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Tasmanian Department of Health and Human Services Submission to the Productivity Commission's Study into the Performance of Public and Private Hospitals Systems

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Contents

Tasmania's Position

While Tasmania supports this study being undertaken, it has serious reservations about the proposed method of comparison outlined in the Issues Paper, which may not provide a fair and unbiased comparison because it does not take account of the fundamental differences between the two sectors.

Since the introduction of Medicare in 1984 public hospitals have provided non-discriminatory, free treatment for an extensive range of services. On the other hand private hospitals provide a narrower range of services for a fee, underpinned by personal private health insurance for those who choose to take it out and can afford it. This leads to differential patient selection between the public and private sectors, which results in the age and health status of patients in each hospital sector varying significantly and the proportion of patients with complex conditions and co-morbidities being more highly represented in the public hospital system.[1]

The two sectors have fundamentally different roles in that the public health system is required under the National Health Care Agreement to treat all patients that present for care, while the private sector provides preferential access to care for those who can afford it. It is not universal in nature because the private sector neither offers the full range of services required by private patients nor operates in areas where it is not financially advantageous to do so. Providing hospital care in rural and remote communities is almost entirely the domain of the public sector which must absorb the scale disabilities imposed by this community service obligation.

While the Commission could argue that excluding smaller hospitals removes these public sector costs, this fails to recognise the networked nature of public sector services. In this situation larger hospitals incur costs for smaller hospitals in the network through the provision of administration, records coding, patient management systems, visiting services. Therefore simply removing the direct costs of smaller hospitals does not overcome the problem of removing the costs for inefficient services required by community service obligations.

In relation to the proposed method of comparison Tasmania has serious reservations and therefore does not support the Commission comparing public and private hospitals because this approach is fundamentally flawed. The reasons for these reservations are that the Commission's Terms of Reference clearly focus on comparing the performance of public and private hospital systems however this is at odds with the levels of data disaggregation the Commission is seeking from data custodians. The Issues Paper and revised data requests imply that the Commission will seek to publish jurisdictional comparisons for public and private hospitals. In Tasmania's view this is outside the Terms of Reference and is heavily biased in favour of the private sector in the selection of procedures and indicators which will be considered and therefore it is not supported. However Tasmania does support comparisons between hospital types by remoteness and size classification, except for very small hospitals.

Tasmania's lack of support for this study also extends to the Commission's proposed use of multivariate analysis to determine levels of performance and efficiency. Tasmania does not support the use of data sets that do not allow for simple or direct comparisons between public and private hospitals. The Commission's efforts to redress jurisdictional concerns through revised and expanded data requests demonstrates a lack of understanding of the scope of key data collections and does not alter the fact that they are heavily biased toward the private sector. Therefore Tasmania will not support this study unless all relevant variables including the variables of age, complications and co-morbidities, elective or emergency admission status,

[1] AIHW (2009) *Australian Hospital Statistics 2007-08*, AIHW, Canberra. Cat no. HSE 71. Table 8.1 Separations, by age group, sex and hospital sector, Australia 2003-04 to 2007-08. NHCDC (2008) *Round 11 2007-08 Report*, DoHA, Canberra.

socioeconomic factors and other factors which influence the severity of the patient condition for public and private hospitals are controlled for.

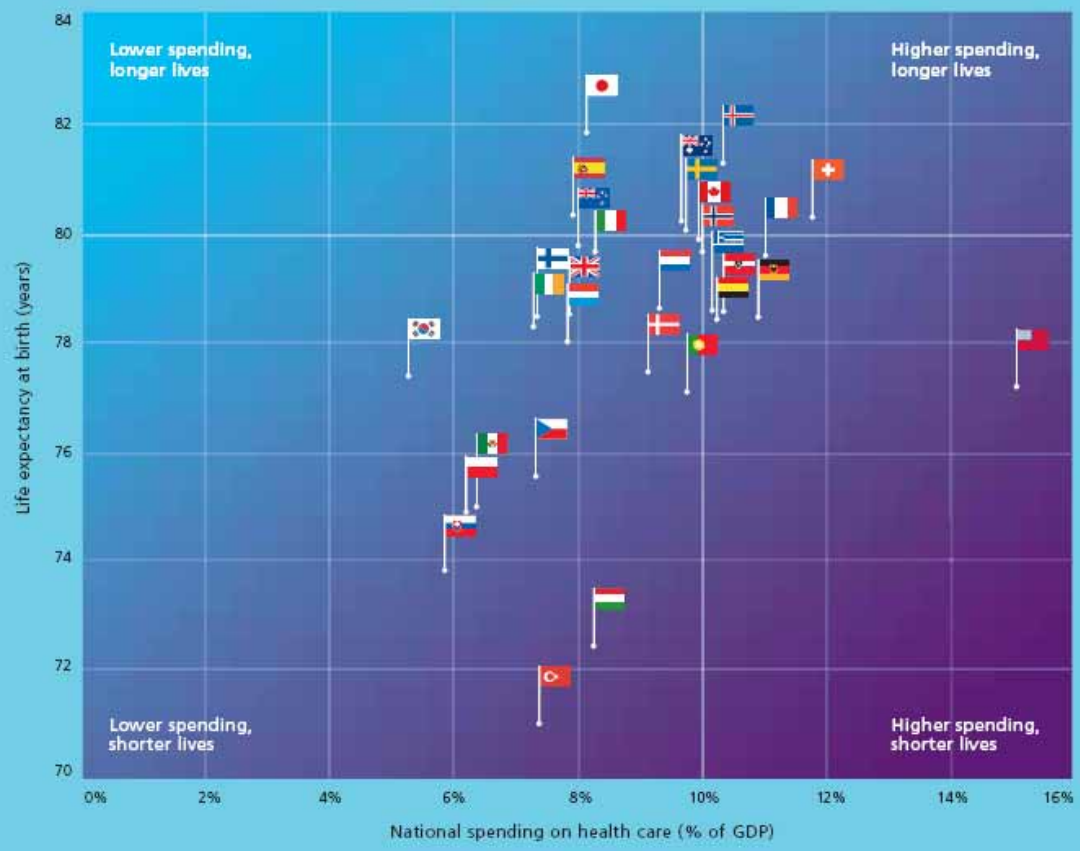
In addition, Tasmania is concerned that the Commission has not grasped the important differences between the cost of the procedure to the hospital and the price charged for the procedure to all purchasers. This is crucial to assessing relative productive efficiency and in understanding where the best value for money is delivered. Tasmania will only support hospital comparisons based on cost for like components and diagnosis related groups and not charges.

The timing of this study is highly questionable. Tasmania does not support the Commission undertaking this study at this point in time - so soon after jurisdictions have committed to implementing new national agreements with their associated performance indicators and benchmarks. Given that jurisdictions have agreed to measure a large number of health-related outcome and system indicators as well as moving toward activity based funding it is unclear how this inquiry will enhance or progress these arrangements. In Tasmania's view a study of system efficiency should only be conducted after national activity based funding has been implemented.

Finally, Tasmania is concerned that the Commission's focus on efficiency at the hospital site level should not be at the expense of broader, overall health outcomes. For example, Australia currently enjoys a favourable comparison of national spending on health care with life expectancy, as demonstrated in Figure 1. It is important to recognise that efficiency is only one aspect of a complex system that has Australian in this favourable comparative position and that addressing this aspect alone may not necessarily deliver the best outcomes.

Some contextual information on Tasmania is contained in Appendix 1 while the following sections address the Commission's proposed methods for this study in more detail.

Figure 1: OECD Comparison on GDP and Life Expectancy.



Austria
Australia
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Canada
Czech Republic
Denmark
Finland
France
Germany
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Japan
Luxembourg
Mexico
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Spain
South Korea
Sweden
Switzerland
Turkey
UK
US

FIGURE 4

All over the map – Are we buying our way to longer life?

Even among developed countries, the percentage of the economy devoted to health care varies considerably, and higher spending does not translate neatly into longer lives. We spend about 10% of the national gross domestic product (GDP), and we live to be 80. Some countries spend more than Canada and do not achieve better results. France and Germany, for example, spend about 11% of GDP and have similar life expectancy. On the other hand, the US spends much more than Canada (15% of GDP) but Americans live several years less than we do, on average.

Six countries spend less than Canada but achieve the same or better outcomes. Spain and New Zealand, for example, spend 8% but people there live about as long as Canadians. Japan, on the other hand, also spends 8% of GDP on health care but has a higher life expectancy than Canada.

Source: Organisation for Economic Co-operation and Development, OECD Health Data. Data are for 2003.

Comparability of Public and Private Hospital Systems for Similar Procedures

The Commission's Terms of Reference state that it will consider the comparative hospital and medical costs for clinically similar procedures performed by public and private hospitals. From Tasmania's viewpoint any comparative study needs to take into account the fundamental difference between public and private hospital systems. These differences are discussed below as well as addressing specific issues raised by the Commission's Issues Paper.

There are a number of contextual issues that should be factored into the Commission's study of the public and private hospital systems, namely that hospitals do not operate in isolation, that there are a number of reasons why hospitals offer a different range of services and that there are scale issues constraining the range of services offered and the economic viability of private hospitals. These issues can, and do, constrain the efficiency and performance of hospital systems.

Interdependencies exist between public and private hospitals that cannot explain the relative performance of one hospital compared to another in a study based on a select range of diagnosis related groups (DRGs). In general (public and private) hospitals function as a network or a cluster, which is as much about geographical proximity and hospital size as it is about managing capacity in times of high demand and therefore the range of services offered at a particular site.

In small states like Tasmania the public hospital system operates as a statewide network with the major tertiary referral hospital being in Hobart and with Launceston being the regional referral hospital for northwest Tasmania.[2] In reality this network also extends outside Tasmania when patients are transferred interstate for treatment for major trauma or to access super-specialties. On the other hand Tasmanian private hospitals operate in a smaller geography, forming a close connection to the nearest public hospital.

In other jurisdictions, hospitals operate in clusters at a different geographical scale. In large capital cities hospitals operate in clusters containing a number of public as well as private hospitals of varying size, range of specialities and case-mix complexity.[3] The relative performance of a single hospital can be difficult to determine in this situation.

Geographical proximity, such as the co-location of public and private hospitals can also distort hospital performance. Co-location of private and public hospitals occurs in Tasmanian and in most states and territories and is an arrangement that can facilitate the provision of a broader range of services and better use of resources. However, without these hospitals being explicitly identified in this study, as well as their proximity to each other, the relative performance of the public and private hospital will be distorted.

The interdependence of public and private hospitals is underpinned and differentiated by the range of specialties and sub-specialities provided by an individual hospital. This relationship is shaped in part by professional standards for safety and quality set by governing bodies, such as the Australasian College for Emergency Medicine, and by the preferential referral patterns used by senior medical practitioners. These relationships are complex and should be included in any study of hospitals because they do have a bearing on the relative performance of hospital systems.

The range of specialties and sub-specialties offered by public hospitals is generally greater than private hospitals. The reason for this is that private hospitals have a different operating environment to public hospitals insofar as the economic viability of providing services can limit the range of services. In Tasmania

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[2] DHHS (2007) *Tasmania's Health Plan: Clinical Services Plan*, DHHS, Hobart.

[3] http://www.health.vic.gov.au/maps/downloads/metro/rpu/downpdf.pdf
http://www.health.vic.gov.au/maps/downloads/metro/rpr/downpdf.pdf

the private hospital sector outside Hobart is small compared to the public hospital sector because of the diseconomies of scale encountered in providing services to a dispersed population which in turn results in the provision of a limited range of specialties. Also private hospital activities in some locations are further constrained by their inability to treat more complex conditions in the absence of an intensive care unit – this service can only be provided, according to the professional standards of governing bodies, in a public hospital.

In Tasmania's view the comparative study of the public and private hospital system needs to take account of the complex inpatient and outpatient arrangements that exist to support patient care in the public hospital system. Public hospitals provide both inpatient and outpatient services while private hospitals only provide inpatient services and so do not provide the same episode of care approach as public hospitals.

In Australia the case-mix profile, relative proportions of patients in public and private hospitals by DRG and payment arrangements, highlight the limits to substitutability between the two sectors. There is a large number of DRGs for which there are low activity levels (<20 per cent) in private hospitals and therefore high activity levels in public hospitals. Conversely there are a low number of DRGs for which there are high activity levels (>40 per cent) in private hospitals and therefore lower levels in public hospitals.[4] This data is provided in Appendix 2.

The reason activity for some DRGs is higher in private hospitals is because they have more day only and short stay patients and tend to concentrate more on surgical activity, especially day surgery. This is explained by private hospitals having 66 per cent of its activity as same day compared to 49.8 per cent of patients in public hospitals.[5] The reason for this is that private hospitals generally provide elective rather than emergency care. In addition, the private sector also provides some inpatient services which are outpatient services in the public sector, such as, radiation therapy. The private sector also provides procedures which are not necessarily procedures for the restoration of good health which are not generally available in the public sector such as cosmetic surgery, in vitro fertilisation, reversal of sterilisation, circumcision, and tattoo removal amongst others.

The comparative hospital and medical costs for clinically similar procedures performed by public and private hospitals is neither simple nor direct. Differences in data collections increase the likelihood that robust and/or meaningful comparative conclusions cannot be achieved.

Differences in Reporting Collections

Comparisons between costing in the public and private hospital system based on existing data collections is problematic because of differences in scope and methodology as well differences that arise from transforming jurisdictional to meet multiple reporting requirements. There are differences in costing methods within the National Hospital Cost Data Collection (NHCDC) between public and private collections – these are material to the Commission's study.

The costing method used for public hospital data is based on episode level costing with a high level of disaggregation compared to the private hospital data, which is based on DRG level costing with a low level of disaggregation. The reasons for this are that the public sector cost collection is based on consumption costing, the private sector cost collection is reliant on national averages to allocate cost. These differences can have a significant impact on the relative performance of one sector compared to the other. The impact of this in the costing data is that for private hospitals there is an increased potential for averaging of costing

[4] DoHA (2008) *NHCDC Round 11 Cost Report 2006-07*, DoHA, Canberra.

[5] AIHW (2009) *Australian Hospital Statistics 2007-08*, AIHW, Canberra. Cat no. HSE 71. Table 2.3 Summary of separation, patient day and average length of stay statistics, by hospital type, Australia 2003-04 to 2007-08.

within hospitals and within DRGs, and for systemic under-costing of high cost activity and over-costing of low cost activity.

Comparisons between costing in the public and private hospital system based on existing data collections is also problematic because of differences in scope and methodology, an example of this is provided in Appendix 3. For this reason, Tasmania does not support the use of Hospital Casemix Protocol (HCP) data to compare hospital and medical cost for clinically similar procedures performed by public and private hospitals.

The Commission suggests the use of HCP data will provide a source of private hospital data to address data gaps in the NHCDC - Tasmania does not support this position. More fundamental differences between each collection exist and are material to any study into the efficiency of public and private hospitals. These differences do not facilitate robust comparison between hospital and medical cost for clinically similar procedures performed by public and private hospitals. For example the NHCDC data are concerned with cost whilst the HCP data relates to charges; these are completely different concepts and cannot substitute for one another.

The problem with the HCP collection is that it does not adequately collect data missing from the NHCDC, such as, medical (including pathology and medical imaging) and pharmaceutical costs for private hospitals. However, the HCP does collect charges to the health insurer but does not adequately collect costs to the Medical Benefits Scheme (MBS), Pharmaceutical Benefits Scheme (PBS) and the individual, which is where most of the medical costs and pharmaceutical costs are met.

In Tasmania's view, HCP data does not support cost comparisons for clinically similar procedures. The bundling of charges across the private hospital sector is inconsistent and result in different charging practices depending on case-mix and number of bed-days. Where data is present, it is often reported as a bundled charge or as a mixture of bundled and component charges. Prostheses charges also include gap and handling charges but may be incomplete depending on the ability of the hospital to identify the items used for each episode of care. Further, charges are often based on the funding claimable from health insurers and/or the patient's out-of-pocket expenses and therefore bear no relationship to the actual cost of the service or component.

Comparability of HCP data is further complicated by private health insurers applying different procedure rates for different hospitals. For example one private health insurer will pay various rates for the same procedure at different hospitals based on purchasing power, not purchasing efficiency. In the case of people who self insure they can be quoted charges for procedures at marginal rates and not full cost rates depending on capacity.

Some of the comparability issues highlighted above could be overcome through improving the capturing of costs, and not charges, in private hospitals. This could be achieved through linking patient episode data to MBS and PBS data. In addition the capture of out-of-pocket costs to the patients for medical services would also improve the HCP data collection.

Given the Commission's objective is to compare hospital and medical costs for clinically similar procedures performed by public and private hospitals Tasmania recommends this would be better achieved through the use of episode level costed data. Episode level costed data provides a more robust starting point for statistical analysis because it is based on the actual consumption of resources and includes all cost types however funded. In addition, this data should include patient complexity and co-morbidity level (PCCL) values as well as the diagnoses and procedures undertaken at the ICD-10-AM code level.

Analytical Approach for Comparing Public and Private Hospitals

Given the data deficiencies noted above in the major hospital data collections, the Commission's proposed use of multivariate analysis is not supported. If correctly performed, then a multivariate analysis could

reveal the differential level of patient co-morbidities in each sector through running the Charlston Index off the included ICD-10-AM codes, provided the ICD codes are captured adequately in both the public and private sectors. However, to do this requires a conversion to run the index because the Charlston Index was designed for ICD-9.

There is an Australian developed conversion syntax which is copyrighted by the University of Western Australia but to our knowledge no approach has been made by the Commission to access this work. Tasmania is concerned that unless an adequate conversion is available, the use of the Charlston Index may lead to spurious results and in particular may underestimate the level of co-morbidities which will distort the performance results for the public hospitals. Therefore Tasmania only supports the use of the Charlston Index, with conversion syntax for ICD-10-AM, for this study.

Indicators of Performance

The Commission's Issues Paper seeks to identify a suite of partial indicators to assess the relative performance of the public and private hospital systems. Tasmania's response addresses the fitness-for-purpose of these indicators of performance separately.

Cost Indicators

The Commission has identified two commonly used cost indicators that it will apply in its study; the average cost per separation and average cost per casemix-adjusted separation. Tasmania does have concerns about each cost indicator's fitness-for-purpose when it comes to determining the relative performance of hospital systems. Furthermore, Tasmania does not support the use of any other cost indicators as a means for comparing costs between hospitals or across different types of treatment or diagnosis.

The reason for these concerns are that the use of average cost per casemix adjusted weighted separation for system level comparisons is of limited reliability due to the vastly different casemix profiles between the public and private sector. Sectoral differences are due to the relative elective versus emergency patient load and the relative out-of-hours patient load. Other differences relate to the cost of teaching and research in the public sector and the selection of preferred patient types in the private sector.

Tasmania provides qualified support for the use of average cost per casemix-adjusted separation when aggregating across difference types of treatment or diagnosis for broader cost comparison. Differences in the cost collections have been noted above and are relevant here. In 2007-2008 the average cost weight of a separation in a private hospital was 0.91 compared to 1.01 for the public sector.[6] In general, cost comparisons are not possible given the material difference between service weight costing which dominates the private hospitals data collection to a far greater degree than the public hospitals data collection.

To overcome the inherent differences in the NHCDC and the HCP data collections the Commission would need to undertake a separate study specifically to target agreed care plans to control for selection bias. In this situation the use of DRGs would be inappropriate because they are normally used for full cost attribution and funding.

The comparability of data could be improved through closer scrutiny of the medical and surgical split between distinct diagnoses – however this is not a cost measurement and would be better measured by clinical groups like the former Clinical Casemix Committee of Australia. Tasmania suggests that for the Commission to compare hospital costs they need to develop a better understanding of technical efficiency

[6] AIHW (2009) *Australian Hospital Statistics 2007-08*, AIHW, Canberra. Cat. No. HSE 71. Table 2.4 Summary of separation, average cost weight, patient day and average length of stay statistics, by hospital type, states and territories.

and the specific input processes so that the appropriate controls are put in place before any statistical analysis is undertaken.

Comparing Clinically Similar Procedures

Tasmania does not support the approach proposed by the Commission for selecting clinically similar procedures appropriate for comparing costs between public and private hospitals. The use of a selected number of DRGs could introduce distortions dependent on which DRGs are chosen. In Tasmania's view in a study of this type the DRGs selected for comparative purposes need to be broadly representative across both public and private hospitals and should include:

- A mix of elective and emergency admissions, inpatients and outpatients activity, and medical and surgical DRGs.
- A mix of DRGs associated with short and long stays that capture difference in each hospital sector.
- A mix of DRGs which capture and/or reflect different funding policies.
- A mix of DRGs which reflect a broader range of complications and co-morbidities so that they represent the same condition and treatment regime in each sector and are adequately risk adjusted.
- A mix of DRGs which capture a range of differences in episode costs and service weights.

The 20 DRGs selected for the Commission's study to compare average length of stay are not appropriate for comparing costs and therefore Tasmania does not support their use. The selected DRGs are strongly biased towards the uncomplicated procedural activity over-represented in private hospitals and could introduce distortions depending on which DRGs are chosen. For example in the list of DRGs provided:

- The surgical DRGs are generally of lower complexity with high activity levels in private hospitals while the medical DRGs show higher activity levels in the public sector.
- Some DRGs are not directly comparable between the two sectors. For example, in the private sector, I03C (hip replacement) is mostly elective hip replacement in patients aged in their mid 60s who have arthritis and receive a total hip arthroplasty. In the public sector about one third of the I03C patients have a fracture of their hip requiring a Hemiarthroplasty.
- For I03B, the fracture hip cases are slightly older (average 81 years) and comprise slightly over 50 per cent of the cases in the public sector. Without knowing the casemix, simply relying on the DRG to provide clinical meaning is not always possible. In this case, the underlying disease process is completely different with the public cases having far greater representation of elderly patients with a major underlying medical problem than in the private sector where the major problem is pain from osteoarthritis at a younger age group.

Tasmania recommends the use of a more extensive and representative suite of DRGs for comparing costs for clinically similar procedures appropriate between public and private hospitals based on the criteria provided earlier.

Disaggregating Data to Compare Indicators of Performance

The Commission identifies a number of disaggregations that may highlight significant differences and points for comparison between public and private hospital costs - by jurisdiction, by region and by peer group. Tasmania does not support the disaggregation and reporting of jurisdictional data and particularly small jurisdiction's data. The Terms of Reference focus specifically on the relative performance of hospital type - public versus private hospitals; this is where the focus should be concentrated.

Any focus on the relative efficiency of one hospital compared to another hospital will be addressed over time through the National Partnership Agreement on Hospital and Health Workforce Reform Schedule A -

Activity Based Funding. As the agreement states "activity based funding is a management tool that has the potential to … drive technical efficiency in the delivery of health services."[7] All jurisdictions have begun work on the four year program to develop and implement nationally consistent classifications and data collections as well as a nationally consistent costing model. Therefore Tasmania recommends that this study should not be conducted at this point in time but after national activity based funding has been implemented.

The Terms of Reference do not canvas the need to make jurisdictional comparisons instead they identify a range of other splits such as types of infections, types of provider, types of procedure, and by geographical scale. Therefore the relative performance of individual public and private hospitals, at a jurisdictional level, is outside the scope of the Commission's study.

On the matter of disaggregating hospital data into regions, Tasmania agrees that remote and very remote hospitals should be excluded from the scope of this study. This is because there are no private hospitals in these regions. However it should be noted that the public sector does provide hospitals in rural and remote areas as part of their community service obligation, which are not required from the private sector. Services in rural and remote areas are high cost and distort public sector costs.

The use of peer groups (hospital size) to disaggregate hospital cost data has some, though limited, merit and could assist with comparing hospitals with similar activities levels. In Tasmania's view the thresholds for the top peer is too low and should be revised upwards and that small hospitals (<2 000 separations) should be excluded. Role delineation would assist in establishing more appropriate thresholds. Tasmania's general position on disaggregating data is that caution should be exercised when making comparisons unless adjustments are made for casemix complexity.

Capital Costs

The Terms of Reference for this study also seek to account for differences between hospitals in relation to fringe benefits and payroll tax regimes to assess the relative performance of the public and private hospital systems. In seeking to account for the cost of capital, hospital costs need to be adjusted so that public sector costs include the costs of teaching and research which are not generally present in the private sector. Another factor to be taken into account is the level of indebtedness of the organisation and the support of umbrella organisations (or their size).

The relative strengths or weaknesses of any approach to account for the cost of capital cannot be made here. The Commission has been requested to provide detailed technical specifications for compiling capital data for this study. In the absence of a technical guide it is unlikely that consistent data will be provided by all jurisdictions as well as the private sector. Therefore any conclusions drawn from capital reporting will need to be highly qualified.

Rates of Hospital Acquired Infections

Another indicator of performance identified by the Commission for the purpose of its study is the rate of hospital acquired infections. In Tasmania's view there are problems with scope and comparability across the public and private sectors for this indicator of performance that should be noted, including:

- Surgical procedures performed in the private sector (especially if same day) will not accumulate infections in the same episode – it simply takes time to happen.
- Generally the infections will appear in subsequent care – either admitted or not.

[7] http://www.coag.gov.au/intergov_agreements/federal_financial_relations/docs/national_partnership/national_partnership_on_hospital_and_health_workforce_reform.rtf

- Many readmissions are to the public sector through emergency departments.
- Readmission is attributable to a variety of hospital acquired infections.

Tasmania, like other jurisdictions, captures public hospital acquired infections data and reports them as misadventures or admitted with infection in national data collections. Data is also reported using ICD codes and using Australian Council of Healthcare Standards. In addition there is reporting of infection rates under the Elective Surgery Plan, including rate of complications and readmit within 28 days. However, Tasmania is not confident that the same rigor is applied to capturing this information for private hospitals in national data collections. Therefore caution will need to be excised when making any comparisons and results will need to be highly qualified.

In seeking to identify hospital acquired infections, depending on the method used, could result in underestimating the number of readmissions from a private hospital being admitted to a public hospital. This method may capture some interstate public cases, although this is likely to be immaterial. Further any reporting of readmissions due to complications of care from private hospitals can result in an under-reporting of the rate of hospital acquired infections because of material leakage of these cases to public hospitals in Tasmania.

A review of Tasmanian public hospital admissions for patients which have had no previous admission history in the public sector and present with an acquired infection was undertaken and found that approximately 120 patients are admitted to public hospitals per annum. This review excluded those patients that were transferred from one public hospital to another and those patients that were readmits to the same public hospitals. Given this result Tasmania recommends that the Commission identify and link the hospital acquired infection to the place of treatment and not the location where the patient is later admitted.

In Tasmania's opinion there are no data sources that can be recommended to compare the rate of hospital acquired infections between the public and private hospital system.[8] Within current data collections there is a lack of national published private sector data on hospital acquired infections. This is supported by a number of academic papers which compare infection rates in Australian public and private hospitals. [9]

Other Partial Indicators of Performance

Tasmania does not support the use of the seven other partial relevant indicators proposed by the Commission - unplanned readmissions and returns; selected adverse events; accreditation; responsiveness; access; relative stay index; and workforce characteristics. These indicators are subject to the same data deficits identified above, which can be compounded by problems with data definitions that result in misreporting.

The use of unplanned readmissions as a comparison for hospital performance is limited in the Commission's study unless the data can identify where a patient received their initial treatment. The indicator 'unplanned return to theatre' is commonly used nationally and internationally. However, this indicator is subject to fluctuations and misreporting and is therefore an unreliable indicator of hospital performance. One reason for these fluctuations is that the data relies on an assessment by medical professionals of whether the procedure is unplanned, which may not be made with full knowledge of what

[8] AIHW (2009) *Australian Hospital Statistics 2007-08*, AIHW, Canberra. Cat no. HSE 7. Table 4.13: Separation with an adverse event, by hospital sector, Australia 2007-08.

[9] McLaws ML, Gold J, King K, Irwig LM, Berry G.(1998) The prevalence of nosocomial and community-acquired infections in Australian hospitals. *Medical Journal of Australia*, December 5-19; Vol. 149, no.11-12, pp. 582-90. Graves N. (2004) Economics and preventing hospital-acquired infection. Emerging Infectious Diseases [serial online] Apr [*20 July 2009*]. Available from: http://www.cdc.gov/ncidod/EID/vol10no4/02-0754.htm

the initial procedure involved.[10] For example, a recent study in a New South Wales hospital showed that 50 per cent of all 'unplanned' returns to theatre were actually planned, but had been incorrectly recorded.[11]

In Tasmania's view comparative access is not a useful indicator for assessing the relative performance of public and private hospitals. The reasons for this is that the private sector can pick and choose patients and therefore adjust demand to meet capacity whereas the public sector is required to accept all patients who require treatment.

Access to intensive care units (ICUs) is a poor choice of indicator because ICUs in private hospitals are mostly high dependency units, often without ventilated beds, and therefore not true ICUs. According to the Joint Faculty of Intensive Care Medicine guidelines an ICU requires 1:1 nursing care for critically ill patients (who should be the only patients accommodated in an ICU) and facilities which do not provide 1:1 nursing care and/or ventilated beds should not be classed as ICUs. There are also enormous casemix differences between private and public hospitals for the same DRG in ICUs therefore it is difficult to make valid comparisons.

In Tasmania's view the use of workforce characteristics are poor indicators of hospital performance and current labour force data collections will not assist with determining the comparative productivity of public and private hospitals. Until the National Registration Scheme comes into affect meaningful comparisons cannot be made.

In addition to the above, Tasmania recommends the exclusion of private and public psychiatric facilities from the Commission's study. The comparison of private and public psychiatric facilities is not possible because the private sector does not generally deal with severe mental illness; this is a major role within the public sector. Psychotic disorders are under represented in the private sector whereas affective disorders and same day non interventional treatment cases are highly represented. There are almost no cases where the patient is confined under an involuntary treatment order in the private sector compared with the public sector, as shown in Table 3.

[10] Adeyemo D. and Radley S (2007) Unplanned general surgical re-admissions – How many, which patients and why?, *Annals of the Royal College of Surgeons of England*, Vol 89, no. 4, pp. 363-367.

[11] De La Costa R. Muir F. and Harris I (2004) Accuracy of mandatory surgeon recording of unplanned return to theatre *ANZ Journal of Surgery, Vol. 74, pp*302–303.

Table 3: Mental Illness by Hospital Type, Australia 2006-2007

DRG	Name	Public	Private	Total	Proportion Private (%)
U40Z	Mental Health Treat+Sameday+ECT	10 049	5 254	15 303	34
U60Z	Mental Health Treat+Sameday-ECT	11 571	76 292	87 863	87
U61A	Schizophrenia Disorders+Legal Status	8 443	18	8 461	0
U61B	Schizophrenia Disorders- Legal Status	7 445	2 376	9 821	24
U62A	Par&Acute Psych Disorder +Cscc/+ Legal Status	1 303	18	1 321	1
U62B	Par&Acute Psych Disorder -Cscc- Legal Status	2 022	316	2 338	14
U63A	Major Affective Disorder A>69/+Cscc	1 647	2 433	4 080	60
U63B	Major Affective Disorder A<70-Cscc	10 311	12 163	22 474	54
U64Z	Other Affect and Somatoform Disorder	7 861	2 091	9 952	21
U65Z	Anxiety Disorders	4 460	2 982	7 442	40
U66Z	Eating & Obsessive-Compulsive Disorder	1 505	483	1 988	24

In summary, many of comparability issues highlighted above are because of the absence of indicator reporting for private hospitals, poor data capture and poor adherence to uniform counting rules. On the other hand public hospitals have for many years been report indicators and therefore have developed systems to facilitate this reporting.

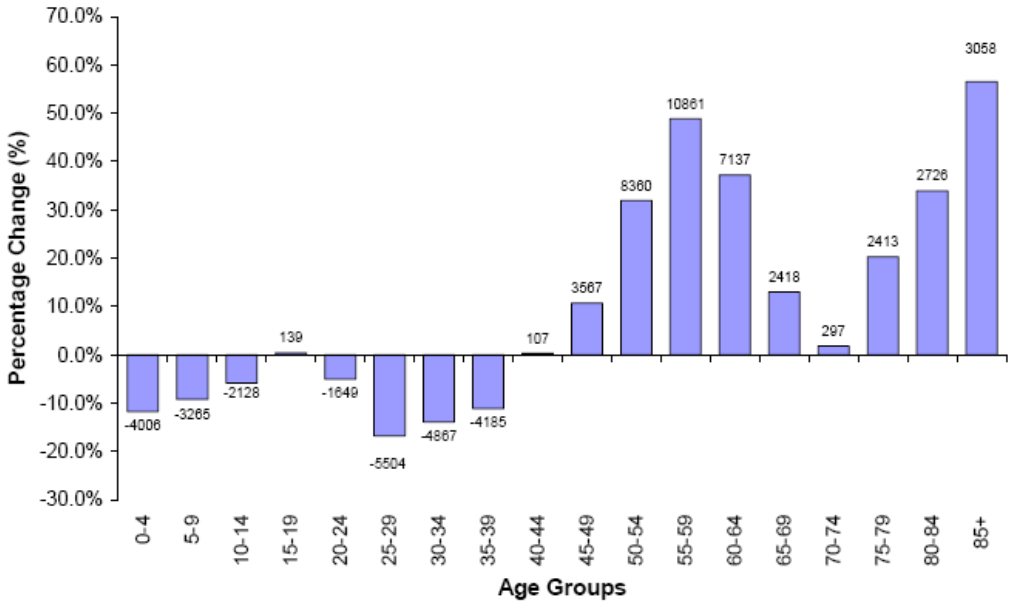
Appendix 1:Tasmanian Context

Local demography

The provision of hospital services in Tasmania is influenced by the dispersed nature of the population, which is not concentrated in major urban centres. Health service provision is also influenced by the socio-economic status and health and wellbeing status of the population. This often means that a greater range of services (when compared to other jurisdictions) are required outside major urban areas. In June 2007, the proportion of the population in the South was 49.4 per cent, in the North 28.3 per cent and in the North West 22.2 per cent.[12]

Between 1996 and 2006 Tasmania's population has aged, as shown in Figure 1. Tasmania is experiencing the effect of population ageing to a greater degree than other states and territories as Tasmania's population is older than Australia as a whole, and the gap is widening. Much of the population change in each of Tasmania's five year age bands can be attributed to the impacts of net interstate migration, a trend that is expected to continue. The greatest losses have been in the prime working age groups while net gains from interstate migration have occurred only in the very young and older age groups.

Figure 1 Changes in the Tasmanian Population by Age, 1996-2006[13]



In 2006, the age distribution of Tasmania's population shows that those people 0 to 14 years account for only 19.7 per cent and those people 15 to 44 years accounted for 38.9 per cent. At the same time those people 45 to 64 years accounted for 26.7 per cent of the population and that those people 65 years and over accounted for 14.7 per cent of the population. It is worth noting that of those people 65 years and over 1.7 per cent were 85 years and over.

Demand for hospital services is not equally distributed across Tasmania as shown in Figure 2. The distribution of Tasmania's population aged 65 years and over, and particularly those aged 85 years and over, varies by local government area. The east, north east and central north coast local government areas have the highest proportion of people aged 65 years and over. Whereas the Central North, and the major population centres in the North and South have the highest proportion of people aged 85 years and over.

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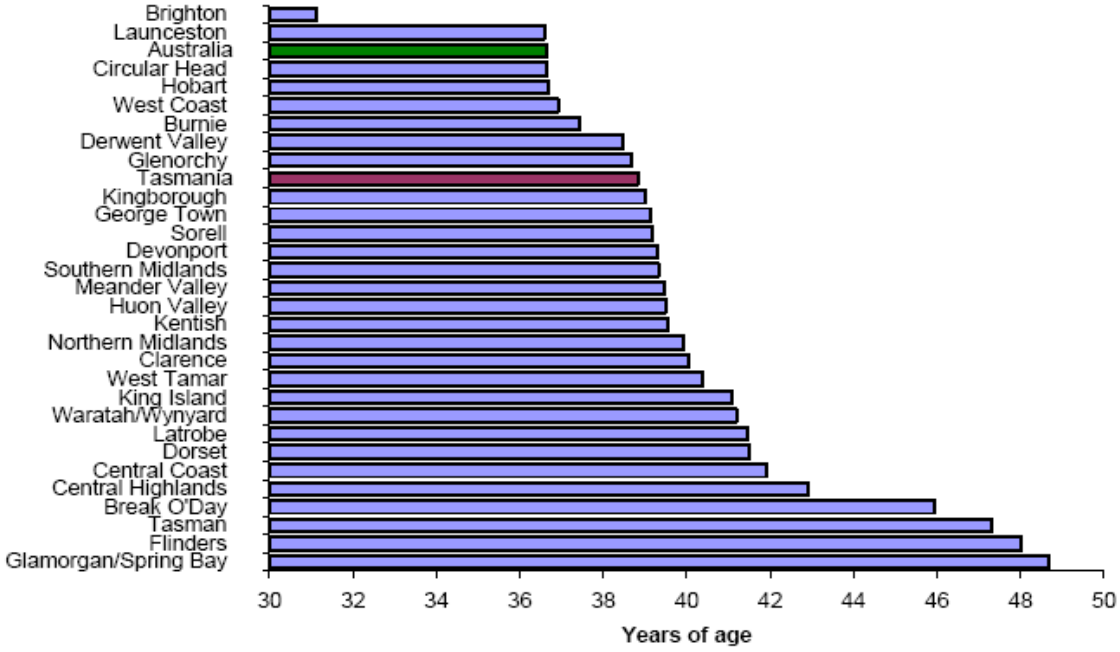
[12] ABS (2008) *Regional Population Growth*, Australia, ABS, Canberra. Cat. no. 3128.0

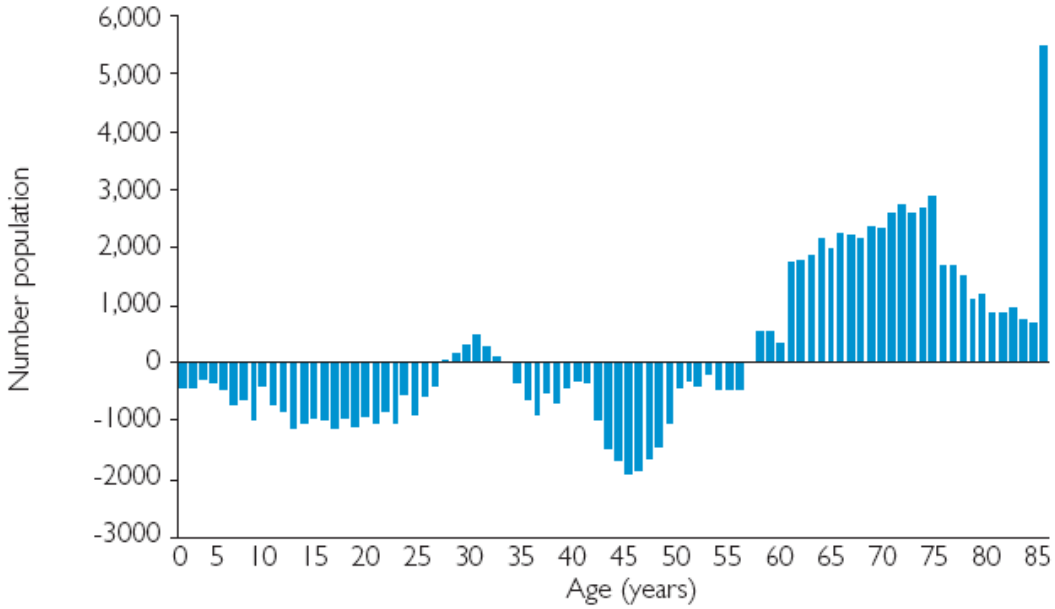
[13] ABS (2007) 2006 Census of Population and Housing, ABS, Canberra.

Figure 2: Median Age by Local Government Area Compared to Tasmania and Australia, 2006[14]



The impacts of demographic change combined with population distribution presents major challenges to the hospital services because older people are higher users of these services compared to the total population.[15] In addition, people aged 85 years and over use hospital services to a greater extent than all other groups. This situation is unlikely to improve in the short term given the projected change in Tasmania's population between 2006 and 2021 (Figure 3).

Figure 3: Projected Change in the Tasmanian Population by Age, 2006-2021[16]



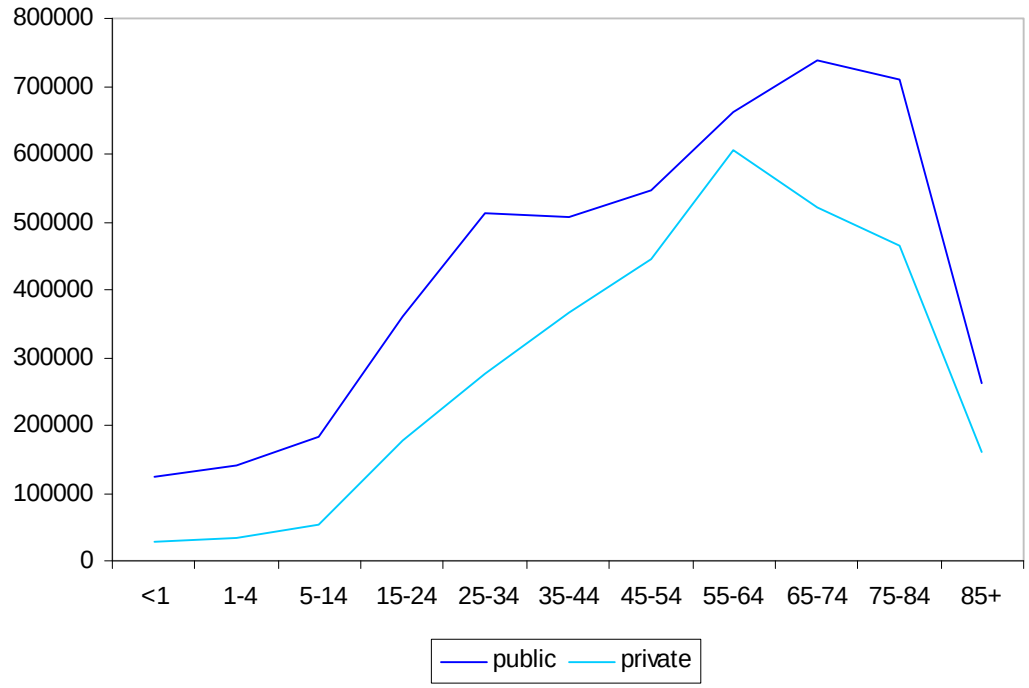
[14] ABS (2007) 2006 Census of Population and Housing, ABS, Canberra.

[15] Australian Institute of Health and Welfare (2007) *Australian Hospital Statistics 2005-06*, AIHW, Canberra. Cat. No. HSE 55. Productivity Commission (2005) *Economic Implications of an Ageing Australia,* Australian Government, Canberra.

[16] DHHS (2007) Tasmania's Health Plan, DHHS, Hobart.

In line with these projections, it is anticipated that future demand for hospital services will increase significantly because hospital utilisation is strongly associated with age.

Figure 4: Separations by Five Year Age Groups and Hospital Sector, Australia 2007-2008[17]



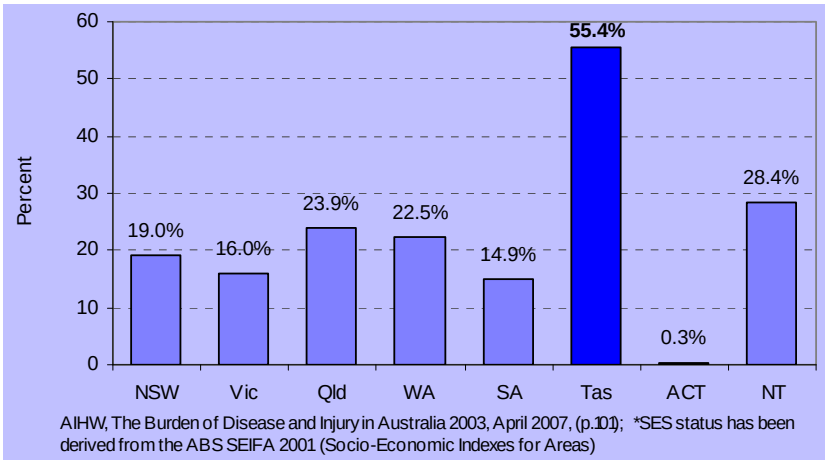
Socio-Economic Factors

Socio-economic factors are important determinants of health as well as hospital utilisation. Research shows that there is a consistent trend for people in more disadvantaged circumstances to suffer worse health and die earlier than those in better circumstances. Low socio-economic status, whether measured by income, educational attainment, or occupation, means poorer health, a higher incidence of chronic conditions and higher levels of health care utilisation[18]. In Australia the most disadvantaged people (by socio-economic quintiles) have a higher hospital separation rate of 385.8 separations per 1 000 people compared to 347.5 separations per 1 000 people for the most advantaged people.[19]

Socio-economic status is a strong determinant of health and wellbeing, especially the life expectancy between the lowest and highest socio-economic groups. In Tasmania low socio-economic status generally correlates with poor or low health and wellbeing status relative to the total population. As the following graph based on Australian Bureau of Statistics (ABS) Socio-Economic Indicator for Area (SEIFA) data demonstrates, Tasmania has the highest proportion of persons with low socio-economic status of all states and territories.[20]

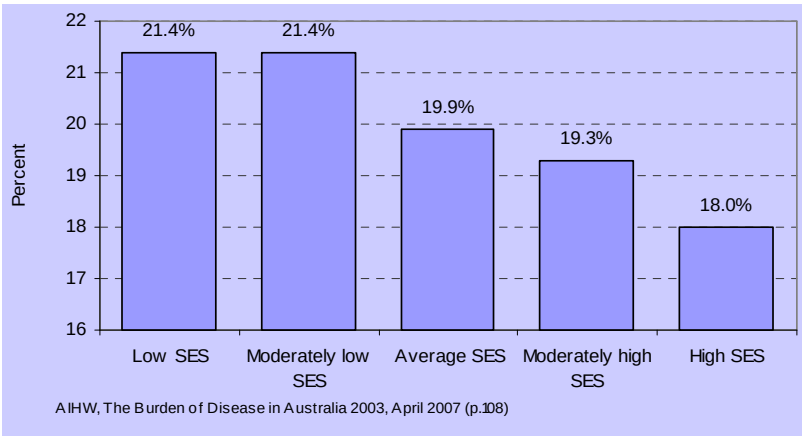
17 AIHW (2009) Australian Hospital Statistics 2007-08, AIHW, Canberra. Cat no. HSE 71.
18 Marmot M. Social determinants of health inequalities: Lancet 2005. 365: 1099-104.
19 Australian Institute of Health and Welfare (2008) Australian Hospital Statistics 2006-07, AIHW, Canberra. Cat no. HSE 55.
20 Begg S, Vos T, Barker B, Stevenson C, Stanley L, Lopez AD, 2007. The Burden of Disease and Injury in Australia 2003. PHE 82. Canberra: AIHW.

Figure 4: Distribution of Low Socio-Economic Status by Jurisdiction, 2001



Low socio-economic status is also associated with higher disability levels and higher premature death rates. As the following graph shows, the burden of disease (a measure of the combination of premature death and years of life lived with a disability in a population) experienced by low socio-economic status population groups is significantly greater than that experienced by persons of higher socio-economic status.

Figure 5: Proportion of Total Burden of Disease (DALYs) for Socio-Economic Quintiles, Australia 2003



Access to health and hospital services can contribute to a difference in life expectancy between remote and urban populations. Given the dispersed population of Tasmania and the likelihood of a drift by older people towards well-serviced regional centres, the State Government anticipates that access to services will be a community concern. The State Government is seeking to address some of these concerns through *Tasmania's Health Plan*.

The health status of Tasmanians is below the national average, for example:

- A lower life expectancy at birth for both males and females (77.4 years compared to 78.7 years for males nationally and 82.3 years compared to 83.5 years nationally).
- A higher avoidable mortality rate per 100 000 population (205.7 people compared to 173.1 per 100 000 people nationally).
- A higher proportion of the population report a long term health condition (79.0 per cent compared to 76.7 per cent nationally).

- A higher proportion of the population aged 18 years and above who are current daily and occasional smokers (25.4 per cent compared 23.2 per cent nationally).
- A higher proportion of the population who are obese (17.1 per cent compared to 16.6 per cent nationally).

The health and wellbeing of the population does impact on the types and level of services the State Government provides. The health and wellbeing of the population as measured by burden of disease is an indicator for demand for hospital services. Burden of disease is a measure of the gap between current health status in a population and an ideal situation where everyone lives into old age free from illness and disability. It is commonly assessed using the disability adjusted life year (DALY), a measure of healthy years of life lost due to a disability.[21] The burden of disease for females and males in Tasmania is monitored regularly by the Department for trend analysis and to inform service planning.

For males, in terms of specific causes of disease burden, ischaemic heart disease has been the leading cause of disease burden from 1993 and is predicted to continue to be the leading cause of disease burden until at least 2023. Type 2 diabetes rose from number six cause of disease burden in 1993 to number two in the decade to 2003, and is likely to increase a further 5.9 per cent to 11.5 per cent of total burden in 2023. Anxiety and depression will continue to be the third highest cause of disease burden, at around 4.3 per cent of total burden in 2023, but lung cancer will drop to sixth place, largely because of the dramatic decline in smoking prevalence in males over the last two decades. In its place, dementia will occupy fourth position in 2023, up from eleventh place in 2003.

In females, anxiety and depression is currently the leading cause of disease burden. It is predicted that it will continue to be the leading cause of disease burden until 2013, although in percentage terms its share of total burden will decrease from 10 per cent in the decade to 2003, to 8.4 per cent in 2023. Ischaemic heart disease will remain the second highest cause of disease burden over the next decade, but fall to number four by 2023. In its place, we will see the rise of dementia, which increased about one per cent to 4.8 per cent of total burden in the decade to 2003, and, if current predictions about population ageing are right, will be ranked third at 7.1 per cent of total burden in 2023. As with males, Type 2 diabetes is set to increase steadily and is likely to occupy first position in 2023, at around 11.6 per cent of total burden.

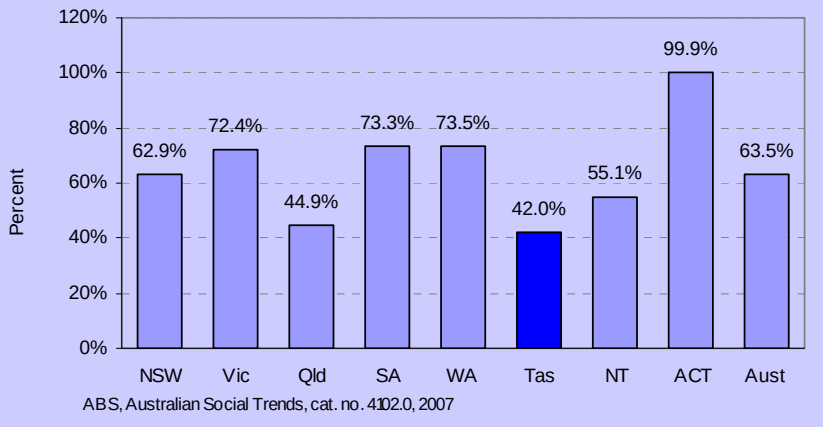
It is anticipated that over time, cardiovascular disease will decline as a proportion of total burden of disease primarily because of the success in curbing the impact of cardiovascular disease. This is due to programs, which have reduced smoking and facilitated the use of therapies to lower cholesterol and blood pressure levels, as well as better treatment of existing cardiovascular disease. Diabetes is a strong growth area at all ages, increasing to be the leading cause of burden of disease by 2023 for both males and females. A major consequence of population ageing will be the steady growth in burden of disease from neurological and sense disorders, because they are experienced later in life.

Geographical Factors

Tasmania has a population which is geographically dispersed (that is, not clustered together in a particular area but, instead, spread across the State) and is also decentralised. This increases the per capita cost of providing health care and hospital services to the population because it reduces the 'economies of scale' realised by more geographically concentrated populations. The majority of Tasmanians (58 per cent) live outside the capital city, this is a higher proportion than any other state or territory.

[21] Australian Institute of Health and Welfare (2007) *Australia's Health 2006*, AIHW, Canberra.

Figure 6: Population Living in Capital Cities by State and Territory, 2006



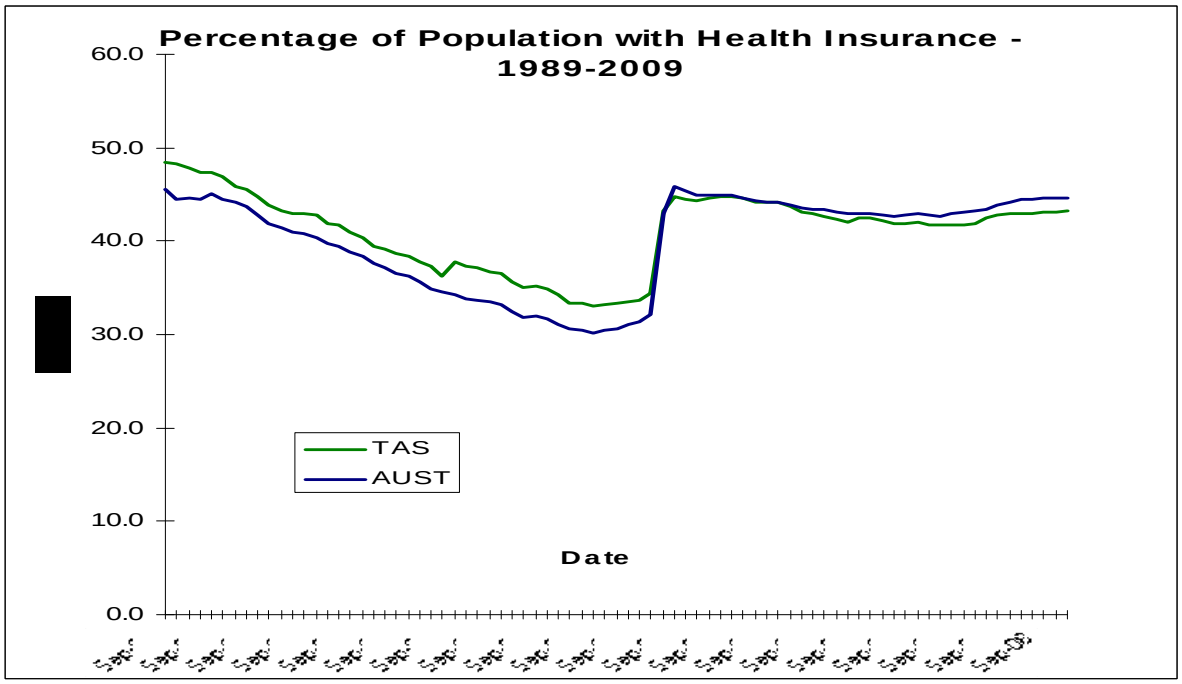
While a dispersed population increases the costs of public sector service provision, this dispersal also limits the provision of private hospital services by limiting the number of locations with a sufficient population to provide an adequate return on investment for a private hospital. The North West Coast has 24 per cent of Tasmania's population but only 7 per cent of private hospital beds, the North has 28 per cent of the population and 27 per cent of private hospital beds while the South has 48 per cent of the population but 66 per cent of private hospital beds.

Private Health Insurance Coverage

Private health insurance coverage for Tasmania and Australia over the last 20 years is shown in Figure 4. Private health insurance was declining until the end of 1998. However, with the introduction of the 30 per cent rebate for private health insurance from 1 January 1999, and lifetime health cover from June 2000, Tasmania's level of private health insurance coverage initially increased by 11.5 per cent from 33.1 per cent to 44.6 per cent. By December 2008 the level of private health insurance coverage had decreased to 43.1 per cent, which is below the national average of 44.8 per cent.

From 1989 to mid 2000 Tasmania's population coverage was generally above the national level of coverage but since mid 2000, Tasmania's coverage has been slightly below the national average.

Figure 7: Percentage of Population with Private Health Insurance 1989-2009



Appendix 2: Comparability of public and private hospitals by DRG

Refer to Excel worksheet.

Appendix 3: Comparison of Reported Costs in the Public and Private Sector for Similar DRGs

National comparisons between related DRGs, one at each end of the complexity scale, show quite different costs per episode and per cost component for public and private hospitals. The differences in costing are illustrated by O01A Caesarean Delivery with catastrophic complications and O60B Vaginal delivery without catastrophic complications. These cost difference are shown below in Table 1a and 1b.

Table 1a: Maternity Services Average Cost by Hospital Type, 2006–2007[22]

O01A Caesarean Delivery with catastrophic complications	**Public Hospitals**	**Private Hospitals**
Number of Separations	3 775	1 180
Number of Bed days	36 666	11 244
ALOS	9.713	9.529
Number of Hospitals	126	39
Maternity Services — average cost ($)	$13 327	$7 352

Table 1b: Maternity Services Average Cost by Hospital Type, 2006–2007

O60B Vaginal delivery without catastrophic complications	**Public Hospitals**	**Private Hospitals**
Number of Separations	105 050	37 273
Number of Bed days	303 250	155 423
ALOS	2.887	4.17
Number of Hospitals	175	40
Maternity Services — average cost ($)	$4 204	$4 089

Closer scrutiny of the cost components of both these DRGs is necessary to understand how and where the differential costs were incurred. The Commission will need to take these differences into account and control for them when it examines the relative efficiency of the public and private hospital system. The underling rates of emergency and elective caesareans will also affect the caesarean cost between public and private hospitals. The cost components for each DRG are shown below in Table 2a and 2b.

The comparison of public and private caesarean episode costs shows that the deceptively similar costings for public and private sectors are built up on totally different cost components. Therefore caution should be exercised when making cost comparisons for this and other DRGs.

The private sector collection contain some costs for medical staff (ie ward medical), whilst the majority of fees and charges for medical and anaesthetic staff are not shown. This means that the medical costs are understated in the following cost components, including, ward medical; critical care; operating room special

[22] DoHA (2008) *NHCDC Round 11 Cost Report 2006-07*, DoHA, Canberra.

surgery procedure suite; pathology; imaging and on-costs. In addition, the purchase of services by the patient from other external providers will also mean the costs of imaging, pathology, allied health, and pharmacy could be understated in the private sector costs.

Table 2a: O01A Caesarean Delivery +Ccc Episode Costs, by Hospital Type, 2006-2007

Bucket	Public Hospitals ($)	Public Hospitals ($) per day	Private Hospitals ($)	Private Hospitals per day ($)
Ward Medical	1 784	183.67	152	15.95
Ward Nursing	5 279	543.50	2 347	246.3
Non Clinical Salaries	609	62.70	496	52.05
Pathology	494	50.86	80	8.40
Imaging	166	17.09	23	2.41
Allied	183	18.84	63	6.61
Pharmacy	305	31.40	155	16.27
Critical Care	607	62.49	184	19.31
Operating Rooms	1 961	201.89	1 285	134.85
Emergency Departments	27	2.78	13	1.36
Supplies	605	62.29	1 053	110.50
Specialist Procedure Suites	6	0.62	22	2.31
Prostheses	33	3.40	21	2.20
On-Costs	611	62.91	400	41.98
Hotel	410	42.21	852	89.41
Depreciation	247	25.43	206	21.62

Table 2b:O60B Vaginal Delivery without Catastrophic Complications, by Hospital Type, 2006-2007

Bucket	Public Hospitals ($)	Public Hospitals ($) per day	Private Hospitals ($)	Private Hospitals Per day ($)
Ward Medical	582	201.59	61	14.63
Ward Nursing	2 153	745.76	1 864	447
Non Clinical Salaries	327	113.27	331	79.38
Pathology	58	20.09	5	1.2
Imaging	10	3.46	0	0
Allied	52	18.01	24	5.76
Pharmacy	68	23.55	51	12.23
Critical Care	16	5.54	18	4.32
Operating Rooms	105	36.37	283	67.87
Emergency Deparments	23	7.97	10	2.4
Supplies	279	96.64	611	146.52
Specialist Procedure Suites	1	0.35	16	3.84
Prostheses	4	1.39	0	0
On-Costs	265	91.79	215	51.56
Hotel	164	56.81	457	109.59
Depreciation	97	33.60	143	34.29