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The Changing Healthcare Environment

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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 1[1]). This 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.

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

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

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

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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 Equivalents (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.

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