

Has the increase in private health insurance uptake affected the Victorian public hospital surgical waiting list?

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Abstract

It was anticipated that increased uptake of Private Health Insurance (PHI) would reduce demand on public sector surgical waiting lists. The best measure of changed demand is the comparison of the actual cases added to that projected given previous trends in PHI uptake. Detailed Victorian data is available up to 2000-1. The total waiting list has varied little, reflecting significant decreases in both in patients added to and removed. There was a marked increase in private sector elective surgery cases coinciding with the fall in additions to the public sector waiting list and in public sector elective surgical cases. The June 2001 Victorian surgical waiting list would have been 69,599 not 41,838 if the PHI uptake rate had continued to fall in line with pre-1999 trends, and that of June 2002 about 100,000 compared to 40,458 in March 2002. Limited data from other states suggests the Victorian trends are representative of all Australia.

Background

One of the anticipated benefits from the increased uptake of Private Health Insurance (PHI) after the introduction of the 30% rebate for private health fund premiums and Lifetime Health Cover (LHC) was a reduction in pressure on public hospitals' surgical waiting lists. Has this happened?

The full effects of the increased uptake of PHI cannot be determined until data from the 2001-2 financial year is available. This paper considers data up to 2000-1 and gives a progress report on the effect of the increased PHI uptake. It concentrates on Victoria because it is currently the only state for which both the necessary waiting list and hospital throughput data was available. The limited waiting list data available for other states is also discussed.

Method

Victorian Elective Surgery Information System (ESIS) data was obtained from the relevant website to analyze trends in additions and removals from the Victorian surgical waiting list. Changes in percentage of the Victorian population covered by private insurance were obtained from the Private Health Industry Administration Council (PHIAC) website.

Data at Unit Record (UR) level on activity in Victorian hospitals was obtained from the Department of Human Services Victoria (DHS-Vic). Such data included information of ARDRGv4 (ANDRGv3 for 1996-7 and 1997-8 data), Elective or Emergency admission status, a Day Case Flag, the payment class of the patient (public, private, veteran etc) and whether the patient was treated in a public or private sector facility. The DHS-Vic data was totally deidentified for both patients and hospitals.

Data on admission and deletions from surgical waiting lists in other states was obtained from Australian Institute of Health and Welfare (AIHW) data for 1999-2000 (AIHW, 2001) and 2000-1 (AIHW, 2002). While UR level data can be obtained from AIHW, a flag to indicate whether admission status was elective or emergency was not available prior to 2000-1.

Results

Waiting list demand

Total waiting list changes with the patients added, treated and deleted. Changes in total waiting list cannot be used as a reliable proxy for additions to the waiting list. For example, the total waiting list can fall during a period of high additions if there are high numbers of deletions due to waiting list audits. Waiting times are also affected by additions and removals. A stable waiting time is consistent with a reduction in both additions and removals. For these reasons the number of patients added is the best measure of demand. Additions are also unaffected by any changes in hospital workload in relation to elective and emergency admissions.

Data on Victoria's surgical waiting list has been collected by ESIS since mid-1998 and includes quarterly admissions and deletions and the quarterly total surgical waiting list. It is available on the website www.health.vic.gov.au/hsr. Waiting list additions were calculated as follows:

Patients on waiting list at end current quarter = Patients on waiting list end previous quarter plus additions current quarter minus waiting list admissions current quarter minus waiting list deletions current quarter.

By rearranging:

Waiting list additions current quarter = Patients on waiting list at end of current quarter minus patients on waiting list at end of previous quarter plus waiting list admissions current quarter plus waiting list deletions current quarter.

The results are shown in Table 1. In view of the "lumpiness" of some of the data, due to factors such as seasonal variations in cases added and treated and industrial action, 12-month rolling cumulative sums (Cumsum) are included to indicate underlying trends.

Table 1. Victorian surgical waiting data

Quarter Ended	Waiting List	Admissions	Deletions	Additions	12-month Cumsum admissions	12-month Cumsum additions
Jun-98	35,651	34,145	5,618			
Sep-98	36,754	33,392	6,582	41,077		
Dec-98	37,302	30,908	5,569	37,025		
Mar-99	39,542	28,708	5,665	36,613		
Jun-99	40,153	31,051	6,463	38,125	124,059	152,840
Sep-99	40,293	31,275	6,561	37,976	121,942	149,739
Dec-99	40,301	29,902	5,867	35,777	120,936	148,491
Mar-00	41,275	27,581	6,151	34,706	119,809	146,584
Jun-00	42,121	28,670	6,151	35,667	117,428	144,126
Sep-00	44,087	27,774	5,203	34,943	113,927	141,093
Dec-00	43,410	27,295	4,909	31,527	111,320	136,843
Mar-01	42,897	25,629	6,868	31,984	109,368	134,121
Jun-01	41,838	29,337	6,511	34,789	110,035	133,243
Sep-01	41,615	28,716	5,939	34,432	110,977	132,732
Dec-01	41,068	28,142	5,301	32,896	111,824	134,101
Mar-02	40,458	26,249	5,928	31,567	112,444	133,774

Source: www.health.vic.gov.au/hsr (Hospital Services Reports Quarters Ended June 1998 to March 2002)

The total waiting list peaked in Sept 2000 and has declined since. The major reason for this decrease is the reduction of additions to the waiting list not the treatment of additional patients. If additions had remained at the 1998-9 level in 1999-2000 and 2000-1 the waiting list at June 2001 would have been 62,485 not 41,838. This suggests that from late 1999 new and increasingly important factors reduced public hospital waiting list additions.

PHI uptake in Victoria:

Table 2 illustrates the percentage of Victorian population covered by PHI from June 1996 to December 2001. PHI coverage reached a low point in December 1998, and then slowly rose until December 2000 following the introduction of the 30% rebate. Large increases occurred in June 2000 and December 2000 following the introduction of LHC in addition to the 30% rebate. It is suggested that the increased uptake of PHI about mid-2000 was due to the synergy of these measures, as will be discussed later. There since has been a small decline in coverage.

The initial effect of the increase in the rate of PHI uptake on public hospital surgical waiting list additions was difficult to predict. This was because of factors such as the varying fund interpretations of Pre-existing Ailment (PEA) rules, the precise time new members joined, and some but not all people who took up PHI preferring to wait for PEA expiration rather than go onto public hospital waiting lists.

Table 2. number of Victorians with PHI by period

Period ended	Percentage covered
Jun-96	33.3%
Dec-96	32.9%
Jun-97	31.4%
Dec-97	30.9%
Jun-98	29.6%
Dec-98	29.3%
Jun-99	29.7%
Dec-99	30.4%
Jun-00	42.1%
Dec-00	44.8%
Jun-01	44.7%
Dec-01	44.5%

Source: www.phiac.gov.au (Statistical trends in membership - Victorian Table)

The reduction in additions to the public waiting list is consistent with increased numbers covered by and able to utilize PHI as PEA limitations have expired. This effect is noted in the trends in the twelve-month cumulative sum of additions outlined in Table 1. The increased additions in the twelve months ended December 2001 and March 2002 compared to September 2001 may reflect the resumption of previously projected demand growth now that the number of Victorians with useable PHI has stabilised.

Elective surgery cases - Victoria

Tables 3 and 4 illustrate elective surgery workload in the Victorian public and private sectors over the five most recent available financial years. They are derived from the relevant Victorian Admitted Episode Datasets (VAED). Non-surgical procedural DRGs are excluded from this analysis, such as gastrointestinal endoscopy and procedural cardiology DRGs do not form part of the surgical waiting list. Gynaecological DRGs are included but obstetric DRGs are excluded. Only cases stated to be elective are included. ANDRGv3 was used to determine if a case was in a surgical DRG in 1996-7 and 1997-8, thereafter ARDRGv4 was used.

Table 3. Victorian elective surgery data

Year	Private in Private Hospital				Public in Public Hospital				Total	
	Total Cases	Same Day Cases	Overnight Cases	Overnight Bed Days	Total Cases	Same Day Cases	Overnight Cases	Overnight Bed Days	Cases	Private Sector Share
1996-7	155,961	75,680	80,281	372,793	140,369	63,625	76,744	342,268	296,330	0.526
1997-8	158,031	79,942	78,089	361,218	142,872	65,743	77,129	339,700	300,930	0.525
1998-9	166,497	89,494	77,003	342,815	156,684	80,204	76,480	318,570	321,181	0.515
1999-2000	173,457	95,907	77,550	337,418	158,001	83,307	74,694	312,458	331,458	0.523
2000-1	196,004	111,868	84,136	358,115	152,448	81,356	71,092	303,492	348,452	0.562

One of the purposes for attempting to increase the uptake of PHI was to change some admissions from being public patients in public hospitals to private patients in private hospitals. For this reason, the comparisons in Table 3 are between 'public in public' and 'private in private'. Movement of other patient classes, such as veterans, is not related to increased PHI uptake.

Public elective surgical cases in the public sector rose from 1996-7 to 1999-2000 then fell in 2000-1. Private elective surgery cases in the private sector have risen consistently over the same period, with a particularly large increase (17.7%) from 1999-2000 to 2000-1. The total elective surgical cases in these two groups of patients in Victoria have risen by 17.6% over the five years, an average growth of 4.1% per annum. The private sector share fell from 52.6% in 1996-7 to 51.5% by 1998-9 then rose to 56.2% by 2000-1 with most of this increase occurring between 1999-2000 and 2000-1.

The difference in total elective surgery admissions between the VAED and waiting list data is not surprising. Many smaller hospitals that admit elective surgery cases are not part of ESIS. A number of other factors also contribute.

Effect of private cases in public hospitals:

Table 3 did not include private cases in public hospitals. Table 4 includes these cases, and the results are similar. The proportion of private cases declined from 1996-7 to 1998-9 then rose to 2000-1. Most of the increase occurred between 1999-2000 and 2000-1. Total Elective surgery rose by 14.9 % (3.5% per annum). These trends are similar to changes in Victorian PHI uptake and the results of Table 3.

Table 4. Elective surgery in Victoria, all public and private cases

Year	Total cases				Public and private	Private Status	Private Sector
	Private in private	Private in public	Private status	Public in public		proportion - all cases	Share - all cases
1996-7	155,961	26,825	182,786	140,369	323,155	0.567	0.483
1997-8	158,031	24,399	182,430	142,872	325,329	0.561	0.486
1998-9	166,497	23,571	190,068	156,684	344,752	0.551	0.483
1999-2000	173,457	22,714	196,171	158,001	354,172	0.554	0.490
2000-1	196,004	22,879	218,883	152,448	371,331	0.589	0.528

Waiting list data in other states

AIHW waiting list data from other states for 1999-2000 and 2000-1 is outlined in Table 5. ACT is excluded, as no 1999-2000 data was available from that Territory.

Table 5. Waiting list data by State and Territory (source AIHW)

State	Additions by Year		Change	Admissions by Year		Change
	1999-2000	2000-2001		1999-2000	2000-2001	
NSW	237,610	218,477	-19,133 (-8.05%)	202,281	192,867	-9,414 (-4.65%)
QLD	131,568	123,854	-7,714 (-5.86%)	112,718	104,688	-8,030 (-7.12%)
WA	49,737	44,251	-5,486 (-11.03%)	44,528	39,438	-5,090 (-11.43%)
SA	39,295	38,109	-1,186 (-3.02%)	32,683	35,562	2,879 (8.81%)
Tas	15,925	15,361	-564 (-3.54%)	13,598	12,995	-603 (-4.43%)
NT	7,243	7,830	587 (8.10%)	5,786	5,516	-270 (-4.67%)
Total	481,378	448,152	-33,226 (-6.90%)	411,594	391,066	-20,528 (-4.99%)

It is not possible to analyse the elective case distribution between the public and private sector for states other than Victoria. AIHW can provide UR level data for these states but there was no admission status flag that is necessary to distinguish elective and emergency admissions prior to 2000-1.

Discussion

What has been the effect of the 30% rebate and LHC on Victorian Surgical Waiting Lists?

One method of assessing this is by calculating the elective surgery cases that would have occurred in the public and private sectors had the 1998-9 sector distribution of cases had applied in all five years. This is shown in Table 6.

Table 6: actual and anticipated elective surgery cases, 1998-9 sector distribution norms

Year	Total Cases	1998-9 Private in Private share	Anticipated Private in Private cases	Actual Private in Private cases	Difference	Percent Difference
1996-7	296,330	0.515	152,610	155,961	3,351	2.20%
1997-8	300,930	0.515	154,979	158,031	3,052	1.97%
1998-9	323,181	0.515	166,497	166,497	0	0.00%
1999-00	331,458	0.515	170,761	173,457	2,696	1.58%
2000-1	348,452	0.515	179,516	196,004	16,488	9.18%
Year	Total Cases	1998-9 Public in Public share	Anticipated Public in Public cases	Actual Public in Public cases	Difference	Percent Difference
1996-7	296,330	0.485	143,720	140,369	-3,351	-2.33%
1997-8	300,930	0.485	145,952	142,872	-3,052	-2.09%
1998-9	323,181	0.485	156,684	156,684	0	0.00%
1999-00	331,458	0.485	160,697	158,001	-2,696	-1.68%
2000-1	348,452	0.485	168,936	152,448	-16,488	-9.76%

Table 6 shows significant changes in the proportions of elective surgery cases with public patient in a public hospital status and private patient in private hospital status. The trend has been for the private proportion to reflect the insurance rate in that there was a decline from 1996-7 to 1998-9 then a rise to 2000-1. The largest increase in private sector share was from 1999-2000 to 2000-1, consistent with the large increase in PHI uptake in mid-2000.

The data in Table 6 is not casemix-adjusted. Could the changes be due to increased cases in DRGs usually treated in the private sector rather than the transfer of public patients in public sector to private patients in private sector? Tables 7 and 8 outline a comparison of actual 2000-1 elective surgery cases in each sector to that

that would have occurred if the 1998-9 and 1999-2000 ARDRGv4 distribution norms had applied. It was not possible to include cases from 1996-7 and 1997-8, as data from those two years was only available in ANDRGv3.

Table 7. Private in private elective surgery cases in 2000-1, AR-DRG v4 distribution norms

Year of distribution norms	Anticipated cases	Actual cases	Difference	Percentage change	Percent change cases - current to previous year norms
1998-9	182,207	196,004	13,797	7.57%	0.00%
1999-00	183,792	196,004	12,212	6.64%	0.87%
2000-1	196,004	196,004	0	0%	6.64%

Table 8: public in public elective surgery cases, 2000-1, AR-DRG v4 distribution norms

Year of distribution norms	Anticipated cases	Actual cases	Difference	Percentage change	Percent change cases - current to previous year norms
1998-9	166,172	152,448	-13,724	-8.26%	0.00%
1999-00	164,588	152,448	-12,140	-7.37%	-0.95%
2000-1	152,448	152,448	0	0%	-7.29%

Tables 6 to 8 all suggest a small number of cases changed from public in public to private in private from 1998-9 to 1999-2000 and a larger change occurred from 1999-2000 to 2000-1. This is consistent with the higher percentage of Victorians with useable PHI in 2000-1 compared to 1998-9 and 1999-2000. There are differences in the change as estimated by the two methods, consistent with some growth in those DRGs that are particularly common in the private sector. The difference of 13,797 between 1998-9 and 2000-1 outlined in Table 7 reflects the minimum number of elective surgery cases that changed from public in public to private in private.

What changes can be anticipated in Victoria in 2001-2?

The full effect of the increased PHI uptake on hospital elective surgery workloads will not be known until data from 2001-2 is available in 2003. 2001-2 is the first financial year in which the effects of the expiry of PEAs will be clear. Some estimate can be made using PHIAC data that gives an overall indication of growth in cases covered by health funds (PHI). From 1999-2000 to 2000-1 Victorian private hospitals cases covered by health funds rose by 15% compared to a 13.0% increase in private elective cases in private hospitals. In the first nine months of 2001-2, cases in Victorian private hospitals covered by private health funds rose by 14.7% compared to the same period of 2000-1, suggesting that private sector elective surgery cases will increase by about 12% from 2000-1 to 2001-2 to 219,524 cases. The source of this data is the relevant quarterly PHIAC 'A' reports on the PHIAC website www.phiac.gov.au.

It could be assumed that total elective surgery cases increased by 4% to 362,390, consistent with recent Victorian trends. On this basis 61% of elective surgery in Victoria would be done in the private sector compared to 56% in 2000-1. Public in public elective surgery would reduce to about 143,000 cases compared to 152,448 cases in 2000-1.

Alternatively it could be assumed the private sector share of elective surgery cases increases to 60.1%, the same growth as occurred from 1999-2000 to 2000-1. Private sector elective cases would rise to 219,246 out of 362,390 cases, nearly 33,000 more cases than projected if 1998-1999 sector distribution norms had continued to apply.

Given the consistency of above two projections, it is reasonable to anticipate a further significant increase in private sector elective surgical cases both in absolute numbers and as a proportion of total Victorian elective surgery activity in 2001-2 compared to 2000-1.

The possibility of changed access to the public sector affecting total elective surgery demand should be considered. However the waiting list has been relatively stable over the last three years and it is unlikely that any recent effect would be significant. It is also noted that the cumulative sum of additions in the most recent twelve months outlined in Table 1 has stabilized rather than increased significantly, and follows significant falls coinciding with the increase in useable PHI.

These findings suggest that there have been minimal supply-induced effects on the public waiting list demand due to the recent transfer of cases to the private sector and this continues to be the case in the short term. The recent change in distribution of cases has been the result of transfers of cases to the private sector, rather than reduced demand in the public sector due to supply factors. The latter would have been unlikely given the stabilization of and later decline in the total waiting list in recent years.

What would the Victorian surgical waiting list have been in June 2001 without the increased PHI uptake?

Some hospitals do not have surgical waiting lists, so some surgical cases now treated in private hospitals would not have appeared there. From 1998-9 to 2000-1 the ratio of cases added to the waiting list (Table 1) to all elective surgery cases undertaken in the public (Table 4) averaged 80.5%. In Table 6 it is suggested there were 2,696 extra private in private cases in 1999-2000 compared to 1998-9 distribution norms, and an extra 16,488 cases in 2000-1 compared to 1998-9 norms. Assuming 80.5% of these 19,184 cases would have been added to the waiting list, the waiting list at the end of 2000-1 would have been 15,443 higher.

A second factor should also be considered. Before LHC and the 30% rebate were introduced the rate of insurance uptake was falling steadily. If PHI uptake had continued to decline at the mid 1990s rate of about 2% per annum, PHI uptake would have been about 25% by December 2001. The increase in the uninsured rate would have led to extra patients being added to the surgical waiting list. In 1999-2000 the uninsured rate would have been 73% not 71% as in 1998-9, and 75% in 2000-1. This suggests a pro rata increase in waiting list additions of 3% (4,323 cases) comparing 1998-9 to 1999-2000 and 6% (7,995 cases) comparing 1998-99 to 2000-1, in total 12,318 cases.

It is suggested that the Victorian surgical waiting list at the end of June 2001 would have been 69,599 not 41,838 as a result of these two effects. It is anticipated that there will be a larger difference between the actual waiting list at Jun 2002 and that projected without the measures to increase PHI uptake. The cumulative effect over the three years is about 60,000 extra cases. This represents the three-year cumulative effects of transfers to the private sector based on an insurance rate as at Dec 98 and a steady decline in PHI uptake to about 23% in 2001-2.

The Victorian surgical waiting list is estimated to be about 40,000 cases in June 2002, consistent with the March 2002 total of 40,458. With the increased uptake of PHI it is estimated that the June 2002 Victorian waiting list would have been 60,000 cases higher (about 100,000 cases). This assumes neither the number of cases treated in public hospitals nor the rate of additions to the waiting list would alter if the waiting list grew markedly. The validity of this assumption is uncertain because large rises in waiting list numbers, such as those suggested in this section, may well markedly change the actions of clinicians, their patients, hospitals and governments.

What effect on Victorian surgical waiting lists could have been anticipated due to the increased uptake of PHI?

In 1998-9 there were 152,840 additions to the waiting list. Assuming 4% growth in demand per annum, it is projected there would have been 171,924 additions in 2001-2. The percentage of the Victorian population covered by PHI rose from 29.3% to 44.5% in the same period using the December quarter rates. The percentage without PHI fell from 70.7% to 55.5%.

ESIS data as published does not contain information on the age of patients added to the waiting list hence it is not possible to age-standardize the anticipated effect of the increased insurance rate. However on a non-standardised basis the number of additions would fall by 21.5% due to the higher PHI uptake rate. This suggests 134,960 actual additions in 2001-2 compared to 171,924 projected additions. This is consistent with the actual additions of 133,774 cases for the 12 months to 31st March 2002, similar to that anticipated given the increased PHI uptake.

Other states

Data from other states is limited and comprehensive analysis as undertaken for Victoria is not possible. However the available data is consistent with Victoria. Table 5 shows that waiting list additions fell in all states except Northern Territory from 1999-2000 to 2000-1. Similarly cases admitted from the waiting list fell in all states except South Australia. A fall in additions would not have been anticipated. If it were assumed underlying growth in additions from 1999-2000 to 2000-1 was 4%, there would have been 500,633 additions in the states in Table 5, not 448,152 additions. This 10.5% reduction suggests the factors applying in Victoria are applying in other states.

The 10.5% reduction in additions suggested in the preceding paragraph assumes stable useable PHI coverage. A 3% increase in the uninsured rate, similar to that projected in Victoria, would have resulted in a further 15,019 cases being added. Total 2000-1 additions would have been 515,652 not 448,152. On this basis 67,500 fewer cases were added to the surgical waiting lists in these states between 1999-2000 and 2000-1 than would have been anticipated if the measures to increase PHI uptake had not occurred.

Detailed UR level data is not available but there was substantial growth in private hospital cases in these states from 1999-2000 to 2000-1 according to data in quarterly PHIAC A reports. Some examples are NSW (18.7%), Queensland (19.8%) and South Australia (16.8%). More recent PHIAC data comparing the first nine months activity of 2001-2 to the first nine months of 2000-1 suggests similar increases will occur in 2001-2.

The reasons for the increase in PHI uptake

It has been stated that the introduction of LHC was in itself the major factor causing the significant increase in PHI uptake in mid 2000. An alternative view is that the increase was the result of the synergy of the 30% rebate and the new LHC conditions and that neither of these measures would have caused the large coverage increase if introduced in isolation.

This latter view is consistent with the results of recent research by TQA Research, an organization that conducts regular surveys of consumer attitudes in relation to private health insurance. It has recently stated that "for every 1% increase in the price of private health insurance, a corresponding proportion of consumers are "very likely" to drop their private health cover" (Quint, 2002).

This is consistent with price remaining an important factor determining the uptake of private health insurance despite the introduction of LHC. The implication is that the reduction in the net cost of private health insurance is a major factor underpinning member retention. If the net cost of PHI had not already been reduced by the 30% rebate the increased uptake of PHI under LHC and the consequent reduction in surgical waiting list additions would have been lower.

Conclusion

The effect of the increased uptake of PHI in Victoria has been significantly reduced demand on the public hospital surgical waiting lists in Victoria. The full effect cannot be determined until all 2001-2 data is available. The reduction is similar to that expected due to the increase in the people covered by PHI. Less comprehensive data suggests similar effects are occurring in other states. It is planned to update this paper to consider the full effects of the increased uptake of PHI when the necessary data becomes available in 2003.

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