Why comparative costs for Children's hospitals need special recognition

A submission by Children's Hospitals Australasia

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Dear Commissioners,

CHA is a widely regarded not-for-profit peak body whose vision is to enhance the health and well being of children and young people. It achieves this by supporting member hospitals to aspire to excellence in clinical care by sharing knowledge and evidence underpinning best practice. Membership comprises 19 leading public children's hospitals and health services located throughout Australia and New Zealand.

CHA is committed to benchmarking and has a long history of benchmarking among our members. We consider it is an essential component of performance management. It involves not only comparing practices between sites, but additionally understanding clinical practice, identifying superior practices and ultimately assisting sites adapting those practices to improve site performance where possible. Benchmarking quite often leads to more questions being asked, than providing solutions. Hence, the availability of data at a level of detail which will assist in further analysing differences is essential. Benchmarking results can significantly impact on a hospitals and clinicians decision to review and amend practice

CHA currently provide clinical and process benchmarking (Dashboard indicators) for our member hospitals. Previously the CHA has also provided casemix and costing benchmarking for member hospitals. The CHA has in the past invested considerable money, time and other resources into the development and management of two casemix and costing benchmarking applications and has sponsored research into paediatric costing. The lessons we have gained from these activities have been invaluable.

It is noted that the Commission is expected to make recommendations on the importance of gathering relative cost data on children in both public and private sectors and comparing this with the cost of adult care. It needs to be recognized that the CHA is exclusively focused on public hospitals, however our experience suggests that such a comparison will reinforce what we have already clearly demonstrated.

First it needs to be acknowledged that there are very few child patients admitted to private hospitals. The exceptions would be some surgical cases, predominantly orthopaedic, ENT and eye. As CHA represents children's units and hospitals in the public hospital system we are unfamiliar with the data collection that occurs in private hospital on children and therefore have no way of knowing whether the data collected in private hospitals would be suitable for the kind of benchmarking activities that CHA

undertakes. We do not believe that to date that there has been any efficiency benchmarking between public and private paediatric settings

What we do know however is that costs are cheaper in non-tertiary paediatric wards and units in general hospitals than they are in specialist paediatric units. We think this is because these cases are less complex, have less complications and lower co-morbidity than cases seen in the tertiary units. Children admitted to private paediatric units are likely to have lower co-morbidity and complication rates so costs of care are likely to mirror the non-tertiary paediatric units in the public health system. So any comparison between private health system costs for paediatric inpatients and public health system costs for children that does not distinguish between tertiary and secondary level units is going to be flawed.

The Board of CHA decided in late 2006 to undertake a study "*Costing Kids Care A Study of the Health Care Costs in Australian Specialist Pediatric Hospital"* to better understand the complex issues underpinning the cost profiles of children's hospitals. This study was conducted during 2007-08 with the expert assistance of Mr. Chris Aisbett, Laeta Pty Ltd and Mr. Steve Sutch, of Sutch Consulting International Limited. Mr. Aisbett has substantial experience in casemix analysis and indeed, has conducted similar studies with CHA and specific Australian children's hospitals in the past, whilst Mr. Sutch has considerable knowledge of paediatric casemix and cost analysis in the UK and Ireland.

The main aims of the study were to answer the following research questions:

1. Are specialist paediatric hospitals uniformly more expensive than other hospital types across their caseload?
2. Where are specialist paediatric hospitals different in the costs and treatment of sub-populations compared with other hospital type groupings?
3. Whether a more comprehensive appraisal of the services supplied by specialist paediatric hospitals through ED and outpatients services will affect DRG costs and hence provide a more appropriate comparative framework for assessing specialist paediatric hospitals' expense in DRG terms. In particular, to what extent do the types of services provided in ED and Outpatients affect the thresholds for hospital admissions in children's compared to adult services and therefore affect the DRG costs.

4. Do specialist paediatric hospitals have a higher level of expensive outlier cases and skewed within DRG cost distributions that may be attributable to community pressure to save a child's life at all costs?

Specialist children's hospitals in most States kindly contributed data to this Study and assisted in the analysis and recommendations.

The key finding of this research study was that the current AR-DRG classification system fails to account for a large number of complications and comorbidities that materially affect the cost of care of children. This failure accounts for at least 77% of the difference observed between acute inpatient expenditure of Specialist Children's Hospitals and that expected given both their AR-DRG casemix and the average cost of these DRGs in other hospitals in their State. The AR-DRG system does not recognise age effects on complication and comorbidity levels (CCL) of diagnoses. However this Study demonstrated that these effects exist and are in fact verified by highly credible and empirically verified English studies. The identification of this group of childhood complicating conditions (CCC), which would materially affect AR-DRG costs for both specialist children's hospitals and paediatric units, shows that the observed cost variation is about treatment population and not hospital practice.

Dr Ralph Hanson, Director of Information Services and Planning at Children's Hospital Westmead and member of the CHA board has provided the following overview of the that study for you (Appendix 1) and we have enclose a copy of the full report (Attachment 2) for your information.

In summary, it is clear from both overseas and Australian studies that the costs of care for children in Specialist Paediatric Hospitals are higher when compared to the costs of treating other patients. In the most part this reflects inadequacies in the current classification system for acute inpatient specialist paediatric care to reflect the complexity of this particular cohort. The impact is a systematic underfunding of Specialist Paediatric Hospitals.

It is recommended that, based on the most recent evidence, consideration needs to be given to:

Long Term:

- Redesigning the AR-DRG system to accommodate diagnosis codes with age affected comorbidity and complication levels (CCLs).

Medium Term:

- Calculating individual AR-DRG cost-weight uplifts based on the relative frequency of age-interacting childhood complexity codes not accounted for within the AR-DRG system.

Short Term:

- Communicating to funders the cost pressures experienced by Specialist Paediatric Hospitals and Paediatric Units in treating a population with hidden complexity. State funding Authorities should review their paediatric funding adjustments in line with the magnitude of the discrepancy identified in this study.
- Basing productivity assessments of Specialist Paediatric Hospitals and Paediatric Units on their performance on the unaffected (DRGs with low frequency of CCCs) portion of their caseload.
- Conducting further research on the list of age-interacting comorbidities to more precisely discriminate the AR-DRGs in need of an uplift for Specialist Paediatric Hospitals and Paediatric Units.

CHA will be happy to discuss any aspect of this response with you further. All queries can be directed to Elizabeth Chatham, CEO CHA on 0417 388032.

Yours sincerely

CHA President

Appendix 1

An brief overview and background to Costing Kids Care A Study of the Health Care Costs in Australian Specialist Pediatric Hospital by Dr Ralph Hanson

Introduction

Questions about appropriate funding of specialist paediatric inpatient services and related issues of relative cost efficiency and quality of care have been raised and investigated in Australia (Hanson,1998; Victorian Department of Human Services, 2004; Aisbett & Blandford,2001; NSWPaediatric Costing Study) and internationally (NACHRI,2007).

The underlying motivation for these investigations in Australia and elsewhere is the perception that specialist paediatric hospitals have relatively higher costs per case-weighted separation. These perceptions are based on documented comparisons of the cost of providing specialist services against evaluations of the services' outputs.

Paediatric hospital outputs are compared with the average cost of Diagnosis Related Groups (DRGs) in the broader health system. But are these DRG-based evaluations fair? The fundamental issue in funding paediatric hospitals according to output is whether there is a method by which their output may be evaluated relative to other hospitals.

Background

Studies in the US have demonstrated the higher cost of treating children in hospital, particularly children under 3 years of age, as a direct result of their greater dependency (NACHRI). Subsequent studies in Australia have confirmed these findings.

The "Costing Kids Care" study undertaken by Chris Aisbett in 2002 on behalf of Children's Hospitals Australasia identified the higher costs of treating children. He found that the cost of treating a child as an inpatient was $2895 in comparison with an average national cost of $2488.

The study showed that the National cost-weights are quite serviceable in Paediatric costing. The cost weight relativities were found to be consistent for both children and adults. This is likely to be a result of the better capacity of AR-DRG v4.1 to adjust for age-related severity than previous groupings.

The study however recommended rebasing the cost weights used for paediatrics with a recognition of the differential costs for paediatrics and between specialist paediatric teaching centres and non-teaching centres.
Examining the results of the National Cost Study it was noted that the cost of inpatient care in most Specialist Children's Hospitals approximates the national average for Specialist Children's hospitals but was consistently higher than the average cost in non-paediatric hospitals.

Based on the results of these findings it was demonstrated that in the case of Specialist Children's Hospitals, irrespective of which weights are used, the hospitals are significantly underfunded. Children's Hospitals face significant challenges in terms of funding. The apparent systematic bias towards under-funding specialist paediatric services necessitates the introduction of rebased cost weights that both recognise the high cost of these services and distinguish between the cost of providing specialist and non-specialist paediatric care.

The Victorian Review of funding for paediatric clinical care services in Victoria in 2004 provided further support for the recognition of the higher costs of specialised paediatric care, prompting a recommendation that the funding of the Royal Children's Hospital be increased to reflect the higher costs.

Despite the acknowledgement of the issue, resistance to address the problem exists in most other jurisdictions. It was always argued by advocates for specialist children's hospitals that the higher costs reflected the greater dependence of children and the complexity of their conditions. This was often countered by assertions of inefficiency which were difficult to counteract.

Further evidence in support of the higher costs of caring for children

During 2007, Children's Hospitals Australasia commissioned a further study to investigate these and other questions in some detail. (Appendix 1)

The major specialist paediatric hospitals in Australia were invited to participate and their casemix and cost profiles compared **within** Australia and then contrasted with similar studies conducted in the United Kingdom and elsewhere. The key finding of this research indicated the continued rise in costs and demonstrated that the AR-DRG system fails to account for a large number of complications and

comorbidities that materially affect the cost of care of children, particularly of children cared for in Specialist Paediatric Hospitals. This finding was consistent with recent evidence from the United Kingdom.

This failure accounts for at least 77% of the difference between acute inpatient expenditure of Specialist Paediatric Hospitals and that expected given both their AR-DRG casemix and the average cost of these DRGs in other hospitals in their states.

The study identified 1,497 ICD-10-AM diagnosis codes that are not part of the AR-DRG Patient Complication and Comorbidity Level (PCCL) structure but which can be used to identify groups of AR-DRGs where the cost relativities for Specialist Paediatric Hospitals are materially different from those of the rest of the health system. Hence AR-DRG evaluation (based on a single set of AR-DRG normative costs) is invalid if applied to a mix of general hospitals and Specialist Paediatric Hospitals.

The AR-DRG system does not recognise age effects on complications and comorbidity levels of diagnoses; however this project has demonstrated the existence of such effects.

This project has scientifically explained why differences in the cost of care for children exist. It offers a basis for determining the appropriate uplift in funding/budget for Specialist Paediatric Hospitals and Paediatric Units compared with that of other hospitals.

Conclusions

It is clear from both overseas and Australian studies that the cost of care for children in Specialist Paediatric Hospitals is higher when compared to the costs of treating other patients. In the most part this reflects inadequacies in the current classification system for acute inpatient specialist paediatric care to reflect the complexity of this particular cohort. The impact is a systemic underfunding of Specialist Paediatric Hospitals.

It is recommended that based on the most recent evidence that consideration be given to:

Long Term:

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Short Term:

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- Base productivity assessments of Specialist Paediatric Hospitals and Paediatric Units on their performance on the unaffected (DRGs with low frequency of CCCs) portion of their caseload.
- Conduct further research on the list of age-interacting comorbidities to more precisely discriminate the AR-DRGs in need of an uplift for Specialist Paediatric Hospitals and Paediatric Units.