

coding matters



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

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**from the
desk of
the director**

Trying to encapsulate the wide range of NCCH activities in a few short, palatable paragraphs, is becoming an increasingly difficult task. Not only is the scope of work increasing, but the pace seldom allows us time to contemplate! So I welcome this opportunity to reflect on what we're attempting to do, to remind myself of our goals and to see how far we have progressed in meeting those goals.

NCCH/CCSA Conference, Hobart September 22-24, 1999

Since the last issue of *Coding Matters*, we have seen many of you at the NCCH conference held in Hobart in conjunction with the Clinical Coders' Society of Australia (CCSA). This year's conference was again a highly successful occasion, both educationally and socially. Our keynote speaker from the World Health Organization (WHO) in Geneva, Dr Shekhar Saxena, covered WHO work on burden of disease measurement as well as bringing us up to date on developments with the International Classification of Functioning and Disability (ICIDH-2). His presentations were supported by



***Hobart view from the NCCH/CCSA
conference venue***

a wide variety of papers on subjects topical for clinical coders and users of coded data. The conference was ably organised by Karen Peasley (NCCH Education Manager) and other members of NCCH, CCSA and Tasmanian colleagues. The Antarctic flavour presented a marked contrast with the previous conference in Alice Springs. The next conference is planned for early 2001, with education activities in 2000 focused on national workshops to precede implementation of ICD-10-AM 2nd edition and the launch in Melbourne in February of the Performance Indicators of Coding Quality (PICQ). ▶

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ICD-10-AM 3rd edition

While the 2nd edition is off to the printer, work is proceeding on the 3rd. Janelle Craig has returned temporarily to the NCCH fold to help us prepare a call for public submissions for the 3rd edition of ICD-10-AM which is planned for introduction in July 2002 (*see call for submissions back page*). In late September, we had two visitors from 3M to discuss ICD-10-AM code and standard changes which will need to be incorporated in the 3M encoder – Donette Speth from Salt Lake City and Mary-Ellen Vidgen from Sydney. It was such a pleasant day we decided to hold our discussions in the Bicentennial Park overlooking Homebush Bay and the Olympic site – a wonderful place to take visitors to Sydney.

Performance Indicators for Coding Quality

A PICQ prototype was demonstrated at the NCCH and Health Information Management Association of Australia (HIMAA) conferences in recent months. Further indicators have subsequently been developed with this version being trialled in volunteer hospitals and health departments before launch of the 1st edition of the product in February 2000. The work has been a team effort between Gay Lysenko, Irene Kearsey, Donna Truran, Nicole Schmidt, Erich Schulz and our subcontractor, OR Systems in Melbourne.

NCCH Strategic Plan

Thank you to all those readers of Coding Matters who contributed to workshops and meetings run by Healthcare Management Associates (HMA) during preparation of the NCCH Strategic Plan. Sue Walker, Donna Truran and Christine Erratt have been assisting in presenting the outcome of the NCCH Strategic Planning process to members of the NCCH staff and members of the Executive. The plan will support a related process of negotiations between NCCH and the Department of Health and Aged Care for continued funding of NCCH post June 2000.

Research, UMLS mapping

NCCH has recently received coded morbidity data in ICD-9-CM and ICD-10-AM from some states and from the AIHW for use in data quality studies and research. Jenny Hargreaves, Head, Patient Morbidity Services Unit, Australian Institute of Health and Welfare, visited NCCH on 26 October to discuss data issues with our staff, and to talk about collaboration on research projects. As well as being involved in analysing coded datasets, Donna Truran, Research Officer, is also assisting with the project to include ICD-10-AM in the National Library of Medicine Unified Medical Language System (UMLS). Staff at NCCH Brisbane (Tahnee Maker and Peng Bi) are working with Donna on a sub-project to map index terms in ICD-10-AM to the concept unique identifiers of UMLS. Early in October, Donna and I visited the Family Medicine Research Centre, the University of Sydney, to discuss issues of mutual interest regarding inclusion of ICPC2+ and ICD-10-AM in UMLS.



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***Karen Hinton, Tasmanian Health Department,
Judy Jackson, Tasmanian Health Minister
and Rosemary Roberts***



***Tony Evers, Colorectal surgeon
and Michelle Bramley***

New staff at NCCH Brisbane

Tahnee and Peng are both new to NCCH since the last edition of Coding Matters and are most welcome for the skills and experience they bring to NCCH. Tahnee visited NCCH Sydney at the end of September to meet staff and to be briefed by Karen Peasley on Tahnee's involvement in education functions for the ICD-10-AM 2nd edition workshops in 2000.

Visit to Singapore Ministry of Health, September 8-10, 1999

Karen Peasley and I visited Singapore early in September at the invitation of the Singapore Ministry of Health (MOH). We both presented papers on NCCH work and coder education and Karen ran very successful workshops for coders on clinical coding audit. We visited several hospitals and medical record departments, and were asked by the Ministry to make recommendations concerning a coding authority for Singapore as well as local needs for education and coder support. As a result, Dr Theodor Wee will visit both NCCH Brisbane and Sydney early in December to explore the possibility of a Memorandum of Understanding being developed between MOH and NCCH for NCCH to provide assistance to the Ministry during the introduction of AN-DRG version 3.1 and casemix funding in Singapore.

Meeting of Heads of WHO Collaborating Centres for Classification of Diseases, Cardiff, October 18-22, 1999

One of the highlights of the last few months has been the meeting of Heads of WHO Collaborating Centres for Classification of Diseases held in Cardiff during October. While we didn't get to see any football, Australia and



***Conference welcome reception at the
Antarctic Exhibition***



***Dr Shekhar Saxena, conference keynote
speaker and Rosemary Roberts***

New Zealand provided a strong five person team headed by Dr Richard Madden, Australian Institute of Health and Welfare (AIHW) and including Kerry Innes, Sue Walker, Yogesh Anand from NZ and myself. Australian papers covered a range of topics including ICD-10-AM education within Australia and ICD-10 and medical record education in the Western Pacific and Southeast Asia, ICD-10-AM implementation and database development, coding of post-procedural complications, classification of adverse events and ICIDH. The NZ paper

described a specific method of auditing clinical coding output using comparisons of codes against actual terms used in diagnostic and procedural statements. Kerry Innes was able for the first time to put forward in person the Australian proposals for update to ICD-10 which have come about as part of our work on ICD-10-AM. Australia also presented papers relating to a Morbidity Clearinghouse for international comparison of ICD-10 national modifications and specialty versions and to the ICD-10 update process itself.

The WHO Update Reference Committee met twice during the week and considered recommendations for update of the classification from the Mortality Reference Group and the Collaborating Centres themselves. I was asked to continue to chair the Update Reference Committee during 1999/2000. There was much discussion during the meeting of the WHO Family of Classifications, particularly the role of ICIDH, and it was fascinating to see reflected at the international level some of the dilemmas facing Australia in setting standards for classifications for function and disability and for ambulatory care.

Coding in General Practice

On 27 October, I joined Heather Grain and Dr Helena Britt in presentation of papers on coding systems to the RACGP 42nd Annual Scientific Convention in Adelaide. Heather described the forthcoming process of the GP Coding Jury which will consider candidates for classifications appropriate for clinical coding in general practice. The coding jury has subsequently called for submissions by Friday 17 December 1999. The jury is seeking comments on their document 'Discussion Paper and Priorities' and is inviting those making submissions to complete the 'Requirement Priorities' at the end of the paper. The NCCH intends to prepare a proposal to help better inform this important decision making process. The aim is to select a 'best fit' coding system for general practice in Australia.

Coding of Adverse Events

Readers will have seen the Final Report to Health Ministers from the National Expert Advisory Group on Safety and Quality in Australian Health Care¹. One area of the report of great relevance to NCCH is that relating to systems for collection, analysis and use of information. It discusses (page 11) '...the need for common systems for collection of information about adverse events and incidents

in Australia,...' and suggest amongst other things "improving the use of existing administrative datasets to report on adverse events in hospitals". NCCH is most interested in pursuing this topic, and is already working on clarification of ICD-10-AM definitions and codes relating to post-procedural complications. It is also contemplating further work in conjunction with AIHW and the Australian Patient Safety Foundation on the external cause of injury codes pertinent to iatrogenic harm.

International Standards Organization Health Informatics Meeting (ISO/TC 215), Tokyo, November 15-19, 1999

I attended this meeting as Australian representative to ISO/TC 215 WG3 (Health Concept Representation). You may remember the first formal meeting of this group was held in Berlin in April this year. Our continued involvement is becoming more important as we develop terminologies from classification systems which can then be used for data retrieval from electronic patient records. The working group is confronting issues such as standard ways of describing classifications and their relationships to each other at different levels of granularity and standards for assessing the quality of classifications and terminologies. The Australian delegation was lead by Dr John Zelcer and included John Lewis (NSW Health), Elizabeth Moss and Mark Mynott (HIC), Dr Peter Schloeffel and Peter Treseder, Associate Director, Health Informatics, Standards Australia who is chairman of ISO/TC 215.

Conclusion

While it is still November as we prepare this issue, I will not have another opportunity to convey our best wishes to you all for Christmas and the holiday season, and of course for 2000. Thanks to all our readers for your continuing support of NCCH during 1999 and for participating in its activities. I hope the new century brings new horizons for you as individuals and hope we can work with you in meeting our shared goals.

► **Rosemary Roberts**
Director

1 Implementing Safety and Quality Enhancement in Health Care. National Actions to support quality and safety improvement in Australian health care. Final Report to Health Ministers from the National Expert Advisory Group on Safety and Quality in Australian Health Care. Commonwealth of Australia. July 1999.



vital signs

The Brisbane office is once again ringing with laughter and the tapping of word processors! We now have two new staff – Tahnee Maker, who has taken Maryann Wood's position as Senior Classification Officer, and Peng Bi, who occupies the newly-created position of Research Associate. With Erich Schulz still working for NCCH one day per week, and discussions currently underway with a potential applicant for our research scholarship, the Brisbane office is growing in size and a diversity of skills.

To introduce our new staff...

Tahnee Maker graduated with a Bachelor of Business, Health Information Management from the Queensland University of Technology in 1997. Prior to her arrival at NCCH Brisbane,



Tahnee was the Senior Health Information Manager at Caboolture Hospital. She has also held positions Redcliffe Hospital as a Health Information Manager and as a project officer within the Casemix Unit at Princess Alexandra Hospital. Tahnee has recently been

appointed a Board Member of the HIMAA and also holds a position on the HIMAA Queensland Branch executive.

Tahnee will be working closely with Karen Peasley on education matters. In addition, she will be learning all there is to know about mortality coding under the experienced tutelage of Maryann Wood at the Australian Bureau of Statistics' Causes of Death Unit.

Peng Bi completed an MBBS in 1985 and a Master of Medical Science in 1988 from the University of Anhui in China. Peng moved to Australia three years ago, firstly to the University of New England and subsequently to the University of Queensland to undertake PhD studies. He has recently submitted his thesis to the University of Queensland and is anxiously awaiting the results of the thesis examination. Being an epidemiologist, Peng's research interests cover behavioural, environmental and



infectious disease epidemiology. He is now turning his attention to the health information field and we are planning for him to become involved in the analysis of some of the data available to the NCCH from

the AIHW and ABS. Of particular interest is the effect on mortality data that will be brought about by proposed changes to the WHO mortality coding rules.

Welcome to Tahnee and Peng – we hope that you will have a long and happy association with NCCH!

► **Sue Walker**

Associate Director, NCCH Brisbane

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educational matters

Conference report

From a background of hairdressing and horse husbandry to hunting for codes... many clinical coders certainly do have a diversified career history. I myself have moved from health information management to journal print advertising to processing of migration visa applications and back to health information management and now clinical coding education. And the many opportunities to find out more about your peers and colleagues was certainly one aspect that made the 6th Annual NCCH/CCSA conference in Hobart in September such a success.

The numbers were smallish but the level of interest and enthusiasm and commitment was high. Hobart turned on fine (but chilly) weather for 3 days and the many who witnessed the truly magnificent rainbow which appeared over the Derwent in the late afternoon on Wednesday could only have been inspired! *(for those who didn't get to see the rainbow, visit the conference photos on the NCCH website for an insight).*

The Hotel Grand Chancellor was very well received by all delegates and certainly provided a comfortable environment for learning and wonderful food for sustenance. The Welcome Reception at the Antarctic Exhibition was an interactive experience as many followed up their champagne intake with a ride on the blizzard simulator or a wander through the snow and wind chill room. Being exposed to the Antarctic exhibition was a good lead in to Dr Peter Sullivan's extremely interesting presentation the



**Dr Peter Sullivan
of the Australian
Antarctic
Division**

following day. Peter provided a very entertaining talk and some wonderful slides about life on an Antarctic station, the varied incidents the station medical officer may come across and how these incidents are recorded through the Australian National Antarctic Research Expeditions (ANARE) Health Register.



**Dr Shekhar Saxena, conference keynote
speaker with Karen Peasley**

Our international guest, Dr Shekar Saxena from the World Health Organisation (WHO) in Geneva provided some insightful information about the purpose and uses of the International Classification of Diseases (ICD), the uses of summary health measures and the implications for classification and coding. Dr Saxena also spoke about the WHO family of classifications and in particular the International Classification of Functioning and Disability (ICIDH-2). Other highlights of the conference were the clinical and coding updates on colorectal surgery and cardiovascular medicine and the Innes coding quiz, which proved so popular it's sure to become a regular feature. For those who couldn't make it the conference, the full paper proceedings are available for purchase at A\$30.

The CCSA again joined forces with the NCCH and conducted their own 'Masterclass' workshop on the afternoon prior to the opening of the conference. A good turn out of 80 delegates participated in the workshop, where coding issues that came out of the Masterclass workbook exercises were discussed in an open forum with the assistance of an expert coding panel. The feedback from this workshop will help CCSA in the development of future workshops



Simon Fawssett, the quiz winner with Mary-Ellen Vidgen and Madonna Kemp

ensuring clinical coders receive the optimum continuing education available to them. The conference dinner was held on the Thursday evening at the Elizabeth Street Pier Function Centre, where excellent local food and wines were a highlight along with the Irish band 'Rakish Paddy'. The New Zealanders showed us all how to really party which ensured a good time was had by all. I know it's been done to death but it just has to be said... and so the last NCCH conference of the millennium drew to a close on Friday 24th September with Ms Judy Jackson, Tasmanian Minister for Health and Human Services encouraging clinical coders to make the most of all educational opportunities and to become involved and be supportive of all coding quality innovations.

So, where to from here for the NCCH conferences? Due to a variety of influencing factors including the decision to produce ICD-10-AM editions on a two yearly basis, the cluster of competing conferences currently allocated to the second half of the year and not to mention that rather large sporting event that is scheduled for September 2000 in Sydney, the staff of the NCCH have decided to move the annual conference to become a biennial conference (i.e. every two years) and to move the timing to the first half of the year (i.e. somewhere between March and May). As a result, the next 7th NCCH conference will be held in April 2001 in Sydney. The decision to hold the conference in Sydney (given that we have not yet visited all Australian states and territories, nor New Zealand) was mostly for ease of access to interstate delegates and by that time it will have been 6 ½ years since the very first conference was held in Sydney. Please be assured that we will continue on our way of making sure all states (and NZ) get a chance to be the chosen destination for future conferences. Fremantle, Perth, Broome, Melbourne, Portsea, Bendigo, Christchurch, Auckland, Dunedin... so many choices.

So make a mental note of April 2001 and start planning your visit to Sydney now. But, in between all that time things do not go quiet on the education front.

I would like to thank all those people who responded to the advertisement for Coding Educator Network (CEN) agents. I received 20 re-applications from individuals who have previously been involved with the CEN and 7 new applications. The new CEN will be assessed on their presentation and coding skills when the Train-the-Trainer sessions are held in February 2000. I have developed a draft plan for the allocation of the ICD-10-AM 2nd Edition Education Workshops which are scheduled to be held across Australia from mid March to mid June 2000. The workshops will be two days in length (just too many new and interesting facts to disseminate in one day!) and will again take the format of a mixture of lecture/discussion/practical work but will also include some more clinically focused information. Further information including registration brochures will be sent out in late January 2000. In preparation for these workshops, clinical coders can undertake some self-learning by ensuring that they read and absorb the material featured in this and upcoming editions of *Coding Matters* on diabetes.

I will once again be winging my way across the nation to present and assist in many of the workshops, however, my new offsideer will be Tahnee Maker who joined the NCCH (Brisbane) in September as Senior Classification Officer. Many of Tahnee's duties include the development of content material for the workshops and also presentation of the workshops. So please make Tahnee and the new CEN most welcome. As the workshops are in development stage, any of your thoughts and ideas about how to modify or improve the workshops are always most welcome. Please let me know via phone, fax or email, as all options will be considered.

September in Singapore

People warned me about the heat but until you actually experience it, you just can't imagine it. Not that there was too much time available to spend by the pool as Rosemary and I were kept very busy across our three days in Singapore in September.

At the invitation of the Ministry of Health Singapore, Rosemary and I delivered a one day seminar, undertook two coding quality





Rosemary Roberts and Karen Peasley with the Singapore Ministry of Health delegation

workshops and toured three Singapore health facilities over the three day period.

Singapore is currently using ICD-9-CM and at the time were planning to move to casemix based funding (AN-DRG Version 3.1) in October 1999. The staff in the Casemix Project Office (CPO) of the Ministry of Health Singapore recognised that coding for casemix had resulted in significant changes to the nature of the clinical coders work and to the skill sets required. Since early 1998 the clinical coders had been busy acquiring basic coding knowledge and skills to meet the new requirements. As coding for casemix was new to the Singaporean coders, the Ministry wanted to provide the opportunity for the NCCH to help expand and deepen their knowledge of coding and coding related issues.

The Clinical Coding Seminar held at Changi General Hospital on the 8th September was attended by approximately 100 delegates from a variety of backgrounds such as clinicians, nursing staff, Medical Record Office (MRO) managers, clinical coders, hospital administrators and Information Technology (IT) staff. A paper covering coding standards, quality assurance and audit strategies, and overview of clinical classification systems, documentation



Karen Peasley with Singaporean clinical coders at the coding audit workshop

and terminology was presented by Rosemary. I spoke on the career and professional development of clinical coders and the role of clinical coders in development of health classification systems. The seminar was well received and attempted to provide a 'thumbnail' sketch of clinical coding advancements and opportunities.

On the 9th and 10th of September, Rosemary and I went our separate ways in air conditioned taxis. I returned to Changi General Hospital to conduct two consecutive workshops on coding quality and how to use the Australian Coding Benchmark Audit (ACBA). Rosemary visited the medical record offices of Singapore General Hospital, Changi General Hospital, Mount Elizabeth Hospital and met with the Clinical Coding Forum (CCF) members.

The coding audit workshops were attended by 45 clinical coders and other hospital personnel. The students were provided with some background information on using ACBA and then undertook a small re-coding exercise enabling them to gain practice in allocating the error criteria. Many delegates did not seem confident in their current coding skill level to be able to audit others but the majority did show an understanding of the general ACBA concepts. Rosemary's visits to the hospitals provided a useful insight into how the medical record and clinical coding functions operated at these hospitals enabling advice to be provided on how certain systems could be improved. The meeting with the CCF raised many issues including the need for basic and continued training and education of clinical coders, the need for improved status of clinical coders and the need for a career ladder for clinical coders.

The staff of the Ministry of Health, Singapore, the Health Corporation of Singapore and all the hospitals visited extended warm hospitality to Rosemary and myself during our stay. We learnt a lot about the different culture and the manner in which the health information industry operates in Singapore. Upon our return, a full report including many recommendations was provided to the Ministry. It is hoped that the recommendations in the report will provide further direction for clinical coder education and coding audits to improve the quality of ICD-9-CM clinical coding in Singapore hospitals.

Happy New Year !!!

► **Karen Peasley**
Education Manager

CODING the MILLENNIUM



by Jenny Peakall & Victoria Fisher

Aided and abetted by Karen Watts, Clinical Coding Department

East Hertfordshire NHS Trust, Welwyn Garden City, UK

The 20th century is almost finished and we have been thinking: after all the fuss over ICD10 are you not curious as to what happened to ICD1 to ICD7 (International Classification of Diseases versions 1 to 7)? Have we ever seen copies of these volumes? No. Are they discussed by anyone? No. All will now be revealed but before we start, are you sitting comfortably so that you do not suffer any **R25.2** (*cramp and spasms*)? We hope there will be no **B56.9** (*sleeping sickness nos*) or **W07** (*fall involving chair*) either.

In 2,500 BC from Norway came the apparatus that caused **W00** (*fall on same level involving ice and snow*), which in turn could lead to **T35.7** (*frostbite*) or **H16.1** (*snow blindness*). Have you guessed what the apparatus is? None other than that famous Norwegian invention: not the Eurovision Song Contest winning entry but a pair of skis. [Norway is notorious for scoring no points in the annual Eurovision Song Contest]

Sometime between the 17th and 21st centuries BC there was a Babylonian king called Hammurabi, and it is our considered opinion that he started it all. He was an intelligent, far thinking king. They have not all been so. He created a system for health care eons before it evolved from priestly incantations, magical applications, omens and evil demons. The Babylonians had medical records, which admittedly may well have been carved on clay tablets, but we can safely suppose that no doctor walked off with them! Storage must have been difficult: imagine no supermarket trolleys to transport them. It is our theory that Hammurabi wrote **ICD1** (*Codex Hammurabi*) which is carved in stone and on display in The Louvre, Paris.

An Egyptian papyrus dating from about 1600 BC contains the first known systematic study of anatomy, revealing some knowledge of the body's organs but little of their functions. More than a thousand years later things had not progressed much on that score, but Hippocrates, the father of medicine, advanced the then revolutionary idea that detailed **Z03.9** (*observation for suspected disease or condition*) was all-important in the treatment of disease. He was responsible, as you may have guessed, for **ICD2** (*the Hippocratic Corpus*). One of

his works, "Airs, Waters and Places", was the first to ascribe diseases to environmental rather than supernatural causes, and for the next 2000 years this was the most widely used text on public health and epidemiology. And people say that advances in medicine are made daily!

In the 6th century BC Pythagoras and his pupil Alcmaeon found that faculties of mind resided in the brain not in the heart. If anyone had been listening at the time it would have been the end of the romantic pop music industry. Around the same time the Celts arrived on our shores and they must have been relatives of mine [Jenny] as they were tall, blonde and blue-eyed.



The Greek physicians Herophilus and Erasistratus made the first real progress in anatomy in the 3rd century BC. Documents of the day showed that their researches were somewhat gory: "(they) were given criminals from the prison... and dissected them alive; while they were still breathing they observed

parts which nature had formerly concealed... Nor is it cruel, as most people allege, by causing pain to guilty men – and only a few at that – to seek out remedies for innocent people of every age." So that's all right – why did Burke & Hare [19th century body snatchers] not think of that?

Moving on rapidly, in 55 BC the Romans arrived in England bringing bathrooms, glass windows, writing, wine and children's dolls. In 4 BC Jesus Christ was born. We know that alters the fact that we are going through a Millennium that may already have happened, but in the 6th Century someone made a mistake calculating the calendar – oh dear.

In AD 1 the world population totalled 200 million. Forty-two years later Boadicea was seen tearing around our Britain causing **T14.1** (*open wound of unspecified body region*) with the wheels of her chariot. We cannot be more specific as the notes are not available. However, when the going got tough she **X64** (*intentionally self-poisoned*) herself with **T50.9** (*poisoned with other unspecified drugs, medicament and biological substances*).

In AD 105 the Chinese started manufacturing paper. In AD 300 monks began to replace scrolls with books, no doubt leading to many cases of **H53.1** ►

(*eyestrain*). In AD 500 King Arthur arrived in England (or so the legend says) and twenty years later there were seven kingdoms. What would Australia have made of that? Definitely time for a Republic, no worries.



You may have noticed we have not yet found ICD3. So what happened to coding during this period? In AD 407 the Romans had left, returning to Italy and possibly taking their writing skills with them, as well as their sanitary engineering (leaving no chance for public health in the next few hundred years). Could it have been King Alfred, aka Alfred the Great, in AD 870 who wrote: 'So clean was it fallen away in England that very few were there on this side of the Humber who could understand their service books in English'. So there we have it. If they

did not learn to talk properly (as we do now) for another 300 years, what chance did ICD have? Alfred was a scholar, but apparently also caused **T30** (*burn of unspec region*) to the cakes and had **I84.9** (*haemorrhoids*), although it was far more likely that he suffered from spin-doctors.

As you would expect, the Romans could not allow the Greeks to outdo them in their legacy to civilisation, and so in AD 534 the emperor Justinian introduced **ICD3** (*a legal code*) hence the word justice. He very wisely banned **Z72.5** (*high-risk sexual behaviour*) at the same time. Notice that we have mentioned the word 'code'.

In 748 The Chinese – again – printed the first ever newspaper. In 900, promisingly, a medical school was founded in Salerno. In 1000 the world population of 275 million thought the world was going to end – judgement day had arrived! Where was the Millennium dome, the Eye of London and the extra money for being on call? Anyway we had now entered the period of feudalism, for better or worse.

Then along came King Canute who was famous for his unsuccessful attempt to turn back the tide, thereby becoming an **X39** (*victim of forces of nature*) and ending up with **T69.0** (*immersion hand and foot*). In 1041 Harold, who was really the Earl of Wessex, became King, which upset his cousin, William. In 1066 everything exploded, there was a fight and Harold received a **T15.9** (*foreign body in eye*) which caused **R99** (*death NOS*).

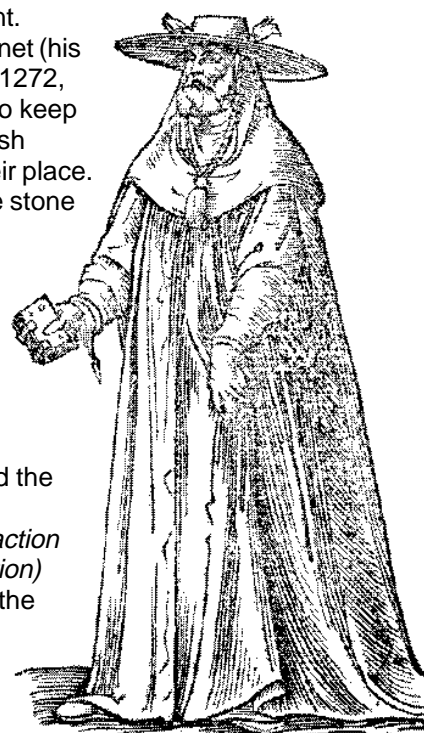
William the Conqueror was now in charge and in 1086 he wrote **ICD4** (*The Domesday Book*). We may

be stretching your imagination a bit now, but we have paper and we have writing so... It was probably all too much for William, as he died a year later after a **V80.9** (*fall from horse*) and it certainly did not help that he was also **E66.0** (*obese due to excess calories*). Rufus (really William II) took over but he either suffered or enjoyed, depending upon your standpoint, from **F10** (*mental and behavioural disorders due to use of alcohol*), that is he enjoyed a drink out with the boys. In 1100 Rufus died by **X99.8** (*assault by sharp object*) or **W26** (*contact with knife, sword or dagger; could include an arrow*). Totally unconnected with this, in the same year knives and forks were brought back from the Crusades.

Henry I took over for 30 or so years, but there was still no sign of ICD5 – he was obviously too busy creating illegitimate heirs and, alas, with **Z72.4** (*inappropriate diet and eating habits*), he ate too many lampreys (little eels) and died. Moving rapidly on through Stephen, Matilda and Geoffrey, see Ellis Peters' books on Cadfael for more details.

In 1154 Henry II got round to creating a proper legal system with judges and juries – only a few years after the Romans. Richard the Lionheart was his nice son and John was his not so nice son, who probably had **Z73.4** (*inadequate social skills*). We all know the stories about this time, and if not please refer to the tales of Robin Hood. Richard suffered **Z76.1** (*imprisonment and other incarceration*) at the hands of the Germans. When he died in 1199 the nasty John took over and felt himself to be the **Z60.5** (*target of perceived adverse discrimination and persecution*) which turned into **F60.0** (*paranoid personality disorder*). 1215 saw the creation of Magna Carta and John put his signature to it. Sadly, it proved too much for him and he died of **R63.2** (*polyphagia = overeating*).

Henry III started the first English Parliament. Edward Plantagenet (his son) took over in 1272, and did his best to keep Welsh and Scottish nationalists in their place. He even stole the stone of Scone from Scotland. Parliament also updated Magna Carta. During 1290 there were one or two inventions: spectacles solved the problems of **H52** (*disorders of refraction and accommodation*) but necessitated the start of **Z01.0** (*examination of eyes and vision*); and in the same



year some unknown person invented the mechanical clock, which some of us have been watching ever since!

In the early 1300s there were terrible harvests and people were **T73.0** (*starving*). Wet, mild winters and wet, humid summers saw the growth of a black fungus called ergot on cereal crops. Unfortunately this **T62.8** (*ergotism – specified noxious substances eaten as food*) caused **R56.8** (*convulsions, fits*) and due to a derivative being similar to **T40.8** (*LSD*), people suffered from **R44.1** (*visual hallucinations*). The whole of Europe was affected and it was at this time that wolves, who also had **Z59.4** (*lack of adequate food*), started entering the towns and attacking people. This is believed to have given rise to the legends of **L68.2** (*localised hypertrichosis*) on the palms of hands – in other words, werewolves.

Just as our forefathers were getting back to normal, the year 1337 saw the start of 100 years of **Y36.9** (*war*). In the midst of this in 1348 the population was struck again, this time by **A20.1** (*Black death/cellulocutaneous plague*). The Babylonians would have blamed Namtar as the evil spirit responsible for the plague, not **W53** (*bitten by rat*) flea.

The first type of poll tax was invented in 1377 but the collectors had **Z56.6** (*uncongenial work*) and suffered at the hands of the public. Not only did they have a **Z56.2** (*stressful work schedule*), they had to contend with **S18** (*decapitation*) or being **T30.3** (*burned alive*). A **Z56.1** (*change of job*) was definitely indicated!

In 1422 Henry VI was the first baby sovereign to wear nappies, although they were not called nappies back then because the word 'nappy' only came into use in the 1920s.

Between the years of 1387 and 1400 Geoffrey Chaucer wrote **ICD5** (*The Canterbury Tales*), introducing the iambic pentameter to English literature and thereby ensuring that millions of students would suffer from **R51** (*headache*). William Caxton saw the importance of this, and printed ICD5 towards the end of the fifteenth century. In 1489 the plus and minus symbols came into use, and proved to be helpful in mathematical equations. For those of you who descend from the Scots, whisky was distilled in 1494; handkerchiefs became popular in 1503 (and what was used before then we shall leave in the mysteries of time); **T43.6** (*psychostimulants with abuse potential*), in other words coffee and chocolate, were introduced in 1517 and 1520 retrospectively. The 1500s also saw the start of the age of mercantilism.

Queen Elizabeth I came to the throne in 1558. She may have had **Z59.2** (*discord with neighbours*) as well as causing her loyal subjects to be

Z58.1 (*exposed to air pollution*) as she rarely washed or changed her clothing. To prevent **Z60.4** (*social exclusion and rejection*) she carried a cloved apple to disguise the smell: roll on the invention of deodorants! During this time Sir Walter Raleigh started the **Z72.0** (*tobacco use*) which has resulted in years of **F17** (*mental and behavioural disorders due to use of tobacco*) and the need for **Z71.6** (*tobacco abuse counselling*). Are you aware that the first tobacco sold in France was on a doctor's prescription in 1635? We have seen the arrival of coffee and chocolate, and now tea comes into its own but is described as a **T43.8** (*psychotropic drug, nec*) affecting health, morals and public order!

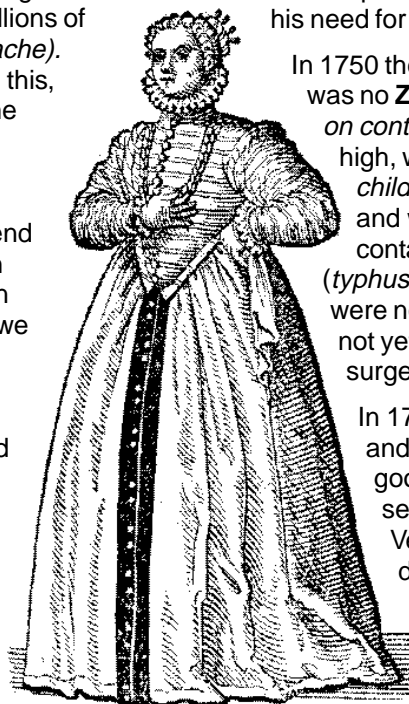
In 1605 Guy Fawkes (a catholic) tried to destroy Parliament (a protestant establishment) by creating a **Z73.0** (*burn-out*) with a **W40** (*explosion of other materials*) bringing about an annual event involving **W39** (*discharge of fireworks*). In 1662 the Royal Society for Improving Natural Knowledge was founded. Medicine should have moved on by now, so perhaps we shall find another version of ICD.

Right on cue, in 1664 John Graunts started to produce **ICD6** (*Weekly Bill of Mortality*). This made interesting reading when, in 1666, **A20.0** (*bubonic plague*) struck England, and in London alone 700,000 people died.

In 1707 Britain became Great and the age of capitalism started. In 1720 Sir Robert Walpole became the first real Prime Minister. In 1727 George II came to the throne and was known as the last sovereign to lead an army into battle; he was also one of the loudest **R06.5** (*snorers*) in history. 1754 saw the invention of the sandwich by the Earl of Sandwich, who thus solved at a stroke the problems of **T73.0** (*effects of hunger*) for future generations of working people. He was also an **F63.0** (*compulsive gambler*), so we may suppose that his sessions of uninterrupted **Z72.6** (*gambling and betting*) led to his need for sandwiches.

In 1750 the population was not healthy, there was no **Z30.0** (*general counselling and advice on contraception*), infant **R99** (*mortality*) was high, women frequently **095** (*died in childbirth*), there was **X54** (*lack of water*) and what was available was dirty and contaminated. **B03** (*smallpox*), **A75.9** (*typhus*) and 'jail fever' abounded. Doctors were not much help and anaesthetics had not yet been invented. Barbers were also surgeons and dentists on the side.

In 1766 there was an eclipse of the sun and Captain James Cook made such a good job of observing it that he was sent on an expedition to observe Venus. For good measure he discovered the eastern coast of Australia at the same time, landing at Botany Bay in 1770, and thereby ensuring that the joys of coding would be introduced to ►



yet another continent. Being an expert in nutrition, he took care of his sailors' diet so that they would not suffer from **E54** (*scurvy*).

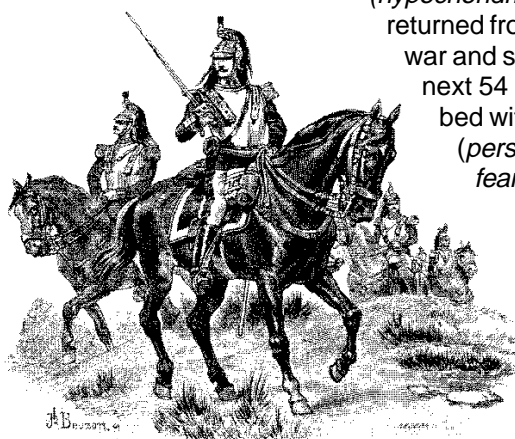
The latter part of the 1700s saw the discovery of dephlogisticated air, later called oxygen. (Had it not been renamed, Jean Michel Jarre would have had a problem naming one of his albums). Other memorable events include the Boston Tea Party, the French Revolution, and the first appearance of *The Times* newspaper in England, only one thousand years behind the Chinese.

In 1801 Britain became the United Kingdom – now we know what to call ourselves in the Eurovision Song Contest. Talking of which, the famous battle of Waterloo took place in 1815, providing Abba with a name for their first chart-topping song and a winning entry in the said contest.

Bicycles were soon invented causing **V01** (*pedestrian injured in collision with pedal cycle*), surprisingly since pedals had not yet been invented. Proper roads were built enabling **V87** (*traffic accident of specified type but victim's mode of transport unknown*) to occur. Canals were dug and railway lines criss-crossed our country. The State assumed responsibility for **Z59.5** (*extreme poverty*): the Poor Law Amendment Act created workhouses to solve **Z59.0** (*homelessness*) and The Factories Act tried to prevent **Z56.6** (*other physical and mental strain related to work*) in children under nine years of age. **Z59.6** (*low income*) and the Corn Laws meant that there was a **Z59.4** (*lack of adequate food*). In 1848 the Public Health Act was passed in an effort to learn lessons that the Romans had taught us about sanitation, but was unable to prevent the subsequent **A00** (*cholera*) epidemic due to a lack of understanding as to how the disease was transmitted.

Florence Nightingale lived through **Z65.5** (*exposure to disaster, war and other hostilities*) when she nursed soldiers during the Crimean War, but it is not commonly known that she was a **F45.2**

(*hypochondriac*). She returned from the war and spent the next 54 years in bed with **Z71.1** (*person with feared*



complaint in whom no diagnosis is made) before **R99** (*dying*) at the age of 90 with the problem she feared she had. The Crimean War may have been something of a disaster, but we must remember that the British commanders Lord Raglan and Lord Cardigan, together with the Battle of Balaclava, did wonders for our winter wardrobe, and lessened the **T69.9** (*effects of reduced temperature*).

In 1859 Charles Darwin wrote **ICD7** (*The Origin of Species*), which some say was the nineteenth century's greatest gift to modern science. In 1867 the first commercial typewriter was

designed and Karl Marx wrote the first volume of Das Kapital.

Inventions continued with the telephone, although it is unlikely that Alexander Graham Bell envisaged the epidemic proportions of the use of mobile phones. Levis, Coca Cola, zips, shredded wheat, the wireless, and light bulbs came into being.

At the turn of the 20th century the world population had increased to 1,625 million and there was talk of a wonderful new timesaving invention by, once again, the Norwegians. Alas, they had still not written a song to win the Eurovision Song Contest, but they had invented the paperclip.

We shall not dwell on the well-known events of this century because of the utmost importance to coding was the creation of the World Health Organisation in 1948. There's no stopping us now. By 1990 the world population had increased again to 5,246 million and by 2050 it is estimated that it will have reached 11,000 million. Collecting statistical data on that lot is going to give us **F51.5** (*nightmares*).

So we have seen where the missing ICDs have been hiding, way back in the mists of time. And now planners are busy developing a strategy for the delivery of managed health care, and we have come full circle back to ICD1, for this was exactly what the Codex Hammurabi established four millennia ago. Talk about re-inventing the wheel!

Reading this summary you may have suffered from **Z72.3** (*lack of physical exercise*) and in the course of writing it we have definitely suffered from **Z73.2** (*lack of relaxation and leisure*). We now wish all coders everywhere a **Z73.1** (*accentuation of personality traits such as unbridled ambition, need for high achievement, competitiveness and sense of urgency*) and a great new Millennium. Here's to the age of information, because that is where the future of clinical coding lies.

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coding services

My presentation at the NCCH Conference in Hobart in September summarised the major changes to the 2nd edition. For those who were unable to attend the conference, the paper has been included in the Conference Proceedings, available from the NCCH at a cost of A\$30. Below are some of the major changes that will be effective with the 2nd edition of ICD-10-AM.

News about the second edition, July 2000

Diseases

Diabetes mellitus

In the second edition of ICD-10-AM there will be significant changes to the codes in E10 – E14 with the dagger/asterisk convention no longer included and more specific codes for complications of diabetes such as end-stage renal failure. To assist clinical coders in fully understanding the changes, **this two part series** will provide clinical information about diabetes mellitus, beginning with part one in this issue (see *Clinical Updates, Diabetes mellitus on page 16*). Part two will describe how the second edition codes relate to this clinical information and will be published in *Coding Matters*, Vol 6 No 4.

Post traumatic amnesia

Category F04 *Organic amnesic syndrome, not induced by alcohol and other psychoactive substances* has been expanded to include four new codes classifying post traumatic amnesia. The distinction between the four codes is on the basis of duration (similar in concept to category 294.0 in ICD-9-CM).

Sleep apnoea

Four new codes have been introduced to distinguish between the various types of sleep apnoea: central sleep apnoea, obstructive sleep apnoea, sleep hypoventilation syndrome and other sleep apnoea.

Cerebral palsy

Category G80 *Infantile cerebral palsy* (now *Cerebral palsy*) has been restructured and the terminology updated to reflect current clinical

concepts. New codes have been introduced for spastic cerebral palsy providing greater specificity. The changes to this category were suggested by the Royal Children's Hospital in Melbourne through the NCCH's public submission process in February 1999.

Paraplegia and tetraplegia

The fifth character subdivision for use with category G82 *Paraplegia and tetraplegia* has had a major revision and now describes whether the paraplegia is complete or incomplete and whether the paraplegia is acute or chronic.

Cleft palate, cleft lip, cleft palate with cleft lip (WHO revision)

The code descriptions in categories Q35, Q36 and Q37 and the associated index entries have been modified to reflect the current internationally agreed classification of cleft lip and palate.

Infection with drug-resistant microorganism

A new code has been introduced in the 2nd edition of ICD-10-AM to indicate the presence of drug-resistance of the infectious organism. Judging by the number of coding queries, this change will make a lot of clinical coders happy!

Procedures

Allied health/Miscellaneous procedures

The Allied health chapter (Chapter XXI) and the Miscellaneous procedures chapter (XIX) have been merged into a new chapter: Non-invasive, cognitive and interventions not elsewhere classified (XIX).

All references to the service provider in the existing allied health interventions and certain miscellaneous procedures have been removed. Any duplication or overlap of interventions has been avoided by providing a generic code that can be used by all service providers.

The codes for generalised allied health interventions (block 2140 in 1st edition) have been retained. As a rule, it will only be necessary to assign the general code(s) for allied health interventions.



However, if there is a need to collect more specific data on allied health interventions at the local level, then assignment of the general category code and/or specific code(s) will be acceptable.

Continuous ventilatory support

CVS commenced during a procedure with a duration of less than 24 hours will **not** be coded as is currently the case. However, coding of continuous ventilatory support (CVS) for less than 24 hours will be acceptable in all other circumstances.

Dental chapter (Chapter VI)

The dental chapter has been revised in line with the 6th edition of the Australian Dental Association's publication 'An Australian Schedule of Dental Services and Glossary' (effective January 2000). Terminology relating to the materials used in restorations has been simplified (either metallic or tooth coloured). Also simplified are the codes relating to non surgical removal of tooth, with the split between permanent and deciduous, or whether the tooth removed was adjacent or regionally located, no longer applicable.

Drug delivery devices (vascular and non vascular access devices)

The terminology relating to drug delivery devices has been improved in both the index and the tabular. The codes relating to drug

delivery devices have been moved and grouped together under one block to assist in code assignment. The standard relating to vascular access devices and implantable infusion pumps (ACS 0216) has also been revised.

Bone marrow/stem cell transplantation

The codes in block 802 have undergone significant restructuring. Information about whether the donor is matched or mismatched according to tissue typing and whether the donor is related or unrelated has been included in the code descriptions. The type of donor is an indicator of the complexity of the procedure.

There is no longer a distinction between bone marrow and stem cell transplantation. Rather the main distinctions are:

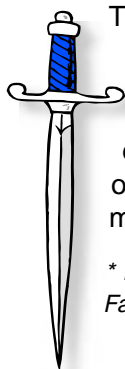
- whether the transplantation was autologous or allogeneic
- whether the donor was matched related or other (matched unrelated, mismatched family)
- whether in vitro processing was performed.

Coding Queries

I'm please to advise that coding queries are now being processed after a period where our staff were fully occupied in finalising ICD-10-AM second edition. More answers will be posted on the NCCH website as soon as possible.

► **Kerry Innes**
Associate Director

Did you know?



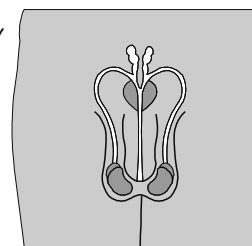
The dagger symbol (†), traditionally used for reference to a note after the asterisk (*) was originally used in church books, prayers of exorcism, at benedictions and so on, to remind the priest where to make the sign of the cross (†).

** Brewer's Concise Dictionary of Phrase and Fable, 1992*

Didymus is the Greek word for twins and was applied to St. Thomas, as the name Thomas in Aramaic means a twin.

Brewer's Concise Dictionary of Phrase and Fable, 1992

So no prizes for guessing who the twins of Epididymus are!



the 10-AM commandments

This regular section (previously 'Coding Tips') is intended to provide ongoing guidance to coders on commonly asked questions and aims to address those areas of coding which require immediate attention by 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 change practice 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/territory health authority regarding a suitable date for implementation.

1. Streptococcal group B infection/carrier in pregnancy

Infections due to the Streptococcus group B (Strep B) organism in pregnant women are quite rare. Often, a high vaginal swab will identify a Strep B organism, however, the woman will have no symptoms and is simply a carrier of Strep B. Prophylactic treatment may be given to ensure that the organism is not passed onto the baby during birth.

The following coding rules apply for obstetric patients with Strep B:

If no prophylactic treatment is given, assign:

Z22.3 Carrier of other specified bacterial diseases.

If prophylactic treatment (e.g. penicillin) is given, assign:

Z22.3 Carrier of other specified bacterial diseases

and

Z29.2 Other prophylactic chemotherapy

If there is documentation of a genitourinary tract infection due to Strep B, assign:

O23.9 Other and unspecified genitourinary tract infection in pregnancy

and

B95.1 Streptococcus, group B, as the cause of diseases classified to other chapters.

2. Induction of labour/augmentation of labour

The NCCH has received a number of queries relating to induction/augmentation of labour and how to use the 'combined' codes in blocks 1334 *Medical or surgical induction of labour* and 1335 *Medical or surgical augmentation of labour* (NCCH query ID 506, 606, 741).

Points to remember when deciding on the assignment of these codes:

- Augmentation procedure codes are used only for patients who **have** a **spontaneous** labour. Any interventions assisting with the continuation of the spontaneous labour are classified as augmentation.
- Induction procedure codes are used only for patients who do **not have** a **spontaneous** labour. Interventions used to start labour and/or assist with the continuation of the induced labour are classified as induction, regardless of when the procedure during the course of the labour is performed (i.e. induction by IV syntocin, then 3 hours later surgical induction by ARM).
- Augmentation and induction procedure codes cannot be assigned together, i.e. labour is either spontaneous or induced, it cannot be both.

CLINICAL UPDATES

Diabetes mellitus

The following information is adapted from the *National Health Priority Areas Report: Diabetes Mellitus 1998*. Commonwealth Department of Health and Aged Care and Australian Institute of Health and Welfare, (1999) AIHW Cat. No. PHE 10. HEALTH and AIHW, Canberra. Thanks to Dr Gordon Senator for his major contribution to the development of the diabetes mellitus codes and standards of this article.

Because the common diagnostic feature of diabetes is an elevated blood glucose concentration, in the past diabetes mellitus was considered to be a single disease. However, it is now clear that diabetes is a heterogeneous group of metabolic abnormalities caused by many different mechanisms.

Diabetes is characterised by high levels of blood glucose, caused either by deficient production of insulin (the hormone that helps metabolise glucose) and/or resistance to its action. During the course of this chronic disease, a variety of complications can arise, including heart disease, stroke, blindness, kidney problems and lower limb disorders leading to amputations. Diabetes can also lead to pregnancy-related complications, both for the mother and the fetus or newborn baby. It is the seventh leading cause of death in Australia, and contributes significantly to morbidity, disability and poor quality of life with reduced life expectancy.

There are four main categories of diabetes:

- **Type 1 diabetes**, characterised by a complete deficiency of insulin, and estimated to represent 10-15 percent of all people with diabetes in Australia.

People with Type 1 diabetes require insulin therapy for glycaemic control to survive, the condition was therefore also termed *insulin-dependent diabetes mellitus or IDDM*. It is usually an auto-immune disease (a condition in which the immune system attacks its own tissues – the insulin producing beta cells of the pancreatic islets) although the development of Type 1 diabetes may also be idiopathic.

- **Type 2 diabetes**, the predominant form of diabetes in Australia and worldwide. It is particularly common in certain ethnic groups including Aborigines and Torres Strait Islanders, Indian Ocean and Pacific Ocean

Islanders, people from the Indian subcontinent and Asia and the Middle East. It is a common chronic disease among people 40 years and over, and is characterised by a relative insufficiency of insulin and resistance to its action.

People with this form of diabetes do not usually require insulin to survive, hence it was also known by the term *non-insulin-dependent diabetes mellitus or NIDDM*. The pathogenetic mechanisms of Type 2 diabetes are not fully understood. However, it appears to be a two-stage process; resistance to insulin action that often is exacerbated by obesity and reduced physical activity, followed by inability of the insulin producing cells in the pancreas to produce adequate amounts of insulin in response to meals. In this form of diabetes, the muscles, fat and liver, on which insulin mainly works, are relatively resistant to its action (insulin resistance).

Risk factors for Type 2 diabetes

Obesity: The risk of developing Type 2 diabetes rises continuously with increasing body mass, and is approximately five to ten times greater in those classified as obese (body mass index [BMI] 30 and over) than in those with an acceptable weight (BMI under 25).

Physical inactivity: Several studies indicate that physical activity plays a protective role against the development of diabetes.

Age: Increasing age is a major risk factor for Type 2 diabetes. With the progressive ageing of the Australian population, the burden of Type 2 diabetes is expected to rise.

- **Gestational diabetes**, occurs during the latter part of pregnancy in about 4 – 6 percent of women not previously known to have diabetes, and greatly increases their risk of developing Type 2 diabetes later in life.

Women with known diabetes who become pregnant do not fall into this category. In most cases of gestational diabetes, the hyperglycaemia resolves soon after delivery; however, in some cases, especially among those from high-risk population groups, it may continue, progressing to frank Type 2 diabetes. Gestational diabetes carries health risks for the newborn infant.

The aetiology and risk factors for gestational diabetes are generally similar to those of Type 2 diabetes.

- **Other types**, including diabetes secondary to other biological and metabolic events in addition to known genetic abnormalities.

This category is uncommon, and includes diabetes caused by a variety of distinct genetic and pathological mechanisms that are generally clearly defined.

Diabetes-related complications

Complications of diabetes can be broadly classified as microvascular, macrovascular and those associated with pregnancy. The risk of microvascular complications is similar in Type 1 and Type 2 diabetes (after accounting for age and duration of diabetes), but macrovascular complications are more common with Type 2 diabetes. All types of diabetes present at the time of conception are associated with obstetric and neonatal complications with the increased risk of miscarriage and fetal malformations.

A range of risk factors is known to contribute or lead to the development of complications among people with diabetes. In addition to age, sex, duration of disease and genetic factors, these include:

- poor control of diabetes (hyperglycaemia)
- obesity
- high blood pressure (hypertension)
- abnormal cholesterol levels and balance (dyslipidaemia)
- tobacco usage
- lack of self-management skills
- poor access to appropriate care

Microvascular complications

Kidney damage, or nephropathy, is a major complication of diabetes. It is first diagnosed by the detection of protein in the urine (albuminuria). Over time, diabetic nephropathy can progress to end-stage renal disease, requiring dialysis or transplantation for survival.

Diabetic retinopathy is the most common cause of visual loss in adult Australians under the age of 60. The problem is caused by damage to small blood vessels in the retina and is readily treatable by laser therapy if identified early. Another eye complication that leads to loss of vision, cataract (lens opacity), is also more common among those with diabetes.

Neuropathy, infections and amputations

Neuropathy (damage to nerves) is a common debilitating complication of diabetes, mainly affecting the feet and legs. Neuropathy can

cause pain, but more importantly can lead to foot infections, ulcers and gangrene.

Macrovascular complications

Coronary heart disease. People with diabetes are at much higher risk of coronary heart disease than those without diabetes. This may be partly because they also have higher levels of other associated risk factors including obesity, high blood pressure and abnormal cholesterol, although this does not fully explain the excess of coronary heart disease.

Peripheral vascular disease. This disease results in a reduced blood flow to legs and feet and also may affect the major arteries in the neck providing circulation to the brain. When affecting the circulation to the feet it may contribute with neuropathy to the development of infections, ulcers and gangrene. Reduced circulation in the blood vessels in the neck (carotid arteries) can increase the risk of strokes.

Complications associated with diabetes in pregnancy

Poor control of diabetes during pregnancy can result in excessive birth weight of the baby who may also have low blood sugar levels (hypoglycaemia) and other disturbances of body chemistry.

In women with poorly controlled diabetes prior to, and in the early weeks after, conception, the risk of birth defects (congenital malformations) is increased.

Microvascular complications affecting the pregnant individual, especially retinopathy, can worsen during pregnancy.

Impaired carbohydrate tolerance

This newly revised category now includes abnormal glucose tolerance and impaired fasting glycaemia (raised blood glucose) falling short of the WHO criteria for frank Type 2 diabetes. It is considered to be a stage in the development of Type 2 diabetes and is due to insulin resistance. Patients in this category are at risk of the same range and extent of macrovascular complications as patients with Type 2 diabetes.

This category is also used to define gestational diabetes. During pregnancy any degree of carbohydrate intolerance detected will be categorised according to WHO criteria as diabetes, as even minor abnormalities are associated with the same consequences as more serious disturbances of carbohydrate tolerance.



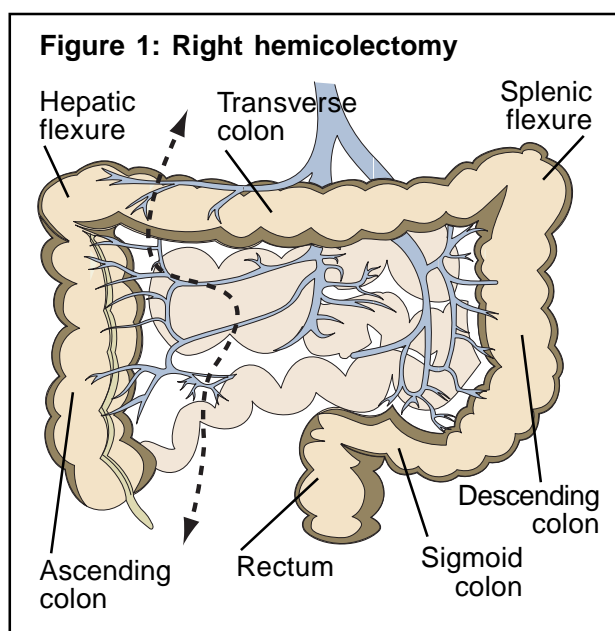
Colorectal surgery

A summary of a presentation at the 6th Annual NCCH Conference by Mr. Tony Evers (Colorectal surgeon, Royal Prince Alfred Hospital/Concord Hospital, Sydney) and Michelle Bramley, NCCH.

This is the first in a two part series. The second part will appear in *Coding Matters*, Vol 6 No. 4.

Large bowel resections The exact lines of resection are determined by the distribution of mesenteric blood vessels. The aim is to retain a good vessel close to the line of resection as there must be a good blood supply to the cut end of the bowels to ensure healing. This important general principle of colorectal surgery is aimed at preventing the anastomosis failing and subsequent leakage.

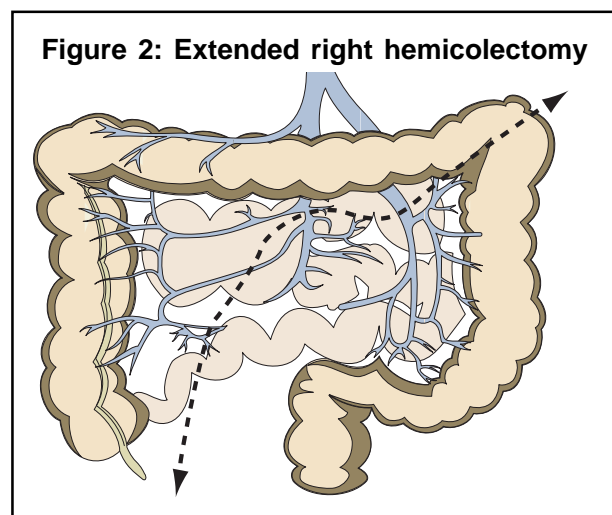
Right hemicolectomy (right colectomy) is performed for diverticular disease and cancers of the caecum and ascending colon, removing as little of the terminal ileum and as much of the ileocolic artery as is possible. Depending on the site of the cancer, the resection may extend further along the transverse colon to the splenic flexure (extended right hemicolectomy).



Classification notes:

- 32003-01 [913] *Right hemicolectomy with anastomosis*
- 32000-01 [913] *Right hemicolectomy with formation of stoma*

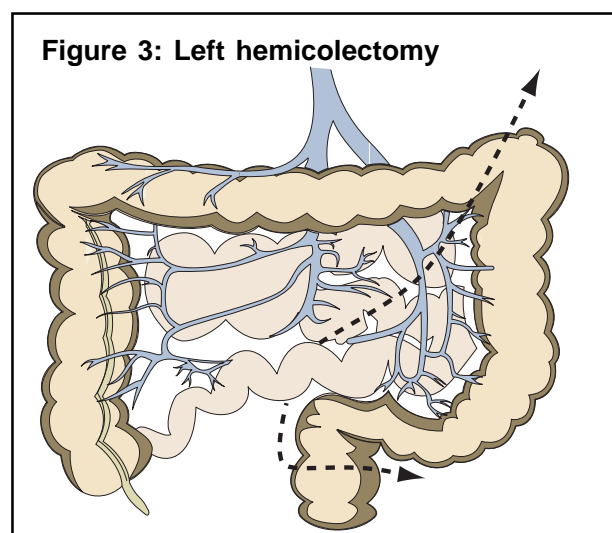
Extended right hemicolectomy is currently classified to the codes for sub-total colectomy. Mr Evers suggested that a distinction should be made between these two procedures as a sub-total colectomy is a very different procedure from an extended right hemicolectomy (see figure 2). The NCCH will consider this for the 3rd edition of ICD-10-AM.



Classification notes:

- 32005-00 [913] *Sub-total colectomy with ileosigmoid anastomosis*
- 32004-00 [913] *Sub-total colectomy with formation of stoma*

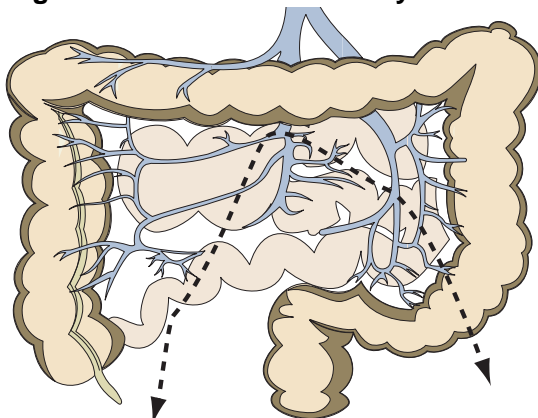
Left hemicolectomy (left colectomy) is performed for cancers of the descending colon and diverticular disease. The descending colon is resected proximally to include the splenic flexure while the distal resection generally extends into the sigmoid colon, but can also extend to the rectum.



Classification notes:

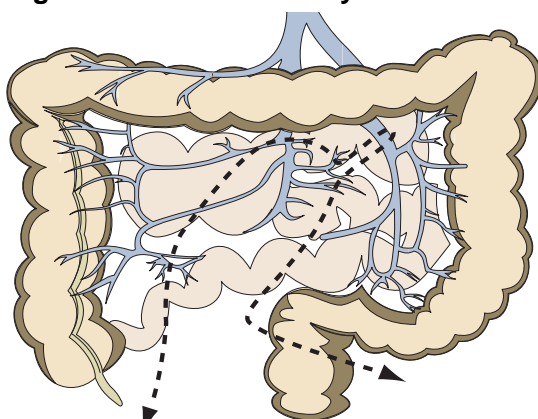
- 32006-00 [913] *Left hemicolectomy with anastomosis*
- 32006-01 [913] *Left hemicolectomy with formation of stoma*

Subtotal colectomy is performed for diverticular disease or inflammatory bowel disease (Crohn's disease) and involves resection of the right, transverse and descending colon.

Figure 4: Sub-total colectomy**Classification notes:**

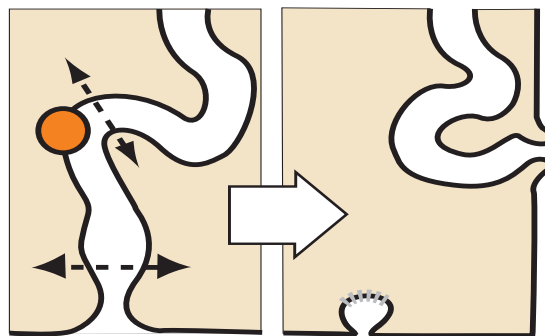
- 32005-00 [913] *Sub-total colectomy with ileosigmoid anastomosis*
- 32004-00 [913] *Sub-total colectomy with formation of stoma*

Total colectomy is performed for tumours, Crohn's disease and ulcerative colitis. The entire colon is removed.

Figure 5: Total Colectomy**Classification notes:**

- 32012-00 [913] *Total colectomy with ileorectal anastomosis*
- 32009-00 [913] *Total colectomy with ileostomy*

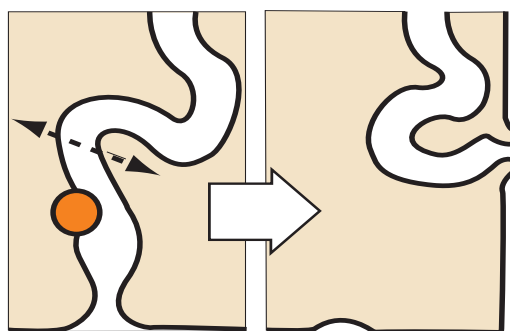
Hartmann's procedure is performed for diverticular disease, tumours and in rare cases, for volvulus. The procedure is essentially a resection of the rectum and sigmoid colon without an anastomosis. The proximal end of the bowel is brought out as a colostomy and the rectal stump is oversewn deep in the pelvis.

Figure 6: Hartmann's Procedure**Classification notes:**

- 32030-00 [932] *Rectosigmoidectomy with formation of stoma*

Resection of rectum.

Abdominoperineal resection of rectum is performed for larger tumours of the distal rectum or for tumours which are poorly differentiated and a safe anastomosis is not practical. The procedure involves removal of the entire rectum and anus and the formation of an end (permanent) colostomy.

Figure 7: Abdominoperineal resection of rectum**Classification notes:**

- 32039-00 [932] *Abdominoperineal proctectomy*
- 30375-04 [915] *Other colostomy*

Note that unlike other codes for large bowel resections 32039-00 [932] does not include the formation of the stoma and therefore an additional code for the colostomy should be assigned.

Anterior resection of rectum is performed for cancers of the upper and mid-rectum and less commonly for rectal prolapse. The distance of the tumour from the anal canal is central to determining the level of resection.

Consideration is also given to long term anal functioning as resection close to the anus not only reduces the rectal reservoir but can damage internal sphincter tone, thereby reducing anal control and continence.

Classification notes:

- 32024-00 [933] *High restorative anterior resection of rectum with intraperitoneal anastomosis*
- 32025-00 [933] *Low restorative anterior resection of rectum with extraperitoneal anastomosis*
- 32026-00 [933] *Low restorative anterior resection of rectum with coloanal anastomosis*
- 32028-00 [933] *Ultra low restorative anterior resection of rectum with coloanal anastomosis*

Figure 8 provides a diagrammatic representation of the levels of rectal resections, the grey shaded area representing extraperitoneal anastomosis, the white area representing intraperitoneal anastomosis. Documentation relating to the level of resection can be inadequate. Clues are to look for descriptions of

the anastomosis and any drawings indicating level of resection.

Ultralow anterior resections include total mesorectal excision (TME) and this would be another clue to distinguish between a low and ultra low anterior resection.

If 'anterior resection of rectum' is the only documentation provided on the operation report, assume the resection is high and assign:

32024-00 [933].

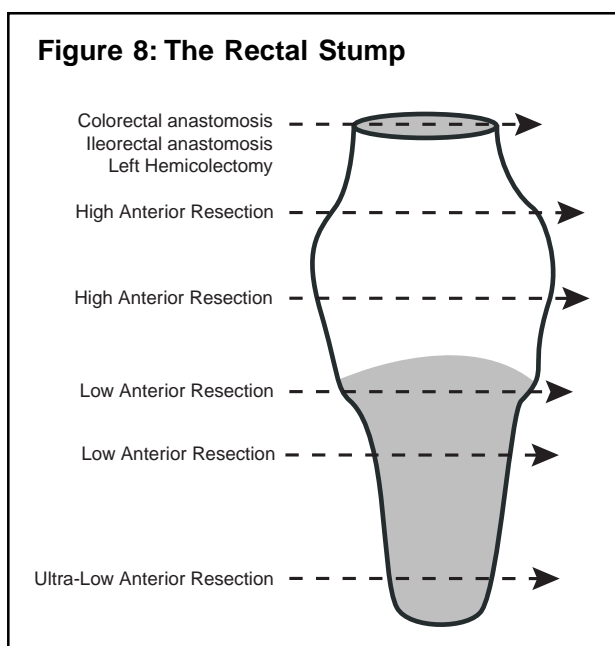
The codes for large bowel resection are distinguished by whether :

- *anastomosis is performed*
- *stoma is formed*

and there is no need to assign an additional code. These codes do not distinguish the type of anastomosis nor whether the stoma is permanent or temporary. The only exception is abdominoperineal proctectomy (32039-00 [932]) which requires an additional code for the formation of a colostomy.

Be aware that there are also codes for large bowel resection in block 1010 *Procedures for Hirschprung's disease* which are predominately, if not exclusively, performed on children.

A review of the codes for large bowel resections is planned for the 3rd edition of ICD-10-AM.



Please help

It would greatly assist the review of colorectal surgery if coders could advise us if 'transverse colectomy' is being documented as a procedure.

Please contact Michelle Bramley by fax, 02 9351 9603, phone, 02 9351 9098 or by email, m.bramley@cchs.usyd.edu.au including a de-identified copy of the operation report.



quality concerns

PICQ – PERFORMANCE INDICATORS FOR CODING QUALITY

The PICQ product was demonstrated at 6th Annual Conference of NCCH held in Hobart and 20th Conference of HIMAA held in Adelaide during 1999

What is PICQ?

PICQ is Performance Indicators for Coding Quality.

Developed by the NCCH Quality Division, PICQ was designed to complement the Australian Coding Benchmark Audit (ACBA).

Clinical coding is a complex process, requiring trained personnel, adequate resources and reference material. The coding component of health databases provides valuable information for research, planning and funding of hospitals. PICQ allows the verification of the coded data by using predetermined performance or coding indicators. Once identified, the causes of actual or potential errors may be investigated and corrective action taken.

Example of an indicator:

Chemotherapy session for neoplasm
code as additional diagnosis when same
day stay

ACS 0206, sequencing problem,
threshold 0%

The function of PICQ is to:

- **Identify** problem areas in data
- **Measure** data accuracy against a particular indicator or combination of indicators
- **Identify** the specific records needing correction
- **Suggest** possible causes of problems
- **Suggest** possible corrective actions

What is a performance or coding indicator?

A coding indicator looks at codes in a variety of ways including:

- presence or absence of codes
- combinations of codes
- code sequence
- specificity of code

A coding indicator is based on:

- Australian Coding Standards (ACS)
- Coding conventions
- Documented NCCH and international coding problems

A coding indicator identifies errors in the following fields:

- Diagnosis (ICD-10-AM code)
- Procedure (ICD-10-AM code)
- National Health Data Dictionary fields (NHDD) e.g. *age* or *length of stay*. ►

PICQ	ACBA
Output based	Input based
Examines existing codes	Re-coding
Designed for user audit	Designed for self audit
Whole database	Small volume of data
Unit/hospital/organisation/area based	Hospital based
Systematic approach	Random sample
Identifies error ratio, causes and solutions	Indicates coder/system error cause

■ AR-DRGs

A coding indicator identifies records which have a specific type of problem:

- **Edit** – codes or combinations of codes which editing should have prevented
- **Completeness** – codes are missing
- **Redundancy** – unnecessary codes
- **Specificity** – codes too general
- **Sequencing** – incorrect sequencing.

A coding indicator identifies errors by degree:

- **Fatal** – coded incorrectly by definition
- **Warning** – expect to occur in limited numbers
- **Relative** – assesses the overall quality of coded data.

Who needs PICQ?

PICQ is valuable to those who:

- Provide health data
- Collect health data
- Analyse health data
- Use health data
- Provide system design and support in the

health and related industries.

PICQ may be used by clinicians, data managers, clinical coders, researchers, health administrators, planners, government departments, educators and funders.

What form will PICQ take?

PICQ is presented in an electronic format comprising:

- a user manual providing information to assist understanding, choice and application of indicators and
- a disk containing specifications of each indicator which can be integrated with a database.

PICQ will be launched early 2000

PICQ contributors:

Joanne Chicco, Lee-Anne Clavarino, Andrea Groom, Anthea James, Kerry Innes, Irene Kearsey, Irene Kearsey, Gay Lysenko, Catherine Perry, Rosemary Roberts, Nicole Schmidt, Erich Schulz, Donna Truran and Dianne Williamson.

▶ Gay Lysenko
PICQ Project Coordinator

VALE *Elaine Harris*

Elaine Harris died in Canberra on 25 July 1999, aged 47 years after a protracted illness during which she remained optimistic and courageous. Elaine leaves her son Alexander, dearly loved.

Elaine was a member of the Coding Standards Advisory Committee (CSAC) representing ACT and provided valuable input to the development of codes and standards for the NCCH.

Having completed the course based at the School for Medical Record Librarians, Royal Prince Alfred Hospital, she later upgraded her qualifications by completing a Graduate Diploma in Information and Records Management from the Canberra College of Advanced Education and also gained a Bachelor of Applied Science (MRA) from Cumberland College of Health Sciences. Elaine worked in various Sydney and Canberra hospitals and government departments with enthusiasm. Her laconic sense of humour enlivened many a dry health record discussion.

Always a keen traveller, gardener and raconteur, Elaine was a constantly delightful friend and a reliable fellow worker. Elaine was farewelled at the St John the Baptist Church, Reid, where she would have approved of the glorious plum blossoms. Afterwards, in her flower filled garden, her many local and interstate colleagues and friends celebrated Elaine's life. – *Gay Lysenko*





publication issues

Once again the last *Coding Matters* for 1999 is an issue crammed with news and information. At the beginning of production I was wondering if I would have enough articles to make a reasonable edition. Towards the end of production it seems I'm always looking for space to put things. Apologies to our crossword addicts for its omission this time. We will attempt to have another Trurans teaser for you in the next issue.

Thank you to all our *Coding Matters* contributors during 1999. Also a special thank you to Jenny Peakall for allowing us to print her very entertaining 'Coding the Millennium' article. Jenny will be remembered by some for her presentation at the 4th Annual NCCH conference in Adelaide in 1997.

I look forward to our first *Coding Matters* issue in March 2000. Please feel free to make suggestions for articles you would like to see in future *Coding Matters* by contacting me at r.bernard@cchs.usyd.edu.au

I hope you have a very happy Christmas and new year!

ICD-10-AM second edition

The production of the second edition is well under way requiring major input from Publications and Coding Services Divisions. The second edition is derived from the new ICD-10-AM database which is proving itself to be a very useful tool in the print production of the books. It will also be the base for the CD-ROM version of the book which will be available early next year.

Delivery of the books is expected mid to late January 2000. See the order form distributed with *Coding Matters*.

Specialty books

Neurology and Neurosurgery, the latest in the specialty book series of *Casemix, DRGs and clinical coding*, is now available following the

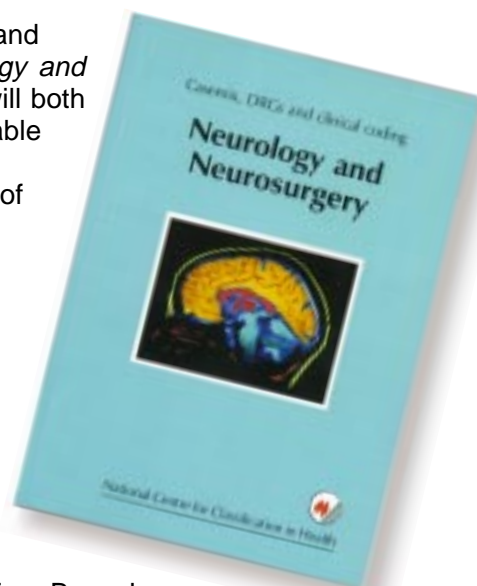
release of *Mental Health, Drugs and Alcohol. Gastroenterology and Hepatobiliary* will also be available by the time this issue of *Coding Matters* has been distributed.

Neurology and Neurosurgery and *Gastroenterology and Hepatobiliary* will both provide a valuable resource in the understanding of coding in the casemix environment.

The specialty books are produced and edited by Monica Komaravalli with the invaluable assistance of Fran Brownlow, Christine Erratt, Andrea Groom, Tahnee Maker and a vast number of clinicians and clinical coders who supply the specialist input required.

Copies of *Neurology and Neurosurgery* and *Gastroenterology and Hepatobiliary* can be purchased by using the order form distributed with *Coding Matters*.

The next book in the series *Ear, Nose, Mouth and Throat* will be available soon followed closely by *Immunology, Rheumatology and Infectious Diseases* and *Nephrology and Urology*.



▶ **Rodney Bernard**
Publications and Technology Manager

Solution to Truran's Teaser No.2

Across – 4. callomania, 5. somatotype, 8. caudate, 10. binocular, 13. aphasia, 16. phenobarbital, 17. ganglion, 18. bulimia, 21. sedative, 23. lacrimal, 24. oncology, 26. deformity, 30. encephalitis, 31. hepatic, 34. disdiadochokinesia, 35. synapse, 37. aphonia, 38. scoliosis, 39. emetic, 41. tinnitus, 43. rhinitis, 44. delta, 45. mycotic

Down – 1. parkinsons, 2. potassium, 3. oestrogen, 5. syndactyly, 6. adult, 7. efferent, 9. trichotillomania, 10. blue baby, 11. dendrite, 12. aging, 13. apraxia, 14. harlequin fetus, 15. brachycardia, 19. maslow, 20. chart, 22. axon, 25. obsession, 27. digitalis, 28. ventolin, 29. thinking, 32. caries, 33. narcissism, 34. diuretic, 36. speech, 40. taxol, 42. neuron



Modifications to ICD-10-AM CALL FOR SUBMISSIONS

The National Centre for Classification in Health (NCCH) is inviting public submissions for modifications to the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM)*. ICD-10-AM is a classification of diseases and procedures and is based on the World Health Organization statistical classification ICD-10. From 1 July 1999, ICD-10-AM became the Australian standard for morbidity classification in acute health services and day facilities. The second edition is due for national implementation from 1 July 2000.

The NCCH is an Australian centre of expertise in classifications for morbidity, mortality and health interventions and is responsible for the maintenance of ICD-10-AM. It is the intention of the NCCH to update ICD-10-AM biennially.

The main objectives of the public submission process are to ensure that ICD-10-AM:

- meets the needs of various users throughout the healthcare system
- continues to be a comprehensive and clinically meaningful classification.

The NCCH invites written submissions from interested members of the public and representatives of relevant agencies or organisations.

Clinical coders should note that they are able to submit via the public submission process. However this mechanism is not intended to replace or circumvent the standard procedures for addressing routine coding queries.

Written guidelines on the submission process can be obtained from NCCH (Sydney),

The University of Sydney, PO Box 170,
Lidcombe NSW 1825,
Phone: 02 93519461, Fax: 02 93519603,
email: NCCHAdmin@cchs.usyd.edu.au
or from the NCCH homepage:
<http://www.cchs.usyd.edu.au/ncch/>

Submissions must be lodged between 1 February 2000 and 29 February 2000.

NCCH (Sydney) is funded by the Casemix Program, Commonwealth Department of Health and Aged Care.

Y2K in January 2000? Could be a worry...

ICD-10-AM 2nd Edition in July 2000?

Don't worry!

All HIMAA courses from February 2000 include the ICD-10-AM 2nd Edition changes.

These courses are:

- ❖ Introductory ICD-10-AM coding courses for new coders
- ❖ Intermediate ICD-10-AM coding course for further education

The textbook 'Introduction to Coding With ICD-10-AM'. (The standard text used around Australia by universities and hospitals, and the **only** text on ICD-10-AM)

For further information

Tel: Denise Johnston on (02) 9887 5998
email: denisej@himaa.org.au

Please visit
www.himaa.org.au/education.html
for more information.



THE CLINICAL CODERS' SOCIETY OF AUSTRALIA (CCSA) was established in 1996 and is affiliated with the Health Management Association of Australia (HIMAA).

The CCSA constitution states that the primary objective of the Society is to provide a forum and also support for clinical coders and those interested in the coding of health care data.

The CCSA aims to provide members with advice on workforce and professional issues, continuing education activities, coder accreditation support, regular publications, in addition to helping to raise the profile of the clinical coders and to promote the understanding of the value of coded data.

The constitution of the CCSA enables membership to be offered to clinical coders, health information managers and those interested in clinical coding.

The CCSA is managed through a Board of Directors comprised of a member from each state and territory and a HIMAA Board member who will act as an ex-officio director.

The membership fees are \$50 annually with a one off \$30 initial joining fee. These fees are tax deductible.

For further information contact:

Shashi
Clinical Coders' Society Of Australia
PO Box 203, North Ryde NSW 1670

or phone 02 9887 5001 or fax: 02 9887 5895