Some demographic issues affecting private health insurance

BRIAN HANNING

Brian Hanning is Medical Director of the Australian Health Service Alliance (AHSA), Camberwell, Victoria.

Abstract

There will be significant changes in the demography of persons with Private Health Insurance (PHI). Two methods of projecting PHI coverage are discussed in this paper. The first assumes the only factors affecting PHI coverage are demographic change and mortality, and facilitates comparisons between actual and projected PHI coverage. The second projects the percentage of the population insured in each five year age cohort, and makes allowance for changes in PHI coverage due to all factors. Demographic change will increase Registered Health Benefit Organization (RHBO) premiums by 1.7% per annum. The role of these projections in analysing the effect of future premium increases on PHI retention rates is also discussed.

Background

A November 2002 Australia Institute study suggested that the majority of those aged below 40 who had taken up PHI as result of government incentives have since dropped PHI (Lawson, 2002a). The Health Minister stated that these claims were incorrect as those who had joined between June and September 2000 were used as the denominator in the retention calculation, not the number who had joined over the entire period the incentives were in place (Lawson, 2002b). This inappropriately increased the percentage of those ceasing PHI. Similar statements were reported in the media in February 2003 when Private Health Administration Council (PHIAC) data to December 2002 was released (Schubert 2003).

How can member retention rates be accurately measured? What are the effects of demographic change on the number of people covered by PHI in each age cohorts? How does demographic change affect the benefits projected to be paid by RHBOs (Private Health Funds) and the analysis of price sensitivity of PHI uptake?

People covered by PHI 1997 to 2002

Table 1 indicates people covered by PHI in each five-year age cohort at the end of September for the last six years. September quarters have been used as peak coverage was reported in the September 2000 quarter. Those 85 years and over are combined into one cohort.

Table 1: People covered by PHI September quarters 1997 to 2002 (inclusive)

Age cohort	Sept 1997	Sept 1998	Sept 1999	Sept 2000	Sept 2001	Sept 2002
0-4	319,387	321,866	328,923	511,991	488,547	479,835
5-9	356,600	356,640	370,431	609,681	580,508	559,578
10-14	392,539	408,156	409,625	661,777	640,506	625,252
15-19	367,278	386,511	401,004	616,632	638,262	639,753
20-24	234,329	237,469	247,771	349,718	385,908	412,168
25-29	264,573	257,654	267,626	390,575	368,786	357,937
30-34	342,836	340,621	356,174	659,864	633,710	617,996
35-39	417,008	424,118	434,889	753,604	709,053	677,863
40-44	446,350	458,849	475,047	792,557	774,196	758,372
45-49	478,317	494,810	506,679	788,060	774,019	761,772
50-54	449,738	490,457	517,170	764,664	765,833	748,869
55-59	348,460	376,521	403,956	561,569	591,299	634,501
60-64	279,452	300,488	319,158	405,825	421,477	440,686
65-69	258,833	265,978	268,084	293,399	303,887	317,637
70-74	217,707	234,684	240,616	262,211	268,415	269,370
75-79	147,761	160,343	160,053	174,109	185,508	197,207
80-84	98,966	102,652	98,428	104,611	109,556	114,494
85+	74,737	80,923	83,884	90,426	3,461	95,643
Total	5,494,871	5,698,740	5,889,518	8,791,273	8,732,931	8,708,933

Source: www.phiac.gov.au Statistical Trends Membership and Benefits Australia

There was a large increase in people covered between September 1999 and September 2000 quarters – 3,092,533 (54.3%). Between September 2000 and September 2002 quarters there was a small decrease in the number of people covered – 82,340 (0.94%).

Changes in PHI coverage in the quarters September 1999 to December 2000 are outlined in Table 2. This illustrates the large increases in PHI coverage in the first three quarters of 2000. The number of people covered peaked in the September 2000 quarter even though the last date to avoid LHC premium loadings was 30th June 2000. The large numbers of new PHI applications at the end of June 2000 were often not processed until the first two weeks of July 2000 because of pressure on RHBO resources.

Table 2: People covered by PHI quarters ended September 1999 to December 2000 (inclusive)

Age cohort	Sept 1999	Dec 1999	March 2000	June 2000	Sept 2000	Dec 2000
0-4	328,923	330,532	341,338	482,926	511,991	500,627
5-9	370,431	373,118	385,960	560,157	609,681	597,930
10-14	409,625	412,369	424,792	606,729	661,777	653,533
15-19	401,004	406,965	418,664	562,788	616,632	621,828
20-24	247,771	254,868	265,367	330,830	349,718	357,907
25-29	267,626	271,940	287,538	381,465	390,575	378,688
30-34	356,174	362,207	383,673	599,336	659,864	648,340
35-39	434,889	439,431	455,496	687,650	753,604	739,486
40-44	475,047	480,340	497,058	726,584	792,557	785,171
45-49	506,679	511,876	526,439	732,119	788,060	780,344
50-54	517,170	526,270	541,181	716,016	764,664	767,040
55-59	403,956	412,886	425,594	533,419	561,569	566,427
60-64	319,158	325,491	332,965	391,887	405,825	411,324
65-69	268,084	270,478	272,167	292,856	293,399	296,013
70-74	240,616	244,125	247,514	262,294	262,211	265,183
75-79	160,053	162,810	165,205	174,146	174,109	176,527
80-84	98,428	98,982	99,686	104,326	104,611	106,058
85+	83,884	84,984	86,095	90,596	90,426	90,452
Total	5,889,518	5,969,672	6,156,732	8,236,124	8,791,273	8,742,878

Source: www.phiac.gov.au Statistical Trends Membership and Benefits Australia

The change in people covered between September 1999 and September 2000 differs markedly between age cohorts. The increase in the number covered in the 40-44 age cohort was 312,217 (65.0%) compared to 5,344 (5.4%) in the 80-84 age cohort.

Projecting PHI coverage

Method 1 – assumes no net cessation of coverage

Hereafter this is referred to as the first projection method. Table I illustrates there has been significant change in the number of people with PHI in many age cohorts between September 2000 and September 2002. Does this mean people in some age cohorts are increasingly relinquishing and others increasingly taking up PHI or is there another explanation?

Analysis of this issue should take into account the effects of demographic change and mortality in each age cohort. Ideally this would be done in one-year cohorts but PHIAC data is available only for five-year age cohorts. Males and females are projected separately given their different mortality rates particularly in older age cohorts. The mortality rates used are derived from the Australian Government Actuary Life Tables (Actuary 1999). The projections based on both sexes are added to derive an all people projection.

The general equation to calculate the future numbers in each five-year age cohort follows:

Number in cohort A in x years =
Number in cohort (A-1)*0.2x* cohort (A-1) mortality over x years + Number in cohort A *(1-0.2x)* cohort A mortality over x years

The equation is applied to both sexes in the five-year age cohort A, for x years in the future, assuming x is 5 or less.

Where:

- Number in cohort (A-1) equals the number of people covered in the preceding five-year age cohort in the base year.

- Number in cohort (A) equals the number of people covered in the five-year age cohort under consideration in the base year

- cohort (A-1) mortality over x years equals the proportion of people in the age cohort (A-1) projected to move into age cohort A over x years who survive x years

- cohort (A) mortality over x years equals the proportion of people in the age cohort (A) projected remain in age cohort A who survive x years

The equation assumes that within each five-year age cohort the number of people taking up or relinquishing PHI and the numbers within each one-year age group are equal. It also assumes that the mortality rate of those that remain in the same age cohort and those that move into the next age cohort is the average mortality rate of each group.

An example is the changes in the 35-39 age cohort over two years. 40% of this cohort move into the 40-44 age cohort, and 40% of the 30-34 age cohort moves into the 35-39 age cohort. These numbers will be reduced by the two year mortality rate. These are the mid-point two year mortality rates of those remaining and those moving into each age cohort. For those remaining in the 35-39 age cohort this is the two year mortality rate for those aged 36 in the base year. Similarly for those moving into the 35-39 age cohort it is the two year mortality rate those aged 33 in the base year.

These assumptions may not be valid for the very elderly because there are significant increases in mortality rates with increasing age. The 85+ age cohort requires special consideration as the reduction in the people covered in this cohort from the base year reflects mortality only.

A further confounding factor in relation to older age cohorts is changes in eligibility criteria for the Department of Veteran Affairs Gold Card since September 1998. The Gold Card entitles eligible people aged over 70 years to a wide range of benefits including the cost of care in many private hospitals and paying doctors fees significantly above Medical Benefit Schedule rates. These benefits are available regardless of whether the condition being treated is related to the period of service or not. (Source: www.dva.gov.au/health/vtec/treatmentcards). The change in eligibility criteria led to some people relinquishing PHI but this number is not easily quantified. Future changes to eligibility criteria remain possible.

The equation is not applied to the 0-4 age cohort because the birth numbers are the major influence on PHI coverage in this group. It is assumed for this age cohort that the percentage covered in the base year will also be the percentage covered in future years. The total people in this age cohort are based on ABS mid-range projections (ABS 2000). Projections of numbers with PHI coverage are made by multiplying the projected population by the percentage of the age cohort currently covered by PHI. This takes into account changing fertility rates.

The equation has been derived to cover changes over five years. Longer term projections become increasingly uncertain due possible changes in fertility rates, mortality rates, immigration policy and incentives to obtain and retain PHI. An equation can be derived that projects the number of people covered by PHI beyond five years other than for the very young but its value must be questioned in light of the uncertainties noted. The calculation is similar to that shown earlier. The effect of mortality on the number of people currently insured in an age cohort x years in the future is as follows:

*Number covered five-year age cohort A x years in future: Number in cohort A * cohort mortality over x years*

These people will be in two different age cohorts x years in the future unless x is a multiple of five. When x is divided by five, the quotient reflects the minimum number of five-year age cohorts that the survivors advance. The remainder reflects the proportion of the survivors that will advance into a further age cohort. As an example, in twelve years time 60% of the survivors from the current 30-34 age cohort will be in the 40-44 age cohort (those currently aged 30-32) and 40% will be in the 45-49 age cohort (those currently aged 33 and 34). The numbers in each future five-year age cohort will be made up of survivors from two current five-year age cohorts except where projections are made for periods that are multiples of five years.

Method 2 – assumes some nett cessation of coverage

In practice there is some cessation of PHI and an alternative method is needed to project the actual numbers insured. This second projection method uses linear regression analysis to make a projection of the percentage of people with PHI in each age cohort. This is based on quarterly PHIAC data from September 2000 to September 2002. Combining the projected percentage of the population covered by PHI with ABS mid-range population projections gives a projection of people covered. This method assumes there will not be major changes that impact on retention rates.

The first projection method assumes no nett loss of people covered by PHI and this is appropriate when projecting persons with PHI, assuming no PHI cessation. Combining these two projection methods provides a basis for deriving PHI retention rates.

Results

Two projections of people covered by PHI in September 2002 were made using the first projection method. One was based on September 1998 coverage and assumes measures that enhanced PHI coverage had never been implemented. The other was based on September 2000 PHI coverage following the implementation of the incentives to enhance PHI uptake. The difference in people in each five-year age cohort with PHI in September 2000 and September 2002 is calculated. Similarly the difference between the projected number of people with PHI in each five-year age cohort in September 2002, based on September 2000 coverage, and the actual number of people covered in September 2002 is calculated. The results are outlined are outlined in Table 3.

Table 3: Comparison Actual and Projected PHI coverage

Age cohort	People Covered Sept 1998	Projection to Sept 2002 based on Sept 1998 people covered	People covered Sept 2000	Projection to Sept 2002 based on Sept 2000 people covered	People covered Sept 2002	Difference People Actually Covered September 2000 and September 2002	Difference People Covered Sept 2002 and Projection to Sept 2002 based on Sept 2000
0-4	321,866	308,937	511,991	505,849	479,835	-32,156	-26,014
5-9	356,640	328,579	609,681	570,413	559,578	-50,103	-10,835
10-14	408,156	366,752	661,777	640,771	625,252	-36,525	-15,519
15-19	386,511	403,506	616,632	634,399	639,753	23,121	5,354
20-24	237,469	356,163	349,718	456,118	412,168	62,450	-43,950
25-29	257,654	241,139	390,575	373,947	357,937	-32,638	-16,010
30-34	340,621	273,727	659,864	551,612	617,996	-41,868	66,384
35-39	424,118	356,429	753,604	715,203	677,863	-75,741	-37,340
40-44	458,849	429,611	792,557	775,590	758,372	-34,185	-17,218
45-49	494,810	463,666	788,060	787,727	761,772	-26,288	-25,955
50-54	490,457	489,871	764,664	770,637	748,869	-15,795	-21,768
55-59	376,521	461,461	561,569	638,319	634,501	72,932	-3,818
60-64	300,488	353,673	405,825	462,908	440,686	34,861	-22,222
65-69	265,978	282,121	293,399	332,339	317,637	24,238	-14,702
70-74	234,684	245,211	262,211	266,463	269,370	7,159	2,907
75-79	160,343	199,456	174,109	198,885	197,207	23,098	-1,678
80-84	102,652	124,573	104,611	120,492	114,494	9,883	-5,998
85+	80,923	104,317	90,426	104,680	95,643	5,217	-9,036
Total	5,698,740	5,789,192	8,791,273	8,906,352	8,708,933	-82,340	-197,419

Source: www.phiac.gov.au Statistical Trends Membership and Benefits Australia

Table 4 also shows the people covered in September 2002 using the first projection method. Two projections have been made; one based on September 1998 PHI coverage, the other on September 2000 PHI coverage. The difference between these two results is the projected increase in people covered in September 2002 due to the 1998-9 incentives to take up PHI. The actual increase in PHI uptake is calculated by comparing the number of people covered in September 2002 to that projected based on September 1998 PHI uptake. The difference between the projected and actual increase in September 2002 PHI coverage is the basis for calculating the retention rate of those people who took up PHI as a result of the 1998-9 incentives.

The retention rate to September 2002 of people with PHI coverage in September 2000 is also calculated by comparing people insured in September 2002 to that projected to be insured in September 2002 based on September 2000 PHI uptake. The age cohorts from 75-79 onward are excluded because the Gold Card effect cannot be accurately quantified.

Table 4: People covered by PHI actual and projected

Age cohort	Projection to Sept 2002 based on Sept 1998 coverage	Projection to Sept 2002 based on Sept 2000 coverage	Projected increase people covered Sept 2002 due to PHI uptake incentives	Actual People covered Septemeber 2002	Difference people actually covered Sept 2002 and September 1998 projections	Retention rate Sept 2002 of people newly taking up PHI to Sept 2000	Retention rate Sept 2002 of all people covered in Sept 2000 actual vs. projected
0-4	308,937	505,849	196,912	479,835	170,898	86.8%	94.9%
5-9	328,579	570,413	241,834	559,578	230,999	95.5%	98.1%
10-14	366,752	640,771	274,019	625,252	258,500	94.3%	97.6%
15-19	403,506	634,399	230,893	639,753	236,247	102.3%	100.8%
20-24	356,163	456,118	99,956	412,168	56,005	56.0%	90.4%
25-29	241,139	373,947	132,808	357,937	116,798	87.9%	95.7%
30-34	273,727	551,612	277,885	617,996	344,269	123.9%	112.0%
35-39	356,429	715,203	358,775	677,863	321,434	89.6%	94.8%
40-44	429,611	775,590	345,979	758,372	328,761	95.0%	97.8%
45-49	463,666	787,727	324,061	761,772	298,106	92.0%	96.7%
50-54	489,871	770,637	280,765	748,869	258,998	92.2%	97.2%
55-59	461,461	638,319	176,858	634,501	173,040	97.8%	99.4%
60-64	353,673	462,908	109,234	440,686	87,013	79.7%	95.2%
65-69	282,121	332,339	50,218	317,637	35,516	70.7%	95.6%
70-74	245,211	266,463	21,252	269,370	24,159	113.7%	101.1%
75-79	199,456	198,885	-572	197,207	-2,249	N/A	N/A
80-84	124,573	120,492	-4,081	114,494	-10,079	N/A	N/A
85+	104,317	104,680	363	95,643	-8,674	N/A	N/A
Total	5,789,192	8,906,352	3,117,160	8,708,933	2,919,741		

Source: www.phiac.gov.au Statistical Trends Membership and Benefits Australia

Table 4 indicates the first projection method will overestimate actual PHI uptake because some people cease holding PHI. For this reason the second projection method is used to project the future numbers insured as it makes allowance for recent trends in cessation of PHI uptake.

Table 5 outlines people covered by five-year age cohort about the time conditions for issuing Gold Cards were liberalized in January 1999. There is an increase in all people covered between Dec 1998 and March 1999 for all five-year age cohorts other than the 70-74 and above cohorts.

Table 5: People covered by PHI quarters ended June 1998 to September 1999 (inclusive)

Age cohort	June 98	Sept 98	Dec 98	March 99	June 99	Sept 99
0-4	325,620	321,866	317,494	322,676	326,095	328,923
5-9	361,475	356,640	358,133	361,927	366,110	370,431
10-14	412,679	408,156	398,242	401,161	404,906	409,625
15-19	382,504	386,511	388,010	388,949	390,107	401,004
20-24	230,686	237,469	239,630	248,239	235,421	247,771
25-29	264,435	257,654	252,696	257,081	262,161	267,626
30-34	346,175	340,621	336,149	341,256	348,032	356,174
35-39	429,904	424,118	418,747	423,652	429,117	434,889
40-44	463,505	458,849	455,013	460,307	467,834	475,047
45-49	499,820	494,810	490,419	494,878	502,005	506,679
50-54	490,001	490,457	491,416	498,084	507,989	517,170
55-59	374,690	376,521	380,144	387,257	396,204	403,956
60-64	299,592	300,488	303,628	308,480	313,798	319,158
65-69	268,573	265,978	265,339	265,973	266,669	268,084
70-74	234,476	234,684	235,913	235,644	237,712	240,616
75-79	159,770	160,343	160,711	155,904	157,230	160,053
80-84	103,389	102,652	102,399	99,295	98,709	98,428
85+	80,677	80,923	81,538	81,873	82,862	83,884
Total	5,727,971	5,698,740	5,675,921	5,732,636	5,792,961	5,889,518

Source: www.phiac.gov.au Statistical Trends Membership and Benefits Australia

A projection of RHBO Hospital Tables cost changes due demographic change can be made using the second projection method. This uses the age/sex weighted September 2002 Hospital Table benefits paid per person (PHIAC 2002) as basis for standardizing benefit payments. Table 6 outlines people covered September 2000 and September 2002 and projects PHI coverage to September 2004 using the second projection method. The projected Hospital Table payments reflect quarterly benefits, and include payments to public and private hospitals, medical practitioners and for prostheses (PHIAC 2002).

Table 6: Comparison projected quarterly benefits paid under Hospital Tables using September 2002 sex weighted Hospital Table benefits paid per person covered as a standard

Age Cohort	People covered Sept 2000	People covered Sept 2002	Projected People covered Sept 2004	Hospital Table benefit per person covered Sept 2002 quarter	Projected Hospital Table benefits - Sept 2000 coverage	Actual Hospital Table Benefits Sept 2002	Projected Hospital Table benefits- projected Sept 2004 coverage
0-4	511,991	479,835	454,355	$63.14	$32,326,360	$30,296,077	$28,687,295
5-9	609,681	559,578	508,688	$13.70	$8,350,837	$7,664,573	$6,967,530
10-14	661,777	625,252	586,891	$14.43	$9,549,599	$9,022,535	$8,468,984
15-19	616,632	639,753	664,393	$32.98	$20,337,468	$21,100,034	$21,912,701
20-24	349,718	412,168	479,913	$54.45	$19,042,835	$22,443,361	$26,132,210
25-29	390,575	357,937	337,646	$108.85	$42,514,408	$38,961,735	$36,752,996
30-34	659,864	617,996	554,903	$121.78	$80,358,100	$75,259,424	$67,575,936
35-39	753,604	677,863	619,957	$93.09	$70,154,166	$63,103,319	$57,712,752
40-44	792,557	758,372	710,142	$78.59	$62,286,136	$59,599,576	$55,809,224
45-49	788,060	761,772	731,995	$91.52	$72,120,890	$69,715,091	$66,989,950
50-54	764,664	748,869	735,374	$120.06	$91,802,101	$89,905,825	$88,285,702
55-59	561,569	634,501	698,321	$162.73	$91,384,238	$103,252,477	$113,637,944
60-64	405,825	440,686	488,110	$234.22	$95,053,293	$103,218,519	$114,326,389
65-69	293,399	317,637	353,473	$335.32	$98,383,919	$106,511,518	$118,528,082
70-74	262,211	269,370	274,779	$464.75	$121,861,458	$125,188,573	$127,702,568
75-79	174,109	197,207	220,547	$569.54	$99,161,410	$112,316,561	$125,609,676
80-84	104,611	114,494	123,258	$688.53	$72,028,188	$78,832,966	$84,867,123
85+	90,426	95,643	100,699	$839.14	$75,880,277	$80,258,082	$84,500,471
Total	8,791,273	8,708,933	8,643,444		$1,162,595,683	$1,196,650,246	$1,234,467,535

Sources: www.phiac.gov.au - Statistical Trends Membership and Benefits Australia and PHIAC A report September 2002 All States Combined

Discussion

What is the retention rate of PHI?

Retention rate refers to PHI coverage at the end of a time period (here September 2002) compared to that projected using the first projection method. These are not necessarily the same people as some individuals take up and others relinquish PHI. Table 4's results suggest there is a 94.2% retention rate of new members excluding those aged 75+. Similarly Table 3's results suggest an overall retention rate of 97.9% again excluding those 75+.

Table 3 also compares the change in people covered in each five-year age cohort between September 2000 and September 2002 with and without demographic adjustment using the first projection method. The number of people covered in the 20-24 age cohort has risen by 62,450 but this is without considering demographic factors. When demographic change is considered there is a fall of 43,950 compared to that projected. Similarly in the 30-34 age cohort the number of people covered by PHI has fallen by 32,639. When demographic change is considered the number rises by 66,384 compared to that projected.

Accurate calculation of retention rates by age cohort requires the number of people covered to be compared to the coverage projected, using the first projection method to incorporating demographic and mortality effects. The difference between the two provides a measure of retention rates. Comparing actual numbers covered between two periods does not give an appropriate measure of retention rates due to demographic and mortality factors.

How large is the Gold Card effect?

This refers to the number of people who relinquished PHI due to liberalised Gold Card eligibility. Table 5 indicates the number of people with PHI in the 70+ age cohorts fell by 7,835 between December 1998 and March 1999. This suggests over 7,800 people ceased PHI coverage due to the Gold Card effect. The actual number may be higher if some people in these age cohorts not eligible for a Gold Card took up PHI for the first time in this period. This may mask the extent to which people relinquished PHI due to becoming eligible for a Gold Card.

Does the retention rate vary with age cohort?

Table 4 shows that there are marked differences in retention rate between age cohorts. The rate is lowest in the 20-24 age cohort. This is predictable as it is a time of low medical need, and many non-students ceasing to be covered under family tables at age 21 decline to pay PHI from their own resources. The retention rate is highest in the 30-34 age cohort. This is also predictable given that people must take up PHI by age 30 to avoid LHC premium loadings.

What was the retention rate of those under 40 years new to PHI?

From Table 4, the projected increase to September 2002 in people covered aged under 40 due to the incentives to take up PHI was 1,812,363. The actual increase was 1,735,152 or 95.7% of that projected. It is difficult to justify the headline 'Newly insured desert private health funds in droves' when the retention rate is nearly 96% (Lawson, 2002a).

What are the implications of Demographic Change for future RHBO costs?

Table 6 outlines people covered by PHI by age cohort in September 2000 and September 2002. It projects the people covered in September 2004 using the second projection method. The September 2002 sex-weighted average Hospital Table benefits per person in each five-year age cohort are used to standardize benefit payments. These are combined with changes in people covered and demography to project Hospital Table benefits. The benefits paid in 2002 are 2.93% higher than in 2000 and those in 2004 are projected to be 3.16% higher than in 2002 despite a small reduction in the projected total people covered. The benefits paid per Single Equivalent Unit (SEU) increase by 3.4% between 2000 and 2002 and 3.5% between 2002 and 2004. Hospital Table benefits per SEU are the major determinant of Hospital Table premiums.

These results indicate demographic factors will increase Hospital Table premiums by about 1.7% per annum in the near future. They take no account of other factors increasing fund costs such as age standardised utilization increases and increased provider charges. They illustrate the challenge RHBOs face in holding down premium increases.

This calculation is not a substitute for more detailed private sector demand projections previously undertaken (Hanning 2001). These enable additional factors such as DRG standardised utilization changes and charge increases to be considered.

Is PHI uptake still Price Sensitive?

It has been argued that the introduction of LHC was largely responsible for the increase in uptake (Butler 2002, Deeble 2003). Others have argued that it is was the combined effect of the 30% tax rebate and LHC that led to the large increase in uptake (Schneider 2002, Hanning 2002). Access Economics is also of the view that price is a crucial factor in the uptake of PHI and has correlated PHI uptake and its affordability (Access 2002).

The latter views are consistent with the results of research by TQA Research which conducts regular surveys of consumer attitudes to PHI. It has 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' (Buffini, 2002). The TQA statement may be more accurate if reformulated as 'for every 1% increase in the price of private health insurance above CPI, a corresponding proportion of consumers are "very likely" to drop their private health

cover'. This is also consistent with unpublished TQA research conducted in the 1990s that suggested that the cost was the reason the majority of people dropped PHI. It is not clear how widely the results of this research are known. Unfortunately there is no detail available to provide information on whether price sensitivity varies between age cohorts.

These findings are also consistent with the most recent ABS Health Insurance Study undertaken in 1998. Table 13 in this Study states 66% of those surveyed stated that a major reason for not having PHI was "Can't afford it/too expensive". It was also a major reason 69% of the study subgroup who had relinquished PHI within the last two years had done so (ABS 1999). It is now six years since this study was performed and a repeat survey would provide information of considerable interest given the major changes to PHI in recent years.

If the reformulated TQA statement is correct, there will be a substantial reduction in PHI following any future removal of the 30% rebate. Removing the 30% rebate would lead to an immediate 42% nett premium increase and corresponding reduction in PHI uptake. There may well be a "second round" increase if PHI cessation occurs predominantly among those with histories of relatively low claims. This is plausible given that this occurred during the period of reduction in PHI coverage in the 1990s. The average cost of claims per remaining person covered would increase markedly and would lead to further premium increases. A vicious circle of increasing premiums and decreasing PHI uptake would be established.

Measuring the effect of premium increases on PHI coverage requires an accurate projection of people covered that takes into account demographic and mortality factors so that changes in people covered due to these two effects can be distinguished from changes due to premium increases. The first projection method provides a means of doing this. If the number of people anticipated to retain PHI is not accurately projected, based on current coverage, analysis of the effect of premium increases on PHI coverage may be flawed.

Using the first projection method the actual September 2002 coverage is compared to that projected from September 2000. The reduction in people covered by PHI is 2.2% as noted in Table 3. There is a decrease of 0.9% when those covered in September 2002 is compared to those covered in September 2000.

The compound CPI increase from September 2000 to September 2002 was 5.8% (ABS 2002). The premium increases over the two years from September 2000 to September 2002 were the 7% average from April 2002 given that there were no increases in 2001 (Lewis and Mellish 2002). There was significant variation in rate increases between funds and some other measures effectively raised the increase above 7%. Examples include the removal of discounts for electronic payments and increased co-payments under some tables.

For these reasons it is suggested that the decrease in people insured after appropriate demographic adjustment and the increase in premiums above CPI for the period September 2000 to September 2002 are consistent with the reformulated TQA statement. While further data is necessary to test the statement more fully, the relationship remains plausible despite the introduction of LHC. It is consistent with the TQA view that PHI uptake retains significant price sensitivity despite the introduction of LHC.

Conclusion

Analysing PHI coverage without considering demographic factors may well result in sub-optimal analysis in relation to the retention rate of people covered both in general and as a result of premium increases. It may also prevent full recognition of the effects of demographic changes on projected RHBO payments.

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