gill



I-r Suzanne Bakken, Graeme Miller, Christopher Chute, Enrico Coiera, Johanna Westbrook and Rosemary Roberts



▲ *Guests at the conference dinner*
▼



I-r Shannon Watts, Eckart Frantz, Kathy Wilton, Vicki Bennett, Adam Bennett and Barbara Arundell



▲ *Magicians entertained guests at the welcome reception*
▼



Presentations on the Web

In response to the many requests for copies of Powerpoint slides, we are pleased to announce that most conference Powerpoint presentations can now be viewed at the NCCH website <http://www.cchs.usyd.edu.au/ncch> – follow the links to the Biennial Conference page.

Check out the selection of conference photographs whilst visiting the page.

8th Biennial NCCH Conference

Preliminary planning has already begun on the 8th Biennial NCCH conference, which is to be held in March 2003 in Victoria.

Get the buzz...

The most unforgettable conference moment? Impossible to overlook a certain NCCH identity as a very convincing bee as she chaired the diabetes mellitus clinical update session! See *Apis melinnes* on page 10.

- ▶ **Karen Peasley, Shannon Watts and Irene Kearsy**
Quality and Education Division
NCCH

CCSA/NZHIS ICD-10-AM Second Edition Coding Workshop

The New Zealand Health Information Service (NZHIS) joined the Clinical Coders' Society of Australia (CCSA) to present the ICD-10-AM Second Edition Coding Workshop held prior to the NCCH conference on Sunday 1 April 2001. The workshop's format differed from previous occasions in that no pre-workshop coding was required.

83 enthusiastic coders from all Australian states and territories, New Zealand, Singapore, and the United Kingdom participated in the workshop.

Andrew Wooding, from NZHIS, opened the workshop with presentations on cardiology and urology coding. General coding vignettes and questions followed the presentations.

Evaluation

Thank you to those who completed evaluations (64%). The majority of evaluation respondents preferred the workbook style of presentation used in previous years. Most thought the workshop was a great opportunity to network



I-r Nerida Stevens, Julie Turtle, Joan Knights, Lynn Lehmann, Andrew Wooding and Christine Thorpe

with other coders. The learning fair, conducted after the urology presentation, was expressed as the preferred time to network. Additional comments suggested that more time be allowed for coding questions. (Andrew was very courageous to take coding questions from the floor).

▶ **Joan Knights**
CCSA President
Christine Thorpe
NZHIS

NCCH supports Diabetes Australia – NSW

Kerry Innes had a bee in her bonnet. "How can we raise the profile of diabetes mellitus coding and help support the work of Diabetes Australia NSW?" The Queen Bee raffle was launched to reflect Diabetes Australia's Barnaby Bee mascot. 'Mellitus' means honey or sweet. The NCCH office was a beehive of activity as all things honey, beeswax and bees were assembled for the prize basket. The Queen Bee (aka Associate Director Kerry Innes) created a hive of activity wherever she appeared.

Delegates at the 7th Biennial Conference of the NCCH made a beeline to purchase tickets to support the work of Diabetes Australia – NSW. The raffle raised \$250.00.



There was a distinct buzz in the air at the prize draw. Winning ticket holder, Julia Pirona Assistant HIM at Epworth Hospital in Victoria, was said to have thought herself the bee's knees.



Clinical Classification and Coding Groups reformed



Late in 2000 the Department of Health and Aged Care reformed the Clinical Classification and Coding Groups (CCCGs) with the aim of conducting a series of workshops to discuss proposals for changes to the Australian Refined Diagnosis Related Groups (AR-DRGs) classification.

Previous members were approached to seek their continued participation in the reformed CCCGs. Coding Standards Advisory Committee (CSAC) members were asked to nominate clinical coders who were then approached to fill some vacancies. Clinical colleges, the National Allied Health Casemix Committee (NAHCC) and nursing groups were also approached for nominations of additional members.

The clinical specialties represented by the CCCGs are:

- Anaesthesia
- Burns
- Cardiovascular
- Critical care
- Dermatology
- Endocrinology
- Ear, Nose, Mouth & Throat (ENMT)
- Gastroenterology/Hepatobiliary
- Geriatrics & Rehabilitation
- Immunology, Rheumatology & Infectious Diseases
- Injury
- Mental Health, Drugs & Alcohol
- Neonatology
- Nephrology & Urology
- Neurosciences
- Obstetrics & Gynaecology
- Oncology & Haematology
- Ophthalmology
- Orthopaedics
- Paediatrics
- Pathology
- Plastic Surgery
- Respiratory

Changes to the AR-DRG version 4 classification

A number of avenues exist to incorporate changes to the AR-DRG classification. Since the implementation of AR-DRG version 4, the Department of Health and Aged Care DRG Development Section has accommodated changes that became evident during the ICD-9-CM and ICD-10-AM mapping process. The Department has also received *ad hoc* proposals for changes from state and territory health departments and individual users.

In December 2000 the Department called for public submissions for changes to the AR-DRG classification, which coincidentally, was published simultaneously with the NCCH's public submission announcement for changes to ICD-10-AM.

CCCG workshops

Workshops have been conducted in Adelaide, Melbourne and Sydney. Some CCCG meetings were conducted as teleconferences due to availability and timing issues.

The groups discussed specific changes for their relative Major Diagnostic Categories (MDCs). General grouper issues were also discussed. The general issues discussed included topics such as:

- *Hours of mechanical ventilation* (a data item) and
- improving the differentiation of leukaemias and lymphomas by the addition of morphology codes to the data set.

The Department invited representatives from the state and territory health departments and the NCCH to participate in the workshops. The state and territory representatives helped to ensure that potential impacts on state and territory funding mechanisms were considered. For example, during discussion it was found that South Australia and Victoria currently use the *Hours of mechanical ventilation* data item.

NCCH representatives advised workshop participants of impending changes in ICD-10-AM Third Edition and their potential impact on CCCG decisions. For example – the introduction of ICD-O-3 morphology codes in ICD-10-AM Third Edition – work which will benefit the proposal to introduce morphology codes to the data set.

After responses have been collated, a meeting will be held with representatives from the state and territory health departments to discuss outcomes.

Next version of the grouper

It is anticipated that the next version of the grouper will be available in November 2002.

▶ Katrina Chisholm

Katrina Chisholm is Executive Officer, Casemix Clinical Committee of Australia (CCCA) at the Commonwealth Department of Health and Aged Care.

The Australian Safety and Efficacy Register of New Interventional Procedures – Surgical (ASERNIP-S)

ASERNIP-S is a federal government funded project. It was established by the Royal Australasian College of Surgeons (RACS) and commenced in January 1998. The purpose of this project is to assess the safety and effectiveness of new surgical techniques and technologies.

The ASERNIP-S assessment or review process aims to:

1. establish a mechanism for collecting, collating and analysing data concerning the safety and efficacy of the new procedure
2. make recommendations on whether the procedure should be used with or without continuing audit, or to establish if a more fully controlled evaluation is needed
3. disseminate information to RACS fellows and trainees, to credentialing committees, practitioners, consumers, health care providers and government agencies.

The assessment process of new procedures begins with nomination of the procedure from a variety of sources. These sources include the Divisions, Sections and Societies of the RACS and consumers through the Consumers Health Forum. A systematic literature review, which includes evidence from international sources, then follows. This is supplemented, where indicated, by the collection of data from surgeons currently performing the procedure. ASERNIP-S then produces a review, recommendations and a safety and efficacy classification.

The categories of the classification are:

1. Safety and/or efficacy is established. The procedure is equal to, or better than, the best practice based on the current available evidence. Procedure may be introduced into practice.
2. The safety and/or efficacy of the procedure cannot be determined at the present time due to an incomplete and/or poor quality evidence-base. It is recommended that further research be conducted to establish safety and/or efficacy.
3. Safety and/or efficacy of procedure is shown to be unsatisfactory. Procedure should not be used.

To date, ASERNIP-S has completed 11 systematic reviews of new surgical procedures, and has re-appraised over half of these. The procedures include:

- off-pump coronary artery bypass surgery with the aid of tissue stabilisers
- laparoscopic adjustable gastric banding in the treatment of obesity
- laparoscopic-assisted resection of colorectal malignancies
- arthroscopic subcromial decompression using the holmium:YAG laser
- laparoscopic live donor nephrectomy
- lung volume reduction surgery
- minimally invasive techniques for the relief of bladder outflow obstruction
- percutaneous endoscopic laser discectomy
- ultrasound-assisted lipoplasty
- minimally invasive parathyroidectomy
- tension-free urethropexy for stress urinary incontinence: intravaginal slingplasty and the tension-free vaginal tape procedures.

Four new procedure assessments are in various stages of completion. These include:

- dynamic graciloplasty for faecal incontinence
- endoscopic modified Lothrop procedure for the treatment of chronic frontal sinusitis
- methods for establishing laparoscopic pneumoperitoneum
- laparoscopic live donor liver transplantation
- stapled haemorrhoidectomy
- autologous fat transfer for breast augmentation.

▶ **Professor Guy Maddern**
Surgical Director
Dr Wendy Babidge
Research & Administrative Manager
ASERNIP-S
<http://www.surgeons.org/open/asernip-s.htm>

the 10-AM commandments

This 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.

Diabetes mellitus

Following is a summary of the proposed coding changes in diabetes mellitus for the third edition of ICD-10-AM. Clinical and statistical information included in this article is based on a presentation at the 7th Biennial NCCH Conference by Dr Joanne Williams (Epidemiologist, Victoria), Dr Gordon Senator (Endocrinologist, Queensland) and Linda Best (Project Officer, NCCH, NSW), April 2001.

Diabetes mellitus coding changes effective July 2001

Dyslipidaemia/ hypercholesterolaemia

The characteristic dyslipidaemia attributed to insulin resistance features increased fasting triglycerides and decreased high-density lipoproteins (HDL). The terms 'hypercholesterolaemia', 'high cholesterol' or '↑ chol' are often used in records rather than 'dyslipidaemia'. This creates difficulties for coders to determine the existence of insulin resistance in patients with diabetes mellitus or IGR. When any of these terms are documented, the following guidelines may help to determine when to assign E1-.72 * *Diabetes mellitus with features of insulin resistance*.

- If increased cholesterol is documented with either increased fasting triglycerides or decreased HDL – code to E1-.72 * *Diabetes mellitus with features of insulin resistance*
- If there is no documentation of increased cholesterol but both increased fasting triglycerides and decreased HDL – code to E1-.72 * *Diabetes mellitus with features of insulin resistance*

- If increased cholesterol only is documented with no mention of increased fasting triglycerides or decreased HDL – do not code to E1-.72 * *Diabetes mellitus with features of insulin resistance*.

If you are currently coding 'hypercholesterolaemia' or similar terms described above) to E1-.72 then this will be a significant change in practice for you from July 2001.

Metabolic syndrome

Metabolic syndrome (also known as syndrome X or insulin resistance syndrome) does not have a specific code as it covers a cluster of conditions that can occur in various combinations. There is currently no internationally agreed definition for metabolic syndrome. The World Health Organization (WHO) has developed a working definition that defines metabolic syndrome as having two or more of the following conditions:

- diabetes mellitus (not Type 1)
- obesity
- hypertension
- dyslipidaemia
- insulin resistance/ hyperinsulinism.

The following guidelines may help to code this syndrome:

- When there is documentation of metabolic syndrome, features of insulin resistance and diabetes mellitus – code to E1-.72 * *Diabetes mellitus with features of insulin resistance* ▶

- When there is documentation of metabolic syndrome and diabetes mellitus – code to E1-.72 * *Diabetes mellitus with features of insulin resistance*
- When there is documentation of metabolic syndrome only or any other documentation variations not included above – code the conditions.

Additional diagnosis codes should be assigned, hyperinsulinism or dyslipidaemia as appropriate.

Diabetes mellitus coding changes effective July 2002

Impaired glucose regulation (IGR)

Impaired glucose regulation includes impaired fasting glucose (IFG) and impaired glucose tolerance (IGT). Both IGT and IFG refer to abnormal metabolic states between normal glucose homeostasis and diabetes mellitus. IGR may progress to diabetes mellitus, remain static or revert to normal. Studies have shown that after 10 years a patient with IGT has a 33% chance of progressing to diabetes mellitus and a patient with IFG has a 45% chance of progressing to diabetes mellitus. Patients with IGR have the same risk of cardiovascular disease as patients with diabetes mellitus. A new category for impaired glucose regulation will be included in ICD-10-AM Third Edition. The proposed amendments for the Tabular List (Vol 1) include:

Impaired glucose regulation (E09)

- | | |
|--------------|---|
| E09 | Impaired glucose regulation |
| E09.0 | Impaired glucose regulation with peripheral angiopathy |
| ★ E09.01 | Impaired glucose regulation with peripheral angiopathy without gangrene |
| ★ E09.02 | Impaired glucose regulation with peripheral angiopathy with gangrene |
| E09.1 | Impaired glucose regulation with features of insulin resistance |
| E09.8 | Impaired glucose regulation with unspecified complication |
| E09.9 | Impaired glucose regulation without complication |

Uncontrolled diabetes mellitus

Patients may require stabilisation of poorly controlled diabetes mellitus. This may include the initiation of insulin therapy when there has been a failure to respond to oral therapy. It does not include the temporary use of insulin for patients undergoing a surgical or other procedure or when insulin is considered more appropriate than oral therapy during the management of other medical disorders. Such poorly controlled diabetes mellitus may not necessarily be the principal reason for admission. A new code is being proposed for ICD-10-AM Third Edition:

E1-.65 * *Diabetes mellitus with poor control*

There must be documentation of 'unstable', 'for stabilisation', 'poorly controlled' or 'poor control' before this code can be assigned.

Coding Same Day Endoscopy – effective 1 July 2001

Background

Many patients who are admitted for endoscopy are presenting for investigation of a symptom.

Some coders have difficulty deciding on the principal diagnosis in these cases. Some coders routinely code the symptom as principal diagnosis and others apply clinical knowledge and code the finding in some instances and the symptom in others.

There is no consistency between coders or facilities about how this decision is made. In fact, it appears that many coders do not understand that they should actually be making a 'decision'.

The Australian Coding Standards (ACS) provide direction in some cases but not in others. For example, ACS 1103 *Gastrointestinal (GI) haemorrhage* advises (in reference to colonoscopies for investigation of melaena) "If no causal link is established between the symptom and finding on investigation, sequence the symptom first and finding second". However, no such advice exists for other endoscopic procedures such as bronchoscopy, cystoscopy, hysteroscopy or for colonoscopy for investigation of other symptoms.

In addition, many facilities have computer-generated reports for endoscopy procedures where the findings may be documented under the heading of principal diagnosis. Some coders then code accordingly, even when it is obviously incorrect, including when the findings are

obviously listed in the order found rather than after consideration of the definition of principal diagnosis.

To further muddy the waters, many endoscopists are simply carrying out the investigation but are not involved in the treatment of the findings or the decision as to which of the findings, if any, explain the presenting problem.

A new standard for same day endoscopy coding follows. It takes effect from 1 July 2001

An important feature of this standard is that it includes advice to code some conditions which may not ordinarily meet the criteria for ACS 0002 *Additional diagnoses*. Note however, that conditions which are present at the time of endoscopy (eg COPD), in contrast to those found at endoscopy, remain subject to the criteria of ACS 0002 *Additional diagnoses*.

Note carefully when this standard applies and when it does not:

This standard applies to

- Those patients who are admitted for endoscopic investigation of any body system (eg colonoscopy, bronchoscopy, ERCP) or arthroscopy and who are also:
 - Same day patients, ie admitted and discharged on the same date, or
 - Patients who are discharged on the day after admission but the intention was for same day admission, or
 - Patients who are admitted the day before the procedure because a day only admission is not possible or practicable for them (eg elderly patients, those who live in a remote location).

This standard does not apply to:

- Cases where the patient is presenting for follow-up investigations. These cases are coded in accordance with ACS 0213 *History of malignancy* or ACS 1124 *Healed gastric ulcer*
- Patients having endoscopies to further investigate a known condition, such as carcinoma of the stomach (these cases will be coded in accordance with ACS 0001 *Principal diagnosis* and ACS 0002 *Additional diagnoses*), or those presenting with a problem related to a known condition (these

will be coded in accordance with ACS 0001 *Principal diagnosis* and ACS 0207 *Complications associated with neoplasms*)

- Patients admitted for screening, who are to be coded in accordance with the current revision of ACS 2111 *Screening for specific disorders* (See *Coding Matters*, Volume 7, Number 1, page 10).

1. If a causal link is established between the symptom and one of the findings (that is, either the clinician documents the link, or a standard directs coders to assume a link) this finding should be assigned as principal diagnosis. The symptom should not be coded (unless it meets criteria in ACS 1802 *Signs and symptoms*) and the other findings, if any, should be assigned as additional diagnoses.

A computer generated report of the findings does not constitute establishment of a link, unless that report clearly demonstrates that one of the findings is the cause of the symptom and the other findings are incidental.

Example 1:

Patient with abdominal pain admitted for oesophagogastroduodenoscopy (OGD). Gastric ulcer documented as reason for abdominal pain. Duodenitis also noted.

Principal diagnosis: gastric ulcer

Additional diagnosis: duodenitis (and any other findings)

Procedure: OGD

2. If a causal link is ruled out, code the symptom as the principal diagnosis and code all the findings as additional diagnoses.

Example 2:

Patient with anaemia admitted for colonoscopy. The finding of diverticular disease is documented as not explaining the anaemia.

Principal diagnosis: anaemia

Additional diagnosis: diverticular disease (and any other findings)

Procedure: colonoscopy

3. If a causal link is neither established nor ruled out, then apply the Clinical Coders' Creed (*Coding Matters* Vol 5 No 1) to decide on the principal diagnosis, and code all the findings as additional diagnoses. ▶

Example 3:

Patient with abdominal pain admitted for oesophagogastroduodenoscopy (OGD). Hiatus hernia listed as a finding.

Principal diagnosis: abdominal pain

Additional diagnosis: hiatus hernia (and any other findings)

Procedure: OGD

In this case, there is no coding standard or coding convention providing direction about the coding of hiatus hernia, and there is no obvious clinical connection between hiatus hernia and abdominal pain (hiatus hernia is more likely to cause reflux symptoms). Therefore a decision is made to code the symptom as principal diagnosis and the finding as an additional diagnosis.

Example 4:

Patient with abdominal pain admitted for oesophagogastroduodenoscopy (OGD). Carcinoma of the stomach listed as a finding.

Principal diagnosis: carcinoma of the stomach

Additional diagnosis: any other findings

Procedure: OGD

In this case it is quite likely clinically that a carcinoma of the stomach would cause abdominal pain and it therefore makes sense to code the carcinoma as the principal diagnosis and not code the abdominal pain at all.

- 4. If no diagnosis (reason for admission) is recorded in the record** and clinical advice is unavailable, assign Z01.8 *Other specified special examinations*.

Sepsis and septicaemia

Extensive research has shown that the term **sepsis** is now the correct, up-to-date and eminently fashionable term for serious infection, localised or bacteraemic, which is accompanied by systemic manifestations. Since the early 1990s the term **septicaemia** has been deemed an imprecise and out-of-date term and its use has been discouraged as it adds to the confusion and difficulties in data interpretation.

In ICD-10-AM the current situation is that the default code for sepsis is A41.9 *Septicaemia, unspecified*. The NCCH has raised this issue

with WHO and while they are considering the NCCH submission, the following short-term option is proposed.

The NCCH plans to issue an ICD-10-AM Third Edition Addenda which makes sepsis the default code, not septicaemia. The existing standards will be amended to reflect the correct use of the term sepsis and not septicaemia. The index will be modified to reflect that ‘sepsis’ is a generalised or systemic condition and infection refers to localised conditions. All related conditions such as severe sepsis; septic shock, systemic inflammatory response syndrome (SIRS), and bacteraemia remain the same as far as coding is concerned.

Clinicians’ use of the term sepsis and/or septicaemia varies and often becomes interchanged with infection. This does not help when coding an episode and clarification from the clinician may be required to assist with making a decision about which code to use. Coders may need to look at associated symptoms to define the severity and whether it is localised or systemic.

Acute renal failure and impairment

Clinical conditions associated with rapid (days to weeks), steadily decreasing renal function are termed ‘**acute renal failure**’ (ARF). The term ‘**acute renal impairment**’ (ARI) refers to the mildest form of acute renal failure.

ARF is a syndrome characterised by rapid decline in glomerular filtration rate (hours to weeks), retention of nitrogenous waste products, and perturbation of extracellular fluid volume and electrolyte and acid-base homeostasis. It is diagnosed clinically by a rise in plasma concentrations of urea and creatinine.

ARF can be due to prerenal, postrenal or intrinsic causes:

- prerenal – diseases that cause renal hypoperfusion without compromising the integrity of renal parenchyma
- postrenal – diseases associated with urinary tract obstruction
- intrinsic – diseases that directly involve renal parenchyma.

The severity of ARF varies depending on the severity of renal injury and of the primary illness. ARF due to prerenal causes is the most common form of ARF and is rapidly reversible upon restoration of renal blood flow and

glomerular ultrafiltration pressure. In its most severe form, ischemic ARF can lead to bilateral renal cortical necrosis and irreversible renal failure.

Classification

Both acute renal impairment and acute renal failure should be assigned an appropriate code from category N17 *Acute renal failure*.

Arterial Disease

Arteriosclerosis

Arteriosclerosis is a general term for several diseases where the arterial walls become thick and lose elasticity. There are three main forms of arteriosclerosis:

- atherosclerosis (the most common)
- Mönckeberg's arteriosclerosis (calcification of small arteries, usually in the elderly, also called medial calcific sclerosis)
- arteriolar sclerosis (arteriolosclerosis, mostly caused by hypertension in arterioles particularly in the kidney, spleen and pancreas).

Classification

If arteriosclerosis (NOS) affecting a large artery (eg carotid, coronary, renal, abdominal aorta, iliac, femoral or other artery of the extremities) is documented, the appropriate atherosclerosis code should be assigned. Example:

I25.1- *Atherosclerotic heart disease*;

I70.2- *Atherosclerosis of arteries of extremities*.

For both Mönckeberg's arteriosclerosis and arteriolar sclerosis, follow the index and assign the appropriate code.

Atherosclerosis

Atherosclerosis is the most common form of arteriosclerosis and is characterised by the development of yellowing plaques (atheromas) within arteries such as the coronary, cerebrovascular, and renal arteries.

Atherosclerosis is a pathological entity, the diagnosis of which is dependent upon evidence of obvious disease (eg symptoms of chest pain, intermittent claudication in the leg, transient ischaemic attack [TIA]) rather than the percentage of blockage.

On angiogram, documentation of 'obstruction' or 'arterial plaque' means atherosclerosis.

Procedures performed for atherosclerosis

Angioplasty (PTA/PTCA – percutaneous [balloon] transluminal (coronary angioplasty)), intra-arterial stenting, and bypass grafts (CABG, femoro-popliteal etc) are usually performed to relieve the symptoms of atherosclerosis (eg angina, intermittent claudication). Therefore, in the absence of comprehensive documentation or clinical advice, if one of these procedures is performed, atherosclerosis may be assumed to be the diagnosis.

Classification

If atherosclerosis affecting an artery is documented the appropriate atherosclerosis code should be assigned.

In the case of coronary atherosclerosis (coronary artery disease [CAD] or triple vessel disease [TVD]), note that where angina is present, it is sequenced as the principal diagnosis and the code for atherosclerosis is assigned as an additional code (see ACS 0940 *Ischaemic heart disease*).

Coronary artery disease (CAD)

'CAD' refers to atherosclerosis in 99% of cases. The remaining 1% of cases are due to spasm, embolism and other specified causes.

Classification

If 'CAD' is documented without mention of spasm, embolism and other specified causes (excluding atherosclerosis), a code from category I25.1- *Atherosclerotic heart disease* should be assigned.

Embolism

Embolism is a clot of foreign material, most often a blood clot (eg from atrium) which has broken off and lodged in a smaller vessel. Embolism can occur without atherosclerosis. Therefore if the diagnosis documented is 'embolism' it cannot be assumed that atherosclerosis is present.

However, atheroembolism is a piece (clot) of atheromatous plaque or thrombotic material usually adherent to the plaque, which has broken off and lodged in a vessel, causing obstruction. Atheroembolism implies the presence of atherosclerosis, with an acute obstruction caused by the loose piece of plaque.

Classification

If embolism of a coronary artery is documented (and the patient has not progressed to

myocardial infarction) assign I24.0 *Coronary thrombosis not resulting in myocardial infarction*. In the latter case where the patient progresses to myocardial infarction, assign an appropriate code from category I21.- *Acute myocardial infarction*.

Embolism of other sites are coded as indicated by the Alphabetic Index of Diseases, eg

- femoral, iliac – category I74 *Arterial embolism and thrombosis*
- renal – N28.0 *Ischaemia and infarction of kidney*
- vertebral, carotid – category I65 *Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction*.

Ischaemia

The term 'ischaemia' refers to the physiological process of reduced blood flow.

The cause of ischaemia should be ascertained (trauma, embolus, thrombus). Documentation of 'ischaemic leg' refers to PVD (see *Peripheral Vascular Disease* below).

Ischaemic heart disease (IHD) may refer to coronary atherosclerosis, chronic coronary insufficiency, myocardial ischaemia or aneurysm of the heart. Therefore atherosclerosis should not be assumed to be the cause.

Classification

A specific code should be assigned for the cause of ischaemia (eg trauma, embolus, thrombus) if possible.

If only 'ischaemic leg' is documented, assign a code from category I70.2- *Atherosclerosis of arteries of extremities*.

If only ischaemic heart disease is documented, and no further information is available, assign I25.9 *Chronic ischaemic heart disease, unspecified*. (See also ACS 0940 *Ischaemic heart disease*).

Obstruction

Documentation of 'obstruction' refers to atherosclerosis in the majority of cases (See atherosclerosis). The terms obstruction and stenosis are equivalent (See stenosis).

Classification

If >50% obstruction of an artery is documented, this should be coded as atherosclerosis (unless another cause for the obstruction is stated).

Occlusion

The term 'occlusion' is used to describe complete blockage or obstruction of a vessel usually due to atherosclerosis.

Classification

If 'occlusion' of a coronary artery is documented without further information, a code from category I25.1- *Atherosclerotic heart disease* should be assigned. If it is evident from cardiac catheterisation or angiogram results that the occlusion is due to a thrombus or embolus (and the patient has not progressed to an AMI) assign I24.0 *Coronary thrombosis not resulting in myocardial infarction*. In the latter case where the patient progresses to a myocardial infarction, assign I21.9 *Acute myocardial infarction unspecified*.

Similarly, 'occlusion' of other arteries that is not documented as due to another cause, should be assigned the appropriate atherosclerosis code.

Peripheral Vascular Disease (PVD)

In most cases PVD is due to atherosclerosis. PVD may also be caused by an embolus or microembolus (eg from the heart due to atrial fibrillation), thrombosis, arterial trauma, arterial wall spasm, or congenital structural defect. If 'PVD' or '(chronic) ischaemic leg' is documented but further information about the cause of PVD is not available, it may be assumed to be due to atherosclerosis.

Classification

If PVD is further qualified in the documentation (eg Raynaud's Syndrome – I73.0 *Raynaud's syndrome*, embolism of femoral artery – I74.3 *Embolism or thrombosis of arteries of lower extremities*), code the specific disease. If 'PVD' or 'chronic ischaemic leg' is documented without further specification assign I70.2- *Atherosclerosis of arteries of the extremities*.

Stenosis

Stenosis is a quantitative anatomical term and often refers to atherosclerosis.

The terms 'stenosis' and 'obstruction' are equivalent (eg 60% stenosis = 60% obstruction). Complete stenosis results in occlusion.

Classification

If 'stenosis' of a coronary artery is documented without further information, a code from

category I25.1- *Atherosclerotic heart disease* should be assigned. If it is evident from cardiac catheterisation or angiogram results that the stenosis is due to a thrombus (and the patient has not progressed to an AMI) assign I24.0 *Coronary thrombosis not resulting in myocardial infarction*. In the latter case where the patient progresses to a myocardial infarction, assign I21.9 *Acute myocardial infarction unspecified*.

Similarly, 'stenosis' of other arteries that is not documented as due to another cause, is to be assigned the appropriate atherosclerosis code.

Stricture

Stricture is defined as an abnormal narrowing within an opening or body passage such as a vessel.

Classification

Without further information in the clinical documentation, do not assume that stricture is due to atherosclerosis. Therefore, if 'stricture of artery' is documented without further specification, assign I77.1 *Stricture of artery*. However, if it is evident (eg from cardiac catheterisation or angiogram results) that stricture of an artery is due to a thrombus or atheroma assign a more specific code such as, for coronary artery – I24.0 *Coronary thrombosis not resulting in myocardial infarction* or a code from category I25.1- *Atherosclerotic heart disease*. In the latter case where the patient progresses to a myocardial infarction, assign I21.9 *Acute myocardial infarction unspecified*.

Thrombosis

Thrombosis is often the end point in atherosclerosis progression when a blood clot (thrombus) forms on the plaque's surface causing obstruction.

Classification

If thrombosis of a coronary artery is documented (and the patient has not progressed to myocardial infarction) assign I24.0 *Coronary thrombosis not resulting in myocardial infarction*. In the same case as above, but where the patient progresses to myocardial infarction, assign I21.9 *Acute myocardial infarction unspecified*.

Thrombosis of other arteries should be assigned codes in accordance with the Alphabetic Index of Diseases.

Necrotising fasciitis

Necrotising fasciitis is a rare soft-tissue infection, usually caused by toxin-producing, virulent bacteria (most commonly Group A *Streptococcus*). Widespread fascial necrosis occurs, primarily involving the superficial fascia, subcutaneous fat (which contains vascular structures and nerves), and deep fascia. Necrotising fasciitis is often associated with severe systemic toxicity and is usually fatal unless recognised early and treated aggressively.

Classification

Necrotising fasciitis should be assigned M72.5- *Fasciitis, not elsewhere classified* with an additional code to identify the infectious organism.

Shoulder pain

The classification of shoulder pain in ICD-10-AM depends on whether the pain is true articular shoulder pain (ie pain in joint) or soft tissue pain in the shoulder region.

Articular shoulder joint pain is classified to M25.51 *Pain in joint, shoulder region*.

Soft tissue pain in the shoulder region is classified to M75.8 *Other shoulder lesions*.

The NCCH will enhance the index in ICD-10-AM Third Edition to make this distinction clearer. A thorough check of the clinical record should reveal whether the pain is in the joint or the shoulder region. If in doubt, check with the treating clinician.

Proposed changes to anaesthetic codes

The revised Australian Coding Standard (ACS) 0031 *Anaesthesia*, implemented with the Second Edition of ICD-10-AM in July 2000, introduced major changes in the coding of anaesthetic procedures. Time limitations in preparing the Second Edition of ICD-10-AM for publication precluded major modification to the existing anaesthetic codes at that time.

The NCCH recently held a Classification Update Forum on Anaesthetics, where experts in the field of anaesthesia were brought together to discuss modifications in this area for incorporation in ICD-10-AM Third Edition. A number of major recommendations for changes to the coding of anaesthesia were made at this forum including; simplification of the codes for ►

general anaesthesia, bundling of codes for epidural/caudal/spinal anaesthesia, removal of the type and route (injection/infusion) of drug administered from the codes and deletion of block 487 Anaesthesia and sedation for dental procedure.

Consequently, until the introduction of these new codes and revised standard in July 2002, assign the codes as listed in ACS 0031 Anaesthesia. For example, it is no longer necessary to ascertain whether an intravenous and/or inhalational general anaesthetic was administered. For all cases of general anaesthesia, assign 92502-02 [1910] *Intravenous and inhalational general anaesthesia*.

ACS 2111 Screening for specific disorders

In *Coding Matters* Vol 7 No 1, NCCH advised that this standard would change from July 2000 because Z11, Z12 and Z13 were listed as unacceptable principal diagnoses in AR-DRG v4.1. Codes Z11, Z12 and Z13 will be removed from the unacceptable principal diagnosis list in AR-DRG v4.2 which will be implemented in some states and territories from July 2001. NCCH suggests that coders in states and territories which are implementing AR-DRG v4.2 should revert to the version of this standard currently published in the Australian Coding Standards, ICD-10-AM Volume 5.

Obstetrics & gynaecology

Known or suspected malpresentation, disproportion and abnormality of maternal pelvic organs.

NCCH has received a number of queries regarding the use of codes in categories:

- O32 *Maternal care for known or suspected malpresentation of fetus*
- O33 *Maternal care for known or suspected disproportion*
- O34 *Maternal care for known or suspected abnormality of pelvic organs*
- O64 *Obstructed labour due to malposition and malpresentation of fetus*
- O65 *Obstructed labour due to pelvic abnormality*
- O66 *Other obstructed labour.*

NCCH acknowledges that obstructed labour is an outdated term that is rarely used in the

current culture of obstetrics in Australia. A review is under way to examine the clinical relevance of the current ICD terms. It is proposed that a future edition of ICD-10-AM will include terminology that is more relevant and reflective of modern obstetric practices. However, because this involves significant change to the base classification (ICD-10), and approval must be sought from the World Health Organization (WHO), it may be some time before NCCH can implement code title changes.

In the interim, and to ensure that information is accurately captured, codes are to be assigned using the following rationale:

The includes notes at the beginning of categories

O32 Maternal care for known or suspected malpresentation of fetus

O33 Maternal care for known or suspected disproportion

O34 Maternal care for known or suspected abnormality of pelvic organs

indicate that codes from these categories should be assigned when the listed conditions are a reason for observation, hospitalisation or other obstetric care of the mother, or for caesarean section **before** the onset of labour.

Therefore, where care or intervention is required due to malpresentation, disproportion or abnormality of the maternal pelvic organs **before** the onset of labour, assign a code from block:

O32 Maternal care for known or suspected malpresentation of fetus

O33 Maternal care for known or suspected disproportion

or

O34 Maternal care for known or suspected abnormality of pelvic organs

as appropriate.

Where the malpresentation, disproportion or abnormality of maternal pelvic organs is first diagnosed **during** labour or requires care or intervention **during** labour, a code should be assigned from the following categories:

O64 Obstructed labour due to malposition and malpresentation of fetus

O65 Obstructed labour due to pelvic abnormality

or

O66 Other obstructed labour.

It is no longer necessary for *obstruction* to be documented in order to assign a code from these blocks. **These codes may not represent an obstruction *per se*, rather that measures were undertaken to prevent an obstruction.**

This advice should be used with Australian Coding Standard 1506 *Presentations regarded as abnormal*.

Fetal distress

Fetal distress is a very subjective diagnosis.

The experts are unable to reach consensus about the meaning of fetal distress. Clinicians often rely on their own criteria and experience to decide when a fetus is in jeopardy.

Despite repeated efforts to define it and to create guidelines for its management, fetal distress remains a difficult concept to classify. In many cases intervention is undertaken to prevent development of fetal distress. For example, the occurrence of an instrumental delivery for a suboptimal/ non-reassuring CTG is becoming increasingly common.

Keeping this in mind, it is important to note that the code title for O68 *Labour and delivery complicated by fetal stress [distress]* relates to both fetal stress and fetal distress. Therefore, if a patient develops fetal stress that requires instrumental or surgical intervention, an appropriate code from O68 *Labour and delivery complicated by fetal stress [distress]* should be assigned

Note: Australian Coding Standard 1546 *Fetal heart rate decelerations* and Australian Coding Standard 1547 *Meconium in liquor* have been revised in errata 4 (included as an insert with this edition of *Coding Matters*).

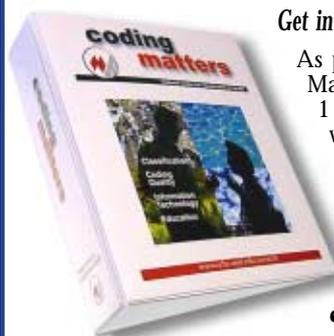
Fetal scalp electrodes

A fetal scalp circular (spiral) electrode and applicator is a device used to obtain a fetal electrocardiogram during labour and delivery. It establishes electrical contact between fetal skin and an external monitoring device by a shallow subcutaneous puncture of fetal scalp tissue with a curved needle or needles.

When a fetal scalp electrode is applied, assign 16514-00 [1341] *Internal fetal monitoring* (on the mother's record).

Appropriate index enhancements will be introduced in ICD-10-AM Third Edition.

Coding Matters A4 Ring Binder



Get in a bind

As publication of Coding Matters Volume 8, Number 1 was coming around, there was a discussion at the NCCCH Sydney Office that went something like this...

‘How do you store your back copies of CM?’

‘In a lever arch file.’

‘Wouldn't it be great if we had a snazzy, all-colour binder to keep CM in?’

‘That'd be great. I could really see where it is in the forest of binders on my shelves.’

Et voilà!

The NCCCH print production team has created a bright, new way to store copies of *Coding Matters*. Be a trendsetter among your colleagues and order yours now.

You never know, they could be collectors items of the future!

To order your binder today simply use the order form distributed with *Coding Matters* or visit our website: www.cchs.usyd.edu.au/nccch/ and download an order form.

Admission for IVF

Coding Matters, Volume 5, Number 2 (October 1998) gave an instruction about the coding of admission for IVF. This instruction was later overridden due to sequencing problems with AN-DRG v3.1.

All states and territories have now adopted AR-DRG v4.1. The cases under versions 4.1 and 4.2 group to the same DRG regardless of the sequence of the codes. Therefore coders should revert to the following instructions from 1 July 2001:

“When an admission is specifically for IVF procedures, and the principal diagnosis is ‘IVF’ or ‘infertility’, Z31.2 *In vitro fertilisation* should be assigned as the principal diagnosis code. An additional code from N97x *Female infertility*, for the type of infertility may be assigned if known, including N97.4 *Female infertility associated with male factors*.

In contrast, when an admission is for investigation or treatment of infertility (either male or female), a code from N97.x *Female infertility* or code N46 *Male infertility* should be assigned as principal diagnosis.”

These changes of coding practice relating to obstetrics and IVF are effective 1 July 2001.

Public Submissions 2001

The NCCH calls for public submissions to modify ICD-10-AM in February each year. This request is distributed widely, including advertisements in *Coding Matters* and *The Australian*, press releases to the editors of relevant journals and newsletters and direct mailings to stakeholders such as specialist colleges and associations, tertiary education institutions and research centres.

This year's call for public submissions generated 53 replies. Of these, six were already part of the NCCH workplan for ICD-10-AM Third Edition and are completed and ready for inclusion in the addenda. A further five require more information to be sent to NCCH. Four were not accepted because they had been considered previously and rejected. Work is well under way on the remaining 38 submissions. 23 submissions are flagged for inclusion in ICD-10-AM Third Edition.

The World's Greatest Shave for a Cure 2001

Alan 'Frosty' Frost, of the University Sydney, kindly donated his head for the Leukaemia Foundation fundraising head-shave and hair-colour event in May. The event was well supported by the university with many brave souls donating their heads for charity. The NCCH proudly secured shearing rights with the highest combined donation. Ann Jones and Jenny Seems volunteered their considerable hairdressing skills to remodel Frosty's bonce. The event gave new credence to the saying 'the difference between a good and bad haircut is about two weeks!'



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.



Classification corner **DOCLE**

Docle is one of the new breeds of coding systems designed for an electronic health record. Its purpose is to encode clinical data for day-to-day patient care and clinical decision support systems. It was adopted as the terminology for the Medical Director software in 1995 and is mainly used by general practitioners in Australia.

Traditional classification systems such as ICD-10-AM and ICPC-2 (International Classification of Primary Care, Second Edition) are designed for statistical data analysis and reporting. They attach unique identifiers (codes) to code descriptions. These codes identify the placement or position of the term within the hierarchy of the classification and are useful for data aggregation and retrieval. Concepts are represented implicitly; therefore to be processed and 'understood' by computers, these traditional classifications will need to develop a terminology model that explicitly represents the conceptual hierarchy and relationships between terms.

Docle, on the other hand, is a coding system built up of words (DocleScript). Concepts are represented and linked in a conceptual framework modelled on the Linnaean biological classification system. The coding system is designed to be understood by both humans and computers. Docle has a basic lexicon of only 4,000 terms, however, they can be combined with operators, shorthand symbols and modifiers to form any number of complex clinical expressions. Allowing the user to create expressions with some element of control in the base terms makes Docle an effective coding tool.

There are disadvantages to combinatorial systems such as Docle. If sanctions (rules) are not used to govern combinatorial expression, nonsense terms such as fracture of eyebrow can be generated. Docle appears to have overcome this problem by making terms that can be understood by both humans and machines. Combinatorial systems can also provide the user with too much choice. In Docle, an injury can be described from a pool of 220 modifiers. This means that as many as 23 million terms can be generated to describe an injury.

The Docle coding system logic sits behind the scenes and is invisible to users. Terms are

arranged in an alphabetical pick list using natural clinical language for the user interface. The Docle algorithm converts the natural language terms into DocleScript (see Figure 1 for examples of DocleScript).

The hierarchy allows the ability to code at any level of granularity: **Dr Yeong Kuang Oon** from fine granularity such as 'chest pain radiating to the left arm' to coarse granularity such as 'psychiatric disease'. The language is capable of being parsed by a computer compiler/interpreter to facilitate human-computer processing and computer-computer inter-operability for decision support.

A presentation on the Docle coding system was made at the NCCCH 7th Biennial Conference in Sydney recently by its creator, Dr Yeong Kuang Oon. A copy of the Powerpoint presentation is available at the NCCCH website (<http://www.cchs.usyd.edu.au/nccch> – click on the link to 7th Biennial Conference). The complete paper is available in the Conference Proceedings (CD-ROM). More information about Docle can also be obtained from the website: <http://www.docle.com.au>

According to Dr Oon "Healthcare is a road trip with flat tyre stories that need to be told and retold. In the machine age, the most efficient mode is a language capable of direct comprehension by both humans and machines".



Figure 1: Examples of DocleScript

Term	Primary DocleScript	Secondary DocleScript
Fractured neck of femur	<i>fracture.femur@neck</i>	<i>frac.femu@neck</i>
Sugar diabetes	<i>diabetesMellitus</i>	<i>diabm</i>
Pain in chest	<i>chest@pain</i>	<i>ches@pain</i>
Chest pain radiating to the left arm	<i>chest@pain>arm@left</i>	<i>ches@pain>arm@left</i>
Cricket injury at school	<i>injury&ctx@ill,cricket,school</i>	<i>inju&ctx@ill,cric,scho</i>



New Directions

International Directions

Singapore Ministry of Health Memorandum of Understanding

A Memorandum of Understanding (MoU) between the Singapore Ministry of Health, the University of Sydney and Queensland University of Technology has been negotiated to enable NCCH to assist the Ministry in further developing expertise in casemix classification, standards of clinical coding, quality assurance, research and consultancy in Singapore. It is intended that the MoU should provide a flexible framework for the parties to promote a mutual exchange of information and expertise in casemix classification and clinical coding. The MoU will be officially established in a ceremony at the Singapore Casemix Conference in August 2001.

PICQ Singapore

In late May, Shannon Watts (Quality and Education Co-ordinator), Nicole Schmidt (Database and LAN Administrator) and Andrew Brion (Technical Consultant from OR Systems) spent three days in Singapore. The visit was part of a contract for NCCH to develop an ICD-9-CM version of PICQ for the Singapore Ministry of Health. Two one-day training sessions for coding and IT personnel included PICQ theory, PICQ software demonstration, PICQ data preparation, hands-on use of PICQ, implementation of PICQ in the workplace and a review.

The visit also included meetings with Ministry of Health personnel to discuss implementation and data management issues.

The Quality and Education Division is responsible for providing remote support services to Singapore Ministry of Health PICQ users, if required.

World Health Organization (WHO) Update Reference Committee

Michelle Bramley continues to support the Update Reference Committee (URC) on ICD-10 for WHO. Recommended changes to the classification are notified to NCCH for distribution to other members of the URC and to

try to achieve consensus on issues before the meeting of Heads of Collaborating Centres for Classification of Diseases. Michelle has also established an international discussion group for morbidity coding issues to feed in to the URC. (The Mortality Discussion Group is coordinated from Sweden and forms part of the Mortality Reference Group chaired by Dr Harry Rosenberg from USA). The Heads of Centres meeting this year is planned for October in Washington DC. At the 2000 meeting, Australia presented several papers including one on the use of ICD-10-AM as the basis for an international procedure classification. Work on this proposal has continued and will be presented again at the 2001 meeting. It is being coordinated with work of a WHO subcommittee seeking agreement from Collaborating Centres on a list of sentinel procedures for international comparison.

Mauritius

Rosemary Roberts spent the last two weeks of May in Mauritius for the African Regional Office of WHO. The terms of reference of the mission included advice on implementation of ICD-10 and an appropriate procedure classification and recommendations on data capture in inpatient and ambulatory services.

Vietnam

Negotiation is also under way between QUT (and NCCH) and the Hanoi School of Public Health (HSPS) in Vietnam regarding the development of health information management education, intended to be offered as part of the Master of Public Health degree at HSPS. The Queensland Government Department of State Development is particularly interested in this proposal and has mediated on behalf of the group with relevant funding agencies, such as AusAID and WHO. During a recent visit to Hanoi, the Queensland Premier, Peter Beattie, signed a Memorandum of Understanding (MoU) between the two universities. The first activities to be conducted as part of the MoU are two ICD-10 training courses to be run in Hanoi and Ho Chi Minh City in August. Funding will be provided by WHO Western Pacific Regional Office.

Bangladesh and Myanmar

WHO/SEARO approached NCCH Brisbane late in 2000 regarding the conduct of an ICD-10 training course in Bangladesh. A CEN-International member, Kathryn Baxter, was recruited to run the course, planned for two weeks from 7 May. We have also been contracted by SEARO to run an inter-country quality assurance training program in Myanmar in July. Andrea Groom, another CEN International member, will conduct this course (based on the use of ACBA) following a similar successful program held in Brisbane in July 2000.

Electronic Health Records

IT 14/2 Health Informatics

Michelle Bramley, NCCH Nosologist, now represents NCCH on IT 14/2 (Health Informatics Subcommittee on Health Concept Representation). She has attended several meetings within Australia and represented Australia at the International Organization for Standardization Technical Committee on Health Informatics in Seoul in March 2001. (Read more about Michelle's activities in Seoul on p. 29) Michelle acts as liaison between that group and WHO Classification activities and presented a report on those activities, especially in her capacity as secretariat for the Update Reference Committee for WHO's ICD-10. At the Seoul meeting, WG3 put forward the motion "that WG3 supported the work of WHO and encouraged it to interact with WG3 towards achieving the highest possible quality nomenclatures and classifications in its future work. Ms Bramley was asked to convey this to WHO"¹.

Australian Clinical Vocabulary

Submissions to the Portfolio Strategies Division of the Department of Health and Aged Care for funding of terminology developments have not yet been successful. Discussions have been held with staff of that division to determine the future of NCCH work that might provide the foundation for electronic health records and exchange of clinical information between health services.

NCCH has completed its feasibility study to incorporate ICD-10-AM into the National Library of Medicine Unified Medical Language System (UMLS). Preliminary work is under way on the inclusion of the index of ICD-10-AM into UMLS but this cannot proceed properly without financial support to 'naturalise' the index into

terms and expressions commonly used by clinicians. The same process underpins a number of projects currently on the NCCH drawing board, including the addition of terms used in general practice, collaboration with SNOMED CT and mapping of the Australian Community Based Health Services Codeset (ACBHSC) to ICD-10-AM.

Australian Community-Based Health Services Codeset (ACBHSC)

In October 2000, NCCH and AIHW joined forces in a proposal to NSW Health for custodianship of the Australian Community Based Health Services Codeset (ACBHSC). This proposal was successful and has been endorsed by NHIMG. A budget has been negotiated and contracts are currently being drawn up through the Acute and Coordinated Care Branch of the Commonwealth Department of Health and Aged Care.

GP Coding Jury

In August 2000, the GP Coding Jury issued its final report. The short-term recommendation was that ICD-10-AM, with the addition of specific and essential general practice terms, should be adopted as the coding system to be used in general practice in Australia for the next five years. The long-term recommendation was that Australia become involved in the development of SNOMED CT and that the General Practice Computing Group should maintain and monitor our current involvement in the work of the WHO Family of Classifications, especially in the area of general practice and primary care.

Following release of this report (October 2000), NCCH, in conjunction with Docle Systems and the RACGP, responded to a Health tender for three projects relating to Implementation of Clinical Coding Systems. While the NCCH was listed amongst those selected for funding, progress is still awaiting departmental response concerning implementation of the recommendations of the GP Coding Jury.

Stop Press

In mid-June, an Australian delegation (including NCCH) is to visit the College of American Pathologists in Chicago to explore technical aspects of the possible use of SNOMED-CT in Australia.

1 Minutes of ISO/TC 215 WG3 Meeting 27/28 March 2001 – Seoul, Korea

ICD-10-AM Mental Health Subset

During 2000, the Mental Health Branch of Health provided funds for the development of a national community mental health classification subset. A meeting of all stakeholders was held on 18 December 2000. The meeting recommended that the subset include diagnoses based on the Diagnostic and management guidelines for mental disorders in primary care – ICD-10 Chapter V primary care version (ICD-10-PC) and relevant codes from other chapters of ICD-10-AM, coding guidelines, assessment tools, a glossary and index. NCCH is producing a draft of the subset including the recommended content plus a limited set of mental health interventions. At the time of writing, a draft of the diagnosis and intervention classification was with members of the stakeholder group and publication is expected to synchronise with ICD-10-AM Third Edition (early 2002). Preliminary plans have been drawn up for educating users, predominantly clinicians in community mental health services.

Early Parenting

The Early Parenting Study has been completed and results presented at the NCCH conference. Results have also been made available to study participants and early parenting organisations.

The study was a coding field trial comparing the use of ICD-10-AM and the Early Parenting (EP) classification, developed by Angela Randall. The study demonstrated that ICD-10-AM lacked a number of terms and codes suitable to coding of Early Parenting Centre patient status. The EP classification performed marginally better than ICD-10-AM, but again, had deficiencies, especially in coding of interventions and procedures. Other difficulties in coding for Early Parenting Centres were also identified. These have to do with the definition of patient (as distinct from a family unit), principal diagnoses versus reason for visit, and significant variations in practice between Centres in terms of reporting requirements. Some issues can and will be resolved through term and code development for ICD-10-AM Third Edition. Other classification development work will need more extensive consultation and this will not be completed in time for the Third Edition. CSAC will also need to examine issues of standardising patient/family definitions, and establishing guidelines for assigning diagnoses and procedure codes. The outcomes of the study will take some time to finalise and implement, but work is continuing.

Quality issues

Coding Auditors Network (CAN)

Following the announcement published in *Coding Matters* (vol 7 no 1, March 2001) 64 expressions of interest to establish a Coding Auditors Network were received from all states and territories (except ACT and Tasmania) and from New Zealand.

An outcome from the expression of interest was mainly focusing on areas such as the where, what, how and who of the coding auditors course. The QED team is currently reviewing a multitude of questions from the expressions of interest. A general response will be sent to all CAN respondents in July.

Manual version of ACBA

To better cater for small hospitals and international clients who may not have facilities to operate the electronic version of ACBA, the original ACBA manual is currently being revised. In particular, the revision includes updating error categories. This project will be completed in July.

PICQ and ACBA training

At the request of the South Australian Department of Human Services, a three-day training PICQ 2000™ and ACBA 2000™ session will be held in late June in Adelaide. More than 40 clinical coders and HIMs from public, private, urban and rural hospitals will be trained in the use of both products.

Australian Council on Safety and Quality in Health Care

Julie Rust, Project Officer, has been nominated as the NCCH representative at the Data and Information Working Group of the Australian Council on Safety and Quality in Health Care. The Group's priority is to develop nationally standardised and consistent definitions of key terms related to adverse events. The definitions will be submitted for inclusion in the National Health Data Dictionary.

Queensland Trauma Registry

A secondment agreement has been signed between NCCH and the Queensland Trauma Registry, located at the University of Queensland. The provisions of the agreement encompass the appointment of a Quality Assurance and Training Officer by NCCH, with funding provided by the Trauma Registry. Peter Harkness will commence in mid June and will be seconded to the Registry for four days per week to provide coding training and a quality assurance function for the Registry. NCCH will benefit from the trauma classification expertise one day per week.



NCCH People

How fast can a Pom move?

Expediently is the answer. I saw the advertisement for a Project Officer at the NCCH for a fixed term of one year to cover maternity leave, I applied and here I am in Australia.

My career to date has spanned some interesting fields: the Medical Research Council (UK) working in radioisotopes, cell pathology, developmental child psychology and psychiatry; farming in Malta; administration for a ground engineering company; postgraduate education for doctors and dentists; and lately in clinical coding and health records.

Clinical coding in the UK has been carried out for years, initially recording codes on paper and then in the 1980s with the introduction of computerised Patient Administration Systems (PAS) on computer. In 1990 the North West Thames Regional Health Authority decreed that coding managers should be appointed, trained to code and manage staff and then be let loose on the unsuspecting National Health Service (NHS). I was one of those managers.

In those days there were no formal training courses or qualifications. At the end of months of regional training courses and workshops, learning and inwardly digesting codes, you were handed a certificate, not a qualification. Management training took place at the Manchester Business School with the help of obliging actors and colleagues.

In the UK, by way of comparison with the NCCH, we have the NHS Information Authority and central clinical coding co-ordinators, who deal with coding queries and disseminate information about coding matters. We have a publication called the *Data Quality Review*, which publishes the responses to coding queries and gives general data information.

**I-r Jenny Seems
and Kerri Chalmers**

So why Australia? Since learning of the NCCH and their activities I have been impressed by the proactive way Australia has approached clinical coding and ICD-10. In 1997 I was the international guest speaker at the conference in Adelaide, going by the name of Peakall (I have since reverted to my maiden name).

I thought it was time I learned first hand what goes on in Australia and am delighted to have been given this opportunity. I look forward to working with the NCCH and coders across the southern hemisphere, whilst maintaining my links with the northern hemisphere.

▶ **Jenny Seems (Peakall)**
Project Officer

Kerri Chalmers

Kerri has recently been appointed Project Officer. Her projects include working on publication of ICD-10-AM Third Edition and investigating the possibilities of using PICQ (Performance Indicators for Coding Quality) to assist reporting functions of ACHS clinical indicators. But Kerri is not a new face at the NCCH. She is an inaugural member of the NCCH Coding Educators Network.

Until recently, Kerri's career has been Queensland-based, predominantly in the ▶



private hospital sector. Prior to joining the NCCH, Kerri spent three years working as an HIM in Cairns, but was persuaded to trade palm trees and tropical climes for her migration south to colder weather and traffic.

Kerri also previously worked for HIMAA as a coding educator/project officer for the Distance Education Program's accelerated private hospital course and managed the trial of the Private Sector Casemix Unit (PSCU) coding advice line.

Grace Kwaan

I completed a bachelor's degree in Medical Radiation Technology at the University of Sydney in 1998. I then spent just over a year working as a radiographer at Sydney's Prince of Wales Hospital. At that time, I became aware of the vast development potential of information technology in the health sector. In early 2000, I made a radical career change and enrolled in the Graduate Diploma of Health Information Management at the University of Sydney.

In 2001, the School of Health Information Management offered post-graduate students opportunity to enrol in Masters degrees. The School agreed to upgrade my Graduate Diploma to a Masters degree with the completion of an additional research component. I am fortunate to have the



Grace Kwaan

opportunity to work on my Masters in conjunction with the NCCH.

I joined the NCCH in May this year as a Special Project Officer. My work involves revising (and hopefully) improving the procedure codes in the medical imaging section (Chapter XX) of ICD-10-AM. My background in radiography and health information management provide a good skills mix to assist with medical imaging classification. The NCCH staff has helped enormously with coding advice and research input. My coding knowledge has expanded immensely in the short time I have been at the NCCH.

Recommended reading

Australian health information processing "leads the world"

Diers D & Pelletier D (2001) From IT to information management with casemix data *Australian Health Review* 24(1):62-67.

Donna Diers and Dianne Pelletier state that the introduction of casemix and DRGs in Australia and elsewhere has created an almost unprecedented growth of IT to accommodate these information delivery systems. According to Diers and Pelletier "...in all but the very smallest remote area hospitals, professional health information managers convert medical records to computer readable form in a timely, accurate fashion. Supported particularly by the

National Centre for Classification in Health, health information processing in Australia now leads the world" (p 62).

AR-DRG for Germany

Hindle D & Lenz M (2001) Using Australian DRGs in Germany: a commentary *Australian Health Review* 24(1):136-147.

Germany's adoption of case-based payments in January 2003 has created a need to invent or adopt a patient categorisation system. The Australian DRG classification has been found to provide the best model for the German health care system. The major reasons why Australian DRGs were selected and some of the benefits for Australia are summarised by Hindle and Lenz.

<report>

International Organization for Standardization Plenary Meeting of Technical Committee on Health Informatics (ISO/TC 215)

Seoul, March 25 – 30 2001

I attended this meeting as Australian representative to ISO/TC 215 Working Group 3 on Health Concept Representation. My role at the NCCH involves representation on Standards Australia's IT-14-2 Subcommittee on Health Concept Representation, the mirror group to the ISO Working Group. Development of a broad and inclusive clinical language, its structure and hierarchies, is one of the building blocks that will make possible the implementation of electronic health records in healthcare settings. Working Group 3 is developing standards that will:

- define the language used in describing the types of terminological systems used in health informatics and their components (a metavocabulary) and
- establish guidelines which will assist terminology developers to construct useful, maintainable terminological systems (DTS 17117).

DTS 17117 was recently issued for ballot and my report, together with comments from Dr Graeme Miller (Family Medicine Research Centre), Dr Evelyn Hovenga (Central Queensland University) and Sam Green (WA Health Department) formed the basis of the Australian response. Our specific comments were discussed at the meeting and will be considered for inclusion in a future version of the document. This is a very positive outcome for Australia.

I also reported to WG3 on WHO classification development activities in my role as secretariat for the WHO Update Reference Committee on ICD-10 and the NCCH's representation at the annual WHO meetings of the Heads of Collaborating Centres on Classification of Diseases.

My classification development expertise was sought by WG1 and I reviewed a framework for ISO Working Draft 18308 'Requirements for an electronic health record reference architecture' and suggested a methodology to construct a hierarchy. I also agreed to be part of the task force established to assist in updating the working draft for review at the WG1 meeting in August 2001.



Attendance at these meetings and discussion with the participants represents an opportunity to exchange ideas on health informatics and health terminology developments internationally. It is a valuable learning experience and allows Australia to participate in developmental work that links Australian initiatives to international initiatives. These activities are very relevant to current NCCH activities and also to the proposed actions in the National Health Information Standards Plan.

The Australian delegation was lead by Peter Williams (NSW Health and Chair of WG1) and included Dr Peter Schloeffel (Tridenthealth Australia – WG1), Geoff Sims (AIHW – WG1), John Lewis (KPMG Centre – WG4) and Peter Treseder (Associate Director, Health Informatics, Standards Australia and Chair of ISO/TC215). It was pleasing to see the significant contribution made by the Australian delegation to many of the work items and working groups. Congratulations to Peter Treseder on his re-election as chair for a further three years.

▶ **Michelle Bramley**
Nosologist

<report>

Classification Update
Forums (CUFs)
summary and report

The Classification Update Forums (CUFs) were held to discuss specific issues relevant to the development of ICD-10-AM Third Edition due for implementation in July 2002. The Department of Health and Aged Care (DHAC) provided funding to conduct eight forums:

1. Neonatology and Paediatrics (26-27 May 2000)
2. Oncology and Haematology (29 June 2000)
3. Mental Health and Behavioural Disorders (8 September 2000)
4. Adverse Events (10-11 November 2000)
5. Diabetes Mellitus (27 November 2000)
6. Injury (16 March 2001)
7. Anaesthetics (23 March 2001)
8. Cardiovascular Medicine and Interventions (After consultation with the Chair of the Cardiovascular CCCG it was agreed not to conduct this forum at this time.)

Clinicians, clinical coders, public health personnel, statisticians and NCCH staff with expertise in the forum specialty area attended the CUFs.

Outcomes and recommendations

Note: these are recommendations only. Acceptance of these recommendations is pending approval before being included or implemented in ICD-10-AM Third Edition.

1. Neonatology and Paediatrics

The main recommendations are:

- NCCH to develop a draft proposal with Dr Andrew McPhee on birth asphyxia. There was consensus at the CUF that the concept of birth asphyxia needs to be defined and coded
- NCCH to draft a new structure for intraventricular haemorrhage (IVH) in consultation with Dr Andrew McPhee. Changes to be included in the draft are:
 - the title of P52.0 be changed from *Intraventricular (nontraumatic) haemorrhage, grade 1, of fetus and newborn* to *Subependymal haemorrhage of fetus and newborn*

- IVH grades 2 and 3 are to be combined
- IVH grade 4 to remain at P52.4 *Intracerebral (non-traumatic) haemorrhage of the fetus and newborn* (use two codes to distinguish it from intracerebral haemorrhage)

- NCCH to draft new code structure for neonatal encephalopathy for review by CUF members. There was agreement that the concept of neonatal encephalopathy should be included in ICD-10-AM. A proposal for *hypoxic ischaemic encephalopathy* (HIE) to be replaced by the term *neonatal encephalopathy* (NE) was presented to the CUF.

Other recommendations included:

- NCCH to draft a fifth character subdivision for intractable epilepsy
- NCCH to suggest to WHO that code D59.3 *Haemolytic uraemic syndrome* be moved from the blood to the renal chapter of ICD
- NCCH to prepare a proposal for WHO to create a code for hydrocephalus of newborn in P91 *Other disturbances of cerebral status of newborn*.

2. Oncology and Haematology

The main recommendations are:

- to split out of AR-DRG R63Z *Chemotherapy complex conditions for day only chemotherapy*. The split should be more indicative of costs with a suggestion that the cost of the drug be separated from the DRG. NCCH to refer this issue to the DRG Development Unit, DHAC for consideration in AR-DRG v5.0
- to assign high grade lymphomas to the same DRG as acute lymphoblastic leukaemia. It was acknowledged that this is not currently possible because necessary information to define these lymphomas is located in the morphology codes which are currently not used for grouping
- NCCH to review the reintroduction of site categories for lymphomas

- NCCH to review the possibility of coding malignant ascites, pleural effusion and meningeal involvement with lymphomas
- NCCH to refer coding of contiguous sites versus metastases to the DHAC DRG Development Unit for consideration of inclusion in AR-DRG v5.0. In the current situation, neoplasms that spread into different body systems, and the procedures performed, result in assignment of ungroupable DRGs
- NCCH, the Australian Institute of Health and Welfare and the state and territory cancer registries to hold discussions to develop consistent coding. Hospitals use ICD-10-AM and registries use ICD-O. NCCH to incorporate all new morphology codes from ICD-O-3 into ICD-10-AM Third Edition
- Dr Guy Toner to work with NCCH to develop an appropriate standard/or guidelines for coding multiple metastatic sites.

3. Mental Health and Behavioural Disorders

The main recommendations are:

- that a classification for mental health interventions should have concept bundling with a lower level of granularity. A draft hierarchy for mental health interventions (levels and terms) was developed. The NCCH will develop a draft mental health interventions classification in consultation with forum members from this document. NCCH will also consider how the work of case managers can be identified
- to classify suicidal ideation as a symptom code. The only instance in which this code is acceptable as principal diagnosis is when the underlying diagnosis cannot be established with the treating clinician. R45 *Symptoms and signs involving emotional state* was suggested as the appropriate category for a new code to indicate suicidal ideation. NCCH is to table this advice at the WHO meeting in October 2001
- NCCH to prepare guidelines for publication in *Coding Matters* on:
 - intellectual disability and mental retardation
 - cognitive impairment
 - selection of principal diagnosis for drug overdose
 - cluster personality disorders
 - coding of suspected conditions

- NCCH to amend appropriate standards for ICD-10-AM Third Edition on:
 - selection of principal diagnosis for drug overdose
 - coding of suspected conditions
- NCCH to enhance ICD-10-AM Third Edition index regarding:
 - intellectual disability and mental retardation
 - cognitive impairment.

4. Adverse Events

The CUF made general recommendations for ICD-10-AM coding:

- to remove duplication of concepts from ICD-10-AM codes
- to remove emotive words from classification
- to rationalise between injury and external cause coding
- to endorse the use of a prefix system to add meaning to the codes.

The main recommendations are:

- to present a proposal to the National Health Data Committee (NHDC) for inclusion of an additional data element to provide information on the status of patient diagnoses eg present prior to admission or arising during admission
- to present a second proposal to the NHDC for inclusion of a data element 'date of procedure' to the National Health Data Dictionary
- to review judgmental terms in ICD-10-AM tabular list and alphabetic index (volumes 1 and 2) This involves:
 - change of 'complication' to 'condition', 'disorder' or 'event' where possible
 - change of 'misadventure' to 'incident' where possible
- to review ACS 1904 *Procedural complications*
- to participate in the Data and Information Working Group of the Australian Council for Safety and Quality in Health Care. Part of this work will be to develop nationally standardised and consistent definitions of key terms for inclusion in the National Health Data Dictionary. ▶

Other recommendations for the longer term included:

- to expand codes relating to medical devices and improved guidelines for their use
- to improve incident codes
- to unbundle codes, ie removal of duplication of concepts within diagnosis and external cause codes
- to explore the possibility of using external cause codes in isolation.

5. Diabetes mellitus

The main recommendations are:

- agreed to recommended changes to ICD-10-AM index including deletions, additions and changed terms
- agreed to recommended changes to the Tabular List:
 - delete category E1-.59 **Diabetes with other specified circulatory complications* and add new codes E1-.53 **Diabetes with diabetic ischaemic cardiomyopathy*
 - change code title of E1-.63 to **Diabetes with specified periodontal complication*
- to clarify the coding of metabolic syndrome:
 - for cases of metabolic syndrome **without** documented diabetes mellitus – code the components of the metabolic syndrome that are documented in the record
 - for cases of metabolic syndrome documented **with** diabetes mellitus – code E1-72 **Diabetes mellitus with features of insulin resistance* plus any components as directed in ACS 0401 *Diabetes mellitus*
- to review category E66 *Obesity* with the possibility of submitting a proposal to WHO to include a specific code for ‘overweight’
- to delete code E09.09 *Impaired glucose regulation with other circulatory complication* and replace with E09.0- *Impaired glucose regulation with peripheral angiopathy*
- to add inclusion terms to code E1-.64 for seizures, fits, convulsions. Add an excludes note to R56 and review index entries
- to update ACS 0401 *Diabetes mellitus*:
 - the note under metabolic syndrome/ insulin resistance which follows the BMI ranges should include ‘and for younger patients age specific standards should be consulted’

- reorder Addison’s disease and coeliac disease in the section on auto-immune-mediated diseases
- Dr Gordon Senator and Professor Martin Sillink are to review the section on maturity onset diabetes mellitus in the young (MODY)
- Professor Martin Sillink and Sheree Gray are to review neonatal diabetes mellitus and the use of P70.2 *Neonatal diabetes mellitus*
- add code E1-.65 **Diabetes mellitus with poor control*. Add section to ACS 0401 on stabilisation of diabetes
- Dr Gordon Senator and Professor Tim Welborn to rewrite the definition of Type I Diabetes mellitus.

6. Injury

The main recommendations are:

- to create fourth and fifth characters for codes in block X85–Y09 *Assault* to permit identification of the perpetrator with a list of inclusions to guide coders in assignment of these characters. The hierarchy of subdivisions will reflect relationship proximity of the victim to the perpetrator
- to expand codes in block X20–X29 *Contact with venomous animals and plants* and develop guidelines to assist in their application. Therefore, category X20 *Contact with venomous snakes and lizards* should relate to the use of antivenom (eg taipan antivenom) with the specific snake listed in the venom type categories
- to create new subcategories identifying three and four wheeled off road/all-terrain vehicles for V86 *Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident*
- to create new codes to distinguish horses from other animals in V80.0 *Rider or occupant injured by fall from or being thrown from animal or animal-drawn vehicle in noncollision accident*
- to expand the following categories to enable increased specificity of coding:
 - W01 *Fall on same level from slipping, tripping and stumbling*
 - W02 *Fall involving ice-skates, skis, roller-skates or skateboards*
 - W09 *Fall involving playground equipment*

- W21 *Striking against or struck by sports equipment*
- W26 *Contact with knife, sword or dagger*
- X78 *Intentional self-harm by sharp object*, X99 *Assault by sharp object* and Y28 *Contact with sharp object, undetermined intent*
- W29 *Contact with other powered hand tools and household machinery*
- W56 *Contact with marine animal*
- W59 *Bitten or crushed by other reptiles*
- W65 *Drowning and submersion while in bathtub* and W66 *Drowning and submersion following fall into bathtub*
- X71 *Intentional self-harm by drowning and submersion*, X92 *Assault by drowning and submersion* and Y21 *Drowning and submersion, undetermined intent*
- X10 *Contact with hot drinks, food, fats and cooking oils*
- X11 *Contact with hot tap water* and to create includes and excludes notes at X12 *Contact with other hot fluids*, to clarify the source of the hot water (eg in pan on stove, running tap water, water in bucket etc)
- X13 *Contact with steam and hot vapours*
- X50 *Overexertion and strenuous or repetitive movements*
- X82 *Intentional self-harm by crashing of motor vehicle*, Y03 *Assault by crashing of motor vehicle* and Y32 *Crashing of motor vehicle, undetermined intent*
- X67 *Intentional self-poisoning by and exposure to other gases and vapours.*

7. Anaesthetics

The main recommendations are:

- to accept, in principle, a revised hierarchical structure of coding anaesthetics. Two blocks of codes will be introduced, cerebral anaesthesia and conduction anaesthesia, with only one code assigned from each block
- to remove all references to anaesthesia from the procedure code titles in ICD-10-AM
- to include the ASA (American Society of Anesthesiologists Physical Status Classification) status in the ICD-10-AM anaesthetic procedure codes as a two character extension
- to remove the distinction between injection and infusion for anaesthetic coding
- to simplify codes for nerve blocks for anaesthetic coding. A subdivision on cranial, upper limb, lower limb and trunk will be introduced, rather than specific nerves identified
- to code anaesthesia performed in conjunction with continuous ventilatory support (CVS) as monitored care
- to delete specific dental anaesthetic codes and to use the generic anaesthetic codes
- to assign a code for the anaesthetic procedure that was intended for failed anaesthesia
- to remove the division between intravenous/inhalation from the sedation and general anaesthetics codes and to remove all reference to the practitioner in the code titles for sedation.

Errata 4

ICD-10-AM Second Edition Errata 4

is included in this edition
of *Coding Matters*.

Look for the new ∞ to illustrate
some book amendments.

Previous errata can be found at the
NCCH website:
www.cchs.usyd.edu.au/ncch/



A day in the life of a Classification Update Forum (CUF) organiser

A Classification Update Forum (CUF) on the Injury and External Causes of Injury chapters from ICD-10-AM was one of a number of CUFs aimed to address key priority areas relevant to the development of ICD-10-AM Third Edition. The CUFs complement the existing public submission, CCCG and query process for updating the classification. The scope of the Injury CUF was defined as being focussed on the external cause chapter (XX) of ICD-10-AM. The Department of Health and Aged Care (DHAC) funded the CUFs.

Outcomes of discussions at the Injury CUF could result in recommendations for mortality coding as well as morbidity coding. Participants were asked to flag areas where there was an identified need for modifications to ICD-10. In adapting ICD-10 for morbidity collections, Australia is permitted to develop Australian modifications but is not able to change the core classification. This requires that modification to the third and fourth characters of ICD-10 codes are restricted. It was explained to participants that most modifications that could be recommended in ICD-10-AM would be made at the fifth character level.

The following day-in-the-life is more fragments of a number of days from a number of lives, and will discuss the organisational aspects of arranging participants, sources of agenda items, the venue, catering and a short summary of the CUF itself.

Participants were drawn from those users of the data generated from codes allocated from the external cause chapter. They included representatives from international, national and state injury surveillance units, accident research centres, trauma registries, transport and work safety bureaus, research units and coding specialists from the Injury CCCG.

An initial agenda, developed through pre-CUF discussion was distributed to participants and submissions were called. Responses were received from the various organisations that deal with injury data and the final agenda included an overview of the ICD-10-AM classification of external causes of injury chapter, the International Classification of External Causes of Injury (ICECI), identification of perpetrator in maltreatment syndromes and assaults, contact with venomous creatures, and ICD-9-CM external cause concepts that were not included in ICD-10-AM. Draft recommendations received prior to the CUF were presented by the NCCH. A number of late submissions were also received and discussed.



Garry Waller

The venue was the Conference Room at QUT Kelvin Grove campus.

Most agenda items were discussed and resolved to the satisfaction of participants. All contributed to the discussion and provided clarification and explanation from their particular perspective and fields of expertise. The CUF raised a number of other issues and areas of concern within the external cause chapter that will keep us at the NCCH in work beyond the post CUF period.

Organising the CUF was a collaborative effort between the Sydney and Brisbane offices. I would like to thank all NCCH staff, the chair of the CUF Dr Michael Cleary, and most importantly the participants who made the CUF the success I believe it was.

► **Garry Waller**
Senior Classification Officer
NCCH Brisbane

Profile on the NCCH's Coding Standards Advisory Committee

The Coding Standards Advisory Committee (CSAC) was established by the National Centre for Classification in Health (then the National Coding Centre) in 1994. The Coding Standards Advisory Committee comprises representatives of the:

- public and private health sectors (one each from state/territory health authorities, the commonwealth authority, the Australian Institute Health and Welfare and the Australian Private Hospitals Association)
- Health Information Management Association of Australia Ltd
- Clinical Coders' Society of Australia
- Casemix Clinical Committee of Australia
- New Zealand health authority.

CSAC's main function is to introduce new and amended ICD-10-AM codes and Australian Coding Standards (ACSs). However, CSAC also:

- Advises on activities and products relating to coding and coding quality measures.
- Reports to and from organisations and jurisdictions represented on the committee.
- Ensures that standards of definition and convention are maintained when ratifying changes to ICD-10-AM and the ACSs.
- Reviews public submissions for changes to ICD-10-AM.
- Receives feedback from users of coded data on the impact of standards and codes on current data collections.
- Ratifies coding advice from the NCCH before publication in *Coding Matters*.
- Recommends to departments of health future changes to the AR-DRG classification system as they relate to coding.
- Recommends the national adoption of ICD-10-AM modifications on a biennial basis to the National Health Information Management Group.
- Provides input to relevant authorities on morbidity and mortality coding related issues such as data edits, coding quality measurement, design or data collection systems.

- Provides coding advice to the National Health Data Committee on definitions related to relevant classification items in the National Health Data Dictionary.
- Provides advice on the relationship between ACSs for morbidity coding and rules for cause of death coding to NCCH and the Australian Bureau of Statistics.
- Provides advice on other relevant health classification systems.

Meetings are usually quarterly and (so far) have been held in the capital cities of the eastern seaboard. Each meeting takes one (long) day but, between meetings, there is a considerable amount of e-mail traffic in documents for comment. As Victoria's representative, I consult the Victorian Coding Committee members for advice on my response to CSAC issues and report back to the Committee on the outcome of CSAC meetings and decisions.

From a personal point of view, one valued outcome of CSAC is that we each get to know our opposite numbers in the other health authorities and can contact them on non-coding matters for information and advice. And of course, the fact that we get to know NCCH staff and they get to know us, is helpful to resolve issues.

As the Department of Human Services' representative, I can observe how influential a single coder can be in the development of ICD-10-AM; a submission to NCCH *can* achieve a change if the problem is clearly described, any relevant information is provided, and a clear solution is set out. Coders who find problems in the classification should not think 'I just have to put up with that' – they should prepare a submission. While NCCH has a timetable for *accepting* submissions, your ideas should be worked up when you find a problem, ready for submission. Note that the public submission process should be used only for extensive proposals. Issues such as typographical errors, coding standard interpretation and minor inconsistencies should be forwarded to the NCCH via your state/territory coding committee. If you would like a sounding-board, send draft submissions to your respective state or territory coding committees at any time.

▶ **Irene Kearsey**
Senior Quality Officer
NCCH Quality and Education Division

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Conference and Events Calendar

17-20 July	<p>ACHSE 27th National Congress 2001 <i>Australian College of Health Service Executives</i> A Health Odyssey Conrad Jupiters, Gold Coast, Queensland http://www.achse.org.au</p>	23-26 September	<p>PHAA 33rd Annual Conference Public Health Association of Australia <i>2001 A Public Health Odyssey Popular Culture, Science & Politics</i> Sydney Hilton Hotel, NSW http://www.pha.org.au</p>
29-31 July	<p>HIC 2001 Health Informatics Conference <i>Realising Quality Healthcare</i> National Convention Centre, Canberra Joint national professional meeting of the Health Informatics Society of Australia (HISA) in conjunction with the Health Information Management Association Australia (HIMAA) Ltd. http://www.hic.org.au</p>	25-28 September	<p>Injury Prevention 2001 <i>Incorporating the 5th National Conference on Injury Prevention and Control and the 4th Fourth National Farm Injury Conference</i> Presented by Australian Injury Prevention Network and Farmsafe Australia Deakin University Warrnambool, Victoria www.injuryprevention2001.com</p>
9-11 August	<p>RACGP 11th Computer Conference Royal Australian College of General Practitioners <i>Change & Opportunity: Technology the servant not the master</i> Carlton Crest Hotel, Melbourne http://www.racgp.org.au</p>	27 September - 1 October	<p>RACPG 44th Annual Scientific Convention The 44th Annual Scientific Convention of the Royal Australian College of General Practitioners <i>General Practice at the Centenary of Australian Federation</i> Sydney Hilton Hotel, NSW http://www.racgp.org.au</p>
17-19 August	<p>Casemix Conference Singapore 2001 <i>A Journey Begins</i> Tan Tock Seng Hospital, Singapore http://www.ttsh.gov.sg</p>	13-18 October	<p>2001 AHIMA 73rd National Convention and Exhibit American Health Information Management Association Miami Beach, Florida, USA http://www.ahima.org</p>
2-5 September	<p>Medinfo2001 10th World Congress on Health and Medical Informatics <i>Towards Global Health: The Informatics Route to Knowledge</i> London, UK http://www.medinfo2001.org</p>	22-23 October	<p>APHA 21st National Conference 2001 Australian Private Hospitals Association http://www.apha.org.au</p>
16-19 September	<p>13th National Casemix Conference Department of Health and Aged Care <i>Health Care in Perspective 2001</i> Hotel Grand Chancellor Hobart, Australia http://www.health.gov.au/casemix/</p>	3-7 November	<p>AMIA 2001 Annual Conference American Medical Informatics Association <i>A Medical Informatics Odyssey, Visions of the Future and Lessons from the Past</i> Marriott Wardman Park, Washington, DC, USA http://www.amia.org</p>

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 Please send the details to Rodney Bernard,
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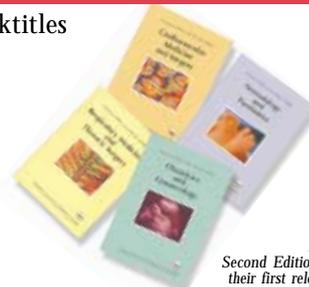
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*Revised to ICD-10-AM Second Edition codes since their first release in 1996.

THE NEW CODE-L

The Australian Clinical Coders Discussion Group

Subscribers to the 'old' Code-L may already be aware of the change of address and subscription process that has occurred. Code-L has been moved to a new, faster server with new software. Instructions to use Code-L have been slightly modified. The functions of Code-L remain the same.

Code-L and its purpose

A list server is an electronic discussion group where members communicate via e-mail. Code-L is a list server established and managed by the National Centre for Classification in Health. The list server software program contains subscribers' e-mail addresses. Each time a message is posted to a list, the program automatically forwards the message to all listed e-mail addresses. You must subscribe to receive and post messages to Code-L.

Code-L provides opportunity to communicate with all list subscribers about ICD-10-AM and other contemporary coding issues. It also encourages establishment of one-to-one contact with colleagues to address specific questions or topic areas.

How to use Code-L

Posting messages

To post messages to Code-L send an e-mail to:

Code-L@cchs.usyd.edu.au

When you send a message to this address, your e-mail is sent to everyone who is subscribed to the list (currently about 700 people).

When you reply to e-mail posted to the list, your reply is sent to

Code-L@cchs.usyd.edu.au.

Everyone subscribed to Code-L, not just the person who posted the message, can read your reply. If you wish to reply only to the person who posted the message, copy and paste the e-mail address into a new e-mail.

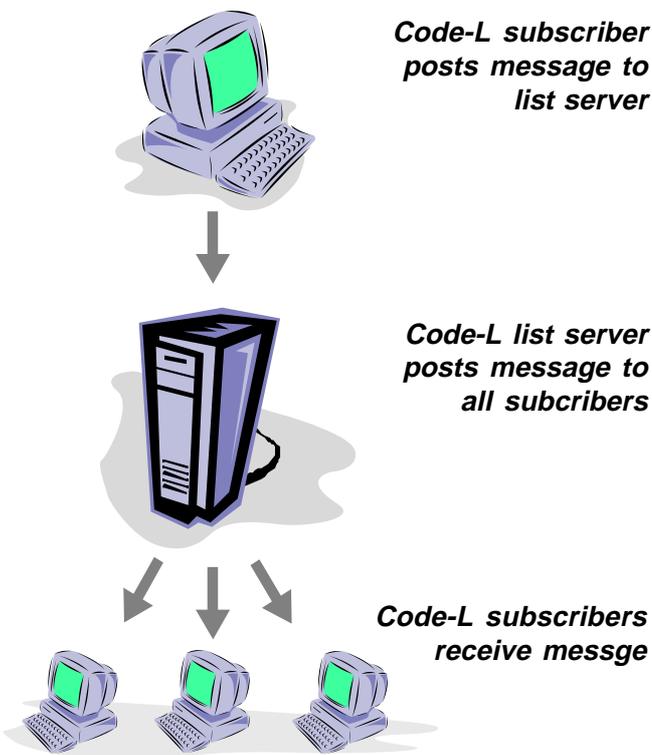
Subscribing and unsubscribing

To subscribe to Code-L send any message to the address

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OR to

Code-L-unsubscribe@cchs.usyd.edu.au

Getting help

If you have any problems, need help or more information about Code-L, send your enquiry to

Code-L-request@cchs.usyd.edu.au

Bouncing messages and automatic replies

If you use the automatic reply feature in your e-mail program while you are on leave, please unsubscribe from Code-L before you set an automatic reply. Using automatic replies on list-servers causes bouncing messages – a continual loop of the same message. Bouncing messages can cause e-mail servers to crash.

Changing your e-mail address

If your subscribed e-mail address is changed, you will need to unsubscribe the old address and resubscribe to Code-L with the new address. If you need help with this process, please contact

Code-L-request@cchs.usyd.edu.au

Size limit on posted messages

Because Code-L is sent to over 700 people, there is a limit on the size of message which can be posted, including attachments. The limit is currently 30 kilobytes. Some posted job descriptions may exceed the limit. When posting job descriptions keep the description brief and provide contact details so potential applicants can make direct enquiries about the job. Please add a note reminding subscribers to contact a nominated person rather than replying to Code-L.

Discussion list etiquette

- Use a brief, clear subject phrase which allows quick identification of your message.
- Keep discussion in line with the spirit and purpose of the Code-L list. Off-the-topic postings should be ignored or replied to individually and in private.
- Sign all messages and include your e-mail address. Do not post anonymous mail.
- When replying to messages, use your e-mail "reply to:" setting which will preset your subject as re: xxx (the same topic as original message). This helps list subscribers to identify relevant topics.
- Advertising by commercial groups is NOT permitted on Code-L. Low-key postings of this nature are only allowed in direct response to a product inquiry by a non-commercial subscriber.
- If you have a long message or if a message requires individual-level information, reply directly to the subscriber who posted the message at their personal e-mail address.
- When replying to a message sent to the list, do not post the original message back to the list as part of your message. This is just a waste of space.
- Avoid me-too simple confirmation responses. This does not add anything new to the discussion.

- Please keep your messages G-rated and do not write anything personally or professionally insulting to other subscribers (this is called 'flaming'). Derogatory comments are not in keeping with the spirit of the list.
- Subscribers posting survey questions for research data collection should include a personal e-mail address so subscribers can reply directly. Posting a summary of your findings to the list could be of interest to others.
- Do not write messages in UPPER CASE - this is called 'screaming' and is very difficult to read.

coding matters



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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: r.bernard@cchs.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: s.walker@qut.edu.au

NCCH Quality and Education Division

School of Public Health
La Trobe University ph: 03 9479 1135
Bundoora VIC 3086 fax: 03 9479 5657
Australia e-mail: s.watts@latrobe.edu.au

Homepage <http://www.cchs.usyd.edu.au/ncch/>

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Health Information Management Association of Australia Ltd (HIMAA)

Locked Bag 2045, North Ryde NSW 1670
Telephone: (02) 9887 5001 Fax: (02) 9887 5895
E-Mail: himaa@himaa.org.au
Web site: www.himaa.org.au