Demonstrating the Value of Allied Health Care in SA Health

Quantifying the inputs and outcomes of Allied Health interventions to determine overall value to the healthcare system

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This seminal paper is a major milestone for allied health leadership in South Australia. As Project Sponsor I congratulate the Project Team led by Ellen Mills and Tracey Kroon, for contributing to SA Health's understanding of the value of allied health care to patients, customers and consumers of our health services.

This methodology can now be utilised throughout the Transforming Health program (SA Health 2014) to ensure South Australians receive the best care, the first time, every time.

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1. EXECUTIVE SUMMARY

In this environment of health economics, Allied Health needs to better understand and communicate the data, funding, costing and evidence/value for their service. Activity Based Funding (ABF) enables opportunities to measure various levels of government funding and health expenditure against current costing. Combining cost/funding, activity data, workforce and outcomes is crucial in assisting Allied Health to develop and negotiate service level plans as well as to ensure the most effective use of current resources across the care team.

This project used the Royal Adelaide Hospital (RAH) data and services to identify patient groups relevant to both Allied Health and Central Adelaide Local Health Network (CALHN). Diagnostic Related Groups (DRGs) with significant Allied Health input and specific cost saving potential for the site were chosen to demonstrate costing and funding methodology. Allied Health input and potential for improved quantitative (cost savings) and qualitative (improved patient care) outcomes using alternative Allied Health driven models of care were then identified through further analysis.

Underpinning this project was the understanding that the value of Allied Health intervention can be determined through:
1. Understanding current Allied Health services, expenditure and outcomes;
2. Awareness of current health service priorities including cost saving potential, risk management and quality improvement; and
3. Economic and quality analysis of current and benchmarked Allied Health service delivery models.

The analysis determined that the following strategies were required to ensure further development of an integrated multi-professional, inclusive of Allied Health, based approach to healthcare:

1. System level discussions occur with Data Costing and Funding Services, patient costing software development (Power Performance Manager 2), the Allied and Scientific Health Office and Statewide Allied Health Executive with the aim to:
   a. Develop methodology for efficient costing of healthcare services across sites, Local Health Networks (LHNs) and professional groups including equitably applied workforce costs, procedure costs, overhead distribution, equipment and consumables;
   b. Cease the use of comparative costing reports across sites and LHNs until costing methodology is consistent across SA Health;
   c. Benchmark activity, costs and outcomes with like services across Australia and New Zealand giving a true indication of performance against sites with similar case-mix and episodes. Link benchmarking of Allied Health to already established groups such as the Australasian Allied Health Benchmarking Consortium (AAHBC), Allied Health Chapter of Health Roundtable (HRT); and Australasian Rehabilitation Outcomes Centre (AROC).
   d. Advocate for the accurate use of Power Performance Manager 2 across SA Health for Allied Health to ensure correct data is utilised for changes in models of care
2. Improve and ensure consistency of Allied Health data input via:
   a. Implementing the SA Minimum Activity Data Set business rules across SA Health including adequate ongoing training of Allied Health staff;
   b. Conduct regular data quality checks to ensure ongoing improvement in consistency and accuracy of data collection; and
   c. Continue involvement with the National Allied Health e-Health Collaborative to develop and implement a National Allied Health Minimum Activity Data Set to enable improved

representation of Allied Health requirements within ABF or alternative costing and funding models.

3. Establish Allied Health specific Key Performance Indicators (KPIs) for input and outcomes at profession, site, LHN and State level. Examples include:
   a. Clinical to Non-Clinical Activity Ratios;
   b. Percentage of Episodes seen per DRG per workforce matching national benchmarks; and
   c. Quantitative (activity) and qualitative (risk) indicators related to the implementation of advanced or extended scope of practice initiatives.
4. Maximise the value of current Allied Health services by:
   a. Seeking input from high performing “like” sites and services regarding models of care and cost-effectiveness;
   b. Considering professional boundaries and opportunities for extending and maximising scope of practice through skill sharing, to minimise duplication and increase patient access to services; and
   c. Redistribution of services to match areas of highest value.
5. Include health economics parameters in Allied Health business cases through:
   a. Seeking expert help with measuring inputs and outcomes of Allied Health activity including partnerships with funding bodies, managers of feeder systems, case-mix units, AROC, HRT etc.;
   b. Utilisation of available benchmarks for workforce modelling;
   c. Use of National Hospital Cost Data Collection (NHCDC) Australian Public Hospitals Costing Information and National Efficient Price (NEP) Allied Health weights to ensure appropriate funding of Allied Health activity;
   d. Demonstrating the value of more equitable funding of Allied Health services using both mortality and morbidity factors including impact on hospital length of stay, reduction in complications and improved outcomes for patients; and
   e. Demonstrating the value of using Allied Health in extended and advanced scope of practice roles.
6. Collaborate as one Allied Health group when planning for service delivery changes to enable further collaboration with Medicine and Nursing and Midwifery.
7. Target quality improvement and professional development activities to Allied Health areas that produce high impact.

2. INTRODUCTION

Allied Health Professionals (AHPs) are employed in vocational groups listed in Appendix 1. AHPs are required to be tertiary qualified to enable them to either obtain National registration; licence or accreditation to practice; or be eligible to join the relevant professional association.

Allied Health services are essential components of primary, sub-acute and tertiary health services. These services provide management of morbidities, enable patient flow through the health system, improve quality of life and prevent functional decline, readmission and reliance on the health care system; all of which are essential aspects of improving the health of the population and reducing the cost of additional healthcare.

In 2009, The National Health and Hospitals Reform Commission (NHHRC) noted marked variations in healthcare and unsustainable cost increases across Australia. Accordingly, healthcare systems focus on greater accountability and affordability, with services and practitioners regularly challenged to examine their practice and justify service performance; productivity and outcomes.[1] Hospital costs are commonly associated with hospital admissions and avoidance, length of stay, re-admission rates, complications of care, functional decline and poorer outcome.

To demonstrate value in this environment of health economics, Allied Health needs to better understand the data, funding, costing and evidence of value for their service. Allied Health has an opportunity to contribute further to the Australian healthcare system as care options are increasingly selected on the basis of comparative cost effectiveness. This includes further identification and development of initiatives incorporating full, advanced and extended scope of Allied Health practice to provide an alternative, high quality and cost effective method of health service delivery as well as compensate for workforce shortages and / or realignment in medicine and nursing specialty areas.[2]

2.1 Reforms and Activity Based Funding (ABF)

In 2011, all Australian governments signed the Council of Australian Governments (COAG) National Health Reform Act which commits to funding public hospital services using Activity Based Funding (ABF) where practicable. Three agencies were created to facilitate this process:

- The Independent Hospital Pricing Authority (IHPA) to determine a national activity-based funding model and efficient price;
- The National Health Performance Authority to report quarterly on performance of LHNs using an accountability framework and made available publically, e.g. My Hospitals website; and
- The Australian Commission on Safety and Quality in Health Care to develop, implement and monitor national clinical safety and quality standards.[3]

The commitment to fund public hospital services using ABF will remain in place until at least 2017. ABF is used for admitted acute, sub-acute and non-acute care; non-admitted care; mental health and emergency care. There are currently negotiations for transitioning Teaching, Training and possibly Research funding to an ABF model into the future. Some services will continue to be block funded, including low volume country hospitals.

The aim of ABF is to support timely access to quality health services, improve the value of public investment in hospital care and ensure a sustainable and efficient network of public hospital services through improving transparency and strengthening incentives for efficiencies. ABF payments are derived to be fair and equitable, including being based on the same price for the same service across public, private or not for profit providers of public hospital services. ABF is a way of funding hospitals whereby they receive payment for the number and mix of patients they treat. IHPA is responsible for setting the National Efficient Price (NEP) yearly. This is based on activity data and costs from the previous three years.

Price weights and adjustments are combined to determine the National Weighted Activity Unit (NWAU) which represents the "average" hospital service. More intensive and expensive activities are worth multiple NWAUs. Simpler and less expensive activities are worth fractions of a NWAU. Hospital block funding is determined by a combination of NWAU values, remoteness factor and the National Efficient Cost (NEC).[4]

ABF determines only the Commonwealth contribution to the funding of public hospital services. The State Government, via a clinical commissioning process, sets the volume of services to be provided by each LHN via a service agreement. The State Government can also choose to pay a price that is higher or lower than the NEP. This provides the State Government with the opportunity to recognise any differences in local costs of service delivery and to modify the funds allocated accordingly.[5]

2.2 What does this mean for Allied Health?

2.2.1 Costing and Funding

Allied Health costs are factored into the determination of the NEP and NWAU. Therefore activity data is required to inform this process (refer Diagram 1, page 8). Allied Health activity is not reported separately for inpatient ABF counting purposes but is counted for outpatient ABF through allocation of a price-weight to single discipline or multidisciplinary clinics[4]. The route and amount of fund allocation to Allied Health may vary considerably across LHNs and individual health sites. The collection and provision of local data to compare the true costs of Allied Health service delivery is a key requirement to measure the adequacy of funds. Furthermore, interrogation of the current process of fund allocation by the Commonwealth and then State Government to LHNs is also a consideration (refer Diagram 2).

DIAGRAM 1: Inputs Required for Patient Costing

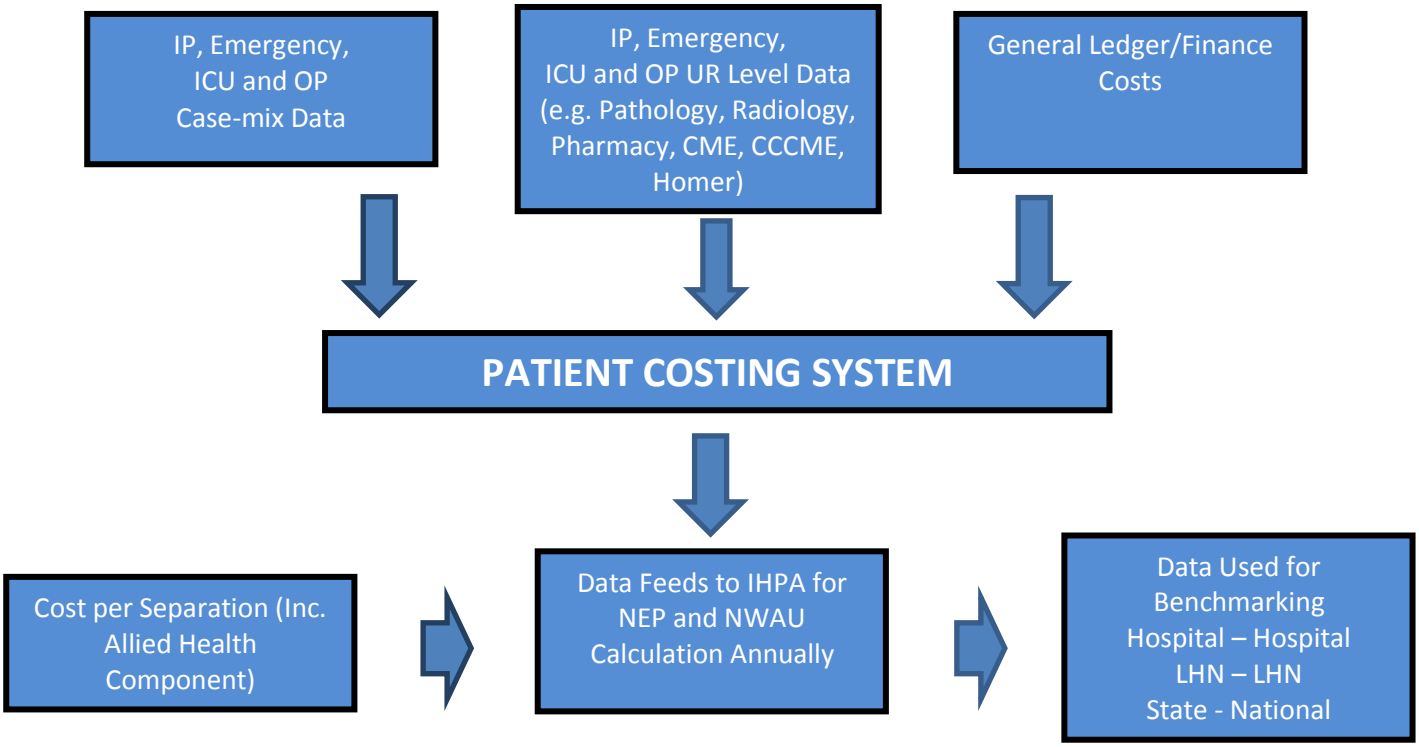
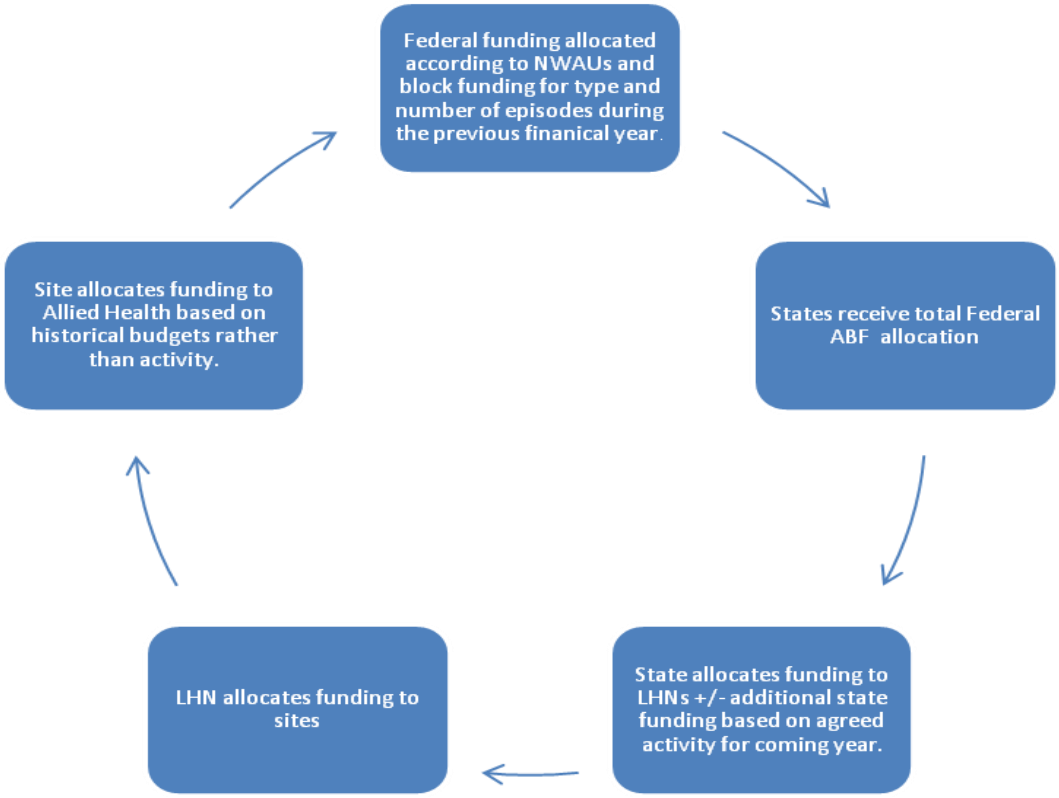


DIAGRAM 2: Funds Receipt and Allocation in South Australia and CALHN



Together, the two diagrams illustrate the current discrepancy between how funding is calculated at the Federal level (i.e. Allied Health activity is included in costing) and how funds are distributed by sites in LHNs.

2.2.2 Safe and Quality Service Provision

Funding and costs are one component of high-value care. The other equally important aspect is ensuring intervention is clinically relevant and important to the consumer. Scott (2014)[6] in *The Australian Health Review*, argues that past and current strategies for optimising healthcare have not resulted in significant or sustainable improvements. He highlights those evidence based strategies which do contribute to high-value care including selecting care options based on comparative cost effectiveness, targeting interventions to those who derive greatest benefits and advocating for integrated patient care across all clinical settings as a priority. Allied Health needs to further promote their integral role across all of these strategies given the comparative cost effectiveness of Allied Health led-care, the ability to impact upon and identify those customers who will achieve the best functional outcomes and the existing opportunity to focus on and extend multidisciplinary involvement in models of care across the patient journey.

The evidence for Allied Health interventions is growing consistently, highlighting areas where Allied Health has greatest impact. Models of care inclusive of and supporting Allied Health interventions for specific diagnoses or patient groups are emerging.[7, 8] These provide clinicians and managers with information and strategies to enhance value-based care. Opportunities exist for Allied Health to further develop initiatives and strategies to maximise or advance and extend scope of practice which will enable a more cost effective approach to the management of many diagnoses.

3. PROJECT OVERVIEW

Allied Health in key South Australian health sites has long been aware of the need for high quality data to drive improvements in patient care, service design and optimising performance. Allied Health has been collecting clinical activity data for over 25 years in SA. The recognised need for quality data and benchmarking of clinical activity and outcomes has led to the formation of the SA Health Allied and Scientific Health Office (ASHO) Allied Health e-Health Collaborative as well as involvement in key state, national and international consortia including the National Allied Health e-Health Collaborative, the AAHBC and the Allied Health Chapter of HRT.

The Allied and Scientific Health Office worked together with Central Adelaide Local Health Network (CALHN) Allied Health Directorate to build on the current understanding and utilisation of health service data to assist Allied Health in contributing to broad health reform strategies particularly under the Transforming Health agenda. This project used current staff with appropriate skillsets and expertise to collate, analyse and identify relevant information for all SA Health Allied Health services in order to build capacity, skills and knowledge in data analysis across the system.

The aims of the project were to:

1. Identify the Allied Health Top admitted DRGs that are:
   a) Representative of the top savings potential for the tertiary sector
   b) Considered 'Allied Health centric' and
2. Evaluate Allied Health Costing and Funding by comparing:
   a) Actual costs of Allied Health service delivery per DRG to the actual price allocated at a federal level through ABF
   b) Funding received by state government to actual funding allocated by the LHN to the Allied Health division.
3. Investigate alternate models of care, inclusive of allied health:
   a) Propose a framework for developing initiatives for implementing alternate models of care, resulting in cost savings for the LHN and improved quality of care for the patients.
4. Communicate and Distribute Findings:
   a) Ensure the methodology for evaluating Allied Health financial and quality outcomes in order to allocate current and future resources for maximum value care is distributed widely across SA Health.

The ability to combine activity data, staffing and outcomes is crucial in assisting Allied Health to negotiate service level agreements and plans, achieve required skill mix and workforce redesign as well as to ensure the most effective use of current and future funding. Understanding and being able to communicate core business and health economics is essential in advancing the use of responsive Allied Health practices in healthcare.

3.1 PROJECT OUTLINE

The project used CALHN and more specifically Royal Adelaide Hospital (RAH) as a pilot site for service delivery modelling given the size and tertiary nature of the hospital, the number of Allied Health services and amount of Allied Health activity. RAH has a long history of data collection and has maximised data accuracy through data managers for over 5 years. RAH contributes Allied Health data to Health Roundtable (HRT) and is a member of the Australasian Allied Health Benchmarking Consortium (AAHBC) with access to staff modelling against other tertiary institutions. Applicability and transferability of the developed framework to other sites, services and settings (such as sub-acute, outpatients and potentially block funded activity) was maximised through the following project links:

- Allied Health SA Health Reference Group: Representation from ASHO, CALHN, Country Health SA LHN (CHSALHN), Northern Adelaide LHN (NALHN), Southern Adelaide LHN (SALHN), Women's and Children's HN (WCHN).
- Data and Reporting Services Unit, System Performance Division, Department for Health and Ageing, Government of South Australia re: current funding methodology for health sites and services in South Australia.
- The International Centre for Allied Health Evidence (iCAHE) re: evidence based practice (EBP) for the investigated DRGs and potential models of care.
- CALHN Finance Data Analysts re: existing financial costing and reporting data available.
- Power Performance Manager 2 (contracted by SA Health to implement a new costing report against activity) re: additional financial/activity reporting.
- Health Roundtable (HRT) Reports re: meta-data analysis of Allied Health and whole of hospital performance with comparisons to like hospitals. HRT Allied Health comparison reports are created for Clinical Dietetics, Physiotherapy, Occupational Therapy, Social Work and Speech Pathology. Whilst data is submitted for Audiology, Podiatry, Psychology and Orthotics and Prosthetics, comparative reports across like hospitals are not created due to the small number of other sites providing consistent data.
- Australasian Allied Health Benchmarking Consortium (AAHBC) re: staff benchmarks across similar tertiary, teaching hospitals across Australia and New Zealand

3.2 PROJECT METHODOLOGY

The project manager, in conjunction with the RAH Allied Health Directors and the SA Health Allied Health Reference Group completed the following process steps in relation to the corresponding project aims:

Aim 1: Identify Allied Health Top DRGs

Identify 40 admitted DRGs for costing and quality investigation and comparison.

The DRGs include those with broad relevance across CALHN and other LHNs. The DRGs were representative of potential cost savings for the hospital and considered Allied Health centric i.e. with specific relevance to Allied Health input, output and outcome. The DRGs were also representative of Service Related Groups (SRG) across the hospital or LHN and included those that either were or should be Allied Health resource intensive.

The following framework was utilised:

1. Identify DRGs with highest cost savings potential at RAH. HRT reports calculate the Relative Stay Index (RSI) for each DRG based on Length of Stay adjusted for Case-mix Complexity, Re-admission Rates and Discharge Destination. This was compared with the average RSI for all DRGs across HRT hospitals. Savings potential is then calculated based on episode numbers and total variation in the cost per DRG to reveal site specific DRGs with greatest potential for significant savings. LHN case-mix costing and finance units can provide RSI information for specific DRGs but do not have the capability to provide highest cost savings potential without benchmarking information from like sites.
2. Identify DRGs with highest cost savings potential at The Queen Elizabeth (TQEH), Flinders Medical Centre (FMC) and Lyell McEwin (LMH) hospitals. HRT reports were utilised as above.
3. Identify DRGs with high percentage of episodes involving Allied Health with high Allied Health time input. HRT Allied Health reports detailing episodes seen and time spent can be utilised for Clinical Dietetics, Physiotherapy, Occupational Therapy, Physiotherapy, Social Work and Speech Pathology. LHN Case-mix Costing and Finance units and Allied Health professional liaison can be utilised to gain information regarding all other Allied Health disciplines.
4. Identify DRGs with high percentage of episodes involving Allied Health but with low time input. HRT Allied Health reports, LHN Case-mix Costing and Finance Units and professional liaison can be used as above.
5. Identify DRGs with input across several Allied Health disciplines. HRT Allied Health reports, LHN Case-mix Costing and Finance Units and professional liaison can be used as above.
6. Identify DRGs receiving less than optimal Allied Health input i.e. low percentage of episodes seen and low time input. HRT Allied Health reports as above and liaison with all Allied Health Disciplines to identify these DRGs according to evidence based practice and/or clinical experience.
7. Determine total Allied Health activity for Service Related Groups (SRGs) to determine the level of SRG representation that should be reflected across the chosen DRGs. Map proposed DRGs to SRGs to ensure appropriate representation.

Aim 2: Allied Health Costing and Funding

Gather funding and costing data for identified DRG activity over appropriate timeframe (2012/13 for this project).

The following framework was used for collating this data:

1. Obtain Allied Health costing data for 2012/13 identified DRG activity: LHN Case-mix Costing/Finance Units +/- incorporation of patient costing software (Power Performance Manager 2) can be utilised to access the costs reported to SA Health and then IHPA.
2. Determine the ABF resourcing applicable for 2012/13 identified DRG activity. Although ABF funding was not implemented in 2012/13, a simplified* methodology applicable for 2014/15 can be used to assist with future planning. The NWAU applicable for each DRG can be broadly applied to the number of episodes for 2012/13 using the 2011/12 Round 16 Cost-weights .[9]
3. Determine the Allied Health component of this funding by applying Allied Health cost weights to the total available resources defined above (HRT reports).
4. Determine the SA Health method of allocating ABF resources to individual LHNs/sites. (Liaison through ASHO with SA Health Casemix Costing Unit)

* It is acknowledged that numerous adjustments are made to funding per episode based on factors such as same day episode, indigenous status, psychiatric days and ICU hours. These have not been included in this project.

Aim 3: Allied Health Models of Care: Evidence and Benchmarks

Determine current evidence based practice for Allied Health intervention/models of care and consumer outcomes for the Allied Health Top 10 identified DRGs.

1. Engage the International Centre for Allied Health Evidence (iCAHE) to source relevant evidence.
2. Benchmark Allied Health activity and workforce for the Allied Health Top 10 DRGs against AAHBC and other HRT participating hospitals. HRT Allied Health activity reports for like hospitals can be used to benchmark activity and AAHBC staffing benchmark models can be used to provide some information for workforce benchmarking. Liaison with other like sites can also be undertaken to provide additional information around activity and workforce.
3. Develop a framework for exploring alternate models of care involving Allied Health.

Aim 4: Communication/Distribution of Findings

Ensure the methodology for evaluating Allied Health financial and quality outcomes in order to allocate current and future resources for maximum value care is distributed widely across SA Health.

Distribute findings broadly to all LHNs to enable broader analysis, cost modelling and identification of Allied Health development opportunities across Adelaide and Country Health and increase awareness and understanding of the impacts and opportunities of ABF or other funding models.

4. RESULTS

Please note that this section has been abridged to remove the site sensitive data. For the unabridged version contact Ellen Mills at the Royal Adelaide Hospital via her email address.

Results for Aim 1: Identify Allied Health Top DRGS

The Allied Health Top 40 DRGs (refer Appendix 2) were established using the framework described in the methodology. DRG families were used in preference to the individual, complexity rated DRGs. For example, B70 (Stroke and Other Cerebrovascular Disorders) has four levels of complexity A, B, C, D. Each level has a different NWAU value. For the purpose of this report, these were rolled up to the overarching DRG B70.

The Allied Health Top 10 DRGs were specifically chosen through cross referencing the HRT Hospital Top 10 DRG Report for RAH (DRG families with highest savings potential for the hospital) with the same report from TQEH, FMC and LMH hospitals and then ensuring these DRGs were Allied Health centric.

TABLE 1: ALLIED HEALTH TOP 10 DRG FAMILIES

DRG	DRG Description	National RSI (July-Dec 13)	TOP 10 Hospital Report (July-Dec 13)
B70	Stroke and Other Cerebrovascular Disorders	91%	RAH; TQEH; FMC; LMH
E62	Respiratory Infections/Inflammations	89%	RAH; TQEH; FMC; LMH
AO6	Tracheostomy	96%	RAH; TQEH; LMH
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	96%	RAH; TQEH; LMH
E65	Chronic Obstructive Airways Disease	85%	RAH; TQEH; LMH
B02	Cranial procedures	93%	RAH; FMC
F62	Heart Failure & Shock	90%	RAH; LMH
I08	Other Hip and Femur Procedures	87%	RAH; TQEH
I75	Injury to Shoulder, Arm, Elbow, Knee, Leg or Ankle	94%	0
K60	Diabetes	96%	0

Results for Aim 2: Allied Health Costing and Funding

On investigation, funding for Allied Health remains predominantly historically based across all LHNs. However, using the NEP cost-weight per DRG, it is possible to extrapolate the ABF revenue generated by Allied Health activity.

The analysis indicated that the estimated ABF Allied Health revenue was 15-20% greater for the Allied Health Top 10 DRGs than the actual costing reported by the CALHN Casemix Costing Unit.

Furthermore, NHCDC data for admitted, acute patients using Round 16 cost weights for 2011/2012 showed the proportion of costs allocated to Allied Health in SA was 1.7% of the total cost bucket for these patients. The National average was considerably higher at 2.9%. SA had the lowest percentage of cost allocation and Queensland the highest.[10] Cost bucket allocations for 2011/2012 are shown in Appendix 3.

SA Health does not currently provide funding to the LHNs based on a breakdown per costing element. It does not provide a specific amount for individual professions, procedures, consumables or overheads. Rather, a total funding figure is provided, with the responsibility of distribution to sites given to the LHN.

Results for Aim 3: Allied Health Models of Care: Evidence and Benchmarks

Engaging iCAHE to assist with evaluating the available evidence for Allied Health intervention was not possible within this project timeline, so a further Model of Care literature review was conducted informally.

Table 2 shows the RSI of HRT exemplar hospitals (i.e. those with low RSI and comparable case-mix and episodes to RAH) which were identified for the Allied Health Top 10 DRGs. These exemplar sites provide a focus for initial discussions and investigations into activity levels, workforce and models of care. Exemplar site details are available through the HRT website.

TABLE 2: RSI FOR HRT EXEMPLAR HOSPITALS JUL-DEC 2013

DRG	DRG Description	Exemplar 1	Exemplar 2
B70	Stroke and Other Cerebrovascular Disorders	62%	63%
E62	Respiratory Infections/Inflammations	58%	67%
AO6	Tracheostomy	89%	89%
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	86%	102%
E65	Chronic Obstructive Airways Disease	54%	56%
B02	Cranial procedures	67%	79%
F62	Heart Failure and Shock		
I08	Other hip and Femur Procedures	59%	69%
I75	Injury to Shoulder, Arm, Elbow, Knee, Leg or Ankle	60%	68%
K60	Diabetes	59%	75%

Workforce comparisons were undertaken for five of the Allied Health disciplines using the AAHBC Staff Benchmarking Model (version 1).[11] This utilises only information from facilities that have

good data control mechanisms and are similar large, tertiary, teaching hospitals across Australia and New Zealand.

Table 3 shows the percent of RAH Allied Health FTE according to the AAHBC mean. RAH Allied Health is lower than the mean for all five disciplines when comparing for similar case-mix (episodes and complexity). There are currently no formal benchmarks for other smaller Allied Health disciplines.

TABLE 3: RAH ALLIED HEALTH FTE AS A PERCENTAGE OF AAHBC MEAN

RAH Discipline	% of AAHBC Benchmark
Clinical Dietetics	65%
Occupational Therapy	49%
Physiotherapy	84%
Social Work	94%
Speech Pathology	57%

The AAHBC Staffing Benchmarking model allows breakdown of workforce and activity levels by SRG and individual DRGs. SRG workforce comparisons are documented in Appendix 4.

Pre-determining relevant DRGs, SRGs or clinical areas for investigation and utilising a consistent framework ensures the process of determining Allied Health value is structured and specific to the needs of the discipline, site or LHN. Key areas of the framework are clarifying the patient journey, cost/benefit analyses, evidence, quality improvement and innovation.

5. DISCUSSION

Economic evaluation is used increasingly by health system decision makers to plan how health care resources should be allocated between services. Health economic evaluation usually takes the form of a cost-effectiveness analysis, in which interventions are compared in terms of cost per outcome. The outcomes in cost-effectiveness analysis are generally measured in terms of natural units, such as cases prevented or lives saved.

This approach has a major limitation: health interventions impact on both survival and health-related quality of life. Whilst years of life saved is obviously important, health interventions which impact function, hospital avoidance and community engagement are increasingly seen as equally relevant.

Health economic evaluation needs to consider both mortality and morbidity. Allied Health contributes significantly to morbidity outcomes for patients whilst also positively impacting mortality across many diagnoses. As a result, health economic studies need to include and value Allied Health contribution to care. At the same time, Allied Health needs to evaluate the cost-effectiveness of its contribution to health by considering both quality outcomes and cost.

5.1 Determining Allied Health Value

Allied Health consideration of cost-effectiveness using a health economics framework needs to include a detailed analysis of current services, expenditure and quality outcomes for consumers.

5.1.1 Understanding the current status.

It is imperative to undertake a detailed examination of the current Allied Health practices offered within a service. For inpatient settings like the RAH, DRG classifications are used to cost services and makes quality outcomes analysis possible. For sub-acute settings, AROC classifications are used; whilst other services in the continuum of care may need to consider other appropriate patient classification systems. For the near future, outcome, cost and activity analysis will occur predominantly through classification systems that feed into ABF. Allied Health will be best placed to engage in effective conversations with health management if they use the patient classification language relevant to their service.

This project undertook to highlight DRGs with specific relevance to the RAH Allied Health and general relevance to Allied Health at other metropolitan hospitals. The 40 most relevant DRGs were highlighted through cost-benefit methodology including highest cost savings potential to the health service, Allied Health input and benefit including RSI, complications and evidence for improved outcomes. The Allied Health Top 10 DRGs were then identified to enable further detailed analysis and comparison with national peers.

The identification of relevant patient groups (in this case via DRGs) can be achieved through engaging case-mix or finance services within health sites, participation in formal or informal benchmarking groups, discussions with clinical service leads to determine current priorities and liaison with clinical teams who can often highlight areas of inefficiency and improvement.

5.1.2 Economic Analysis

Knowledge of costing and funding services is essential in understanding Allied Health business and to assist in determining high impact and best value services.

5.1.2.1 Allied Health Costing Issues

This project highlighted that current costs of RAH Allied Health activity per DRG are ill-defined. Total Allied Health budget and spend are available, but the true breakdown of costs per DRG are only in the early stages of development. For this site, Allied Health activity is collected via a Client Management Engine (CME) data system and is matched to individual case-mix data to enable costing by DRG. Costing has been provided to SA Health in the past for DRG episodes but the methodology has been based on historical information and is acknowledged as out of date by the RAH Case-mix Unit. Patient fractions to enable assignment of activity across inpatients, outpatients, teaching and research have not been updated for 10 years.

A Patient Costing system has recently been commissioned by SA Health to undertake this activity in order to measure the total cost per patient episode. The aim of this is to provide a breakdown of costs by profession activity, procedures, consumables and other overheads. It is then proposed that the results could be compared within and across LHNs. In its current form, this system is not yet able to provide accurate, valid costing per episode. It is acknowledged that this is a work in progress; however the following concerns should be noted when considering the current application of costing from this or other systems:

- Varying methods are used for allocating patient costs across professional staffing groups (i.e. Medical, Nursing, Allied Health). Allied Health is the only group to be costed using actual activity data. Similar methodologies for costing all staff groups should be used to ensure equity and consistency given current knowledge of data and collection system inaccuracies and inconsistencies across sites and LHNs;
- Across SA Health, not all Allied Health professional, student or support staff (e.g. assistants and technicians) collect or enter activity data via feeder systems. Activity costs are therefore unable to be calculated accurately for certain sites or patient groups. Patient related activity conducted by students (which for many Allied Health services is high due to student-led clinics and services) is currently not costed;
- The feeder and costing systems are under various stages of development at different sites within different LHNs. Whilst Allied Health has been collecting activity data for many years according to an agreed framework (National Allied Health Classification Committee), consistency in collecting, inputting and recording data is challenging due to the ongoing need for education and enforcement of business rules.
- Recently SA Health's Allied and Scientific Health Office has developed Minimum Standards for Allied Health Activity Data. At the same time, the National Allied Health e-health Collaborative has been working to produce a National Minimum Data Set for Allied Health incorporating current work done in individual states. Data quality needs to be constantly reviewed and audited to ensure continuous improvement and responsiveness to reporting requirements.

- In South Australia, the introduction of electronic Patient Administration System (EPAS) at some SA Health sites has recently changed the method of collecting and reporting activity data. Data quality is therefore unable to be confirmed for these sites at this point. There are some sites that undertake data quality checks whilst others do not. There is also disparity of activity data collection even within the same site, with individual disciplines or streams collecting activity data to different levels.
- Similarly, cost inputs are at various stages of development. Within CALHN for example, cost inputs are in an early stage of reconciliation with considerable work still to be done in allocating cost centre information and recognising workload splits for staff across sites and programs.
- Costing methodology and practice needs to be clarified across all sites and LHNs to ensure accurate information is entered and decision making is not misinformed.
- Costing comparisons are made across SA Hospitals; however, existing national benchmarking does not group SA Health hospitals together as they are not considered like in terms of case-mix, size or complexity. Thus a low or high service delivery cost within an SA site is unlikely to be reflective of possible practice at another SA site.
- Benchmarking of outcomes and costs is best undertaken at a national level to ensure inclusion of comparable sites. Workforce benchmarks for all professions including Allied Health, Nursing and Medical should also be undertaken at a national level.

5.1.2.2 Allied Health Funding Issues

Determining the Allied Health component of revenue applicable for hospital Allied Health activity through ABF is difficult. Allied Health nationally contributes to the NHCDC which is utilised by IHPA to input into the NEP and NEC. IHPA states it is committed to improving data quality wherever possible to ensure validity of this funding tool.

Whilst the NEP and NEC is determined through annual costing and outcome studies, there is no published document that states the funding price for each DRG must be split according to the specific price weights. Block funding for some services (e.g. rural/remote, children's services) also needs to be factored in to any cost comparisons and will vary across LHNs and sites. However, the applicable Allied Health cost component (weight) can be used to gain a broader understanding of the approximate funds applicable to Allied Health as a component of ABF.

The RAH Allied Health funding value using this methodology is significantly greater than either the total Allied Health budget and expenditure for 2012/13 or the total Allied Health costs calculated by the RAH Casemix Unit for the same time-period.

Allied Health costs are relatively low when compared with medical and nursing. The proportion of cost allocation to Allied Health in SA is significantly less than the national average. Distributing funds according to national cost averages would result in significantly higher revenue for RAH Allied Health and therefore workforce capabilities.

It is interesting to note that variations exist in costs and potential revenue across the Allied Health Top 10 DRGs. ABF can be used to facilitate investigations into discrepancies between activity levels and funding allocation and to provide a methodology for recommending changes or realignments in services.

The merit of health resourcing has been analysed according to various measures; for example, the Incremental Cost-Effectiveness Ratio (ICER) or the Quality Adjusted Life Year (QALY).[12] There is considerable debate about the merit of using measures such as these, however there is an opportunity for Allied Health to consider the more commonly used input vs. value matrix to determine whether historically high input practices and services (high cost) have a corresponding value (outcome) and whether activity can be redirected to services with a higher impact or value (refer Diagram 3).

DIAGRAM 3: **Input Value Matrix**

In line with other states, SA Health does not provide funding to the LHNs based on a breakdown per costing element. It does not provide a specific amount for individual professions, procedures, consumables or overheads. Rather, a total funding figure is provided, with the responsibility of distribution to sites given to the LHN. It is also acknowledged that LHN's may not receive the full allocation of applicable ABF, with realignment of revenue occurring prior to LHN and then service allocation.

Historically, the allocation of LHN funds to Allied Health often occurs after the requirements of the larger medical and nursing and midwifery professions' needs are met. Funds have been top sliced numerous times prior to Allied Health allocation, which has resulted in Allied Health receiving minimal increases in funding over the past ten years despite a significant increase in activity. It is hoped that the recent establishment of Allied Health Executive or Director position's will improve Allied Health's ability to advocate for a more equitable allocation of funds at an Executive level.

The potential for Allied Health to use ABF to highlight adequacy or inadequacy of funding remains difficult. Responsibility for total funding remains a State Government decision and actual allocation remains with each LHN. However, discrepancies in national Allied Health cost allocations can be highlighted together with the Allied Health component of total ABF funds received against total Allied Health budget.

5.2 Environmental Analysis

Please note: site sensitive environmental analysis details have been removed to enable a broader application of this report information.

Allied Health provides services across varied systems and structures. Detailed investigation into the relevant environmental drivers of healthcare can assist targeting reform, including consideration of:

- Governance structures across SA Health have changed considerably over the last five years. The current LHN structure provides a system for promoting continuity of patient care. CALHN is undergoing significant service redesign and reorientation and the Allied Health Directorate is in the process of implementing a leadership restructure. The aims are to further enhance patient centeredness and flow through the system; ensure equity of access to team based care; minimise duplication by recognising and having access to expert services across the system; and promote quality care through targeted professional development and succession planning as well as ensuring the Directorate aligns itself with CALHN clinical directorate structures; and
- Workforce structures and reform are important considerations in health economics. Allied Health workforce should be analysed in conjunction with those of other health professions and National benchmarks can be utilised in this analysis.

South Australia has the highest ratios of nursing and medical workforce per capita when compared with interstate counterparts[13] and this is supported by Medical and Nursing and Midwifery Enterprise Agreements. [14, 15] SA benchmarking indicates that Allied Health is the smallest and most economical[14, 15, 16] professional workforce within South Australia. It is also important to note that SA Health has some of the poorest outcomes per Diagnostic Related Groups (DRGs) within Australia[17] and indicates a requirement to review the models of care currently operating within South Australia.

Whilst changes to Enterprise Agreements effecting Allied Health pose considerable challenges, advocating for broad cross professional, workforce reform is a method for improving the cost-effectiveness of health care. Allied Health can contribute to this potential for workforce reform by ensuring Allied Health staff are working to their full scope. Furthermore, opportunities exist for professional as well as support staff to extend their scope of practice and develop advanced practice in specific areas following strict credentialing requirements. These opportunities may involve Allied Health delivering services which would otherwise require a higher cost workforce or model of care. This may include Allied Health staff undertaking services which would otherwise be conducted by other professional staff or Allied Health support staff undertaking delegated responsibilities otherwise performed by professional staff. In both cases, a focus on ensuring quality of care can result in a considerable cost saving or a readjustment of scarce funding to enable increased services for the organisation. Queensland Health has recently undertaken a project highlighting many additional services that could be delivered safely and with high quality of care by Allied Health staff. [18]

5.3 Models of Care

To further demonstrate the impact of Allied Health in patient care, greater use of existing evidence for changes to models of care is necessary.

Medicine, Nursing and Midwifery, and Allied Health need to utilise available evidence for intervention, clinical experience and clinical guidelines to determine the opportunities for enhanced involvement in patient care across the continuum. An understanding of stakeholder priorities, drivers and engagement (both consumer and collegial) is essential. It is also important to define the current and potential partnerships both within and external to health including other government agencies and non-government organisations. System barriers and blocks which currently impede Allied Health utilisation, input or outcomes should be considered at service, site, LHN and State level. Decision making for changes to current models of care should involve an understanding of what can realistically be influenced at a particular point in time. Thus Allied Health should align their recommendations to current health drivers or targets (e.g. IP targets-NEAT/NEST, Outpatient reform, RSI). Examples include:

- Sites and services reporting lower RSI and lower complications are a readily available source of information regarding models of care. Practical suggestions regarding innovative Allied Health practice and processes can be recommended with the relevant evidence for or influence on patient outcomes;
- Review of in-hospital acquired complications within the Allied Health Top 10 DRGs revealed a number of areas where Allied Health intervention could have an impact. . An example of this was acute lower respiratory infection where there is evidence that regular physiotherapy mobilisation and occupational therapy for involvement in ADLs can assist in preventing this outcome.; and
- Areas of practice exist providing opportunities for Allied Health to work across professional boundaries. Strategies for enhancing these opportunities can be further developed whilst ensuring those activities requiring a specific skillset remain the domain of particular Allied Health professions.

Although a detailed analysis of models of care was not undertaken for the identified Allied Health Top 10 DRGs, the framework included in this document (Appendix 5) was created for this purpose. Of note, AAHBC is currently investigating models of care for the General Medicine Patient due to increasing numbers of episodes and increasing length of stay and complexity for this group, variations in management models, services and workforce across the large, tertiary, teaching hospitals in Australia and New Zealand who form part of AAHBC are being evaluated.

5.4 A Methodology for Evaluating Allied Health Impact

Ten clinician-driven strategies for maximising value of Australian health care are proposed by Scott [6] (refer Appendix 6). With reference to the Allied Health Top 10 DRGs, Allied Health can contribute greatly to site and service implementation of the following strategies to maximise value and sustainability of health care including:

- Actively involve patients in shared decision making and self- management;
- Select care-options according to comparative cost-effectiveness;
- Advocate for integrated patient care across all clinical settings;
- Discontinue low or no-value practices that provide little benefit or cause harm;

- Target clinical interventions to those who derive greatest benefit;
- Defer the use of unproven interventions; and
- Adopt a more conservative approach nearing end of life management.

Allied Health examples of achieving these strategies include:

- Providing cost effective services, particularly through advanced and extended scope of practice;
- Advocating strongly for patients through involvement in multi-disciplinary teams and awareness of functional outcomes and goals;
- Considering both the amount of input and the resultant value of their care across the patient spectrum;
- Implementing evidence based practice and continuing to undertake clinical research to strengthen the current body of evidence;
- Advocating for involvement in end of life care which supports comfort and maximises social connection; and
- Ensuring education and engagement of the patient in their care to enable provision of appropriate health services and assist with hospital avoidance.

6. RECOMMENDATIONS

1. High level discussions occur with Data Costing and Funding Services, patient costing software development (Power Performance Manager 2), the Allied and Scientific Health Office and Statewide Allied Health Executive with the aim to:
    a. Develop methodology for equitable costing of healthcare services across sites, LHNs and professional groups including equitably applied workforce costs, procedure costs, overhead distribution, equipment and consumables;
    b. Cease the use of comparative costing reports across sites and LHNs until costing methodology is consistent across SA Health;
    c. Benchmark activity, costs and outcomes with like services across Australia and New Roundtable (HRT); and Australasian Rehabilitation Outcomes Centre (AROC).
    d. Advocate the accurate use of Power Performance Manager 2 for Allied Health inaccuracies.

2. Improve and ensure consistency of Allied Health data input via:
    a. Implementing the SA Minimum Activity Data Set business rules across SA Health including adequate, ongoing training of Allied Health staff;
    b. Conduct regular data quality checks to ensure ongoing improvement in consistency and accuracy of data collection; and
    c. Continue involvement with the National Allied Health e-Health Collaborative to develop and implement a National Allied Health Minimum Activity Data Set and advocate for improved representation of Allied Health requirements within ABF or alternative costing and funding models.

3. Establish Allied Health specific Key Performance Indicators (KPIs) for input and outcomes at profession, site, LHN and State level. Examples include:
    a. Clinical to Non-Clinical Activity Ratios;
    b. Percentage of Episodes seen per DRG per workforce matching national benchmarks; and
    c. Quantitative (activity) and qualitative (risk) indicators related to the implementation of advanced or extended scope of practice initiatives.

4. Maximise the value of current Allied Health services by:
    a. Seeking input from high performing like sites and services regarding models of care and cost-effectiveness;
    b. Considering professional boundaries and opportunities for extending and maximising scope of practice through skill sharing, to minimise duplication and increase patient access to services; and
    c. Redistribution of services to match areas of highest value.

5. Include health economics parameters in Allied Health business cases through:
    a. Seeking expert help with measuring inputs and outcomes of Allied Health activity including partnerships with funding bodies, managers of feeder systems, case-mix units, AROC, HRT etc.;
    b. Utilisation of available benchmarks for workforce modelling;
    c. Use of National Hospital Cost Data Collection (NHCDC) Australian Public Hospitals Costing information and National Efficient Price (NEP) Allied Health weights to argue for appropriate funding of Allied Health activity;

d. Demonstrating the value of more equitable funding of Allied Health services using both mortality and morbidity factors including impact on hospital length of stay, reduction in complications and improved outcomes for patients; and
e. Demonstrating the value of using Allied Health in extended and advanced scope of practice roles.

6. Collaborate as one Allied Health group when planning for service delivery changes to enable further collaboration with Medical and Nursing and Midwifery.

7. Target quality improvement and professional development activities to Allied Health areas that produce high impact.

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8. APPENDICES

1. ALLIED HEALTH PROFESSIONALS

As at December 2014 allied health professions[16] include:

- Art Therapy
- Audiology
- Dietetics
- Epidemiology
- Exercise Physiology
- Genetic Counselling
- Medical Radiations (including Diagnostic Radiography, Radiation Therapy and Nuclear Medicine)
- Music Therapy
- Occupational Therapy
- Optometry
- Orthoptics
- Orthotics and Prosthetics
- Perfusion
- Pharmacy
- Physiotherapy
- Podiatry
- Psychology
- Social Work
- Sonography
- Speech Pathology

2. TOP 40 DRGs

DRG	DRG Description	SRG
AO6	Tracheostomy	Tracheostomy
B02	Cranial Procedures	Neurosurgery
B63Z	Dementia and Other Chronic Disturbances of Cerebral Function	Neurology
B70	Stroke and Other Cerebrovascular Disorders	Neurology
E62	Respiratory Infections/Inflammations	Respiratory Medicine
E65	Chronic Obstructive Airways Disease	Respiratory Medicine
F62	Heart Failure and Shock	Cardiology
I08	Other Hip and Femur Procedures	Orthopaedics
I75	Injury to Shoulder, Arm, Elbow, Knee, Leg or Ankle	Orthopaedics
K60	Diabetes	Endocrinology
I03	Hip Replacement	Orthopaedics
L63	Kidney and Urinary Tract Infections	General Medicine
B81	Other Disorders of the Nervous System	Neurology
G02	Major Small and Large Bowel Procedures	Colorectal
F74Z	Chest Pain	Cardiology
I30Z	Hand Procedures	Orthopaedics
J64	Cellulitis	General Medicine
U61	Schizophrenia Disorders	Psychiatry
G67	Oesophagitis and Gastroenteritis	Gastroenterology
I13	Humerus, Tibia, Fibula and Ankle Procedures	Orthopaedics
I68	Non-surgical Spinal Disorders	Orthopaedics
F73	Syncope and Collapse	General Medicine
X62	Poisoning/Toxic Effects of Drugs and Other Substances	General Medicine
B76	Seizure	Neurology
E75	Other Respiratory System Diagnosis	Respiratory Medicine
R61	Lymphoma and Non-Acute Leukaemia	Haematology
U63	Major Affective Disorders	Psychiatry
Q60	Reticuloendothelial and Immunity Disorders	Haematology
L60	Renal Failure	Renal Failure
B78	Intracranial Injury	Neurosurgery
F04	Cardiac Valve Proc W CPB Pump W/O Invasive Cardiac Investigation	Cardiothoracic Surgery
F06	Coronary Bypass W/O Invasive Cardiac Investigation	Cardiothoracic Surgery
G70	Other Digestive System Diagnoses	Gastroenterology
B07	Peripheral and Cranial Nerve and Other Nervous System Procedures	Plastic and Reconstructive Surgery
I04	Knee Replacement	Orthopaedics
B67	Degenerative Nervous System	Neurology
E60	Cystic Fibrosis	Respiratory Medicine

A09	Renal Transplant	Transplantation
D60	Ear, Nose, Mouth and Throat Malignancy	Medical Oncology
K01	OR Procedures for Diabetic Complications	Vascular Surgery

3. NHCDC DATA. PROPORTION OF TOTAL COST ALLOCATED TO EACH COST BUCKET FOR ADMITTED ACUTE PATIENTS BY STATE AND TERRITORY, ROUND 16

State / Territory	Admitted acute – proportion of total cost																Total
	Ward Medical	Ward Nursing	Allied Health	Non-clinical Salaries	Pathology	Imaging	Pharmacy	Prosthesis	Critical Care	Operating Room	ED	Ward Supplies	SPS	On-costs	Hotel	Depreciation	
NSW	11.50%	20.10%	2.90%	6.60%	3.60%	2.90%	3.00%	2.80%	7.10%	12.10%	7.40%	7.00%	0.60%	5.10%	3.50%	3.70%	100.00%
Vic	10.40%	17.60%	3.00%	6.60%	2.40%	2.30%	5.40%	3.20%	7.30%	16.20%	7.80%	5.70%	1.10%	8.20%	2.20%	0.70%	100.00%
Qld	17.30%	22.00%	3.30%	2.40%	3.70%	2.20%	3.60%	2.60%	8.50%	15.40%	5.80%	4.50%	0.90%	5.30%	1.10%	1.30%	100.00%
SA	11.10%	18.70%	1.70%	3.50%	2.10%	2.60%	5.20%	3.30%	6.90%	12.90%	4.30%	11.20%	1.30%	7.70%	4.60%	2.90%	100.00%
WA	12.10%	17.10%	3.00%	7.90%	2.50%	2.70%	5.00%	2.90%	5.40%	11.30%	4.10%	10.90%	0.80%	4.40%	7.10%	2.70%	100.00%
Tas	9.70%	18.30%	2.60%	6.90%	4.80%	2.60%	5.30%	3.20%	7.20%	13.90%	5.00%	8.00%	0.40%	8.30%	1.40%	2.40%	100.00%
NT	8.10%	19.20%	1.80%	9.30%	3.30%	2.00%	3.10%	0.50%	8.10%	9.30%	8.10%	12.90%	0.00%	12.50%	0.90%	1.00%	100.00%
ACT	7.10%	15.80%	2.70%	4.70%	4.60%	2.30%	3.50%	2.40%	8.80%	15.30%	10.30%	6.70%	1.00%	9.30%	2.90%	2.70%	100.00%
National	**12.20%**	**19.30%**	**2.90%**	**5.60%**	**3.20%**	**2.60%**	**4.10%**	**2.90%**	**7.30%**	**13.70%**	**6.60%**	**7.10%**	**0.90%**	**6.30%**	**3.10%**	**2.30%**	**100.00%**

Notes: This table is based on b2 patient costed files, cost modelled sites and excludes WIP**.** Data includes ED admitted costs.

4. RAH ALLIED HEALTH FTE PER SRG AS A % OF AAHBC MEAN

RAH Discipline	Cardiology (Including F62)	Endocrine (Including K60)	Neurology (Including B63, B70)	Neuro surgery (Including B02)	Orthopaedics (Including I08, I75)	Respiratory Medicine (Including E62, E65)	Trache ostomy (including A06)
Clinical Dietetics	36%	48%	69%	87%	35%	49%	76%
Occupational Therapy	56%	74%	74%	32%	24%	50%	41%
Physiotherapy	66%	82%	76%	93%	110%	57%	58%
Social Work	83%	81%	84%	115%	124%	95%	97%
Speech Pathology	64%	55%	60%	61%	50%	70%	56%

5. FRAMEWORK FOR MODEL OF CARE DEVELOPMENT

Model of Care Question	DRG/Service/Clinical Unit for Investigation
Governance • State • Site • Allied Health • Program • Profession	
Targets/KPIs • National • State • Site • Allied Health • Program • Profession	
Service Descriptor • Bed Numbers • Episodes • Case-Mix Classification System • Complexity • Complications • Specialist Unit vs General Ward	
Data Collection • MDS • Quality • CCR • Productivity	
Financial • Funding vs. Costing	

Workforce
• Medical, Nursing
• Allied Health
  ○ Professions
  ○ Classifications
  ○ AHAs/Technicians
  ○ Working Hours
  ○ 7 Day Service
  ○ Leave Cover	

AH Scope of Practice • Partial/full/advanced/extended • Examples of innovative areas of practice	
Service Delivery Mode • MDT, IDT, AH Lead, Outreach, In-reach, RITH, HITH, Hospital Avoidance • Links with other service providers (NGOs, Aged Care, Primary Care, Other Govt.)	

Patient Flow Enhancers
• Patient Pathways:
  • Pre-Admission (Prevention)
  • Hospital Avoidance-	

(Prevention/wellness/screening/ health maintenance/education) • Admission • (ED/ Direct to service/ AAA) • AH point of entry • Referral Processes • Triaging • Screening protocols • Management Methods (Critical Medical /Rehabilitation / Re-ablement /Palliative Care) • Discharge/Post Discharge (Destination/Access/Treatment Availability) • Ambulatory • Hospital acquired complications • Patient/carer engagement and Education	
Physical Resources • Space • Equipment • (Clinical / Non-Clinical) • (Consumable / Non-Consumable) • IT	
Quality and Innovation • Evidence Based Practice • Innovative Practice • Allied Health input vs. value • Professional Development • Supervision /Teaching/ Training • Research	

6. TEN CLINICIAN-DRIVEN STRATEGIES FOR MAXIMISING VALUE OF AUSTRALIAN HEALTH CARE - Scott (2014)[6]

Minimise errors in diagnosis
Discontinue low or no-value practices that provide little benefit or cause harm
Defer the use of unproven interventions
Select care options according to comparative cost effectiveness
Target clinical interventions to those who derive the greatest benefit
Adopt a more conservative approach nearing the end of life
Actively involve patients in shared decision making and self-management
Minimise day-to-day operational waste
Convert healthcare institutions into rapidly learning organisations
Advocate for integrated patient care across all clinical settings

Change History

Any printed version of this document may have been superseded. The current version of this document can be accessed via www.health.sa.gov.au/alliedandscientifichealth

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