LETTERS

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The quality of national data on injuries requiring hospitalisation

Kirsten McKenzie, Leith F Harding, Susan M Walker, James E Harrison, Emma L Enraght-Moony and Garry S Waller

To the Editor: Quality data about patients with injuries requiring hospitalisation is vital to injury policy and prevention strategies.[1] The ICD-10-AM is used in Australia to assign codes to diagnoses, procedures, and causes of injury recorded in patient medical records.[2] This coded hospital morbidity data provides a key surveillance tool for injury researchers.

ICD classifications are designed for statistical reporting and are required for classifying all information encountered in hospital medical records. When insufficient information is available in the medical record to assign specific codes, the use of residual "Unspecified" categories helps to achieve this.

Detailed and accurate documentation provided by clinicians in patient medical records is imperative to produce high quality coded data.[3] Poor documentation in medical records has been shown to decrease data quality by contributing to an overuse of "Unspecified" codes.[4] This is especially so for documenting external cause of injury, which may not be seen as critical to the patient's care by the treating clinician, with the result that the relevant detail is incomplete or omitted altogether.

We aimed to identify the level of precision of coded injury data in Australian hospitals. Using the 2003–2004 national morbidity dataset, 445 098 records containing an injury and an external cause classified by intent were found (Box). At a broad intent level, the majority of injuries were assigned to a specific mechanism code, although in two intent categories, "Accident" and "Assault", 11% and 13% of injuries, respectively, were assigned to "Unspecified" categories. It is concerning that 45 297 of the injuries requiring hospitalisation lacked adequate documentation in the medical record to permit meaningful code assignment for cause of injury.

A significant lack of precision was evident in recording mechanisms of accidental falls and poisonings (across all intents). A quarter of falls and 20% of poisoning cases had no specific information about the causal mechanism or substance. Being the most commonly reported accident mechanism, falls of unspecified cause represented 11% of accidents overall. This lack of detail is particularly concerning given the significant national priority now placed on falls and poisoning injury prevention.[5]

It is essential that clinicians and coders alike are aware of documentation and coding problems related to capturing data on cause of injury. By working together to improve the quality of injury-related coded data (through improved clinical documentation), accurate and comprehensive information pertaining to the circumstances surrounding injury events requiring hospitalisation will benefit injury policy and prevention initiatives.

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Precision of recorded cause of injury data across selected ICD-10-AM categories[2] for 2003–04

ICD-10-AM categories	Specified	Unspecified	Total
Intent			
Accident	347 781 (89.2%)	42 078 (10.8%)	389 859
Intentional self-harm	29 018 (99.6%)	130 (0.4%)	29 148
Assault	19 385 (87.2%)	2 841 (12.8%)	22 226
Undetermined intent	3 617 (93.6%)	248 (6.4%)	3 865
Total	*399 801 (89.8%)*	*45 297 (10.2%)*	*445 098*
Mechanism			
Accidental falls	130 089 (74.6%)	44 336 (25.4%)	174 425
Poisoning (all intents)	31 111 (80.0%)	7 798 (20.0%)	38 909

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5 Australian Institute of Health and Welfare. Injury prevention and control. 2005. http://www.aihw. gov.au/nhpa/injury (accessed Feb 2006). ❑

Guidelines for the management of acute coronary syndromes 2006

Jayantha I Weeraratne

To the Editor: The recommendation for managing acute ST-segment-elevation myocardial infarction with percutaneous coronary intervention (PCI) is that the door-to-balloon inflation time should be 90 minutes. However, it can be up to 120 minutes, depending on when patients present to the emergency department (ED) after the onset of their symptoms.[1] In such cases, an alternative immediate reperfusion strategy — fibrinolysis — should be considered.

At first glance, a door-to-balloon time of 90 minutes seems readily achievable, but what if the patient presents after hours, or presents to a hospital without PCI facilities?

The time required to refer the patient for PCI, organise ambulance transport and call in cardiac catheterisation laboratory staff can be considerable.

In the PRAGUE-2 trial from the Czech Republic, the average door-to-balloon time was 97 minutes.[2] The DANAMI-2 study from Denmark had a cohort of 27 080 patients and had door-to-balloon times of about 114 minutes for those patients transferred to another facility.[3] The National Registry of Myocardial Infarction 4 investigators reported a median door-to-balloon time of 185 minutes for American patients transferred to centres capable of PCI, and a door-to-balloon time of less than 90 minutes for only 3% of patients.[4]

Doctors working in EDs without onsite access to PCI need to know the door-to-balloon times of the institutions to which they refer patients for PCI. Centres performing PCI may not be forthcoming with this

information, as they have a vested interest in keeping their numbers up for PCI. Alternatively, this information may not be known to the clinician accepting the patient for PCI.

In addition, doctors in EDs who opt to transfer their patients have the burden of organising transport for potentially unstable patients who may develop lethal arrythmias.

As door-to-needle time for thrombolysis has become a clinical indicator for EDs, perhaps door-to-balloon times can be a clinical indicator for cardiac catheterisation laboratories.

Finally, it is important to note that in some patients requiring urgent coronary artery reperfusion, the first electrocardiogram (ECG) is not diagnostic, so a more pragmatic indicator would be diagnostic ECG-to-balloon time. This would require an enforcement of the current recommendations for an ECG to be performed and critically reviewed shortly after a patient presents with symptoms suggestive of an acute coronary syndrome.

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1 Acute Coronary Syndrome Guidelines Working Group. Guidelines for the management of acute coronary syndromes 2006. *Med J Aust* 2006; 184 (8 Suppl): S1-S32.
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4 NRMI 4 Investigators. The National Registry of Myocardial Infarction 4 quarterly data report. South San Francisco, Calif: Genentech, March 2003. ❑

Philip Aylward and Constantine N Aroney

In reply: We agree with the points highlighted by Weeraratne, and these have been broadly addressed within the new National Heart Foundation of Australia and Cardiac Society of Australia and New Zealand *Guidelines for the management of acute coronary syndromes 2006*.[1]

The guidelines emphasise the need for appropriate systems of care which are regionally based, have formal links with specialist centres, include appropriate monitoring, feedback and quality improvement components, and are sensitive to the cultural and personal beliefs and wishes of individual patients.

Clinicians do need to know the achievable door-to-balloon times for primary percutaneous coronary intervention within their local contexts, and if there is any doubt about the timely availability of this treatment for patients with ST-segment-elevation myocardial infarction, the guidelines recommend that fibrinolysis be given promptly.

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1 Acute Coronary Syndrome Guidelines Working Group. Guidelines for the management of acute coronary syndromes 2006. *Med J Aust* 2006; 184 (8 Suppl): S1-S32. ❑

Should clinical software be regulated?

Karen L Fox

To the Editor: The editorial by Coiera and Westbrook raises some important points.[1] Appropriate models of governance (vis-à-vis regulation) surrounding clinical software are required if we are to drive innovative technology on a course that is safe and effective for patients.

The success or failure of an information system depends on the organisational context in which it is placed.[2] The people, the work processes and the technology must be viewed as integrated elements of one system that aims to improve health quality and, importantly, do no harm. In essence, each element provides an additional layer of quality control and safety, and these work together to avoid adverse events.

By law, we require medical practitioners to be registered. By law, we require health facilities to be accredited and licensed. We should also, by law, acknowledge clinical software as being part of the jigsaw puzzle and require that it too be regulated.

Because of the complexity of the task, in-house development of clinical systems is unattractive to organisations, leaving vendor solutions as the alternative.[3] Currently, there is no apparent active engagement between software developers, government, clinicians and funding bodies to establish a transparent and sustainable program of decision-support software development in Australia.[4] Beilby et al recommended a generic standards-based "middleware" that sits outside all clinical desktop software systems and supports the exchange of information with other clinical systems and knowledge repositories.[4] This would be the gold standard. Inextricably linked with this would be a regulatory framework to compel software suppliers to comply with the standard. Without this, health care organisations are vulnerable to the whim of software vendors, each with different standards, capabilities and knowledge capital.

Decision-support tools to supplement memory and record clinical information and results can help standardise clinical care and reduce human error by ensuring that uniform, evidence-based practices are adopted.[5] Electronic decision-support systems are currently espoused as one of the keys to good quality and safe health care.[4] The health system needs this innovative technology. However, if the health system is to avoid duplication, fragmentation and inconsistencies associated with multiple standards for electronic decision-support systems and other clinical software, then we must advocate for workable standards and legislative frameworks on which to build the technical solutions. We owe this to the health professionals using these systems, who may otherwise make a wrong turn, and we owe it to the patients at the end of the line.

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Policy lags behind reality on antenatal HIV screening

Len D Moaven

To the Editor: I wholeheartedly agree with Giles at al[1] regarding the need for universal HIV antenatal screening in Australia. However, it is worth noting that, at least in private practice, there is already a significant amount of antenatal HIV screening taking place. In November 2005, several

Medicare items for antenatal serological testing, which may include HIV testing — number of items processed in Australia from November 2005 to June 2006 by state

Item	NSW	VIC	QLD	SA	WA	TAS	ACT	NT	All states
69405	2 664	1 905	1 291	149	919	177	142	269	7 516
69408	2 375	1 191	1 080	115	769	205	170	114	6 019
69411	16 169	5 493	6 758	549	1 890	913	912	284	32 968
69413	15 874	10 267	9 488	2 792	4 171	1 229	588	735	45 144
69415	12 283	10 138	11 695	3 095	6 710	784	424	956	46 085
Total	49 365	28 994	30 312	6 700	14 459	3 308	2 236	2 358	137 732

Item 69415 must include HIV testing. ◆

Medicare Benefits Schedule (MBS) item numbers were introduced for antenatal screening for infectious diseases including HIV testing. I am unaware of any specific HIV-testing restrictions relating to national policy (other than the obligations of informed consent and such like) attached to these item numbers.

Four MBS item numbers for "microbiological serology during a pregnancy" may include HIV testing (69405, 69408, 69411 and 69413), and one MBS item number (69415) *must* include HIV testing. From November 2005 to June 2006, there were 137 732 claims for antenatal serological tests, of which at least 46 085 (33%) included HIV testing (see Box).[2] There is some variation from state to state (New South Wales, 25%; Victoria, 34%; and Queensland, 38.5%). Significant state-to-state variation of claims for different Medicare items is not unusual but, in this case, it does not appear to follow any pattern (of the epidemiology of HIV infection in Australia). I suspect that the proportion of pregnant women having HIV tests is closer to 50%, assuming that at least some of the other item numbers claimed included testing for HIV.

It would be worthwhile taking these figures into account when formulating national policy.

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