Private care and public waiting

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Abstract

Waiting time for public hospital care is a regular matter for political debate One political response has been to suggest that expanding private sector activity will reduce public waiting times. This paper tests the hypothesis that increased private activity in the health system is associated with reduced waiting times using secondary analysis of hospital activity data for 2001–02.

Median waiting time is shown to be inversely related to the proportion of public patients.

Policymakers should therefore be cautious about assuming that additional support for the private sector will take pressure off the public sector and reduce waiting times for public patients.

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What is known about the topic?

Waiting times for elective admissions to public hospitals are an entrenched problem. Recent changes in public policy to support private health insurance have been justified in part on the grounds of their capacity to address this problem.

What does this study add?

Longer waiting times for public patients in Australia are associated with higher proportions of hospital care being provided in the private sector. This finding is consistent with international studies.

What are the implications?

Increasing private sector throughput may reduce the capacity of the public sector to provide for public patients, rather than reduce waiting times.

ALTHOUGH MEDICARE HAS ELIMINATED financial barriers to access to hospital care, the existence of hospital waiting lists indicates that there are other barriers to access. Fifty per cent of patients requiring elective surgery in public hospitals in Australia in 2001–02 waited more than 27 days, and in the ACT the median wait was 40 days. Ten per cent of patients waited more than 203 days, with 10% of patients in Tasmania waiting almost one year.[1] Waiting time for access to public hospital care is a significant political issue and a matter of concern to voters in Australia and, indeed, in most OECD countries.[2]

Strategies to reduce excessive waiting times need to be carefully designed to avoid creating perverse incentives to reward hospitals with long lists or waiting times.[3] Contemporary supply-side strategies, which assume that current surgery rates are too low, include increasing funding; increasing productivity (through changing incentives, payment arrangements, or day-surgery rates); improving management of waiting lists; creating specialist elective surgery centres; use of private sector facilities; or transferring patients to facilities with lower demand or shorter waiting times. Demand-side strategies include use of explicit guidelines; and reducing pressure on public services by encouraging use of private services.[2] Waiting list reduction strategies such as these have been shown to work and it should not be assumed that waiting lists are intractable or that demand is infinite.[4]

The most prominent demand-side strategy in Australia has been the introduction of a 30% health insurance rebate which, it was argued, would take the "burden off the public hospital system".[5] Other policies to promote private health insurance have included the introduction of life time community rating, which led to an increase in private health insurance prevalence of around 50% to a current level of 43%.[6] The rebate costs around $2.5 billion per annum, money which might be better spent on assisting public hospitals directly.[7]

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One of the justifications for the 30% health insurance rebate is that the rebate encourages people to take out health insurance, thus facilitating access to private hospital care, which in turn reduces demand on the public sector and, presumably, eventually leads to reduced waiting times. When the rebate was introduced, a government advertising campaign encouraged people to take out private insurance with visual images of the beds of the privately insured racing past those waiting for public hospital treatment.

However, household survey data from the United Kingdom confirms that longer public waiting lists in the local health authority are associated with higher take-up of private health insurance.[8] A comprehensive systems dynamic simulation confirmed the link between increasing waiting lists and private activity growth.[9] Time series analysis of United Kingdom national data found that a 1% increase in a waiting time variable (measured as cost of waiting) was associated with a 0.6% increase in demand for private care.[10]

There are clearly significant interactions between the public and private markets, not least that the surgeons who operate on public patients are often the same surgeons who operate on private patients, and so an interaction between private practice and public activity should be expected.[11-14]

The payment per hour for fee-for-service activity in the private sector is generally greater than for sessional payments for the same operations in the public sector. This gives surgeons a perverse incentive to maintain high waiting times in the public sector to encourage prospective patients to seek private care. A Canadian study found that ophthalmologists' practice patterns affected the waiting times for their patients: for surgeons who only operated in the public sector, the median waiting time for a cataract operation was 7 to 8 weeks (depending on the year for which data were analysed); for surgeons who operated in both the public and private sectors, the public waiting time was 15 to 20 weeks.[15]

Expanding private care as a solution to public waiting lists may weaken social solidarity as well as support for ensuring that public care is available when required. Depending on a society's concern for equity, expanding private activity could reduce overall welfare.[16]

Analysis of regional patterns of provision in England has shown that regions with higher levels of private health insurance have longer waiting lists, controlling for demographic characteristics (age, population size and household income).[17] A cross-national study also suggested a "positive association between the level of health insurance coverage … and size and length of public sector waiting lists".[18]

In contrast to these international studies, two Australian studies have suggested that the private health insurance rebate may have been associated with a reduction in waiting times or lists.[19,20] The two studies used similar methods, essentially comparing the extent of waiting before and after the effects of increased private health insurance prevalence. Both suffer from short time periods for analysis (a point recognised in both papers). The more detailed study, based on Victorian data, shows that the most significant reduction in additions to the waiting list (from 41 077 in the September 1998 quarter to 35 777 in the December 1999 quarter) took place before there was any impact of policy changes on health insurance prevalence.[19] Subsequent reductions (to 31 567 in March 2002 using the data in the published paper) are consistent with a hypothesis of continuation of previous trends rather than an effect of increase in health insurance prevalence.[20]

This study is designed to examine the interaction between levels of private activity (measured by its inverse: proportion of public activity) and waiting times for public patient care, testing the hypothesis that an increased proportion of care being provided in the private sector is associated with reduced public sector waiting times. It is the first Australian study to test whether the rhetorical basis of support for private insurance is confirmed by data, and whether the findings of the international literature can be replicated in Australia.

Methods

Data were obtained from the Australian Institute of Health and Welfare's authoritative publication on Australian hospital statistics.[21] This publica-

tion provides data for 2001–02 on waiting times for 15 indicator procedures such as cataract extraction, cholecystectomy, coronary artery bypass graft and hip and knee replacements. (Box 1 shows the full list of indicator procedures and descriptive data on the procedures.) Three measures of waiting times are published, all derived from the experiences of public patients admitted in 2001–2002: the median waiting time, days waited at the 90th percentile, and the proportion of patients who waited more than 12 months before admission.

The AIHW also publishes data on separations (discharge, deaths, and transfers) from all hospitals by Diagnosis Related Group (DRG). This data source was used to calculate two measures of public patient separations: public patients separated from public hospitals as a proportion of total separations in a DRG (or group of DRGs) and a second measure based on all public patient separations, including public patients separated from private hospitals. This latter measure includes public patients separated from private hospitals which are contracted to the public sector (eg, Port Macquarie Hospital in New South Wales, Mildura Hospital in Victoria) and also a small number of public patients treated under contract in private hospitals.

The indicator procedures used by AIHW are reported at the procedure level whereas separation statistics are provided by DRG. The two data sources were linked by identifying the minimum groupings of DRGs which together account for more than 85% of the separations for that procedure. In some cases, the assignment of DRGs to a procedure is self-evident and the procedure and the DRG are almost identical. Box 1 shows the DRGs that were used to identify the relevant separation data to be assigned to each procedure.

1 Indicator procedures in AIHW data set and associated Diagnosis Related Groups

			2000–01 Australian data		
Procedure	**Key DRGs**	**Separations for this procedure in these DRGs (%)**	**Admissions**	**Median waiting time (days)**	**All public separations as proportion of total separations**
Cataract extraction	C08Z	87%	35574	88	0.26
Cholecystectomy	H04A, H04B	96%	15466	41	0.50
Coronary artery bypass graft	F05A, F05B, F06A, F06B	94%	5985	16	0.49
Cystoscopy	L41Z, M40Z, Z40Z	88%	26892	28	0.34
Haemorrhoidectomy	G11A, G11B	97%	2896	40	0.42
Hysterectomy	N04Z	99%	10404	36	0.40
Inguinal herniorrhaphy	G09Z, G10Z	94%	13386	36	0.40
Myringoplasty	D09Z	98%	1392	98	0.39
Myringotomy	D13Z	86%	6486	32	0.39
Prostatectomy	M02A, M02B	91%	5272	29	0.37
Septoplasty	D06Z, D10Z	88%	3851	105	0.27
Tonsillectomy	D11Z	91%	11697	63	0.40
Total hip replacement	I03A, I03B, I03C	99%	5927	96	0.40
Total knee replacement	I04A, I04B	99%	7164	131	0.33
Varicose veins stripping & ligation	F20Z	99%	4126	73	0.34

The data set included data on 15 procedures for the six states. However, for privacy reasons, data on private hospital activity in the Northern Territory were suppressed in the AIHW publication and data for only six procedures performed in ACT hospitals were published.

Observations were not weighted for size of state in the principal analyses reported. The measures of waiting times and of public patient activity are independent of size of the state. Unlike waiting *list* measures that are related to the total number of separations, waiting *time* measures are not influenced by the number of separations. Separate analyses were performed on the two largest states and the three most frequently performed procedures, together accounting for 50% of procedures in the dataset, to verify that the results were not skewed by smaller states or procedures with aberrant observations. The data were analysed using SPSS version 11.5.

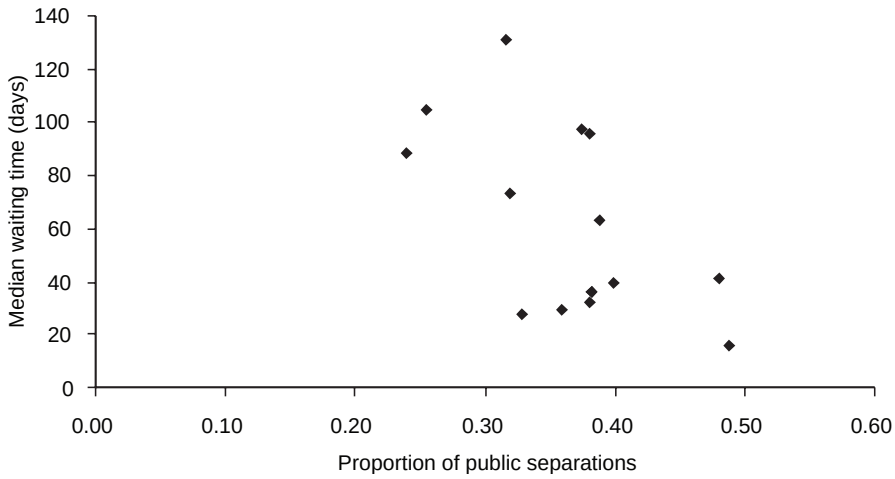
Results

Data from six states and the ACT for 15 procedures (6 in the ACT) give a potential 96 observations of the interaction between waiting time for a procedure and the extent of public activity. Box 2 shows descriptive statistics for the relevant variables. An outlier reporting a four year wait at the 90th percentile (myringoplasty in Tasmania) was removed from the relevant analyses.

2 Descriptive statistics for waiting time and public patient proportion

	Minimum	Maximum	Mean	SD
Median waiting time (days)	10	404	78.28	67.8
Waiting time at 90th percentile	45	1610	339.99	235.32
Proportion of patients waiting more than 12 months	0	0.57	0.1032	0.109
Public patients (all sources) as proportion of total patients	0.11	0.90	0.4013	0.117
Public patients in public hospitals as proportion of total patients	0.04	0.90	0.3652	0.124

3 Relationship between level of public activity and median waiting times by procedure, 2000–01



Box 3 shows the relationship between median waiting time and public patients separated from public hospitals as a proportion of total separations. It can be seen that larger proportions of patients being separated from public hospitals is associated with shorter waiting times, the reverse trend from the hypothesis that increased private sector activity is associated with reduced waiting times for public care.

The graphical representation is supported by bivariate regression analysis. Box 4 shows regression results for the three measures of waiting time and the two measures of public patient activity. It can be seen that using the data set of all 96 observations (state by

4 Correlation between proportion of activity in selected procedures in public hospitals and public patient waiting times, 2000–01

	Median waiting time		Days waited at 90th percentile		Proportion of patients waiting more than 12 months		
	r	2-tailed significance	*r*	2-tailed significance	*r*	2-tailed significance	*n*
State level selected procedures data							
Public separations from public hospitals as a proportion of total separations	–0.35	0.00	–0.42	0.00	–0.44	0.00	96
All public separations as a proportion of total separations	–0.19	0.07	–0.33	0.00	–0.32	0.00	96
Australian total data							
Public separations from public hospitals as a proportion of total separations	–0.59	0.02	–0.62	0.01	–0.65	0.00	15
All public separations as a proportion of total separations	–0.58	0.02	–0.62	0.01	–0.65	0.01	15

5 Relationship between waiting time and public patient activity (public patients separated from public hospitals as proportion of total separations), 2001–02

	Dependent variable		
	Median waiting time (days)	Waiting time at 90th percentile	Percent waiting more than 12 months
Public patient proportion	–172 (–3.7)	–626 (–4.4)	–0.32 (–4.1)
Tasmania	60 (3.8)	–	0.08 (3.2)
Queensland	–36 (–2.4)	–	–
Knee replacement	111 (5.4)	205 (3.1)	0.12 (3.3)
Hip replacement	–	205 (2.8)	–
Constant	126 (6.4)	519 (9.3)	0.19 (6.2)
Adjusted r^2	0.44	0.31	0.32

Table shows unstandardised B coefficient and *t* value in brackets. All *t* significant at < 0.05; F for each of the regressions significant at < 0.05

procedure), for each measure of waiting time and for both measures of public patient activity, there is a low to moderate negative correlation which in four cases is highly significant ($P<0.01$) with a further interaction significant at the 0.05 level.

Box 4 also shows results from analysis of the national position (Australian total data) for the 15 specialties. Again the table shows a moderate inverse relationship between waiting times and public patient separations for each of the different measures of waiting times and both measures of public patient proportion. The large state results showed a similar pattern (eg, median waiting time correlated with public patient proportion at –0.41; $P=0.024$) as did the analysis of the three most common procedures (using the same example r = –0.47; $P=0.023$).

Multivariate analysis confirms the bivariate findings. Stepwise multivariate regression analyses were undertaken, testing the association between each of the three waiting time measures and explanatory variables: the proportion of public patients and, as indicator variables, state/territory and two long waiting procedures (knee and hip replacement). The results are shown in Box 5.

The measure 'Public patients as a proportion of total patients' was entered into each of the multivariate models. Between 31% and 44% of the variation between states and procedures in waiting time was explained by the models. These quite simple models (including public patient proportion, states with high and low patterns of waiting, and one distinguishing type of procedure) are all significant on F-tests. Again, the models indicate that waiting times decline with increasing proportion of public activity: for example a 1% increase in the public patient proportion is associated with a 46-day reduction in median waiting time (constant of 126 days plus coefficient of public patient proportion of –172 days).

Conclusion

This study has confirmed the findings of previous overseas studies that suggest that increased private sector activity is associated with increased public sector waiting times, the reverse of the rhetoric supporting policies to increase support for the private sector in order to "take the burden off the public sector".

There are two limitations of this study derived from the nature of the available data. First, the waiting time data are reported on the basis of indicator procedures, and activity data on the basis of DRGs. The mapping process may have introduced some errors. Secondly, the analysis is of aggregate data at the state and territory level by procedure, and this exposes the study to the 'ecological fallacy', that the aggregations disguise considerable within-group variation. Unfortunately, finer aggregation of the data, such as intra-state regional data and more and more detailed procedural groupings, are not available.

Despite these limitations this study suggests that policymakers should be cautious about pursuing policies based on expanding private access as a strategy for achieving reductions in public sector waiting times. A stronger conclusion is not warranted, given the low degree of correlation shown in the bivariate results, and because, as this is a cross-sectional study, what is measured here is an association, not causation. Even if directionality and causation were proved, because this is a study of proportions of activity, the results could be driven by either public or private sector actions (eg, the public sector not providing sufficient services, causing a private market response versus private sector activity crowding out public activity). Despite these caveats, the indicative results suggest scepticism about conventional nostrums. It is also interesting to note that the correlations in the table show a stronger relationship between median waiting times and the tighter measure of public activity: public separations from public hospitals. Contracted activity thus appears to act more like private activity than public hospital activity, suggesting that private contracting for public patients may not be an efficient strategy for improving public sector waiting times.

Despite the rhetoric about the benefits of private health insurance in reducing public waiting times, these results should not be surprising. Similar results have been found internationally and, indeed, the Canadian Health Services Research Foundation has gone so far as to characterise the hypothesis that expansion of the private sector would reduce wait-

ing time as a myth.[22] Occam's razor* would also suggest that a simple proposition, that more public activity would reduce public waiting times, should be preferred over the complex, 'trickle down' hypothesis that more private activity will somehow flow through to benefits to those reliant on the public sector.

* the principle that, given many possible explanations, the simplest one is usually correct

Competing interests

None identified.

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