The utilisation of public and private hospitals in Victoria: An issue of access?

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Abstract

Consumers regard access to hospital services as one of the key components of quality in health care delivery. A mixed public/private system operates in Victoria, but a morbidity collection from private hospitals was commenced only relatively recently. In 1993–94 the collection covered 82 per cent of private hospital separations, and it was considered timely to examine the utilisation patterns in the private system and compare them with those in the public system. Medical and surgical emergencies and other complex conditions and procedures are serviced largely in the public sector, whereas private hospitals are utilised for elective and less complex surgery and non-urgent conditions. Occupancy rates are around 79 per cent in public hospitals and 67 per cent in private hospitals. Elective surgery waiting list data suggest that while urgent cases are treated within a month, significant proportions wait six months or more for non-urgent surgery. Private health insurance is the main factor in determining access to and the utilisation private hospitals. The current Medicare Agreement and the move to separate the role of purchaser and provider may allow the maximal utilisation of private hospitals and diminish the burden of chronic illness.

Introduction

The National Health Strategy (1990) identified difficulties with access to health services as one of the key pressures confronting the health system. This pressure persists today with increasing utilisation of public hospital services. Consumers

also recognise access to hospital services as a major determinant of quality in the delivery of health care. Proposals to improve the operations of and access to hospitals must consider, among other things, the role of private hospitals in a mixed public/private system.

The growth in demand for acute hospital services is due largely to the needs of the population over the age of 65 (National Health Strategy 1991). Between 1986 and 2001 a 24.9 per cent increase in admission rates has been projected for Victoria. The 65+ age group accounted for 70.4 per cent of the increase, while the 0–14 age group accounted for only 0.6 per cent of the increase. Projections have been made by Major Diagnostic Category (medical and surgical). Projected increases in Surgical admissions for Eye is 104.9 per cent, Mental Disease 101.9 per cent, and Musculoskeletal 71.4 per cent. Lengths of stay have been projected to decrease for all age groups except the over 80s. The projected increase in lengths of stay for the over 85 age group is 41.5 per cent for males and 20.3 per cent for females.

Key services provided by public hospitals in Victoria include inpatient, outpatient, emergency and outreach services. Inpatient care offers super-specialty services, diagnostic services and rehabilitation. Victoria has 137 private hospitals (including day hospital facilities) offering a wide range of services which overlap or are additional to those found in the public sector. The key services provided by private hospitals include inpatient, surgical, emergency and diagnostic services. Private inpatient services are mainly concentrated in metropolitan Melbourne or large provincial cities. In 1993–94 private hospitals accounted for 29.3 per cent of separations and 30.9 per cent of total occupied bed-days. This represents a reduction in private hospital services as a proportion of total services. In 1989–90 private hospitals accounted for 35 per cent of all separations and 28.7 per cent of bed-days (National Health Strategy 1991).

The average occupancy rate in private hospitals in 1993–94 was 67 per cent; in public hospitals it was 79 per cent. Occupancy rates in metropolitan teaching hospitals were around 90 per cent. Preliminary data for 1994–95 show very similar rates.

Statistical information about private hospitals was collected from a census of all private hospitals in 1992–93 (Australian Bureau of Statistics 1994). It provided State-based information on the number of facilities, available beds, lengths of stay and financial data. Cases treated in the public and private sectors have been compared at the national level on the basis of ICD-9-CM chapters (Australian Bureau of Statistics & Australian Institute of Health and Welfare 1995). This

study examined conditions treated by three-digit ICD-9-CM code for age groups in order to obtain a clearer picture of the activities in the two sectors.

The Victorian Inpatient Minimum Database routinely collects inpatient information. Data have been collected from public hospitals since 1982, and since 1986 has been a requirement of Health Service Agreements. Patient-level data from private hospitals have only been available relatively recently. Collection from private hospitals in computer readable form followed the Health Service (Private Hospitals and Day Procedures) Regulations 1991. The Victorian Inpatient Minimum Database provides complete coverage of public hospital separations, and in 1993–94 it covered 82 per cent of private hospital separations. It was considered timely therefore to compare the patterns of conditions treated in the two types of institutions. This paper reports on observed differences in the main reasons for hospitalisation.

Methods

1. Hospital separation data

For 1993–94, the following data relating to separations were extracted and proportions in the two streams (public and private) compared.

- Age and sex distribution by three-digit ICD-9-CM code for principal diagnosis and principal procedure in public and private hospitals.
- The number of separations for the leading 20 diagnoses and the leading 20 procedures for males and females treated in public and private hospitals. These data were obtained for all ages: under 1 year, 1–14 years, 15–24 years, 25–44 years, 45–64 years, 65–74 years and over 75 years.
- The number of separations for the leading diagnoses and procedures for those who were treated in public hospitals and recorded as being in a health fund basic level or above, and those who were insured but the level of insurance was unknown. Those with ancillary insurance only were excluded.

2. Waiting list information

Public hospital elective surgery waiting list data by specialty for the period 1986–1995 were obtained from the Acute Health Division, Health and Community Services. From 1992 onwards an 'urgency' categorisation was introduced (Advisory Committee on Elective Surgery) in order to take into

account a clinical assessment of the urgency with which a patient requires surgery. These are determined by the clinician and are defined as follows.

Category 1 Very early admission desirable for a condition that has the potential to deteriorate quickly and become an emergency.

Category 2 Admission within 12 weeks acceptable for a condition causing some pain, dysfunction or disability but not likely to deteriorate or become an emergency.

Category 3 Admission at some time in the future acceptable for a condition causing minimal or no pain, dysfunction or disability, which is very unlikely to deteriorate quickly and which does not have the potential to become an emergency.

Results

Separation data

During 1993–94 there were 763 015 separations from public hospitals and 307 072 from private hospitals. Women comprised a slightly greater proportion of private hospital separations at 57.9 per cent, compared with 55 per cent in public hospitals. While on average 70 per cent of separations occur in public hospitals and 30 per cent in private hospitals (see table 1), in the under 25 year age group proportions treated in private hospitals are smaller.

Eleven per cent of those treated in public hospitals had private health insurance other than ancillary, and in 19.7 per cent of cases insurance level was recorded as unknown. In private hospitals insurance status was recorded as unknown in 4.6 per cent of cases.

Table 1: Proportions of total separations and proportions with hospital insurance by age group in public and private hospitals, Victoria 1993–94

Age group (years)	Separations		Insured	
	Public (%)	Private (%)	Public (%)	Private (%)
LT 1	88.9	11.1	11.8	91.2
1–14	82.4	17.6	16.0	83.7
15–24	75.2	24.8	7.4	74.1
25–44	69.2	30.8	1.1	80.8
45–64	65.9	34.1	15.3	85.3
65–74	69.3	30.7	17.4	82.5
GE 75	70.7	29.3	17.1	87.1
Total	**71.3**	**28.7**	**11.1**	**83.2**

While 11 per cent of those in public hospitals were recorded as having private health insurance, close to double this proportion (21.4 per cent) were not classified as public patients at the time of separation in 1993–94. Seventeen per cent were private, 2.4 per cent veterans' affairs, and 2.0 per cent special class (compensable, work cover and so on).

Leading causes of admission based on principal diagnosis show that heart failure is treated in public hospitals in far greater numbers than in private hospitals, though it makes up a greater proportion of the case-load of the latter. Rehabilitation, which includes physiotherapy, and aftercare (V58), including radiotherapy and chemotherapy, are carried out to a far greater extent in public hospitals, but form similar proportions ($\chi^2 = 3.52$, $p = .06$) of the case-load of both public and private hospitals. Disorders of tooth eruption, internal derangement of the knee and intervertebral disc disorders are examples of conditions treated in private hospitals, with these conditions forming significantly greater proportions of their total case-load (see table 2).

Emergency surgical conditions such as appendicitis were treated preferentially in public hospitals, with only 20 per cent being carried out in private hospitals. Twice as many cholecystectomies were performed in public hospitals and the proportions of total case-load in both systems were significantly different ($\chi^2 = 4.4$, $p = .04$). Elective surgery such as hernia repair, vasectomy and myringotomy and diagnostic procedures form a significantly greater proportion of the surgical case-load of private hospitals (see table 3).

Table 2: Proportions of separations by diagnosis, and proportions of total separations in public and private hospitals for leading diagnoses, Victoria 1993–94

Principal diagnosis		% for each diagnosis		% of total separations	
ICD-9-CM code	Description	Public	Private	Public	Private
428	Heart failure	82.8	17.2	1.12	1.67
V57	Care involving the use of rehabilitation	78.7	21.3	1.89	1.27
V58	Other unspecified proc. and aftercare	71.7	28.3	3.97	3.89
V25	Contraceptive management	69.0	31.0	0.85	0.95
789	Other symptoms involving abdomen/pelvis	65.2	34.8	1.44	1.91
414	Other ischaemic heart disease	62.5	37.5	1.12	1.67
550	Inguinal hernia (males)	60.6	39.4	0.67	1.09
493	Asthma	57.1	42.9	1.73	3.23
530	Diseases of the oesophagus	55.5	44.5	1.00	2.00
535	Gastritis and duodenitis	54.1	45.9	0.63	0.33
600	Hyperplasia of the prostate	53.5	46.5	0.56	1.21
366	Cataract	52.1	47.9	0.99	2.26
715	Osteoarthrosis and allied disorders	50.3	49.7	0.58	1.41
520	Disorders of tooth development/eruption	24.6	75.4	0.39	2.96
717	Internal derangement of knee	38.6	61.4	0.57	2.25
722	Intervertebral disc disorders	42.9	57.1	0.32	1.07

Table 3: Proportions of separations by procedure and proportions of total separations in public and private hospitals for leading procedures, Victoria 1993–94

Principal procedure		% for each procedure		% of total separations	
ICD-9-CM code	Description	Public	Private	Public	Private
470	Operations on the appendix	79.2	20.8	1.01	0.50
741	Lower uterine segment cesarean section	77.1	22.9	1.67	0.93
690	Dilatation and curettage	70.9	29.1	2.42	1.85
512	Cholecystectomy	66.2	33.8	1.23	1.18
530	Inguinal hernia repair – males	61.4	38.6	0.96	1.13
637	Vasectomy	59.1	40.9	0.57	0.91
361	Bypass anastomosis for heart revasc.	58.0	42.0	0.45	0.61
863	Other local excision of skin lesion	57.9	42.1	1.36	1.85
602	Transurethral prostatectomy	57.5	42.5	0.90	1.25
815	Joint replacement lower extremity	57.1	42.9	0.82	1.15
542	Diagnostic proc. abdominal region	56.8	43.2	0.85	1.22
451	Diagnostic proc. small intestine	56.3	43.7	4.51	6.56
385	Ligation, stripping of varicose veins	53.7	46.3	0.57	0.91
200	Myringotomy	52.2	47.8	0.86	1.48
231	Removal and restoration of teeth	27.0	73.0	0.77	1.89

Differences were also evident when different age groups were examined (see table 4).

Those with private insurance who were treated in public hospitals (11 per cent of separations) showed a similar profile of leading diagnoses and procedures to the total public hospital clientele. For certain conditions such as cardiac investigation and myocardial infarction in males, and chemotherapy, those with private insurance appeared to be over-represented in public hospitals. Seventeen per cent of those with 'general symptoms', which include syncope and collapse, convulsions, pyrexia of unknown origin, malaise and fatigue, were privately insured (see table 5).

Table 4: Leading reasons for hospitalisation and proportion of total separations for each age group in public and private hospitals, Victoria 1993–94

Public hospitals		Private hospitals	
Reason for hospitalisation	**% case-load**	**Reason for hospitalisation**	**% case-load**
Under 1 year		**Under 1 year**	
Short gestation, low birth weight	9.4	Elective surgery, eg, circumcision, hernia	23.2
Acute bronchitis, bronchiolitis	5.9	Short gestation, low birth weight	10.4
Other perinatal jaundice	5.0	Other perinatal jaundice	5.8
Elective surgery, eg, circumcision, hernia	3.9		
1–14 years		**1–14 years**	
Asthma	10.8	Myringotomy	22.8
Chronic disease tonsils and adenoids	5.8	Chronic disease tonsils and adenoids	12.4
Myringotomy	5.4	Surgical removal of tooth	5.0
Closed reduction of fracture	4.5		
15–24 years		**15–24 years**	
*males – Dialysis	4.8	Surgical removal of tooth	24.4
Fracture face bones	3.1	*males – Repair to joint, lower extremity	6.3
Appendicectomy	2.7	Excision of cartilage	4.5
		Repair to nose	3.9
*females – Legal abortion	4.5	*females – Legal abortion	3.6
Perineal trauma after delivery	4.3	Tonsillectomy	3.4
25–44 years		**25–44 years**	
*males – Dialysis	11.3	*males – Diagnostic procedures – intestine	13.8
Chemotherapy	6.1	Vasectomy	5.7
Vasectomy	3.7	Excision of cartilage	5.0
*females – Perineal trauma after delivery	5.0	*females – Procreative management	6.8
Cesarean section	4.8	Repair obstetric laceration	4.5
Dilatation and curettage	4.7	Dilatation and curettage	4.3
45–64 years		**45–64 years**	
Dialysis	14.0	Diagnostic procedures – intestine	16.4
Chemotherapy	8.4	Chemotherapy	6.4
Diagnostic procedures – intestine	7.1	*males – Other ischaemic heart disease	4.9
Other ischaemic heart disease	2.3	– Hyperplasia prostate	3.4
		*females – Dilatation and curettage	3.5
65–74 years		**65–74 years**	
Dialysis	12.9	Diagnostic procedures – intestine	
Chemotherapy	6.2	Chemotherapy	6.5
Diagnostic procedures – intestine	3.3	Cataract	5.7
Rehabilitation	2.9	Other ischaemic heart disease	3.9
Cataract	2.3	*males – Hyperplasia prostate	6.0
		*females – Diverticular disease	3.2
Over 75 years		**Over 75 years**	
Rehabilitation	6.1	Diagnostic procedures- intestine	8.7
Diagnostic procedures – intestine	5.4	Cataract	8.7
Heart failure	4.8	Rehabilitation	4.4
Cataract	3.7	Heart failure	2.8
*Transurethral prostatectomy	3.4	*Transurethral prostatectomy	5.5
*females – Fracture neck of femur	3.1	*females – Fracture neck of femur	1.7

*Sex-specific proportions are given.

Table 5: Proportions with private* insurance in public hospitals for selected conditions

Males		Females	
Reason for hospitalisation	**Prop (%)**	**Reason for hospitalisation**	**Prop (%)**
Diagnostic proc. on heart, pericardium	22.9	Chemotherapy	20.6
Chemotherapy	19.9	General symptoms	17.3
Acute myocardial infarction	18.4	Rehabilitation	16.8
Acute/subacute ischaemic heart disease	17.3	Cataract	16.3
General symptoms	17.0	Heart failure	15.7
Other ischaemic heart disease	16.8	Diagnostic procedures – intestine	15.4
Diseases of the oesophagus	16.0	Other symptoms – abdomen and pelvis	15.1
Dialysis	15.4	Cesarean section	13.7
Asthma	14.5	Dialysis	12.1
Diagnostic procedures – intestine	14.4	Trauma to perineum during delivery	10.9

*Includes those in a health fund basic level or above, and those who are insured but the level of insurance is unknown.

Waiting lists

In Victoria, numbers on public hospital elective surgery waiting lists fluctuate between 25 000 and 28 000. In order to reflect potential demand, numbers are presented per 100 000 of the population (figure 1). This shows demand remaining at a near constant level in recent years. Numbers vary by specialty, with the greatest numbers waiting for orthopaedic, general and ear, nose and throat surgery (figure 2, table 6). Large numbers also wait for plastic, gynaecology, urology and ophthalmology surgery, but no marked trend is apparent.

Figure 1: Trends in total numbers on elective surgery waiting lists, Victoria 1986–1995

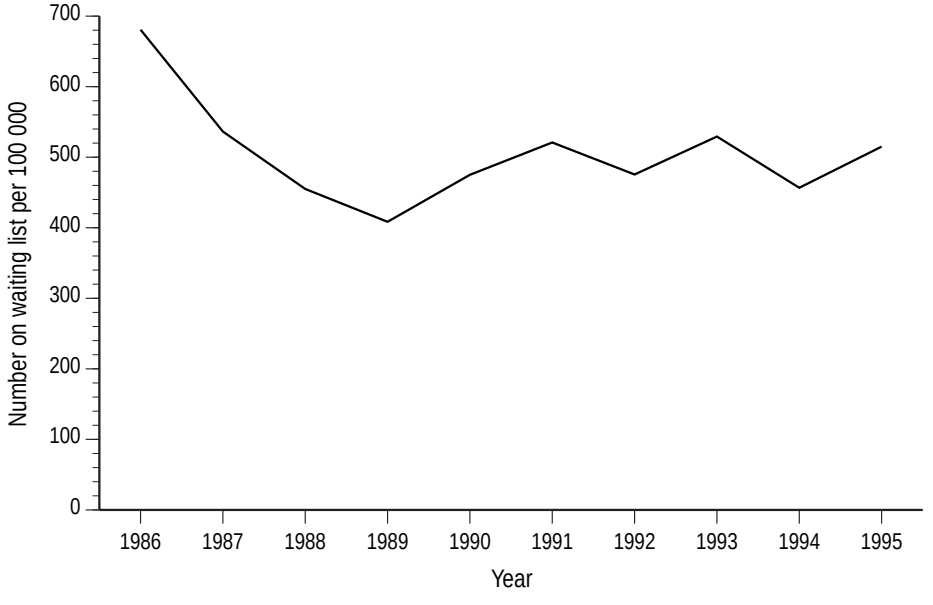

Figure 2: Trends in numbers on elective surgery waiting lists for specialties with largest numbers waiting, Victoria 1986–1995

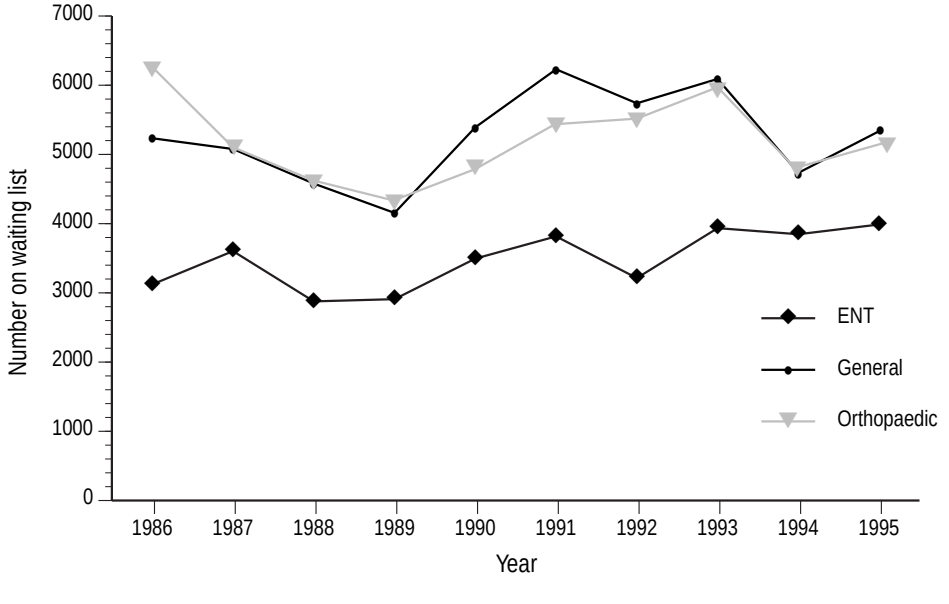

Table 6: Waiting lists, July 1995

Specialty	Total number on waiting list	% waiting longer than six months
Orthopaedic	5 787	37.1
General	5 336	31.8
Ear, Nose and Throat	3 988	40.0
Plastic	3 027	55.9
Gynaecology	2 820	22.1
Urology	2 623	36.8
Ophthalmology	2 494	20.2
Vascular	898	46.5
Neurosurgery	398	23.6
Other surgery	360	29.7
Cardiac	235	10.6
Paediatric	159	23.9
Thoracic	62	36.8
Total	**28 187**	**35.2**

In July 1992, 69 per cent of Category 1 patients in all specialties had waited more than 30 days; in 1993 this proportion was 68 per cent, and in subsequent years the proportion had become negligible (table 7). Of all Category 2 patients, around 70 per cent wait longer than three months, and 43.9 per cent of Category 3 patients wait longer than six months. The highest proportions of Category 3 patients waiting six months or more are those waiting for plastic, vascular and ear, nose and throat surgery. The lowest proportion of Category 3 patients waiting six months or more are those waiting for paediatric surgery (22.1 per cent).

Table 7: Trends in proportions on waiting lists by urgency category

Year	Category 1, waiting >30 days	Category 2, waiting >90 days	Category 3, waiting >180 days
1992	69.6	73.6	40.5
1993	67.8	73.1	43.9
1994	3.7	69.4	42.3
1995	1.1	70.6	43.9

Discussion

Utilisation patterns

The study shows that private hospitals treat smaller proportions of children and adolescents. Acute childhood conditions such as bronchiolitis and asthma and acute trauma at all ages are seen mostly in public hospitals. Private hospitals are utilised by young adults for elective dental extractions and orthopaedic surgery, whereas young adults are admitted to public hospitals most frequently for injuries, appendicitis and dialysis. In middle-aged and older adults, non-acute conditions which may be managed electively such as benign prostatic hyperplasia, osteoarthrosis, diverticular disease, diagnostic procedures on the intestine, cataract, and varicose veins form a larger proportion of the case-load in private hospitals. Cesarean section is carried out preferentially in public hospitals, and 14 per cent of cesarean sections in public hospitals were on those privately insured. The availability of facilities for neonatal resuscitation would no doubt influence the choice of hospital for this procedure.

Occupancy

While the observed occupancy rates in private hospitals are lower than those in public hospitals, this needs to be interpreted in the knowledge that these rates include same-day patients who are admitted for diagnostic and other minor procedures; they can therefore be inflated by any expansion in the proportion of same-day cases. In 1993–94 the proportion of same-day cases in public hospitals was 37.8 per cent and in private hospitals 46 per cent. In 1994–95 the proportion of day cases in public hospitals had increased to 42 per cent, and in private hospitals to 49 per cent. The difference in occupancy rates in the two sectors would therefore be greater than that already observed if same-day cases were accounted for separately.

Costs

Average recurrent expenditure per separation has been shown to be higher in the public sector than in the private sector (Australian Bureau of Statistics & Australian Institute of Health and Welfare 1995), even after adjustments are made for the costs of medical services provided free of charge to public patients; the provision of non-inpatient services; and different accounting rules. However, public hospitals appear to serve a different client group and there are differences in the complexity and possibly severity of cases treated. This could be expected to result in cost of care differences. Public hospitals are also expected to meet the

greater part of the demand for emergency services. This may incur additional costs in terms of idle resources when demand is low, and overtime and on-call costs during periods when demand is high.

Private health insurance

Private health insurance is the main factor in determining access to and consequently the level of utilisation of private hospitals. Private insurance coverage has declined substantially over recent years. In December 1983, 61.5 per cent of the population held private insurance. The introduction of Medicare in 1984 provided universal health cover for medical and hospital treatment, reducing the incentive for people to take out private insurance. By 1992 the proportion of the population with private hospital insurance had fallen to 39.9 per cent (26.3 per cent had private hospital and ancillary insurance, 13.6 per cent had hospital insurance only).

Access

Baume and Wolk (1995) have recently documented problems with access to public hospital services in New South Wales. Medical practitioners interviewed in that study said that they had experienced difficulties in arranging elective and non-elective admissions, resulting in long waiting times. Waiting times for coronary angiography and glaucoma surgery were considered to be unreasonably long, with potentially detrimental outcomes for patients. In particular, difficulties were experienced in admitting elderly patients. Our study found that while, on average, nearly 11 per cent of those who were treated in public hospitals had private insurance, for procedures such as cardiac investigation, cataract surgery and rehabilitation, greater proportions of privately insured were treated in public hospitals, suggesting clinical preference based on differences in facilities and care. If correct, this could be expected to pressure public hospitals in these areas.

The Economic and Budget Review Committee (1992), in its report to the Parliament of Victoria, found that private patient use of public hospitals can reduce public patient access to public hospital services. While Victorian waiting list data suggest that in the last two years all urgent cases are treated in a timely way, significant proportions of non-urgent cases wait six months or more for surgery. Urgency categorisation is carried out by individual hospitals and commenced relatively recently in 1992. It can be expected that some of the change is due to better auditing and more consistent application of urgency criteria than was the case up to recent times.

An important distinction between large public hospitals and private hospitals has been the level of medical care. Large public hospitals have 'resident' medical staff rostered at all times of the day, whilst most private hospitals, though offering doctor of choice, have medical staff on call. This is very likely to be a major factor which explains the use of public hospitals by private patients, though this presumes that the decision is made by the clinician rather than the patient. The degree of specialty services required for care and management is another factor. Privately insured patients can elect to be treated in public hospitals, either as public or as private patients. As private patients in public hospitals, they avoid the out-of-pocket charges that they are likely to incur in private hospitals. There is thus some incentive for patient choice to favour care in public hospitals.

A key tenet of the Australian health system is universal access to appropriate services and public health interventions regardless of income or health insurance status. Australians have access to free public hospital services, with the right to choose private health care in public or private hospitals, supported by private health insurance. Health ministers in 1994 endorsed the principles of the Medicare legislation in relation to the individual's right to receive treatment in public hospitals and that access be on the basis of clinical need. Their decision paper (Health Ministers Forum 1994) also refers to optimisation of private sector involvement in health care as an option for structural reform. The objective is to reverse the decline in health insurance coverage, encourage the privately insured to use private hospitals, and use private sector infrastructure to supplement available public health services. The current Medicare Agreement (1993–1998) has provision for States to enter into arrangements with private hospitals for the provision of hospital services. The increasing separation of governments' roles as funders (or purchasers) of these services from their roles as providers of these services should facilitate this process.

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