

■ The Changing Healthcare Environment

Contributed by Nigel Michell

Over the past decade, significant changes have been made to the financing and management of healthcare services. There has been a move away from traditional historical based funding, to an increasing focus on output measurement and Casemix based payment systems. To complicate matters further, these changes have been made in a climate of shrinking budgets, contestability, service agreements, outsourcing and privatisation.

The above changes, coupled with increasing demands for cost effective healthcare services, have emphasised the need for better healthcare information to ensure that the goal of optimal service levels are achieved. In the Allied Health context, there is a need to ensure that the professions are able to clearly quantify and cost the services they provide, to facilitate effective management in an ever-changing environment. These requirements will be discussed in more detail below.

Importance of the Allied Health Professions

Analysis of the submitted South Australian metropolitan hospitals patient costs for 1999/2000 indicates that Allied Health costs represent 2.1% of overall admitted patient costs (refer to Table 1¹). This

Episode Type	Cases	Total Allied Health \$	Total Costs \$	% Allied Health
Acute	218,225	9,583,578	488,994,327	2.0
Rehab.	2,104	1,485,199	22,396,829	6.6
Palliative	480	22,729	1,965,173	1.2
NHT	399	61,556	5,221,626	1.2
Newborn	3,152	70,244	19,407,959	0.4
Totals	224,360	11,223,305	537,985,914	2.1

Source: SA Dept of Human Services (2002)

Table 1
SA Metropolitan Hospital Separations and Costs by Episode of Care Type

relatively small percentage does not truly reflect the importance of Allied Health interventions in the successful treatment of both admitted and non-admitted patients. It is clear that Allied Health practitioners have a significant impact on both patient outcomes and healthcare costs, as a result of their ability to provide an extensive range of services, from preventative treatments such as early ambulation, swallowing management post stroke, diabetic education and pre and post operative physiotherapy through to acute rehabilitation.

Allied Health Data

The availability of timely, meaningful and accurate Allied Health data is extremely important for ensuring favourable outcomes for the professions, arising from informed decision making in clinical practice, service development and negotiation and professional development. The need for Allied Health data to be meaningful is extremely important. For example, there has (and to some extent still is) an obsession with recording Occasions of Service (OoS), which are meaningless predictors of Allied Health cost, efficacy and outcomes.

A key requirement of this data is that it be comparable across sites to enable quality review activities such as benchmarking to be performed. As a result, there is a need for data standardisation, which has largely been achieved through the use of the Australian Allied Health Classification System (AAHCS). The AAHCS divides Allied Health interventions into a Clinical Care, Clinical Service Management, Teaching or Research streams.

Whilst the AAHCS sets out definitions for each of the streams, one of its main problems relates to the manner in which individual practitioners interpret the definitions. A recent review by the National Allied

¹ Admissions that did not include all days within the 1999/2000 Financial Year have been excluded.

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Health Benchmarking Consortium (Law D, Personal Communication 2002) indicated a 69% compliance with the definitions, which suggested that further training was required to ensure greater comparability, a process that is currently being undertaken. Similarly, active marketing programs are also required to guarantee the widespread adoption of this system in all Allied Health settings.

Another issue relates to the discrepancy that often exists, particularly for admitted patients, between the reason for the patient's presentation to the hospital and the reason for the Allied Health intervention. For instance, a patient being treated for cancer of the oesophagus may require an Allied Health intervention for pneumonia. The development of the Allied Health Indicators for Intervention (IFI) is a step in the right direction, in that this system is useful for describing the characteristics of the patient being treated, i.e. it is more a "wellness" system than a "sickness" system. Interestingly, Woodruff et al (2000:94) indicate that high-level IFI's are no better at predicting intervention time for admitted patients than the use of Diagnosis Related Groups (DRG). This finding suggests that lower level (more specific) IFI's may be more useful for specific clinical use.

Collecting Good Allied Health Data

One of the pitfalls of data collection is collecting data and never using it. If data is being collected then all staff must be clear of the reasons for its collection and the purpose of its use. Using the collected data for meaningful purposes can help improve its accuracy and timeliness by engendering a sense of pride in the practitioners collecting it.

One of the main issues with the collection and utility of Allied Health data relates to the lack of integration of information systems. This was particularly a problem a few years ago, when disparate, stand-alone systems were prevalent. Traditionally, these systems often did not "talk" to other systems and whilst they may have served the information needs of a specific department they were not able to be integrated into enterprise wide systems. For instance, an Allied Health system may not have had links to the Patient Master Index (PMI), thus making the linking of activities to specific patients dependent on the accuracy of the recording of the Medical Record Number (MRN) and Date of Service. This lack of integration also made it

difficult, if not impossible, to relate health inputs, e.g. salaries and wages, goods and services, to health outputs such as patient care, teaching, and research.

Current technology systems facilitate integration into enterprise-wide information systems via technologies such as Open Data Base Connectivity (ODBC), On-Line Analytical Processing (OLAP), and HL7 messaging. New technology systems are generally more intuitive and easier to use and may facilitate easier organisation-wide access to data by being web based. From an Allied Health perspective, such systems must be easy to use and facilitate rapid data entry and be able to capture all the data elements in their Minimum Data Set.

New generation products such as PowerCost Manager (PCM) support the concept of an "Intelligent Enterprise". This is an organisation that has access to timely critical information to enable it to gain an insight into its performance at any given moment, as well as being able to provide effective decision support services for all its users.

PCM provides an affordable, easy to use, enterprise-wide decision support solution that allows Allied Health interventions for both admitted and non-admitted patients to be easily captured and costed using either patient-level costing or cost modelling. PCM is a web-based, database independent application written in Java that consists of a number of patient modules to capture patient demographic and intervention data. Financial modules allow the recording of costs at a cost centre and account code level and the subsequent allocation of these costs down to the procedure and patient level.

PCM's costing module can either be integrated into a Cost Modelling or Patient Costing module, depending upon the organisation's needs. In the former, costs will generally be calculated at the DRG level, whereas in the latter they will be at the individual patient level.

PCM provides a flexible import specification to facilitate the capture of Allied Health intervention data. This specification ensures that the data elements for the Allied Health Minimum Data Set can be captured either directly from the import file or indirectly from the Patient Demographics table. It is anticipated that the Allied Health Classification

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System code would be used as the PCM Service code for costing purposes, with the quantity, cost or time relating to that intervention being stored in the appropriate field in the import file. Final costs could then be allocated to the intervention based on the relativity of one of the following:

- Service Time;
- Service Cost;
- Service Quantity;
- Service Weight x Service Quantity;
- Standard Cost.

The determinant of the most appropriate measure to be used should be made in conjunction with the relevant Allied Health managers.

Uses of Allied Health Data

The main uses of comparative Allied Health data are for quality improvement and service and contract negotiation purposes. These activities are facilitated by the availability of benchmarking data at an organisation, state or national level. Benchmarking data can be used to help identify potential areas of improvement, by highlighting significant variance in practice compared to this data. Again, there is a need to ensure that Benchmarking exercises are relevant, as traditionally such exercises have often focussed on crude measures such as OoS and Full Time Equivalent (FTEs). These measures do not provide a clear understanding of the essential support components of patient management such as carer education or the organisation of relevant community support, which is required.

Other significant uses of the data include; internal and external management reporting; clinical decision making; utilisation review; development of new service initiatives; professional development; and patient costing. Products such as Power Fractions facilitate the allocation of costs at the cost centre and account code level to the various hospital products such as Admitted Patient Care, Non Admitted Patient Care, Teaching, Research and Administration.

Timely, comparative and accurate Allied Health data, along with an appropriate costing framework are essential to the success of the National Allied Health Service Weights Project, which is currently underway. This study is run in conjunction with the National Hospitals Cost Data Collection (NHCDC) and will be used to develop Service Weights.² The development of

these Weights is extremely important as currently the Allied Health Weights in use in Australia are based on the Maryland (US) Weights and do not accurately reflect Australian clinical practice. The relevance of these Weights will be dependent upon the accuracy of the collected data – the future is in your hands.

References

Woodruff I, Fitzgerald K, Itsiopoulos C: *“Report on the Development of Allied Health Indicators for Intervention (IFI) and Performance Indicators (PI)”*, National Allied Health Casemix Committee, Melbourne, 2000

Power Solutions Dtd Pty Ltd

Power Solutions (PSD) provides consulting and support services to healthcare organisations to enable them to gain the maximum value from Business Intelligence Systems. PSD has expertise in the fields of Casemix, patient costing, clinical reporting, and data integration (Cloverleaf) and validation. PSD are currently developing the next generation Decision Support System (PowerCost Manager) using the latest Java and Web technology. This product is already in the implementation phase in a number of hospitals. PSD also produce a number of stand-alone data integrity, costing reconciliation and clinical reporting tools.

Visit www.power-solutions.com.au for further information.



² Service Weights are used to allocate patient costs in the absence of patient level data.

Know Your Health Data

The ICD Code

What goes by the user friendly name of **ICD-10-AM 3rd Edition** is actually *The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification, Third Edition 1 July 2002*.

What is an ICD Code?

ICD codes are a fundamental component of the health activity reporting system – particularly in the acute inpatient hospital setting.

The codes define and quantify the interventions provided and are the building blocks of the discharge diagnosis process and hence, the DRG assignment.

The ICD codes are provider neutral and are shared by all health professionals. The codeset is very large and has many specialty foci and clearly, many codes have no relevance for allied health professionals.

Any Allied Health intervention provided in the acute hospital setting is “codeable” in the ICD classification.

An example of a code that has relevance to (a number of) allied health professions is shown in the box below.

96032-00 Psychosocial assessment

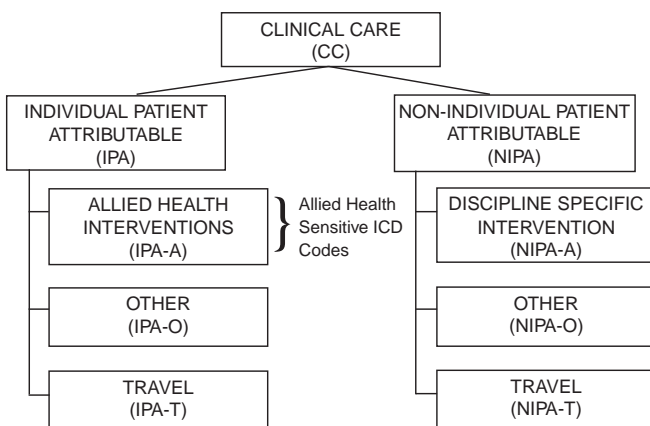
Note: *Psychosocial assessment* – evaluation of a client's issue(s) or functioning within the context of their social situation. Includes exploration of psychosocial needs, coping capacity, adjustment and personal/situational resources

Excludes: assessment of adjustment to a disease/condition (96022-00 [1822]) that as part of:

- ageing assessment (96023-00 [1824])
- alcohol and other drug assessment (96034-00 [1823])
- developmental testing (96184-00 [1824])
- mental or behavioural assessment (96175-00 [1823])

Where do the codes fit in the Health Activity Hierarchy?

The NAHCC Health Activity Hierarchy (the national standard for allied health activity reporting) places ICD codes within the Clinical Care category at the first tier.



NAHCC and the Allied health professional associations have identified approximately 500 codes that are “allied health sensitive” – where sensitivity refers to a clear connection between the code and an allied health intervention.

How Are They Relevant?

The codes have the potential to accurately describe the vast variety and quantity of assessments and interventions “delivered” by allied health professionals in Australia’s hospitals. As such they inform on the “input and process” components of care.

It is technically possible to identify “standard strings” of ICD codes that represent good clinical practice in a particular area. For example, in the dietetic treatment area of diabetes management the ICD code: 96026-00 Nutritional/dietary assessment should almost always appear as one of the standard codes.

It is also possible to use ICD codes at the outcome level. For example, comparing outcomes of care in groups of patients who have either received or not received a particular intervention (as defined by an ICD code).

From the Allied Health perspective, ICD codes have two significant downsides:

- Allied health sensitive codes are not comprehensively collected or coded; and
- with the introduction of “provider-neutral” codes, it is not always possible to link the ICD code to the profession providing the intervention.

Some earlier NAHCC work suggests that in acute public hospitals, approximately ten percent of allied health interventions are coded (as ICD codes) and recorded in the hospital databases that then feed up through the state and national systems to the *National Hospital Morbidity Dataset*.

In summary, the ICD codes are important but are just one of a number of data elements needed for a comprehensive picture of Allied Health’s contribution to healthcare.

More Information

Read the Book: In mid May 2002 NAHCC will release the *Health Activity Hierarchy Version 2* – a publication containing the “Allied Health Sensitive codes” from ICD-10-AM 3rd Edition and the Health Activity Hierarchy.

In the meantime, readers can download the *Health Activity Hierarchy version 1.1* from our website at: www.bf.rmit.edu.au/nahcc or email a request to the NAHCC Secretariat at karin.illenberger@rmit.edu.au

Attend the Workshop: NAHCC will host a workshop at the Fourteenth Casemix Conference in Melbourne on Wednesday September 4. This workshop will aim to achieve a consensus on data elements and classification systems important to Allied Health.

Details of this workshop will appear in the Casemix Conference Registration Brochure and can be viewed on the Department of Health and Ageing’s Conference webpage: <http://www.health.gov.au/casemix/conf.htm>

Search the Web: The Australian Institute of Health and Welfare: <http://www.aihw.gov.au/>
National Centre for Classification in Health: <http://casino.cchs.usyd.edu.au/nch/>

CHIME Project



What is CHIME?

The **Community Health Information Management Enterprise (CHIME)** is an operational, clinical information system that is designed to improve service delivery, outcome measures and productivity through improved capture and management of Community Based Health Service information.

It is also intended to improve the mechanisms for reporting at the local, area, state and national levels, thereby improving the quality of Community Health information available and the efficiency with which it is produced.

The CHIME project is a joint venture between NSW Health, Queensland Health, the South Australian Health Commission and ACT Health and Community Care. It was initiated in 1996 in response to common needs identified by each Health Authority.

CHIME's function is to facilitate information management for community based health services by developing a client-focused application that delivers and obtains, information from other applications. The information system allows the management of clients from the point of referral as well as producing activity reporting.

Capabilities of CHIME

CHIME allows Community Based Health Care staff to:

- ◆ Manage referrals
- ◆ Schedule Service Delivery
- ◆ Document assessments and ongoing care
- ◆ Develop individualised Management Plans based on best practice principles
- ◆ Monitor outcomes of clinical care
- ◆ Generate reports for client and management reporting

How does CHIME benefit Service Providers?

The CHIME application benefits Service Providers in that it has been designed to:

- ◆ Assist with the development of efficient processes for recording client information across the health system. These processes help to eliminate duplicated recording of demographic data for clients.
- ◆ Track referrals, appointments and service contacts.
- ◆ Provide real time information, by storage and retrieval of client case management information. This enables information to be transferred to other community-based health professionals who are consulting with a client and enables staff to spend more time on case management.
- ◆ Enable community-based health staff to develop 'clinical practice norms' and case management guidelines and measures, to assess the effectiveness of their services.

- ◆ Enable the collection of workload indicators for community-based health staff. This will provide measures to assess service efficiency and costs to assist resource allocation and management.
- ◆ Facilitate the introduction of a 'casemix type' classification system and benchmarking for community based health services (CBHS).

What are the benefits for Health Authorities?

Tangible benefits for health authorities include:

- ◆ Rapid responses to changing health care needs
- ◆ Provision of multi-disciplinary service delivery
- ◆ Improved service planning and targeting
- ◆ Improved understanding of the health and needs of the community
- ◆ Minimising of duplicated effort and functionality
- ◆ Best Practice pathways (Clinical Practice Guidelines)
- ◆ Improved management of information between (and within) each Health Authority
- ◆ Outcome measurement
- ◆ A reduction in clinician time dedicated to clerical work.

NSW Report

Hunter Area Health Service

The Hunter Area Health Service is well underway with the roll-out of CHIME in the Newcastle and Lake Macquarie areas. So far, over 100 staff have been trained, of whom about 50 have 'gone live'. The Western Newcastle Community Health Centre (Wallsend) commenced with training in November 2001 and the first users went "live" in early December. Allied health and community nursing staff are now using CHIME at the centre. The Toronto Polyclinic staff are currently being trained with all staff expected to be using CHIME over the next month or so. Over the next 9 months, all community health centres will be brought on line. This will extend as far as Port Stephens, Muswellbrook and the Upper Hunter centres, Maitland, Cessnock/Kurri Kurri and Singleton. Additionally, mental health, drug and alcohol, children's services and specialist teams will become CHIME users.

Implementing CHIME at each site involves significant changes to the business processes. Clinicians receive four days of training and are then assisted back at the workplace with going live. The experience of Allied Health clinicians at Wallsend has been very positive.

The application of the Health Activity Hierarchy Version 1.1 is being considered as the 'integrating' tool to facilitate easy comparison of data between AHMIS and CHIME. A Hunter Health Data Dictionary is in development to standardise definitions, business practices (eg discharging from services) and create the 'common language'.

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Staff experiences with CHIME

Allied health experience with CHIME may be summarised as follows:

1. The construction of management plans provides a greater opportunity to describe and more accurately connect multiple issues experienced by the client. The system enhances documentation of all issues that arise from assessment and screening, the formulation of objectives and the delivery of proven activities (best practice informed) to address the issues specified.
2. Capturing the time spent over the entire service episode. CHIME allows accurate capture of direct activity with clients, indirect activities associated with a client (e.g. case conferencing, lobbying, report writing).
3. The potential for meaningful outcome measures.
4. A data repository for practice research.
5. Benefits from the electronic diary system include:
 - quantifying clinician activities;
 - quantification of the multiple roles staff may hold;
 - ability to co-ordinate activities with other health staff;
 - generation of activity reports;
 - provide data for enhancement submissions; and
 - will have application in performance management reviews.
6. Supportive supervision and guidance from project staff and peer support have assisted the integration of CHIME into the workplace.
7. The implementation process has enhanced team unity, improved cohesion and confidence.
8. It takes time to achieve optimal proficiency and efficiency.

Other NSW Area Health Services

In NSW, expressions of interest are being invited for further pilots. A NSW CHIME Implementation Team is currently being established. Further information on the introduction in other Areas will be reported in future editions of *Talking Casemix*.

Recruitment and Retention of NT Health Professionals

*– Chris Hancock,
NT Representative to NAHCC*

I am delighted to be able to let readers know that the NT Department of Health and Community Services is currently funding a project looking into the issues affecting recruitment and retention of Professional Stream Staff.

The Professional Stream in the Northern Territory Public Sector employs many of the disciplines that are involved in NAHCC, plus a few more! So aside from the more “traditional” allied health professions, there are also dental therapists, environmental health officers, librarians, and policy and project officers.

The project commenced in January 2002 and is due to be completed by the end of June 2002. There has been wide consultation with Professional Stream staff through forums, surveys and the establishment of working groups. Professional Associations have also been contacted and invited to provide a written submission on the issue of recruitment and retention.

The aim of the project is to identify key recommendations and develop a plan that will allow the implementation of selected strategies in order to facilitate recruitment and retention.

So, if you are taking stock of where you are in your professional career and looking for a challenge and exposure to a variety of experiences not available elsewhere in Australia; you could do well to consider employment opportunities in the NT!

For further information please contact:

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AusTOM – What progress has been made?

Over the 3 months since January 2002, the team from La Trobe University who are investigating and developing the Australian Therapy Outcome Measures (AusTOM), have been busy evaluating literature, examining the use of the UK TOM and its strengths and shortcomings in the Australian context.

Regular contact with Professor Pam Enderby and video conferencing with herself and Dr Alex John (the people who developed the UK TOM) has been particularly useful.

The first 'deliverable' on this project was a complete review of the current literature on outcome measurement, and an evaluation of the UK TOM and its uses in Allied Health professions worldwide. Interestingly, in the UK, a recent nationwide assessment of rehabilitation units has used the TOM as one of its measures of outcome, as it was deemed to have good reliability and validity.

Where are we at?

The AusTOM group has now developed a Pilot Core Scale for AusTOM, using the three ICF definers for: Impairment (of either structure or function as appropriate to age); Activity Limitations (as appropriate to age); Participation Restrictions (as appropriate to age); and the fourth domain; Wellbeing/Distress, which has been taken directly from the UK TOM.

The Core Scale has now been developed in Australia, giving the definitions of four domains as described above – each of which have a 0 - 5 rating (ranging from the most severe presentation to no difficulty). This is a meld of the TOM scoring and the new World Health Organisation ICF scoring.

This Core Scale will now be further developed into scales to suit specific clinical areas within each profession. After considerable examination, each profession has individually devised the scale headings which are outlined below.

The scales for development by Physiotherapy Focus/Delphi groups:

1. Sensory functions
2. Functions of the cardiovascular system
3. Pain
4. Functions of the respiratory system
5. Genitourinary functions
6. Reproductive functions
7. Functions of the joints and bones
8. Muscle functions
9. Movement functions
10. Functions of the skin

The scales for development by Occupational Therapy Focus/Delphi groups:

1. Learning and applying knowledge
2. Handling stress and other psychological demands
3. Mobility – transfers
4. Mobility – carrying, moving and handling objects



La Trobe University
AusTOM Team
clockwise from top
left: Professor
Stephen Duckett,
Professor Alison
Perry, Professor Meg
Morris and Associate
Professor Carolyn
Unsworth

5. Mobility – moving around using transportation
6. Self care
7. Domestic life
8. Interpersonal interactions and relationships
9. Education and play
10. Work and economic life
11. Community, social and civic life

The scales for development by Speech Pathology

Focus/Delphi groups:

1. Speech
2. Language
3. Voice
4. Swallowing
5. Fluency
6. Language – Cognition
7. Hearing-related Communication

The current task is to run focus groups within each profession, using the scale headings given above, to 'flesh out' the Core Scale with its four domains. For example, we will ascertain what clinicians feel is the appropriate terminology to describe a 'severe' speech impairment. We emphasise that the above scale headings are purely a starting point for each professional focus group to develop – we certainly anticipate that these scales may well change once all focus groups' responses have been analysed.

March and April will be devoted to this task; we anticipate, by the end of April, having scales for each of the three professions that may then be taken forward with NAHCC's help, for confirmation/ comments/ criticism from each of the three professional groups.

This second phase of scale development, using a modified Delphi technique, will involve clinicians Australia wide – whereas the AusTOM focus groups that are currently running are within Victoria. This two-stage design should ensure maximum opportunity for input across the three professions involved.

This is a complex project, with many phases to it. We are extremely grateful for the help and input from clinicians across Victoria to date; their patience and contributions have been invaluable.

If anyone requires any further information, please contact our Administrative Assistant on the following email:
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