



Australian Government
Productivity Commission

Public and Private
Hospitals

Productivity Commission
Research Report

December 2009

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Publications Inquiries:

Media and Publications
Productivity Commission
Locked Bag 2 Collins Street East
Melbourne VIC 8003

Tel: (03) 9653 2244
Fax: (03) 9653 2303
Email: maps@pc.gov.au

General Inquiries:

Tel: (03) 9653 2100 or (02) 6240 3200

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The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

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Foreword

Australia spends about 9 per cent of its gross domestic product on health care, and hospital services account for around one-third of this. This report examines three aspects of the health care system — the relative performance of public and private hospitals; rates of informed financial consent for privately-insured patients; and the indexation factor used for the Medicare Levy Surcharge income thresholds.

The first task — comparing the relative performance of hospitals — has been the most challenging part of the study. Diversity within and between the public and private hospital sectors makes like-for-like comparisons difficult, and existing data collections are limited by inconsistent collection methods and missing information.

Foreshadowed developments under the National Healthcare Agreement are expected to improve the quality of hospital-related data, but the Commission has identified further potential improvements, such as consistent national reporting of costs and infections for both public and private hospitals. This report also discusses measures to improve data accessibility, which could ultimately facilitate improvements in health care, especially as competitive markets only have a limited role in the health sector.

A wide range of parties assisted the Commission in conducting the study, including through participation in roundtables, providing technical advice, and making written submissions. The Commission thanks all of those who contributed to the report.

The study was overseen by Commissioner David Kalisch. The staff research team was headed by Greg Murtough and based in the Commission's Melbourne office.

Gary Banks AO
Chairman

December 2009

Terms of reference

Productivity Commission research study into public and private hospitals

The Productivity Commission is requested to undertake a study into public and private hospitals, and report back within 6 months of receipt of this reference.

Context

The Government is committed to improving transparency, accountability and performance reporting within the health system. This commitment is evident in the new National Healthcare Agreement and in COAG's agreement to introduce a nationally consistent approach to activity-based funding in public hospitals. It is also shown by the Government's commitment to move towards nationally consistent performance reporting for public and private hospitals.

In furthering the Government's commitment in this area, the Productivity Commission is requested to examine and report on the relative performance of the public and private hospital systems, and related data issues. As part of its study, the Commission should consider:

- a) comparative hospital and medical costs for clinically similar procedures performed by public and private hospitals, using baseline data to be provided by states and territories under the new National Healthcare Agreement, and existing data provided to the Government by private hospitals. The analysis is to take into account the costs of capital, FBT exemptions and other relevant factors.
- b) the rate of hospital-acquired infections, by type, reported by public and private hospitals, using baseline data to be provided by states and territories under the new National Healthcare Agreement, and existing data provided to the Government by private hospitals.
- c) rates of fully informed financial consent for privately insured patients treated as private patients in both public and private hospitals, categorised by type of provider (that is, public hospital, private hospital, medical practitioner [by Speciality]), and by Statistical Local Area (SLA) or equivalent, including:

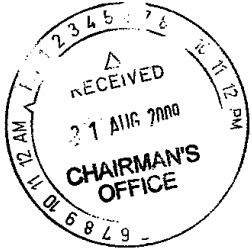
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- c (i) the average cost of out of pocket expenses for patients who do not receive enough financial information from the provider to give fully informed financial consent, the range of these costs and the maximum out of pocket cost incurred by in-hospital patients categorised by type of provider (as detailed above).
 - c (ii) best practice examples where fully informed financial consent is provided for every procedure, (with a specific emphasis on any best practice examples occurring in specialties where lack of fully informed financial consent is most common).
 - d) other relevant performance indicators, including the ability of such indicators to inform comparisons of hospital performance and efficiency.
 - e) If any of the foregoing tasks prove not fully possible because of conceptual problems and data limitations, the Commission should propose any developments that would improve the feasibility of future comparisons.

The Commission will also provide advice to the Government on the most appropriate indexation factor for the Medicare Levy Surcharge thresholds.

The Commission is to consult with relevant experts and others as necessary and produce a final report within six months of receipt of this reference. The report will be published.

CHRIS BOWEN

[Received 15 May 2009]



**ASSISTANT TREASURER
SENATOR THE HON NICK SHERRY**



Mr Gary Banks AO
Chairman
Productivity Commission
PO Box 1428
CANBERRA CITY ACT 2601

Dear Mr Banks *Gary*

EXTENSION OF PUBLIC AND PRIVATE HOSPITALS STUDY

Thank you for your letter of 3 August 2009 seeking an extension for the Productivity Commission review of Public and Private Hospitals.

I understand that the Commission has faced delays in obtaining data needed to undertake the study, and that a number of key participants in the review have sought extensions for their submissions. As such, I agree to your request to extend the reporting date from 15 November to 4 December 2009.

I look forward to seeing the draft and final reports in due course.

Yours sincerely

NICK SHERRY

PO Box 6022
Parliament House
CANBERRA ACT 2600

Telephone: 02 6277 7360
Facsimile: 02 6273 4125
<http://assistant.treasurer.gov.au>

Contents

Foreword	III
Terms of Reference	IV
Abbreviations and explanations	XVIII
Glossary	XXII
Overview	XXXI
Findings	LV
1 Introduction	1
1.1 What the Commission has been asked to do	2
1.2 Report structure and study approach	2
1.3 Future data improvements	7
1.4 Conduct of the study	14
2 Australia's public hospital sector	17
2.1 Role and structure of public hospitals	18
2.2 Characteristics of public hospitals	23
2.3 Services provided by public hospitals	31
2.4 Workforce characteristics	39
2.5 Recent developments in public hospitals	40
3 Australia's private hospital sector	45
3.1 Structure of private hospitals	46
3.2 Characteristics of private hospitals	51
3.3 Services provided by private hospitals	56
3.4 Workforce characteristics	61
3.5 Private freestanding day hospitals	63
3.6 Recent developments in private hospitals	65
4 Public and private hospitals in the health system	69
4.1 Similarities and differences	70
4.2 Relationship between the two sectors	82
4.3 Possible directions for hospitals	85

5	Hospital and medical costs	91
5.1	Cost indicators	93
5.2	Data sources and estimation methods	94
5.3	Cost per casemix-adjusted separation	102
5.4	Average cost of individual DRGs	112
5.5	Improving future cost comparisons	118
6	Hospital-acquired infections	123
6.1	Types of hospital-acquired infections	124
6.2	How should infection rates be measured and compared?	130
6.3	Available evidence on hospital-acquired infections	133
6.4	Developments to improve future comparisons	137
7	Other partial indicators	141
7.1	Productivity	144
7.2	Access to hospital services	153
7.3	Quality and patient safety	167
7.4	Developments to improve future comparisons	177
8	Multivariate analysis	181
8.1	About the Commission's multivariate analysis	182
8.2	Profile of hospitals in the sample	184
8.3	Factors affecting hospital performance	191
8.4	Factors contributing to best-practice benchmarks	197
8.5	Hospital efficiencies	203
8.6	Further analysis	206
9	Informed financial consent	209
9.1	Potential impediments to the provision of informed financial consent	211
9.2	Informed financial consent data sources and their suitability	212
9.3	Rates of informed financial consent	215
9.4	Out-of-pocket expenses	222
9.5	Future data improvements	229
9.6	Best-practice examples of IFC	230
10	Indexation of the Medicare Levy Surcharge income thresholds	235
10.1	Background to the Medicare Levy Surcharge	236
10.2	Why index the MLS thresholds?	238

10.3	Possible indexation factors	238
10.4	Assessment of potential indexation factors	241
A	Public consultation	247
B	National Healthcare Agreement performance indicators	253
B.1	The National Healthcare Agreement	253
B.2	Monitoring and reporting	258
C	Other health performance monitoring frameworks	263
C.1	National Health Performance Framework	263
C.2	Review of Government Service Provision	268
D	Constructing estimates of hospital and medical costs	277
D.1	National Hospital Cost Data Collection	277
D.2	Hospital Casemix Protocol	285
D.3	Cost components	288
D.4	Cost indicators	293
D.5	Tax exemptions	295
D.6	Capital costs	300
D.7	Relative complexity	313
D.8	Prostheses costs	315
D.9	Costs for patients funded by the Department of Veterans' Affairs	317
E	Multivariate analysis in detail	325
E.1	Previous studies	325
E.2	Commission's approach to modelling hospital performance	338
E.3	Data sources	347
E.4	Variables	350
E.5	The results	359
E.6	Proposed future analysis	377
F	State-level data on hospital-acquired infections	379
F.1	Victoria	380
F.2	Queensland	385
F.3	South Australia	388
F.4	Western Australia	390
F.5	Tasmania	395

G	Referee reports on modelling	397
G.1	Report from Adjunct Professor Tim Coelli	397
G.2	Report from Professor Jim Butler	399
	References	401
	Boxes	
1.1	Components of economic efficiency	6
1.2	Privacy legislation in each jurisdiction	10
2.1	Measures of hospital activity	24
2.2	Australian Refined Diagnosis-Related Group (AR-DRG)	32
5.1	Some of the deficiencies of existing cost data	96
6.1	NHSN/NNIS risk index for SSIs	132
7.1	Summary of partial indicators	143
7.2	Quality and patient safety indicators	168
9.1	Meditrust and IFC	232
10.1	Recent changes to the Medicare Levy Surcharge	237
10.2	Income distribution data used in MLS analysis	242
B.1	National Agreement Reporting	254
B.2	Policy directions and priority reform areas	259
C.1	Selection criteria used by the NHPC for health performance indicators	266
C.2	Aims of the Review of Government Service Provision	269
D.1	NHCDC collection and reporting process	278
D.2	Allocation of ungroupable HCP medical and diagnostics costs across DRGs	287
D.3	Classifying episodes of care — Diagnosis-Related Groups	294
D.4	Cost per casemix-adjusted separation	295
D.5	SCRGSP methodology for calculating public hospital capital costs	301
D.6	Estimating asset values	306
D.7	Enterprise value	309
D.8	Health care arrangements for veterans and their dependants	318
	Figures	
1.1	Governance arrangements for national health data	8
2.1	Funding sources for public hospital services, 2007-08	22
2.2	Share of public hospital separations by patient funding source, 2007-08	29

2.3	Share of public hospital separations by socioeconomic status of patients, 2007-08	30
2.4	Share of public hospital separations by MDC, 2007-08	33
2.5	Share of public hospital separations by AR-DRG partition, 2007-08	33
2.6	Most frequent same-day public hospital separations by AR-DRG, 2007-08	34
2.7	Most frequent overnight public hospital separations by AR-DRG, 2007-08	35
2.8	Ten fastest increasing public hospital separations by AR-DRG, 2003-04 to 2007-08	42
3.1	Share of private hospital separations by patient funding source, 2007-08	54
3.2	Share of population with private health insurance, 2008	55
3.3	Share of private hospital separations by socioeconomic status of patients, 2007-08	55
3.4	Share of private hospital separations by AR-DRG partition, 2007-08	56
3.5	Most frequent same-day private hospital separations by AR-DRG, 2007-08	57
3.6	Most frequent overnight private hospital separations by AR-DRG, 2007-08	58
3.7	Private hospital separations per 1000 residents, 2003-04 to 2007-08	66
3.8	Private hospital patient separations by funding source, 2003-04 to 2007-08	66
4.1	Share of separations by sector and patient age, 2007-08	81
4.2	Share of separations by sector and socioeconomic status of patients, 2007-08	81
4.3	Funding sources of public and private hospitals, 2007-08	86
5.1	Composition of general hospital costs by sector, 2007-08	104
5.2	Comparison of cost per separation for individual DRGs in public and private hospitals, 2007-08	113
5.3	Cumulative distribution of DRGs ranked by public-private cost ratio, 2007-08	114
5.4	DRG partitions by public cost relative to private cost, 2007-08	115
5.5	Cumulative distribution of separations in each sector ranked by DRG cost weight, 2007-08	117
7.1	Rates of caesarean section by hospital sector, 1991–2006	177
9.1	Informed financial consent rates by jurisdiction	219

9.2	Sample cumulative distribution function of gaps with no IFC, 2007	224
9.3	Distribution of gaps with no IFC, 2007	224
10.1	MLS income thresholds if there had been indexation, singles	241
10.2	Proportion of single taxpayers subject to the MLS under alternative indexation options	243
10.3	Proportion of taxpayers who were members of a family subject to the MLS under alternative indexation options	244
C.1	Report on Government Services general framework	270
C.2	Performance indicator framework for health services	272
C.3	Performance indicators for public hospitals	274
C.4	Performance indicators for maternity services	275
D.1	Maximum effect of the capped fringe-benefits tax exemption on post-tax remuneration, by occupation	297
D.2	Estimated benefit to public hospitals of payroll-tax exemptions, 2007-08	300
D.3	Public hospital asset values (excluding land), 2007-08	304
D.4	Sensitivity analysis for private hospital user cost of capital	312
D.5	Sensitivity analysis for public hospital user cost of capital	312
E.1	Illustration of SFA production model	341
F.1	Hospital-acquired MRSA infections in Victoria by sector, 2005–2008	383
F.2	Hospital-acquired VRE infections in Victoria by sector, 2005–2008	384
F.3	Hospital-acquired BSIs in South Australia by sector, 2003–2008	389
F.4	Hospital-acquired MRSA infections in South Australia by sector and ICU status, 2003–2008	390
F.5	Hip SSIs in Western Australia by risk category and sector, 2006–2008	394
F.6	Knee SSIs in Western Australia by risk category and sector, 2006–2008	394

Tables

2.1	Number and activity of public hospitals, 2007-08	25
2.2	Number of public hospitals by size, 2007-08	26
2.3	Number of public hospitals by location, 2009	27
2.4	Number of public hospital beds per 1000 residents by location, 2007-08	28
2.5	Public hospital separations by patient profile, 2007-08	30

2.6	Number of public hospital separations by type of care, 2007-08	31
2.7	Number of specialist service units in public hospitals, 2007-08	36
2.8	Services to non-admitted patients in public hospitals, 2007-08	37
2.9	Number of staff in public hospitals, by occupation, 2007-08	39
2.10	Average salaries of staff in public hospitals, 2007-08	40
2.11	Changes in acute public hospitals, 2003-04 to 2007-08	41
2.12	Public hospital emergency department activity, 2003-04 to 2007-08	43
3.1	Number of private acute and psychiatric hospitals, 2006-07	47
3.2	Income and expenditure of private hospitals, 2006-07	48
3.3	Number and activity of private hospitals, 2007-08	51
3.4	Number of private hospitals by size, 2006-07	52
3.5	Number of private hospitals and beds by location, 2006-07	53
3.6	Share of private hospital separations by patient profile, 2007-08	53
3.7	Number of private hospital separations by care type, 2007-08	59
3.8	Accident and emergency treatment in private hospitals, 2006-07	60
3.9	Number of staff in private hospitals, 2006-07	62
3.10	Private freestanding day hospital facilities, 2007-08	64
3.11	Number of private freestanding day hospital facilities by type of centre, 2006-07	64
3.12	Number of staff in private freestanding day hospitals, 2006-07	65
3.13	Number of separations for the most common private hospital AR-DRGs, 2003-04 to 2007-08	67
3.14	Private hospitals with teaching roles, 2005-06 to 2006-07	68
4.1	Share of public and private hospitals by size	71
4.2	Public and private hospitals by location, 2009	72
4.3	Share of hospital separations by sector, 2007-08	73
4.4	Thirty most frequent overnight separations in public and private hospitals by AR-DRG, 2007-08	75
4.5	Thirty most frequent same-day separations in public and private hospitals by AR-DRG, 2007-08	78
4.6	Share of patient separations by sector and funding source, 2007-08	82
5.1	Cost components	97
5.2	Cost per casemix-adjusted separation by jurisdiction and sector, 2007-08	103
5.3	Cost per casemix-adjusted separation by region and sector, 2007-08	109

5.4	Cost per casemix-adjusted separation by hospital size and sector, 2007-08	110
6.1	ACHS infection indicators that differed between public and private hospitals, 2007	135
7.1	Labour productivity, 2002-03 and 2007-08	146
7.2	Bed productivity, 2002-03 and 2007-08	147
7.3	Drug, medical and surgical supplies productivity, 2002-03 and 2007-08	149
7.4	Relative stay index, public and private hospitals, by DRG procedure partitions, 2002-03 and 2007-08	150
7.5	Labour intensity of public and private hospitals, 2002-03 and 2007-08	152
7.6	Public hospital emergency department waiting times, 2002-03 and 2007-08	155
7.7	Additions and removals from public hospital elective surgery waiting lists, 2002-03 to 2007-08	158
7.8	Elective surgery waiting times, public hospitals, 2002-03 and 2007-08	159
7.9	Elective surgery waiting times by clinical category, public hospitals, 2002-03 and 2006-07	160
7.10	Occupancy rates, 2002-03 to 2007-08	162
7.11	Average cost and population coverage of private hospital insurance, 2002-03 to 2007-08	164
7.12	Elective surgery separation statistics, 2007-08	165
7.13	Hospital separations with an adverse event, 2002-03 to 2007-08	172
7.14	Rates of foetal, neonatal and perinatal deaths by hospital sector, rate per 1000 births, 2006	176
8.1	Profile of sample hospitals by location and size, 2006-07	185
8.2	Profile of sample hospitals, output and partial productivity measures, 2006-07	186
8.3	Profile of sample hospitals, by service and patient characteristics, 2006-07	187
8.4	Coefficient results of stochastic frontier analysis, 2006-07	199
8.5	Summary of hospital technical efficiency scores, 2006-07	204
9.1	Comparison of Ipsos and PHIAC data, 2007	214
9.2	Informed financial consent rates for pre-planned and emergency admissions, 2007	216

9.3	Informed financial consent rates, 2004–2007	217
9.4	Informed financial consent rates by hospital provider	218
9.5	Informed financial consent rates by jurisdiction, 2007	219
9.6	Informed financial consent rates by location and type of provider	220
9.7	Informed financial consent rates by medical practitioner or service provider, 2007	221
9.8	Informed financial consent rates for patients with a lead time of at least five days, 2007	222
9.9	Average gap	223
9.10	Average gap by hospital provider, 2004–2007	225
9.11	Average gap by jurisdiction, 2007	226
9.12	Average gap by region, 2004–2007	227
9.13	Average gap by medical practitioner or service provider, 2007	228
10.1	Possible indexation factors for the Medicare Levy Surcharge	239
A.1	Submissions received	247
A.2	Visits	249
A.3	Participants in initial roundtable	250
A.4	Participants in Discussion Draft roundtable	251
A.5	Teleconference participants	252
B.1	Objectives of the National Healthcare Agreement	255
B.2	National Healthcare Agreement Reporting Structure	256
B.3	Hospital and related care performance indicators	260
B.4	Other NHA indicators related to hospital performance	261
C.1	The National Health Performance Framework	264
C.2	Indicators reported in the National Report on Health Sector Performance, 2003	267
D.1	NHCDC sample by jurisdiction and region, 2007-08	279
D.2	NHCDC sample by jurisdiction and hospital size, 2007-08	280
D.3	NHCDC sample by region and hospital size, 2007-08	281
D.4	Differences between Victoria and other jurisdictions for NHCDC cost buckets	285
D.5	Hospital Casemix Protocol descriptive statistics, 2007-08	286
D.6	Ungroupable separations for private patients by sector, 2007-08	288
D.7	Components of total cost estimates	289
D.8	Distribution of NHCDC pharmacy and medical costs for selected patient-costed public hospitals, by cost bucket, 2007-08	292

D.9	Public hospital medical salaries and wages included in other NHCDC cost buckets, 2007-08	293
D.10	Distribution of benefits from the capped FBT exemption by sector	298
D.11	Summary of sources and methods used to estimate capital costs	310
D.12	Estimated capital costs per casemix-adjusted separation, 2007-08	311
D.13	Renal dialysis and chemotherapy separations as a percentage of all separations by sector, 2007-08	313
D.14	Impact of renal dialysis and chemotherapy separations on average cost weights by sector, 2007-08	314
D.15	Cost per casemix-adjusted separation for adjacent DRGs, Australia, 2007-08	315
D.16	Cost per casemix-adjusted separation for adjacent DRGs, Australia, 2007-08	315
D.17	Prosthesis costs for selected DRGs, 2007-08	317
D.18	Comparison of average length of stay for DVA and NHCDC patients, selected DRGs, 2006-07	320
D.19	Separations and episode costs for DVA patients, selected DRGs, 2006-07	322
E.1	Selected literature review	326
E.2	Hospital sample by size, region and sector, 2006-07	350
E.3	Description and summary statistics of variables, 2006-07	360
E.4	Results of Tobit regression of mortality rates, 2006-07	364
E.5	Predicted mortality rates and risk-adjusted mortality ratios, by sector, 2006-07	365
E.6	Risk-adjusted mortality ratios, by sector and hospital size, 2006-07	366
E.7	Results of Cobb-Douglas stochastic frontier analysis, 2006-07	367
E.8	Results of translog stochastic frontier analysis, 2006-07	369
E.9	Technical efficiency scores, all hospitals, 2006-07	373
E.10	Technical efficiency scores, large and very large hospitals, 2006-07	374
E.11	Technical efficiency scores, small and very small, and medium hospitals, 2006-07	375
E.12	Correlation coefficients between selected variables and technical efficiency scores	376
F.1	SSI rates for Victorian public hospitals by procedure and risk category, 2007	381
F.2	MRSA and BSI rates for Victorian public hospitals by hospital size, 2004–2007	381

F.3	Comparison of VAED and VICNISS data for public-hospital MRSA infections	383
F.4	Hospital-acquired MRSA infections in Victoria by region and ICU status, 2005-06 to 2007-08	384
F.5	Hospital-acquired VRE infections in Victoria by region and ICU status, 2005-06 to 2007-08	385
F.6	Selected hospital-acquired infections in Queensland, July–December 2008	386
F.7	SSI rates for Queensland public hospitals by surgical procedure, 2004–2008	388
F.8	Hospital-acquired MRSA in Western Australia by sector, 2006–2008	392
F.9	Hospital-acquired SAB BSIs in Western Australia by sector, 2007–2008	393
F.10	Rate of hospital-acquired infections in Tasmanian public hospitals by organism, 2005–2008	395

Abbreviations and explanations

Abbreviations

ABF	Activity-based funding
ABS	Australian Bureau of Statistics
ACEM	Australasian College for Emergency Medicine
ACERH	Australian Centre for Economic Research on Health
ACHI	Australian Classification of Health Interventions
ACHS	Australian Council on Healthcare Standards
ACSQHC	Australian Commission on Safety and Quality in Health Care
AHCA	Australian Health Care Agreement
AHHA	Australian Healthcare and Hospitals Association
AHIA	Australian Health Insurance Association
AHMC	Australian Health Ministers' Conference
AHSA	Australian Health Service Alliance
AIHW	Australian Institute of Health and Welfare
AIMS	Australian Incident Monitoring System
ALOS	Average length of stay
AMA	Australian Medical Association
ANF	Australian Nursing Federation
APHA	Australian Private Hospitals Association
AR-DRG	Australian Refined Diagnosis-Related Group
ASA	Australian Society of Anaesthetists
ASGC	Australian Standard Geographical Classification
ASX	Australian Securities Exchange
ATO	Australian Taxation Office
AWE	Average Weekly Earnings

AWOTE	Average Weekly Ordinary Time Earnings
AWTE	Average Weekly Total Earnings
BSI	Blood stream infection
CEPA	Centre for Efficiency and Productivity Analysis
CHA	Catholic Health Australia
CHE	Centre for Health Economics (Monash University)
CHF	Consumers' Health Forum
CHI	Centre for Healthcare Improvement
CHRISP	Centre for Healthcare Related Infection Surveillance and Prevention
CIP	Clinical Indicator Program
COAG	Council of Australian Governments
CPI	Consumer Price Index
CRC	COAG Reform Council
DEA	Data Envelopment Analysis
DOHA	Department of Health and Ageing (Australian Government)
DRG	Diagnosis-related group
DVA	Department of Veterans' Affairs
FBT	Fringe-benefits tax
FTE	Full-time equivalent
HCAIU	Health Care Associated Infection Unit (WA Government)
HCI	Hospital cost index
HCP	Hospital Casemix Protocol
HDU	High-dependency unit
HISWA	Healthcare Infection Surveillance Western Australia
HQCC	Health Quality and Complaints Commission (Queensland Government)
ICD-10-AM	International Classification of Diseases, Version 10, Australian Modification
ICS	Infection Control Service (SA Government)
ICU	Intensive-care unit

IFC	Informed financial consent
IGA	Intergovernmental Agreement on Federal Financial Relations
IPHA	Independent Private Hospitals of Australia
MBS	Medicare Benefits Schedule
MDC	Major Diagnostic Category
MIAESR	Melbourne Institute of Applied Economic and Social Research
MLS	Medicare Levy Surcharge
MRO	Multiresistant organism
MRSA	Methicillin-resistant <i>Staphylococcus aureus</i>
MSSA	Methicillin-sensitive <i>Staphylococcus aureus</i>
NATSEM	National Centre for Social and Economic Modelling
NHA	National Healthcare Agreement
NHCDC	National Hospital Cost Data Collection
NHHRC	National Health and Hospitals Reform Commission
NHMD	National Hospital Morbidity Database
NHPC	National Health Performance Committee
NHPF	National Health Performance Framework
NHS	National Health Survey
NHSN	National Healthcare Safety Network
NNIS	National Nosocomial Infections Surveillance
NP	National Partnership
NPHEd	National Public Hospital Establishments Database
OLS	Ordinary least squares
PC	Productivity Commission
PHEC	Private hospital establishments collection
PHI	Private health insurance
PHIAC	Private Health Insurance Administration Council
PHIO	Private Health Insurance Ombudsman
RACS	Royal Australasian College of Surgeons
RAMR	Risk-adjusted mortality ratio

RCN	Royal College of Nursing
ROGS	Report on Government Services
RSI	Relative stay index
SAB	<i>Staphylococcus aureus</i> bacteraemia
SCRGSP	Steering Committee for the Review of Government Service Provision
SDF	Stochastic distance function
SEIFA	Socio-Economic Indexes for Areas (Relative Socio-economic Advantage and Disadvantage)
SFA	Stochastic frontier analysis
SLA	Statistical local area
SIR	Standardised Infection Ratio
SPP	Specific Purpose Payment
SSI	Surgical-site infection
TFP	Total factor productivity
TIPCU	Tasmanian Infection Prevention and Control Unit
UCC	User cost of capital
VAED	Victorian Admitted Episodes Dataset
VICNISS	Victorian Nosocomial Infection Surveillance System
VRE	Vancomycin-resistant <i>enterococci</i>
WPI	Wage Price Index

Explanations

Billion	The convention used for a billion is a thousand million (10 ⁹).
Findings	<i>Findings in the body of the report are paragraphs highlighted using italics, as this is.</i>

Glossary

Activity-based funding	A method of funding hospitals in which hospitals are paid for each episode of care they provide. The amount (price) paid for each episode of care is calculated in advance so that the risk of managing costs is borne by the hospital.
Acute care	Clinical services provided to admitted or non-admitted patients, including managing labour, curing illness or treating injury, performing surgery, relieving symptoms and/or reducing the severity of illness or injury, and performing diagnostic and therapeutic procedures. Most episodes involve a relatively short hospital stay.
Acute hospital	Establishments which provide at least minimal medical, surgical or obstetric services for admitted patient treatment and/or care, and which provide round-the-clock comprehensive qualified nursing service as well as other necessary professional services. They must be licensed by a state/territory health department, or controlled by government departments. It also includes hospitals specialising in dental, ophthalmic aids and other specialised medical or surgical care.
Admitted patient	A patient who has undergone a formal admission process in a hospital to begin an episode of care. Admitted patients may receive acute, sub-acute or non-acute care services.
Admitted patient cost proportion	The proportion of total (or operating) costs that are attributed to admitted patients. Also known as the inpatient fraction.
Adverse event	The unintentional harm arising from an episode of healthcare and not due to the disease process itself.
Allocative efficiency	How well resources are allocated across different uses so as to generate the greatest community wellbeing at a given point in time.

Apgar score	A numerical score used to indicate the baby's condition at one minute and five minutes after birth. Between 0 and 2 points are given for each of five characteristics: heart rate, breathing, colour, muscle tone and reflex irritability, and the total score is between 0 and 10.
Average length of stay	The average number of patient days per admitted patient episode. Patients admitted and separated on the same day are allocated a length of stay of one day.
Australian Refined Diagnosis-related Groups	An Australian system of Diagnosis-related Groups (DRGs). Version 5.0/5.1 is based on the fifth edition of ICD-10-AM. See Diagnosis-related groups.
AR-DRG partitions	Individual AR-DRGs are assigned to a 'surgical', 'medical' or 'other' partition on the basis of the type of procedure involved. A separation is classified as 'surgical' if it includes an operating room procedure. A separation is classified as 'other' if it includes a procedure performed outside of an operating room. A separation is classified as 'medical' if it does not include any type of procedure.
Capital city statistical divisions	A geographic classification of state and territory capital cities defined used by the Australian Bureau of Statistics for general statistical purposes. Each division contains its anticipated urban development (and its associated urban centres) for a period of at least twenty years.
Casemix	The range and types of episodes of care (the mix of cases) treated by a hospital.
Casemix-adjusted	The adjustment of data to account for differences in the number and type (complexity) of cases. Casemix adjustment is an important step to achieving comparable measures of efficiency across hospitals and jurisdictions.
<i>Clostridium difficile</i>	A species of gram-positive bacteria of the genus <i>Clostridium</i> , that normally reside in the body. Overpopulation of <i>Clostridium difficile</i> is harmful because the release of toxins can lead to bloating, constipation and diarrhoea.

Cost weight	The average costliness of an AR-DRG relative to all other AR-DRGs, such that the average cost weight for all separations is 1.
Data Envelopment Analysis	A linear programming technique used to identify the best-practice frontiers of entities, such as hospitals and firms.
Depreciation	Reduction in the value of an asset due to usage or obsolescence.
Diagnosis-related group	A system used to classify hospital admissions into groups with similar clinical conditions (related diagnoses) and similar resource usage (hospital services).
Dynamic efficiency	How well resources are allocated to achieve the greatest possible community wellbeing over time.
Effectiveness	How successful a hospital is in achieving a particular objective, such as avoiding hospital-acquired infections.
Efficiency	Economic efficiency, in its broadest sense, refers to how well resources are used to benefit the wellbeing of the community as a whole. It comprises productive efficiency, allocative efficiency, and dynamic efficiency.
Elective surgery	Any surgery that a patient's doctor or health professional considers to be necessary but which can be delayed by at least 24 hours. In Australia, elective surgical procedures are defined in the Medicare Benefits Schedule.
Episode of care	The period of admitted patient care between a formal or statistical admission and a formal or statistical separation, characterised by only one care type.
High-dependency unit	An area or environment in a hospital that provides a higher level of critical care and monitoring than is provided in a general ward, but a lower level of care provided by an intensive-care unit.

Hospital	A healthcare facility established under Commonwealth, state or territory legislation as a hospital or a freestanding day procedure unit and authorised to provide treatment and/or care to patients.
Hospital-acquired infection	An infection that appears during the course of care at a hospital or healthcare facility and is the result of that care. Also referred to as nosocomial infection.
Hospital Casemix Protocol	A data collection of the episodes of admitted patient care, benefits and charges for privately insured patients. It includes clinical, demographic and financial information for privately insured admitted patient services.
Hospital cost index	An index of hospital costs published by the Australian Bureau of Statistics.
Informed financial consent	The provision of cost information to patients, including notification of likely out-of-pocket expenses (gaps), desirably prior to agreeing to treatment.
Inpatient fraction	See admitted patient cost proportion.
Intensive-care unit	An area or environment in a hospital that provides the highest level of critical care and monitoring.
International Classification of Diseases	The World Health Organisation's internationally-accepted classification of diseases and related health conditions. The current version ICD-10 forms the basis of Australia's ICD-10-AM.
Labour productivity	A measure of episodes of care per full-time equivalent employee in a hospital or ward.
Length of stay	The period from admission to separation, less any days spent away from the hospital.
Maintenance care	Care in which the treatment goal is prevention of deterioration in the functional and current health status of a patient with a disability or severe level of functional impairment. Following assessment or treatment the patient does not require further complex assessment or stabilisation, and requires care over an indefinite period.

Major Diagnostic Categories	A high-level grouping of patients used in the AR-DRG classification. They correspond generally to the major organ systems of the body.
Medicare Levy Surcharge	A levy on Australian taxpayers who earn above a specified income threshold and do not have private health insurance.
Methicillin-resistant <i>Staphylococcus aureus</i>	A strain of the <i>Staphylococcus aureus</i> bacterium that is resistant to a number of antibiotics including penicillins (such as methicillin). Patients with open wounds and weakened immune systems are at risk to Methicillin-resistant <i>Staphylococcus aureus</i> from hospital staff that do not follow proper sanitary procedures.
Methicillin-sensitive <i>Staphylococcus aureus</i>	A strain of the <i>Staphylococcus aureus</i> bacterium that is sensitive (not resistant) to a number of antibiotics.
Multiresistant gram-negative bacteria	A class of gram-negative bacteria that are resistant to a multiple range of antibiotics (such as ciprofloxacin, trimethoprim-sulfamethoxazole and ampicillin/sulbactam), and which can lead to bloodstream infections.
Multiresistant organism	Bacteria that are resistant to multiple antibiotics. Such organisms include Methicillin-resistant <i>Staphylococcus aureus</i> and vancomycin-resistant <i>enterococci</i> .
Multivariate analysis	A statistical analysis technique in which two or more variables are analysed simultaneously.
Non-admitted occasion of service	Occasion of examination, consultation, treatment or other service provided to a non-admitted patient in a functional unit of a health service establishment. Services may include emergency department visits, outpatient services (such as pathology, radiology and imaging, and allied health services, including speech therapy and family planning) and other services to non-admitted patients.
Non-admitted patient	A patient who has not undergone a formal admission process, but who may receive care through an emergency department, outpatient or other non-admitted service.

Partial performance indicator	An indicator of a particular aspect of a hospital's performance that does not take account of other aspects of performance.
Patient days	The aggregate number of days of stay (calculated as separation date minus admission date) for all overnight-stay patients who were separated from hospital during the year. Periods of approved leave are subtracted from these calculations. Same-day patients are each counted as having a stay of one day.
Peer group	A group of hospitals that are broadly similar in terms of their volume of admitted-patient activity and geographical location.
Principal diagnosis	The diagnosis chiefly responsible for occasioning an episode of admitted-patient care.
Private hospital	A privately owned and operated institution, catering for patients who are treated by a doctor of their own choice. Patients are charged fees for accommodation and other services provided by the hospital and relevant medical and paramedical practitioners.
Private patients	Patients admitted to a hospital who decide to choose the doctor(s) who will treat them and/or to have private ward accommodation. They are charged for medical services, food and accommodation.
Procedure	A clinical intervention that is surgical in nature, carries a procedural risk, carries an anaesthetic risk, requires specialised training, and/or requires special facilities or equipment available only in an acute-care setting.
Productive efficiency	The degree to which outputs are produced at least possible cost. It incorporates technical efficiency.
Public hospital	A health care provider facility that has been established under state or territory legislation as a hospital or as a freestanding day procedure unit. Public hospitals are operated by, or on behalf of, the government of the state or territory in which they are established. Public hospitals provide hospital services free of charge to all eligible patients.

Public patient	A patient admitted to a hospital who has agreed to be treated by doctors of the hospital's choice and to accept shared accommodation. This means the patient is not charged.
Recurrent expenditure	Expenditure on goods and services which are used up during the year. Includes salaries and wages, payments to visiting medical officers, expenditure on drug, medical and surgical supplies, and repairs and maintenance. Does not include investment expenditure.
Relative stay index	The actual number of patient days for acute-care separations in selected AR-DRGs divided by the expected number of patient days adjusted for casemix.
Same-day establishments	Day centres, hospitals and freestanding day surgery centres that provide a course of acute treatment on a full-day or part-day non-residential attendance basis at specified intervals over a period of time. Freestanding day surgery centres are approved by the Commonwealth for the purposes of basic table health insurance benefits.
Sentinel events	A limited number of serious adverse events, in which death or serious harm to a patient has occurred.
Separation	An episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death), or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation). Separation also means the process by which an admitted patient completes an episode of care either by being discharged, dying, transferring to another hospital or changing type of care.
Statistical local area	The smallest geographic area used by the Australian Bureau of Statistics (in non-Census years) in its Australian Standard Geographic Classification system.
Stochastic frontier analysis	A statistical regression technique used to determine the frontier of best-practice entities such as firms and hospitals.

Sub-acute and non-acute care	Clinical services provided to patients suffering from chronic illnesses or recovering from such illnesses. Services include rehabilitation, planned geriatric care, palliative care, geriatric care evaluation and management, and services for nursing home type patients. Clinical services delivered by designated psychogeriatric units, designated rehabilitation units and mothercraft services are considered non-acute.
Surgical-site infection rate	The number of surgical-site infections for a selected procedure performed during the surveillance period divided by the total number of the selected procedures performed during the surveillance period.
Technical efficiency	The extent to which the quantity of inputs can be reduced without also reducing the quantity of outputs.
Total factor productivity	A measure of output relative to all inputs.
Univariate analysis	The separate exploration of each variable in a data set. It looks at the range of values, as well as the central tendency of the values. It describes the pattern of response to the variable.
Unplanned hospital readmission	An unexpected hospital admission for treatment of: the same condition for which the patient was previously hospitalised; a condition related to one for which the patient was previously hospitalised; or a complication of the condition for which the patient was previously hospitalised.
Unplanned hospital readmission rate	The number of unplanned readmissions to the same hospital that occur within a given period after separation, divided by the total number of separations (excluding deaths), including day stay patients.
User cost of capital	The opportunity cost of the capital used to deliver hospital services. That is, the return that could be generated if the funds were employed in their next best use.
Vancomycin-resistant <i>enterococci</i>	A group of bacterial species of the genus <i>Enterococcus</i> , found in the digestive and urinary tract, that is resistant to the antibiotic vancomycin.