



*\* The Australian National Centre for Classification in Health (NCCH) is a world leader in the extension of medical coding to treatments, but its content distribution gains additional effectiveness from high level compression and e-book added value features. EIS and Microsoft Visual Studio 2005 proved a solution which worked at both a national and a World Health Organisation level.*

*by David Worlock, Chairman*

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Medical informatics remains one of the most interesting fields of classification in the entire knowledge universe. In part this is because of the need for certainty: misdescription can cost lives. Partly it is because of the deep divisions that lie between a taxonomy-based view of medicine (SNOMED and others) and a numerical coding view of medicine (from ICD in 1893 and the Reed codes in the UK to the current ICD-10 standard managed by the World Health Organisation). While the pressure that these two descriptive forms exert upon each other has been disguised by the very different medical applications that they have been exposed to, and the different staff who use them, they begin to draw together increasingly in evidence-based knowledge systems and point of care environments. Medical technicians with certification in medical record coding are now becoming adroit, especially in the US in managed healthcare insurance and Medicare applications, at deploying coding software, which is becoming vital for medical billing and compliance systems, yet the majority of global sales of ICD-9 and ICD-10 coding books remain in print, and, in NCCH's case, in up to five volumes in print.

The Australian NCCH's extension of WHO's standard ICD-10 is not simply a localisation of coding on diseases, alliances and symptoms, but a fully developed coding of treatments as well. Clearly this pointed to a solution which was rapidly network portable and downloadable, could be used as a desktop coding enquiry resolution, or transferred into coding system software. Searchability was a key requirement, as was security. The extension of the Australian coding to treatments meant that the medical procedures classification (ACHI) had to be delivered alongside ICD-10, and coders had to be able to integrate the two. Above all, this is a workflow solution area in which content had to be clearly compatible with the classifier's interface to the medical records.

The solution produced by developer and systems integrator EIS (Eurofield Information Solutions) is an interesting form of e-book, using Microsoft Visual Studio. EIS' eComPress technology reduced the NCCH Word document file size of 140MB to a "book" of less than 5MB. The content structure and encoding ensures speedy update, but an inability to tamper with the content post-delivery. Yet users can add their own notes, tips and observations alongside the standard text. The e-book allows for full search capacity, advanced indexing and navigation features. The demonstration of the utility of this application comes in WHO's adoption of the Australian technology for its own global edition.

This case study demonstrates clearly the increasing importance of workflow-orientated solutions in medical markets – and the situation will become more acute in time as coding becomes more mechanised, and requires more audit activity. The answer is a networked compromise solution – a recognisable “book” for coders who need one, and an installable data component for those whose workflow is increasingly online. But it won’t be just billing systems which eventually appreciate fast and accurate coding – knowledge systems in medicine will need it too, and EIS and its peers will increasingly seek to migrate their solutions in line with the demands of health service networks, diagnostic support systems, prescription analysis environments and other contexts where the ability to read and de-code coded content becomes fundamental.

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#### **RELATED LINKS**

EIS: <http://www.eis.com.au>

Microsoft Visual Studio 2005: <http://msdn.microsoft.com/vstudio/>

World Health Organisation: <http://www.who.int>

SNOMED: <http://www.snomed.org>

#### **FROM THE EPS ARCHIVE**

WK Health: provation medical sharpens the point-of-care, EPS Insights, 13 January 2006

<http://www.epsltd.com/accessArticles.asp?articleType=1&updateNoteID=1829>

Isabel Healthcare: workflow knowledge reduces clinical error, EPS Insights, 9 June 2006

<http://www.epsltd.com/accessArticles.asp?articleType=1&updateNoteID=1978>

SNOMED CT: migrating to an international standard, EPS Insights, 11 November 2005

<http://www.epsltd.com/accessArticles.asp?articleType=1&updateNoteID=1772>