
1 Introduction

Key points

- This study examines three aspects of Australia's health care system:
 - the relative performance of public and private hospitals, with particular regard to the cost of performing clinically-similar procedures and the rate of hospital-acquired infections
 - rates of informed financial consent and out-of-pocket expenses for privately-insured patients in public and private hospitals
 - the most appropriate factor for indexing the Medicare Levy Surcharge (MLS) income thresholds.
- The report is structured as follows:
 - identification of relevant characteristics of the public and private hospital systems (chapters 2 to 4)
 - comparison of public and private hospital performance using partial indicators, including for costs and infection rates (chapters 5 to 7)
 - discussion of a more comprehensive (multivariate) approach that the Commission has used to assess relative performance (chapter 8)
 - examination of rates of informed financial consent and out-of-pocket expenses for privately-insured patients (chapter 9)
 - assessment of alternative indexation factors for the MLS income thresholds (chapter 10).
- The Commission encountered significant delays in accessing hospital-related data for this study that cannot be justified on privacy or confidentiality grounds.
- There is a case for making hospital data more accessible to a range of users because this could drive improvements in health care, especially as competitive markets have only a limited role in the health sector. It could also further encourage future improvements in data collections.
- The Commission thanks study participants for meeting with the Commission, participating in roundtables and teleconferences, providing data and other assistance, and making written submissions.

This commissioned study examines issues related to Australia's public and private hospital systems, which are an important part of a comprehensive system of services

that together contribute to the nation's health outcomes. The Australian Government noted in the terms of reference that it requested this study to further its commitment to improving transparency, accountability and performance reporting within the health system.

1.1 What the Commission has been asked to do

The terms of reference for this study are provided at the front of this report. In summary, the Commission has been asked to undertake three distinct tasks:

- compare the relative performance of the public and private hospital systems, with particular regard to the cost of performing clinically-similar procedures and the rate of hospital-acquired infections
- report rates of informed financial consent and out-of-pocket expenses for privately-insured patients
- advise the Government on the most appropriate factor for indexing the Medicare Levy Surcharge (MLS) income thresholds.

The analysis of costs is to take into account the cost of capital, fringe-benefits tax exemptions and other relevant factors. Hospital-acquired infections are to be reported by type of infection. Informed financial consent and out-of-pocket expenses are to be disaggregated by sector, region and medical specialist.

If the above tasks prove not fully possible because of conceptual problems or data limitations, the Commission has been asked to propose developments to improve the feasibility of future comparisons.

1.2 Report structure and study approach

The Commission has structured the analysis in this report as follows:

- identification of relevant characteristics of the public and private hospital systems (chapters 2 to 4)
- comparison of public and private hospital performance using partial indicators, including for costs and infection rates (chapters 5 to 7)
- discussion of a more comprehensive (multivariate) approach to assess the relative performance of public and private hospitals (chapter 8)
- examination of rates of informed financial consent and out-of-pocket expenses for privately-insured patients (chapter 9)

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- assessment of alternative indexation factors for the MLS income thresholds (chapter 10).

Comparing the relative performance of hospitals has been the most challenging part of the study, particularly in the short time available. This is because hospital complexity and diversity make like-for-like comparisons difficult, and existing data collections are not well suited to the task. Further elaboration of the study approach is provided below.

Hospital complexity and diversity

Given the significance of hospital complexity and diversity to the relative performance of public and private hospitals, a significant part of the report is devoted to describing these characteristics (chapters 2 to 4), and this precedes the analysis of relative performance (chapters 5 to 8).

Hospitals are generally complex organisations, with many essential services produced by a range of health professionals in a location supported by available technologies, with management oversight and administrative support. This makes comparisons particularly difficult, especially to distinguish genuine differences in performance from variation caused by differences in what hospitals do and who they treat.

Study participants emphasised the importance of taking account of:

- variations in the types of services that hospitals provide, recognising that some hospitals provide more complex health services that are most costly to provide and are inherently more risky for patients
- the disruption to planned activity than can be caused by the presence of an emergency department, and that clinical training can affect the rate of throughput
- the impact of patient characteristics on the performance of public and private hospitals, recognising that patients with more complex conditions and those from lower socioeconomic groups require, on average, more intensive health treatment and are more susceptible to hospital-acquired infections
- the additional tax burden that for-profit hospitals face compared to public and not-for-profit hospitals.

Relative performance

In undertaking its assessment of relative performance, the Commission has been mindful of the fact that the community places importance on various aspects of hospitals, including safety, timeliness and amount of resources used. It is difficult to capture all of these aspects in a single measure, and so it is common to report a suite of partial indicators that each measure a particular aspect of performance.¹ This approach is reflected in the terms of reference, which specifically asks the Commission to compare partial indicators for costs and hospital-acquired infections. This is done in chapters 5 and 6 respectively.

Existing datasets on hospital costs are limited by inconsistent collection methods and missing information. In chapter 5, the Commission has sought to address these issues by drawing on various data sources and, where necessary, incorporating adjustments to make the data more comparable. However, the Commission readily acknowledges that a number of significant data shortcomings have limited its ability to construct fully comparable estimates. Data on hospital-acquired infections also have limitations for the purpose of comparing public and private hospitals, which are discussed in chapter 6.

As requested in the terms of reference, the Commission has also considered other indicators of relative performance. Partial indicators of hospital productivity, access, and quality and patient safety are examined in chapter 7. Again, data deficiencies were a constraint on this analysis.

Multivariate analysis

Apart from data deficiencies, a further limitation of individual partial indicators is that they focus on a particular aspect of performance, such as costs, without taking account of other aspects, such as patient safety. This makes it difficult to form an overall assessment of performance, even when various partial indicators are considered collectively. Furthermore, partial indicators rarely control for all differences that are outside the control of a hospital, such as geographic location and patient characteristics, which makes it difficult to achieve like-for-like comparisons between hospitals.

As detailed in chapter 8, the Commission has used multivariate statistical techniques to address the limitations of partial indicators in forming an overall

¹ Examples of this multiple-indicator approach are the National Health Performance Framework developed for the Australian Health Ministers' Conference (AIHW 2008b; NHPC 2001), and the 'performance indicator framework' that the Steering Committee for the Review of Government Service Provision uses for public hospitals (SCRGSP 2009).

assessment of relative performance. Multivariate analysis has been used successfully in many overseas studies of hospital performance, but its application in Australia has been limited to date and with identified deficiencies that the Commission has sought to overcome.

Outcomes and outputs

Ideally, hospital performance would be measured in terms of patient outcomes. Individuals seek hospital services in order to improve their physical and emotional wellbeing relative to what would otherwise be the case. A wide range of measures have been developed to measure outcomes, including changes in mortality rates, life expectancy and quality of life.

To a limited extent, the Commission has been able to use proxies for health outcomes such as infection rates and unplanned readmissions to hospital. However, like many other studies, data limitations have caused the Commission to mainly assess performance in terms of hospital outputs, such as the number of patients treated and procedures performed.

Measuring performance in terms of outputs has the disadvantage that it does not directly quantify the degree to which a hospital achieves its primary purpose — to improve health outcomes. Hospital activity may lead to little improvement in health outcomes for some individuals, or in extreme cases lead to worse outcomes. However, outputs tend to be easier to measure than outcomes, because the latter requires tracking of patient health after hospital discharge. As the Centre for Health Economics (Monash University) noted, such data are not generally available:

Ideally, hospital-level data ... linked up to outcomes data would be available with associated input data on numbers/costs of staff, other inputs (drug use, technology etc) and capital. Unfortunately this isn't the case ... (sub. 7, p. 2)

Another reason for measuring performance in terms of outputs is that outputs can be readily attributed to how a hospital manages its resources, whereas attributing cause and effect is far more difficult for outcomes (Hollingsworth and Peacock 2008).

Effectiveness and efficiency

The Commission has used measures of both effectiveness and efficiency to examine the relative performance of hospitals.

Effectiveness refers to how successful a hospital is in achieving a particular objective, such as avoiding hospital-acquired infections.

Efficiency, in its broadest sense, refers to how well resources are used to benefit the wellbeing of the community as a whole (which is determined by service quality, as well as financial costs). This broad interpretation is known as ‘economic efficiency’ and has three components — the degree to which outputs are produced at least possible cost (productive efficiency), how resources are allocated across different uses so as to generate the greatest community wellbeing at a given point in time (allocative efficiency), and to achieve the greatest possible wellbeing over time (dynamic efficiency) (box 1.1).

Box 1.1 Components of economic efficiency

Economic efficiency is about maximising the wellbeing of the community. It requires satisfaction of three components: productive, allocative and dynamic efficiency.

Productive efficiency is achieved when output is produced at minimum cost. It includes technical efficiency, which refers to the extent to which, in the production of any good or service, it is technically feasible to reduce any input without decreasing the output, and without increasing any other input.

Allocative efficiency is about ensuring that the community gets the greatest return (very broadly defined) from its scarce resources. A nation’s resources can be used in many different ways. The best or ‘most efficient’ allocation of resources is the one that contributes most to community wellbeing.

Dynamic efficiency refers to the allocation of resources over time, including allocations designed to improve economic efficiency and to generate more resources. This can mean finding better products and better ways of producing goods and services, which may involve investments in education, research, development and innovation. Dynamic efficiency can also refer to the ability to adapt efficiently to changed economic conditions, a capacity for optimally modifying output and productivity performance in the face of economic ‘shocks’.

Source: PC (2006b, 2008b).

In essence, the Commission has been asked to examine the (level and mix of) inputs used by hospitals to produce their current outputs, and so the most relevant concept is productive efficiency. The Commission has not been asked to consider the much broader question of how well resources are allocated across different parts of the health sector, which is measured by allocative efficiency. However, by comparing the performance of public and private hospitals, this study could provide insights into the potential to improve allocative efficiency.

The Commission recognises that the productive efficiency of hospitals in one sector relative to the other could depend on the distribution of activity between the two sectors, and so there might be an interdependence between productive and

allocative efficiency. In this regard, the Australian Government Department of Health and Ageing (DOHA) noted that:

Productive and allocative efficiency are often interdependent, with allocative efficiencies allowing productive efficiencies to produce their maximum benefit. This can account for some of the perceived differences in efficiency between public and private hospitals. (sub. 32, p. 14)

Informed financial consent and MLS indexation

The Commission's analysis of informed financial consent and out-of-pocket expenses for privately-insured patients is based on survey data collected for DOHA in 2004, 2006 and 2007 (chapter 9). In essence, these surveys provide the only available data for this purpose. However, the Commission has had to qualify its results because the survey data appear to be affected by sample-selection and self-reporting biases.

In chapter 10, the suitability of four alternative available indexation factors is assessed by estimating how successful they would have been in keeping the MLS focused on high-income earners in recent years. The primary reason for indexing the MLS income thresholds is to ensure that the MLS remains targeted at the high-income group for which it was intended.

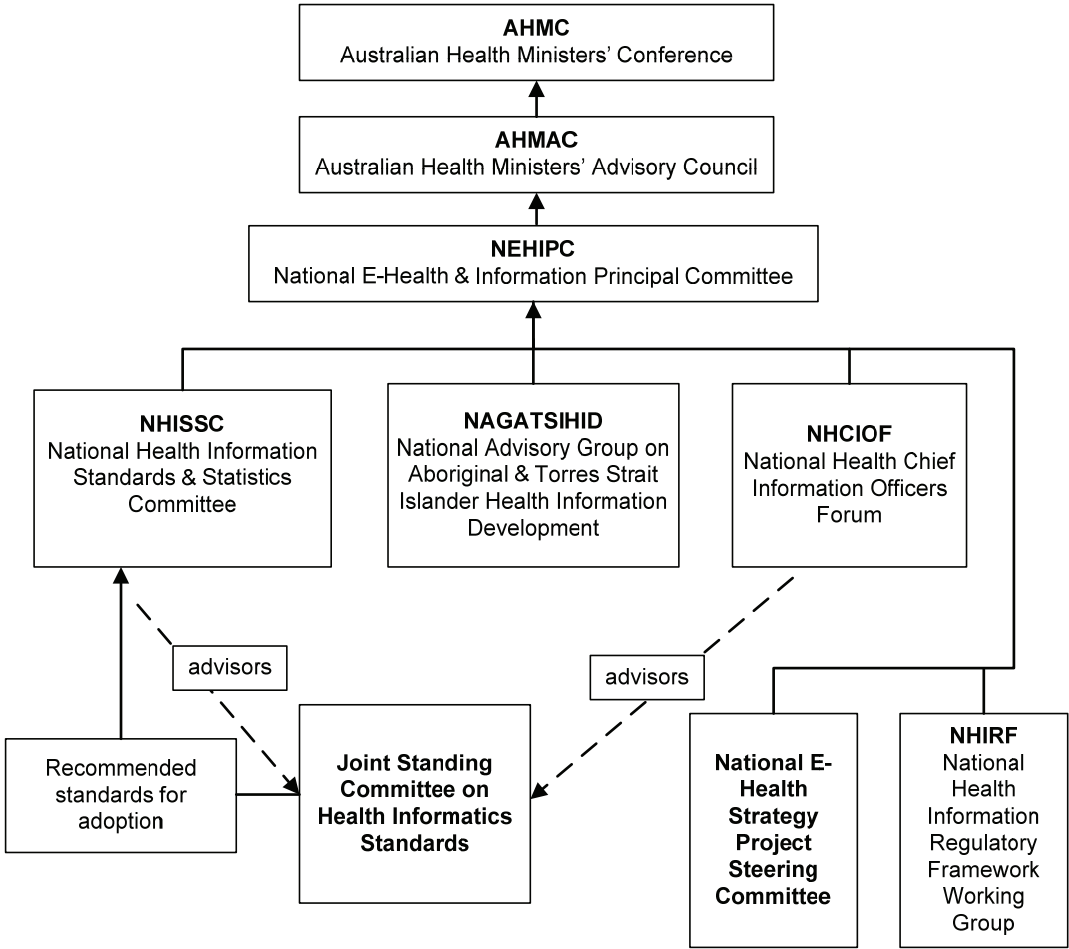
1.3 Future data improvements

Significant progress has been made since the early 1990s in developing national data standards and datasets on health matters, and this has assisted the Commission in undertaking this study. A key development was the 1993 National Health Information Agreement (NHIA) between Commonwealth, state and territory health authorities, the ABS and AIHW. The current version of the NHIA was adopted in 2004 and also included the Department of Veterans' Affairs as a signatory. More recently, the National Healthcare Agreement (NHA) has provided added impetus for the collection and maintenance of nationally-consistent datasets.

Governance arrangements are in place to ensure relevant agencies and jurisdictions coordinate their efforts with regard to nationally-consistent data collections. In particular, the National E-Health and Information Principal Committee (NEHIPC) is responsible for overseeing implementation of the NHIA, and is advised by the National Health Information Standards and Statistics Committee (NHISSC) (figure 1.1). NEHIPC comprises representatives from the NHIA signatories and reports to the Australian Health Ministers' Advisory Council, which in turn reports

to the Australian Health Ministers' Conference. The AIHW provides a secretariat for the NHISSC.

Figure 1.1 Governance arrangements for national health data



Source: AIHW (2009e).

Nevertheless, a common theme throughout this report is that improvements could be made to data collections to improve the feasibility of future comparisons. Foreshadowed changes — such as strengthened national reporting under the NHA — will help in this regard. However, as requested in the terms of reference, the Commission has identified other improvements that could be made.

Improvements to specific data collections are discussed in following chapters in the context of the relevant indicators being examined. More generally, the feasibility of future comparisons could be improved by making hospital-related data more accessible. The Commission encountered significant delays in accessing hospital-

related data beyond what could reasonably be expected to address privacy or confidentiality concerns. In one instance, a jurisdiction insisted on obtaining approval from the head of its health department before providing data that had already been published as a chart in one of its reports.

The difficulty in accessing hospital-related data is reflected in an absence of significant past research on the relative performance of Australian public and private hospitals. This is despite a large amount of data being collected, and the issue of relative performance of public and private hospitals having been debated for many years in Australia (for example, Butler 1988b). The Commission has previously reviewed published research on hospital performance, from which it concluded that the gap between existing and best-practice productivity might be in the order of 20–25 per cent for the Australian (public and private) hospitals sector as a whole (PC 2006a). However, this conclusion was based on a combination of the limited Australian research, particularly for the private sector, and overseas studies which may be of limited relevance to Australia.

A number of study participants outside government shared the Commission's concerns about the difficulty in accessing hospital-related data (for example, Australian Health Service Alliance, sub. DR53; Catholic Health Australia, sub. DR62; Centre for Health Economics Research and Evaluation, sub. DR68; National Coalition of Public Pathology, sub. DR49; Queensland Nurses Union, sub. DR51; Rhonda Kerr and Associates, Health Planning, sub. DR44). In contrast, government agencies responsible for collecting and/or handling data noted that they were constrained by legislative requirements to maintain privacy and confidentiality (for example, NSW Health, sub. DR64; SA Department of Health, sub. DR45). An overview of existing privacy legislation is provided in box 1.2.

There is a legitimate case for privacy and confidentiality safeguards, but it would be unfortunate if these hindered data access beyond what is necessary to maintain privacy and confidentiality. The Centre for Health Economics Research and Evaluation claimed that:

Researchers are often refused access to health-related administrative data with unjustifiable claims to privacy or confidentiality. While patient privacy is an important issue, appropriate governance procedures for de-identified data can provide the necessary privacy protections. (sub. DR68, p. 1)

Given the public expense involved in collecting and maintaining data on health care, and the potential gains to health outcomes from policies and processes designed on the basis of the best evidence, there appear to be some broader public interest aspects that also need to be considered alongside legitimate privacy and confidentiality concerns.

Box 1.2 Privacy legislation in each jurisdiction

Australian Government — the *Privacy Act 1988* (Cwlth) requires Australian Government agencies to follow a set of eleven Information Privacy Principles, and private health care providers to comply with a set of ten National Privacy Principles. These are overseen by the Privacy Commissioner, who is also required under the *National Health Act 1953* (Cwlth) to issue guidelines on how Australian Government agencies manage individuals' Medicare and Pharmaceutical Benefits Scheme claims information. A breach of these guidelines constitutes a violation of the Privacy Act.

The Australian Bureau of Statistics and the Australian Institute of Health and Welfare are subject to confidentiality requirements under the *Census and Statistics Act 1905* (Cwlth) and *Australian Institute of Health and Welfare Act 1987* (Cwlth) respectively.

New South Wales — the *Health Records and Information Privacy Act 2002* (NSW) governs the handling of health information in the public sector, and it also seeks to regulate the handling of health information in the private sector. Privacy NSW has developed four statutory guidelines under this legislation, which are legally binding and define the scope of particular exemptions in the health privacy principles.

Victoria — the *Health Records Act 2001* (Vic) covers the handling of all personal information held by health service providers in the public sector and also seeks to govern practices in the private sector. The legislation contains a set of principles adapted from the National Privacy Principles.

Queensland — the *Information Privacy Act 2009* (Qld) contains nine principles specifying how the Department of Health is to handle personal information. These principles have some similarities to the National Privacy Principles in the Commonwealth Privacy Act.

South Australia — government agencies generally have to comply with a set of Information Privacy Principles issued under a Cabinet Administrative Instruction. There is also a Code of Fair Information Practice, which applies to the SA Department of Health, its funded service providers, and others with access to personal information held by the Department.

Western Australia — government agencies do not currently have a legislative privacy regime, but are subject to various confidentiality policies and some privacy principles are provided for in the *Freedom of Information Act 1992* (WA).

ACT — the *Health Records (Privacy and Access) Act 1997* (ACT) covers health records held in the public sector and seeks to apply to practices in the private sector not covered by the Commonwealth Privacy Act.

Northern Territory — the *Information Act 2002* (NT) covers the protection of personal information, record keeping and archive management of information held in the public sector. The Information Commissioner is responsible for overseeing the freedom-of-information and privacy provisions of the legislation.

Source: AIHW (2009); Office of the Privacy Commissioner (2009a, 2009b).

A common feature of the privacy and confidentiality arrangements is that responsibility for handling and releasing data is assigned to one or more ‘data custodians’ in the relevant organisation. In the Discussion Draft for this study, the Commission expressed the concern that the term custodian could imply the purpose is to hold data potentially from a range of users. A further concern is that the role of data custodians could be used to censor information that may highlight deficiencies in the provision of health services. However, the SA Department of Health noted that:

The term data custodian is not one of restricting access but about appropriate governance and management of databases, many of which contain significant personal information. (sub. DR45, p. 5)

The NSW Department of Health observed that data custodians perform an important role in the public health system, with their key responsibilities including:

- ensuring that patient privacy is maintained
- ensuring compliance with data provision legislation, probity issues and other protocols (for example, protecting the commercial interests of private providers and obtaining any relevant consents required for the release of data)
- ensuring due consideration of any ethical issues associated with the use and release of data
- ensuring the completeness and accuracy of data to be released, or if necessary, providing specific caveats regarding the data to be released where there are issues relating to its completeness and/or accuracy. (sub. DR64, pp. 3–4)

Privacy and confidentiality requirements can be particularly problematic when the data necessary to compare public and private hospitals are not available from a single source. The Commission experienced this issue with its multivariate analysis, which required access to hospital-level data held by the Australian Bureau of Statistics (ABS) and the Australian Institute of Health and Welfare (AIHW), both of which are subject to legislative constraints on what data can be provided to external parties (box 1.2). An arrangement was found to allow the Commission’s multivariate analysis to proceed, although this was not as straightforward as having direct access to the data.

Information collected by the ABS at considerable public expense is a valuable resource for Australia. There appears to be a case for reviewing existing requirements to enable sensible and measured use of these public data. This could include consideration of a protocol allowing access to data that does not breach privacy rules and meets certain public-interest requirements.

The Commission found that a major barrier to accessing data held by the AIHW was that the Institute had to obtain approval from jurisdictions that supplied the

data, even when the information would not be released in a way that identified individual patients or hospitals.² The states and territories can use this power, as both providers of hospitals and collectors of hospital-related data, to ensure information is only provided to parties, and for purposes, they deem to be ‘appropriate’. One way to address this conflict of interest would be to have a protocol between the AIHW and jurisdictions that placed greater onus on the AIHW to ensure individual data requests met the legislated privacy and confidentiality requirements of each jurisdiction. Delegating the approval of individual data requests to the AIHW should at least occur for cases where information would only be divulged to established data users, and in a form that does not identify individual patients or hospitals. The protocol would be subject to the AIHW’s governance arrangements, which include state/territory representation on the AIHW management board.

The problem of aggregating data from more than one source, while also satisfying privacy and confidentiality requirements, has been a barrier to developing ‘linked’ datasets that can be used to measure the impact of health interventions on outcomes. The NSW Department of Health noted that many organisations would have to be involved, and significant community concerns addressed:

For a range of reasons including the involvement of two levels of government as funders and regulators, as well as the involvement of another two sectors (commercial and not-for-profit) as providers, it is impossible to chart a patient’s journey through the health system by analysing a ‘data trail’ because no such trail exists or can be constructed. The databases for MBS [Medicare Benefits Schedule] and PBS [Pharmaceutical Benefits Scheme] managed by Medicare Australia (access to which is extremely restricted) are entirely separate from the admitted and non-admitted databases maintained by states and territories, and also distinct from private hospital databases.

... the community is logically uneasy about possible secondary uses of databases. This means that if the full benefits of data linkage are to be realised, it will be necessary to demonstrate the value to be gained by linking health activity data from different sources, and to be very clear about the ‘rules’ that will govern this process. (sub. DR64, p. 4)

Progress is, however, being made in this regard. At a national level, the Population Health Research Network (PHRN) has been established to provide researchers with access to linkable de-identified data from a diverse range of health datasets, across jurisdictions and sectors. The PHRN has been allocated significant funding from the Australian Government, in addition to contributions in cash and in-kind from state and territory governments, and academic partners. A data linkage system has

² The requirement to get approval from states and territories before releasing data derives from s.29 of the *Australian Institute of Health and Welfare Act 2007* (Cwlth).

existed in Western Australia since the mid 1990s, with more than 600 research projects having made use of the data since that time. The SA Department of Health (sub. DR45) noted that it is a partner in the SA NT Data linkage Consortium that will provide project-specific deidentified data from a number of administrative and other datasets for research purposes. Similarly, the Centre for Health Record Linkage was established in 2006 to create and maintain a system for linking health and human services datasets in New South Wales and the ACT.

In summary, making hospital-related data more accessible to a broad range of users would facilitate greater research and analysis of hospitals. This could drive improvements in health care, especially as competitive markets have only a limited role in the health sector. The potential gains could be significant, given the substantial resources that Australia devotes to hospital services and the many people treated in hospital each year. Greater data accessibility could also facilitate future improvements in data collections by highlighting weaknesses in existing datasets.

The barriers to accessing hospital-related data are also wasteful because a substantial amount of information is currently collected at significant cost to governments and firms, and the potential broader public benefits from this are being unnecessarily curtailed.

Another way in which greater benefits might be achieved is for data agencies to strengthen mechanisms through which data users — including those outside of government, such as academics and private health insurance funds — can provide ongoing input on how hospital-related data are collected and made available for analysis and research. At the Commonwealth level, DOHA (sub. DR69) noted that it already has consultative groups for health insurers and private hospital operators.

FINDING 1.1

The Commission encountered significant delays in accessing hospital-related data beyond what could reasonably be expected to address privacy or confidentiality concerns. There is a case for making these data more accessible to a range of users because this could drive improvements in health care, especially as competitive markets only have a limited role in the health sector. It could also encourage future improvements in the data collections. Data agencies could facilitate greater data access by:

- *having established protocols allowing access to data that does not breach privacy rules and meets certain public-interest requirements*
- *strengthening the mechanisms through which data users can provide ongoing input on how data are collected and made available for analysis and research.*

FINDING 1.2

Information collected by the Australian Bureau of Statistics (ABS) at considerable public expense is a valuable resource for Australia. The Commission found that the ABS has a number of requirements that can restrict measured use of these public data, which the Commission suggests be reviewed by the Australian Government. There are also barriers to accessing data held by the Australian Institute of Health and Welfare (AIHW), due to a requirement to obtain approval from jurisdictions to release the data. This could be addressed by the states and territories delegating the approval of individual data requests to the AIHW, particularly where information would only be divulged to established data users and in a form that does not identify individual patients or hospitals.

1.4 Conduct of the study

The terms of reference for this study were received from the Assistant Treasurer on 15 May 2009. The Commission was originally to report within six months, but the Assistant Treasurer later extended the final reporting date to early December 2009 because the Commission had encountered delays in obtaining data needed to undertake the study, and some participants were late in lodging their submissions.

As requested in the terms of reference, the Commission consulted and invited feedback from relevant experts and other interested parties. This was done in the following ways:

- At the commencement of the study, a circular was mailed to people and organisations that the Commission thought might be interested, inviting their participation. Subsequent circulars were sent to those who had expressed an interest in the study to keep them updated on progress.
- The study was also advertised in major national newspapers and promoted on the Commission's website.
- The Commission met with a cross-section of interested parties to identify relevant issues and sources of data, including government health departments, private hospital groups, data agencies, and private health insurers.
- An issues paper was released on 22 June 2009 to assist interested parties in preparing submissions to the study.
- A roundtable was held with interested parties in Canberra on 30 June 2009 to explain the study process and obtain input on what data and methodology to use.

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- A teleconference was held with technical experts from individual jurisdictions and private hospital groups on 17 September 2009 to obtain their views on how to interpret the cost data that they report to the Australian Government.
 - The Commission released a Discussion Draft on 15 October 2009 to provide an opportunity for interested parties to comment on draft findings prior to completion of the Final Report.
 - A further roundtable was held with interested parties in Canberra on 22 October 2009 to get feedback on the Discussion Draft.
 - A teleconference was held with participants on 23 November 2009 to get their feedback on the results of the multivariate analysis.
 - Two external referees provided written comments on the multivariate analysis (appendix G).

A total of 72 written submissions were received during the study. These were from a variety of groups, including government health departments, academics, private hospital groups, professional bodies, and private health insurers.

The Commission thanks study participants for meeting with the Commission, participating in roundtables and teleconferences, providing data and other assistance, and making written submissions. Appendix A provides details of the individuals and organisations that participated in the study.