



Institute of Actuaries of Australia

**What is the Appropriate Price for a
Community Rated Product?**
A Case Study of Private Health Insurance in
Australia

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What is the Appropriate Price for a Community Rated Product?

ABSTRACT

Traditional actuarial techniques suggest that the premium charged for a product is largely based on the expected benefit payments under the terms of the policy. Hence, an insurance premium is underpinned by an analysis of the likely benefits payable.

However, in a community rated environment, the information available to assess the expected benefit payments of a policyholder is limited and the available data is legislatively prohibited from being used to affect the premium. The result is that the premium charged does not have a direct link to the expected benefit payments of a specific policy.

In practice, benefits are often assessed on a group or product level and the price charged is based on previous benefits paid per person (or *drawing rates*) to achieve a particular margin or return on capital going forward.

As drawing rates reflect the usage of medical services by the persons on the product, they can be affected by a number of factors. This paper discusses some of the factors that can affect drawing rates as well as other matters that are useful to consider in determining the appropriate price for a community rated private health insurance product in Australia. In the absence of considering these factors, there is an increased risk that the price may become inappropriate.

Keywords: pricing; profitability; community rated; health insurance; experience analysis; drawing rates; benefits; benefit growth.

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PREFACE: A NARRATIVE BACKGROUND TO THIS PAPER

I suspect that like many people with an actuarial background, when I became involved in private health insurance (PHI) I was perplexed as to how a community rated product could be viable. The fact that a 30-year old and an 80-year old, with completely different expected claiming patterns, were charged the same premium is contrary to standard insurance principles.

This implies that some policies are loss-making and are subsidised by others that are profitable. While this principle is fairly common in insurance, the difference in health insurance is that the loss-making policies are broadly identifiable – they are generally those of people who are older or of poorer health.

As the claiming pattern in PHI is largely determined by age, my initial thoughts were that it may be similar to life insurance. The lifetime health cover loading (LHC) scale, which bases premiums on age at entry, also has some similarities to a life insurance style pricing approach. However, with risk equalisation arrangements, portability and a lack of policy reserves to cover future claims, a life insurance type of approach did not seem practicable.

I then considered whether the industry was perhaps more like general insurance (GI). The cash flows of PHI are similar to short tail GI, and GI techniques could be used on historical experience to determine the risk profile of those covered. Higher risk groups would incur more claims, which could then be priced accordingly. While the effects of ageing may not necessarily be evident from experience, this could be specifically incorporated.

However, there are limitations to this approach where a product has limited experience or there has been a significant change to the group of persons covered. The experience available is based on the existing membership and may not be appropriate for a revised group.

It seemed that employing the pricing techniques used in life or general insurance would not necessarily capture the characteristics of a community rated health insurance product.

This then leads to the question of how a community rated PHI product is priced. Given that pricing is often considered the key risk in PHI and that the prices of distressed insurers are frequently referred to as inappropriate, this raises the question of what the appropriate price for a PHI product is. Specifically, what can change in the operations of an insurer for the price of a product to become inappropriate?

This paper is a discussion of this question.

Please note that the views expressed in this paper are those of the author and do not necessarily reflect the views of the institutions with which the author is affiliated.

What is the Appropriate Price for a Community Rated Product?

1. INTRODUCTION

This paper is a theoretical and conceptual discussion of the factors that affect the appropriate price of a community rated private health insurance (PHI) product in Australia. The discussion is approached from a first principles basis by focusing on the main driver in pricing a product – the benefit payments to policyholders and why they are affected. Given the breadth of the subject, this paper does not attempt to quantify the effects of the matters discussed or discuss all of the factors that can influence prices.

The early sections of this paper are dedicated to providing a background to PHI in Australia. Initially, the nature and advantages of a community rated system are discussed, along with some recent experience in the United States that has prompted a move to a more community rated health insurance system. This is followed by a description of the governing legislation in Australia and a brief outline of the health system in operation, notably the interaction of the private and public facilities.

While the early sections may be useful in understanding PHI in Australia, the commentary will be common knowledge for industry practitioners and is not necessary reading for the substance of this paper.

The commentary moves on to set the scene for the rest of the paper by defining both a *product* and an *appropriate price* and discussing the factors that affect a person's health. The paper describes the impact of community rating and how pricing operates in practice. This practice appears to encourage insurers to offer similar products at significantly different prices and leads again to the question, "What is the appropriate price"?

Drawing on reports from the Australian Institute of Health and Welfare (AIHW) and the Treasury, the body of this paper discusses drawing rates, how they are affected and other considerations used in determining an appropriate price.

Finally, the paper discusses the implications of different prices and outlines some areas that may be useful to monitor and consider in strategic planning.

This paper covers material similar to Gale (2005) *What Price Health? Private Health Insurance cost pressures and product pricing*, which is therefore a valuable reference.

On a minor note, the term *private health insurer* (or *insurer*) is used throughout this paper when referring to a *health benefits fund*. While there are important differences between these terms, this terminology has been chosen to make the paper more easily understandable to those less familiar with PHI.

The focus of this paper is on hospital products. However, general treatment (ancillary or extras) products are touched on and, in the author's view, a number of the principles discussed may apply.

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2. BACKGROUND

The following is a brief description of some of the governing legislation and characteristics of PHI in Australia.

This is not a comprehensive assessment of existing legislation, nor is it a substitute for legal advice or a detailed assessment of the *Private Health Insurance Act, 2007* (PHI Act) or other relevant legislation.

2.1. A Community Rated Product

A community rated product essentially treats every member of the community exactly the same, regardless of their personal circumstances. In an insurance sense, every person will be charged exactly the same premium whether they are old or young, sick or healthy, likely to claim or not. Therefore, it can be argued that a premium charged is not necessarily proportional to, or dependent on, a policy's expected benefit payments.

On the face of it, community rating is counter-intuitive to standard insurance principles. Yet a number of community rated products operate successfully in society. Gale (2007) identifies a number of these products, including:

- Club membership
- Car registration
- Roadside assistance services
- Buffet restaurants
- Airline lounges
- Gym membership
- Public transport fares (within zones).

Compulsory third party (CTP) insurance is an example of another community rated insurance product in Australia. While there are similarities, there are also key differences between CTP and PHI, including:

- As the name suggests, CTP is compulsory, whereas PHI is voluntary
- CTP has one level of coverage, PHI has numerous levels
- There is a safety net for those without PHI, through *Medicare*.

2.2. Advantages of a Community Rated System

A PHI system that charges prices purely on the basis of risk and the expected benefit payments of an individual can result in outcomes that are not socially acceptable. While PHI is now dominated by for-profit insurers, the scope for purely commercial decisions is often restricted by the Government's social policy objectives. Some commentators suggest that there are material aspects of social insurance in PHI in Australia.

President Obama's Health Care speech of 9 September 2009 to a joint session of Congress detailed some practices that have resulted from the United States' risk-based health insurance system.

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“More and more Americans pay their premiums, only to discover that their insurance company has dropped their coverage when they get sick, or won't pay the full cost of care. It happens every day. One man from Illinois lost his coverage in the middle of chemotherapy because his insurer found that he hadn't reported gallstones that he didn't even know about. They delayed his treatment, and he died because of it. Another woman from Texas was about to get a double mastectomy when her insurance company canceled her policy because she forgot to declare a case of acne. By the time she had her insurance reinstated, her breast cancer had more than doubled in size. That is heart-breaking, it is wrong, and no one should be treated that way in the United States of America.”

Quoting a former insurance executive, The President went on to say “...insurance companies are not only encouraged to find reasons to drop the seriously ill; they are rewarded for it.”

The health care system a country pursues is a matter of social policy and is often determined by the views of the country's electorate. Where a country's social policy includes objectives for PHI to be affordable for those who need it most (for instance, persons of poorer health with a low income) and to avoid the situations outlined above, a community rated system may be appropriate.

However, actuarially speaking, a community rated system does present some challenges. Gale (2007) describes it as “... community rating restrictions mean that funds cannot... price premiums at actuarially fair prices”.

2.3. Legislation

Community rating is primarily outlined in section 55 (2) of the PHI Act, which prohibits improper discrimination. Improper discrimination is defined as follows:

- (2) **Improper discrimination** is discrimination that relates to:
- (a) the suffering by a person from a chronic disease, illness or other medical condition or from a disease, illness or medical condition of a particular kind; or
 - (b) the gender, race, sexual orientation or religious belief of a person; or
 - (c) the age of a person, except to the extent allowed under Part 2-3 (lifetime health cover) or subsection 63-5(4); or
 - (d) where a person lives, except to the extent allowed under subsection 66-10(2) or section 66-20; or
 - (e) any other characteristic of a person (including but not just matters such as occupation or leisure pursuits) that is likely to result in an increased need for *hospital treatment or *general treatment; or
 - (f) the frequency with which a person needs hospital treatment or general treatment; or
 - (g) the amount or extent of the benefits to which a person becomes entitled during a period under a *complying health insurance policy, except to the extent allowed under section 66-15; or
 - (h) any matter set out in the Private Health Insurance (Complying Product) Rules for the purposes of this paragraph.

This relates only to ‘improper discrimination’. However, there are forms of discrimination that are not ‘improper’, including discrimination by:

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- Category of policy; for example, single, couple, single parent and family policies
- Level of coverage provided or product
- State or territory of residence.

2.4. Regulation of Prices

In PHI, the prices of products are heavily regulated. For an insurer to change the prices charged, the changes must be approved by the Minister for Health and Ageing. The general convention is that this process occurs once a year, with applications submitted to the Minister in mid-November and increases taking effect from 1 April the following year.

The method used by the Minister to determine whether or not to approve a premium increase is detailed in *Outcome 9* of the 2010-11 Portfolio Budget Statements for the Department of Health and Ageing.

“In 2010-11, the Australian Government will continue to scrutinise applications from insurers to increase premiums so that increases are kept to the minimum necessary whilst maintaining insurer solvency requirements, supporting insurer benefit payments, ensuring insurers meet prudential requirements and ensuring the affordability and value of private health insurance as a product.”

It is worth noting that PHI is also heavily subsidised by the Federal Government. Policyholders receive a rebate of 30% of the total premium. This rebate increases to 35% and 40% for those aged over 65 and 70 respectively. Thus, a policyholder only pays 70% (or less) of the actual price. In practice, over 30% of each insurer's premium revenue comes directly from the Federal Government.

2.5. Other Legislative Characteristics

Waiting Periods

The PHI Act states that the maximum waiting period applicable to any person is 12 months. This includes benefits associated with obstetrics and pre-existing conditions, and does not have regard for the person's age. For most other types of treatment the waiting period is two months.

Portability

Under the PHI Act, any policyholder is entitled to transfer between insurers at any time without disadvantage. There is no waiting period that has to be served and the person can begin to claim immediately, provided that at the previous insurer the person was on a similar product and that the waiting periods were served.

Risk Equalisation Trust Fund – Age Based Pool

To support community rating, PHI is underpinned by a risk equalisation trust fund (risk equalisation). Risk equalisation seeks to equalise the costs of older and higher claiming members. Effectively, risk equalisation shares the claims attributed to older persons throughout the industry, so that insurers with an older demographic are not priced out of the market and the market does not become unstable.

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Insurers with a younger and/or healthier membership effectively provide payments to (or subsidise) insurers that have predominantly older members.

The proportion of claims eligible for the risk equalisation pool is based on the age of the claimant as outlined below.

Age cohorts	
Age	% of eligible benefits included in pool
0-54	0.0%
55-59	15%
60-64	42.5%
65-69	60%
70-74	70%
75-79	76%
80-84	78%
85+	82%

The benefits eligible for the pool are divided among all the adults (broadly) or single equivalent units (SEUs) in the state or territory. Insurers with SEUs who claimed less than the average amount (the calculated deficit) will pay into the pool; insurers with SEUs who claimed more than the average will receive funds from the pool. Transfers are calculated every quarter.

Risk Equalisation Trust Fund – High Cost Claims Pool

The other component of risk equalisation is the high cost claims pool. This pool seeks to recognise that large claims are not just limited to the elderly and aims to equalise the costs of high claiming members that are not eligible for the age-based pool.

This is calculated in a similar fashion to the age-based pool. The costs of persons who claim a large amount over a 12-month period are shared across all insurers. At the time of writing, that amount was \$50,000 above the claims eligible to the age-based pool.

Lifetime Health Cover

Lifetime Health Cover (LHC) is an incentive designed to encourage people to take out PHI earlier in life. It increases the premium payable for those who purchase a policy after age 30, at a rate of 2% per year. The older the person when they first purchase a policy (age of entry), the higher the total premium payable. For example, a person with an age of entry of 40 will pay a premium 20% above the base rate and a person with an age of entry of 50 will pay a premium 40% above the base rate.

LHC is capped at 70%, so persons with an age of entry of 65 or 70 would pay the same premium.

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A point of note is that LHC is only payable for 10 years. After this time, the loading is removed and the person will pay the base premium.

LHC is only applicable to hospital products and does not differentiate by level of cover. A person can purchase the cheapest policy available at age 30, upgrade to a comprehensive policy at age 65 and not incur a loading. Similarly, a person first purchasing a general treatment policy at age 65 will not incur a loading.

Medicare Levy Surcharge

The Medicare levy surcharge (MLS) is another incentive designed to encourage people to purchase PHI. It subjects those persons without PHI to an additional tax of 1% of their annual income, should they earn above a certain threshold. In practice, it may be better described as a penalty on those who do not purchase a policy.

The threshold was recently changed from a constant \$50,000 prior to 2008 to \$70,000 in FY09 for singles (and twice that for couples). The change also included indexing the threshold to changes in average weekly earnings.

Those who earn exactly \$73,000 p.a. (the threshold in FY10) would be subject to paying an extra \$730 p.a. in tax, should they not have coverage. The cheapest hospital product in Victoria, one of the more expensive states, is around \$480 p.a. after the rebate. So in this situation, a person saves around \$250 p.a. by purchasing PHI.

It could be argued that due to the MLS, purchasing a policy is not necessarily voluntary, at least for those who earn above the threshold, as a person who does not have a policy is financially disadvantaged.

It should be noted that similar to the LHC, the MLS only applies to hospital policies and it does not refer to the level of coverage purchased.

There is no additional tax payable for not purchasing a general treatment policy.

2.6. Health in Australia

Broadly, there is a two-tier health system operating in Australia – the public and private. The public system provides care to all Australians, both in the form of emergency care and elective surgery. However, often services are not sufficient to meet demand, therefore, patients are triaged and waiting times for elective surgery can be lengthy.

Private health facilities operate in addition to the public health system and provide services such as private rooms, choice of doctor, choice of hospital and reduced or no waiting times.

For those who seek treatment in private hospitals, the Federal Government will cover 75% of the amount deemed reasonable for a pre-set suite of services. Specifically, this relates to the procedures and benefits outlined in the medical benefits schedule (MBS).

Private health insurers then cover all of the accommodation costs (depending on the policy) and up to 100% of the difference between the amount charged by the specialists and the proportion covered by the Federal Government. The amount ultimately paid by an insurer is often pre-agreed in negotiated hospital contracts.

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The Federal Government also mandates the amount insurers must pay for prosthetics. The Department of Health and Ageing's website gives the following description of its *Prostheses List*:

“Under the Private Health Insurance Act 2007, private health insurers are required to pay mandatory benefits for a range of prostheses that are provided as part of an episode of hospital treatment (or hospital substitute treatment) where a Medicare benefit is payable for the associated professional service (surgery).”

3. DEFINING A PRODUCT AND AN APPROPRIATE PRICE

3.1. Product

For the purpose of this paper, a *product* is defined to include all of the various membership categories offered for a particular product, for example, single, couple, family and single parent.

However, the same product offered in a different state or territory is considered to be a different product.

While discussing the appropriate price for a product, it is important to note that the relativities within a product group are also worth consideration, for example, the relationship between the prices for a single, couple, family or single parent product.

3.2. Appropriate Price

There are a number of considerations in defining a product's *appropriate price*, including the insurer's objectives, risk appetite, costs and commercial considerations.

However, for the purpose of this paper, the appropriate price will be defined as one which:

- Does not lose money or produce a negative return
- Achieves a consistent level of financial performance over time, performance being defined as the gross or net margin. The actual level of performance is immaterial for the purpose of this paper.

Essentially, the premium revenue received for a product should be greater than or equal to the resulting benefits paid and administration expenses.

4. HEALTH RISK FACTORS AND IMPACT OF COMMUNITY RATING

4.1. Risk Factors

In PHI the majority of benefits are for medical services, therefore the main costs for an insurer stem from a person's health being of a state to warrant medical attention. Therefore, it is worth noting the factors that determine a person's health and the effect on his or her utilisation of medical services.

In a risk rated PHI environment, a person's likelihood of using medical services and making a claim may be incorporated into the premium payable.

The Australian Institute of Health and Welfare (AIHW) biennial health report of 2010, *Australia's Health 2010*, includes a conceptual framework for the determinants of health.

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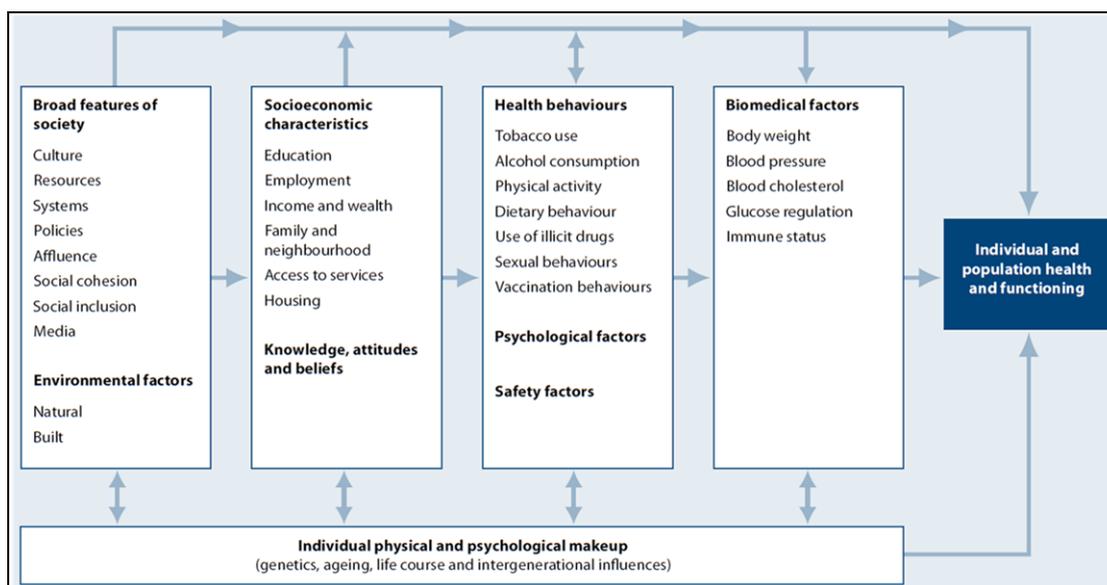


Figure 1: A conceptual framework for determinants of health – AIHW
(Figure 3.1 in *Australia's Health 2010*)

According to the AIHW, each of these factors affects the health of an individual. By extension, each of these factors would be expected to affect a person's utilisation of medical services and ultimately the costs that arise. The AIHW also considers the determinants listed under 'Biomedical factors' and 'Health behaviours' as formal risk factors.

The relationship between some of these determinants and selected chronic diseases is also noted in *Australia's Health 2010*.

Risk factor	Condition							
	Arthritis	Asthma	COPD	Coronary heart disease ^(a)	Depression	Type 2 diabetes	Osteoporosis	Stroke
Behavioural								
Tobacco smoking	✓ ^(b)	✓	✓	✓			✓	✓
Physical inactivity	✓ ^(c)			✓	✓	✓	✓	✓
Alcohol misuse				✓	✓	✓	✓	✓
Poor nutrition				✓		✓	✓	✓
Biomedical								
Obesity	✓ ^(c)			✓	✓	✓		✓
High blood pressure				✓				✓
High blood cholesterol				✓				✓

COPD Chronic obstructive pulmonary disease.
 (a) Also known as Ischaemic heart disease.
 (b) Relates to rheumatoid arthritis.
 (c) Relates to osteoarthritis.

Figure 2: Relationship between selected chronic diseases and risk factors – AIHW
(Table 3.1 in *Australia's Health 2010*)

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Australia's Health 2010 states that a person with five or more chronic diseases is expected to obtain medical checkups around three to four times more frequently than those with zero or one chronic disease (Figure 2.13). The report also states that 32% of total allocatable health costs are attributed to treating the four most prevalent chronic diseases (Table 8.12).

Therefore, a person's determinants of health would be expected to affect their utilisation of health services and their claiming pattern.

4.2. Impact of Community Rating

The following figure provides examples of situations where health risks and expected costs vary but community rating rules require the same premium to be charged.

Group 1	Group 2
A 30-year old male (expected claims \$234pa)	An 85-year old male (expected claims \$4,477pa)
A 30-year old man (expected claims \$234pa)	A 30-year old woman (expected claims \$1,051pa). Note: these gender trends reverse in later years.
A 60-year old in perfect health	A 60-year old with several chronic diseases
A family with one child	A family with 15 children
A 30-year old who exercises regularly, eats well and is in good physical condition.	A 30-year old who is a smoker, is morbidly obese and has a poor diet.
A family living in Broken Hill, NSW (around 1,200km from Sydney, closest private hospital Mildura, 300km)	A family living in Sydney, NSW, with 43 private hospitals listed within 100km.
An individual who has been with the insurer for 20 years and has never claimed.	An individual who transferred yesterday and is about to undergo a knee and hip reconstruction.
A 65-year old woman who first purchased a policy 40 years ago.	A 65-year old woman who first purchased a policy 10 years ago.

Figure 3: Comparison of persons and policies provided with the same coverage and paying the same premium

5. PRICING IN PRACTICE – HOW DOES IT WORK?

Traditional insurance techniques outline that the technical premium for a product is based on the expected benefits, expenses, profit and investment income. Mathematically:

$$Premium = E(benefits) + E(expenses) + profit - E(investment revenue)$$

The primary driver of an insurance premium is generally the value of benefits that are expected to be paid. Therefore, the premium is largely determined by the expected claims that will result from the policy.

This raises the question of how the future benefit payments are calculated, when most of the information regarding that person's health is not known and the information that is available (such as age and gender), is legislatively prohibited from affecting the premium.

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An approach that can be used is to assess the recent experience of all persons on the product. The trends in historical claiming patterns can be forecast and used as a basis for projecting future benefits. An appropriate price can then be calculated to achieve the desired level of performance.

This approach has the advantage of automatically incorporating the health status of the persons covered by the product. It would be expected that a group of persons of poorer health would have utilised more health services and have higher historical benefit payments. Therefore, recent experience could be considered a proxy for the 'risk' of the persons covered and thus be a reflection of the group's future claiming pattern.

In applying such an approach, it would be expected that each product's price reflects the underlying claiming pattern of the persons covered, achieves a given level of performance and appears sustainable. However, as the claiming patterns of different groups of persons are unlikely to be identical, this approach may lead to insurers charging different premiums for the same product.

The Private Health Insurance Ombudsman's (Ombudsman) website, www.privatehealth.gov.au, includes details of every product from every insurer. This website also allows for a comparison of products the Ombudsman considers similar. A comparison of comprehensive hospital treatment products with no excess in NSW, gives the following results.

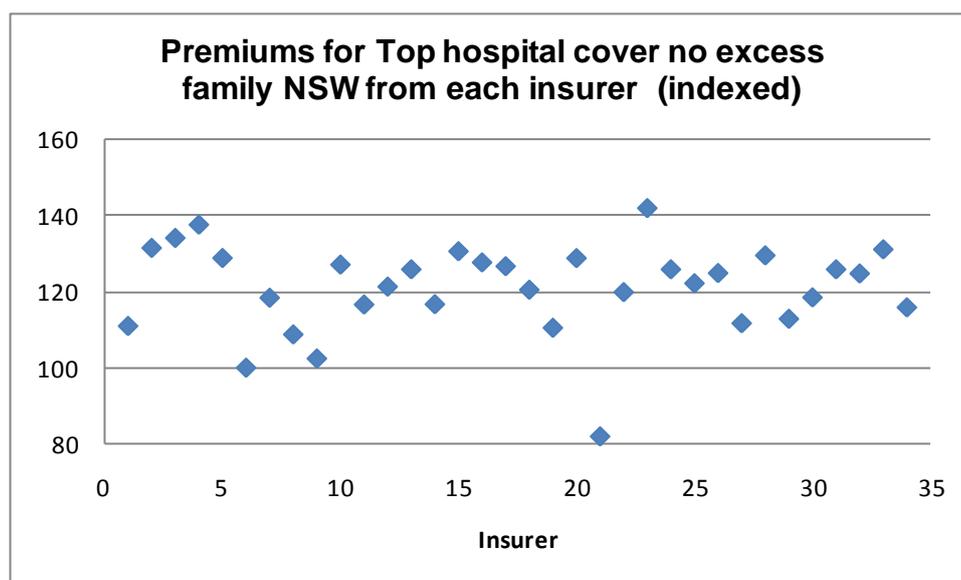


Figure 4: Premiums for Top Hospital cover no excess family from each insurer – indexed – Ombudsman

Figure 4 indicates that the difference in price between insurer 21 and 23 can be up to 73%. The lowest priced product (insurer 21) appears to be an outlier, so the second cheapest product was used as the basis for the index. Using the second cheapest product, the difference in prices for products that the Ombudsman considers to be comparable can be up to 42%.

5.1. Comparison of Products between Insurers

Figure 4 outlines the prices for products that are comparable. As the products are comparable, rather than identical, absolute comparisons should take these differences into account.

What is the Appropriate Price for a Community Rated Product?

Besides differences in benefit coverage levels, there are a number of other factors that would be expected to result in prices not being the same, including differences in:

- Claims management processes
 - Fraud prevention
 - Claims leakage
 - Hospital contracting
 - Broader Health Cover and Chronic Disease Management Programs
- Service levels provided
- Expenses
- Profit margins
- Strategies.

While these differences do not negate a comparison between insurers for comparable products, care should be used when interpreting the results.

If these differences can be addressed, a more direct comparison could be made, for instance, a comparison between products that are identical, and offered by insurers with similar service levels, back office efficiencies and expenses.

For example, a comparison of Medibank Private's Blue Ribbon product in Victoria with the same product offered in the Northern Territory (NT) is shown below.

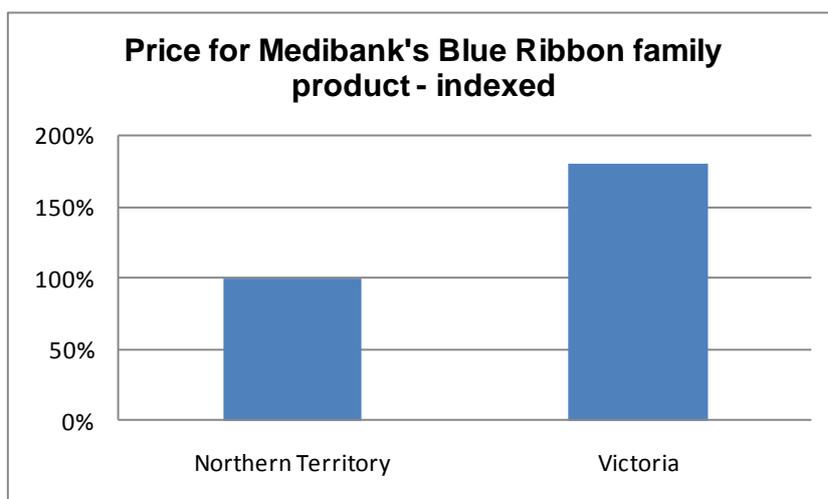


Figure 5: Price for Medibank Private's Top hospital family cover (blue ribbon) – indexed – Ombudsman

Figure 5 shows that prices in Victoria are 80% more than those in the NT for exactly the same product.

A comparison of top hospital products offered by Australia's other major insurer, BUPA, reveals a very similar result.

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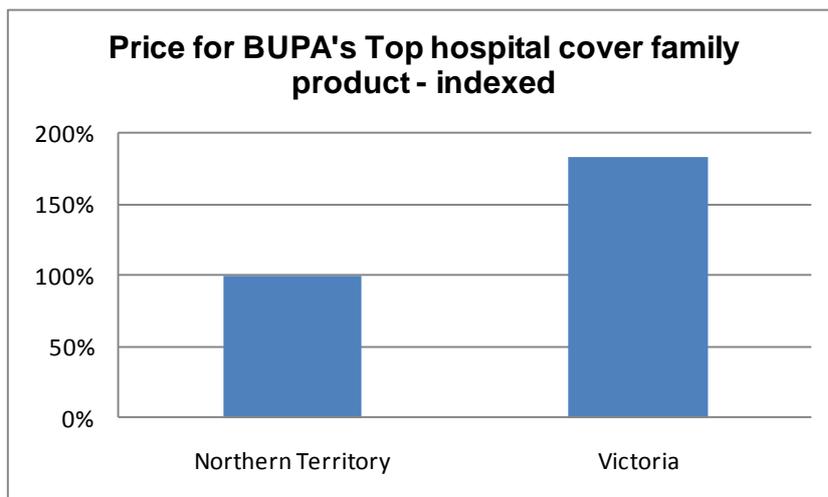


Figure 6: Price for BUPA's Top hospital family cover (Top Hospital) – indexed - Ombudsman

The difference in price between the NT and Victoria for BUPA's 'Top hospital' cover is 83%. Medibank Private and BUPA were chosen for the comparisons as they are the largest insurers in the country, and are represented in each state and territory. Arguably, these insurers provide the best illustration of relativities between regions.

A difference of around 80% is quite remarkable, particularly noting that the underlying product is the same.

This raises the question posed by this paper, "*What is the appropriate price for a community rated product?*"

The reader may notice that a core consideration in the price of a product is the risk equalisation payment, or calculated deficit, of each region (Gale, 2005). The calculated deficit is markedly lower in the NT than Victoria, so it would be expected that this would affect the prices. However, why are the calculated deficits between the NT and Victoria so different?

To pose another question, what would be the appropriate price if, hypothetically, insurers were not able to differentiate between the persons covered in Victoria and the NT so that the prices were unable to vary?

5.2. Why are the Prices Different?

Assuming that the products offered by Medibank Private and BUPA are 'appropriately priced', Figures 5 and 6 suggest that there are factors that affect the appropriate price of a product besides:

- Benefits covered (the product)
- Claims management processes
- Service levels provided
- Operations
- Profit margins.

Further, Figures 5 and 6 suggest that these other factors can affect the appropriate price of a product by up to 83%.

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The definition used for an appropriate price focuses on margins. Assuming that the products are appropriately priced, it would be expected that the benefit payments as a proportion of premium revenue (gross margin) in the NT would be the same as in Victoria. This would suggest that the persons covered in Victoria have claiming rates around 80% above those in the NT. Therefore, the difference in prices is mainly because *the persons covered simply claim less*.

If the underlying benefit payments of persons covered in the NT were the same as in Victoria, the prices in the NT would incur large losses and be unsustainable. Further, the prices in the NT would need to almost double to achieve a level of profitability.

Interestingly, Medibank Private's top hospital product for families in the NT (Blue Ribbon) is priced at an amount below the insurer's cheapest family hospital policy in Victoria.

This then raises the question as to why the average claiming rates, or drawing rates, vary and what leads to this outcome.

6. FACTORS THAT AFFECT DRAWING RATES

Drawing rates are defined in the Institute's guidance note, GN 660, as "a measure of incurred claims (including or excluding reinsurance payments and reinsurance recoveries) per member or per SEU..."

For the purpose of this paper, drawing rates will refer to benefits per SEU excluding risk equalisation (previously reinsurance). Risk equalisation is discussed separately below.

6.1. Demographics

For the purpose of this paper, demographics is defined to relate only to the age and gender of a person or group of persons. Other factors that are commonly considered to be demographic factors are discussed separately under *Health Status* and *Access to Health Services* later in this paper.

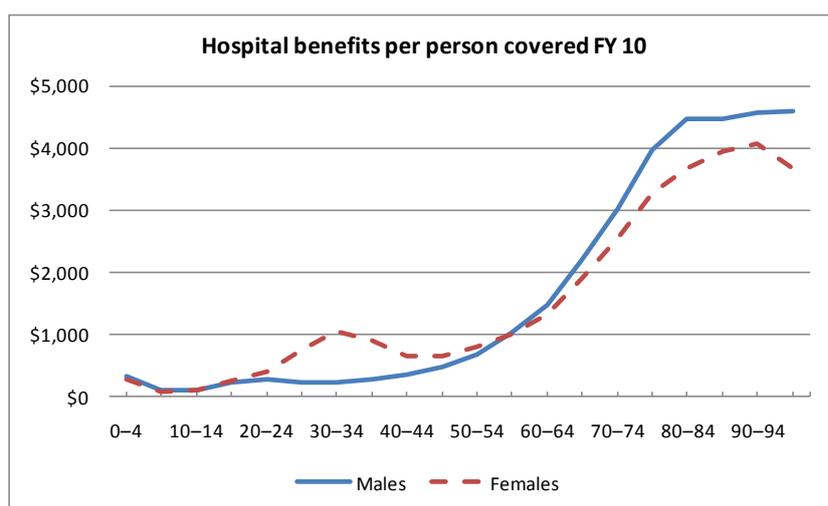


Figure 7: Hospital benefits per person covered by age and gender (PHIAC A FY10)

As can be seen from Figure 7, a person's age and gender have a significant effect on their expected benefits. The age and gender distribution of members will therefore also have a significant effect on the drawing rates of a product.

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For example, a product covering only males aged over 95 would be expected to have a drawing rate of around \$4,600. A product covering only males between 30 and 34 would be expected to have a drawing rate of \$236, or around 5% of \$4,600. While risk equalisation does reduce the extent of this difference, the net drawing rate of the insurers (after risk equalisation) will not be identical. The amount that the insurers will remain responsible for (18% of \$4,600 or \$828) for the 95-year olds is still considerably higher than the expected \$236 for the 30-34-year olds. This is discussed further under *Risk Equalisation* later in this paper.

The difference in the demographic profiles of the NT and Victoria appear to be a major reason for the difference in premiums noted.



Figure 8: Demographic profile of the NT and Victoria (PHIAC A June 2010)

Figure 8 shows that the demographic profile of the NT is considerably younger than Victoria; this should be associated with a significantly lower drawing rates and therefore a lower price.

Because a product's drawing rate is affected by its demographic profile, any change in the profile will similarly affect the price.

Should an insurer be successful in recruiting additional younger/healthier members with a low claiming pattern, the overall drawing rate for the product should be reduced, thus allowing for a lower premium. This is not surprising as it does not require a high premium to provide coverage for people who rarely claim.

In practice, a product's demographic profile is always changing. The existing persons covered grow older, new members purchase a policy and existing policies lapse. To have these factors perfectly balance every year so that the costs associated with demographic changes are minimal or constant can be very difficult.

This will be an increasing challenge given the demographic profile of PHI and Australia more broadly. The country is characterised by a generation of baby boomers approaching the 60 to 70-year age groups, where health costs increase exponentially (see Figure 7) and a population pyramid that more closely resembles a Christmas tree. (The term "Christmas tree" comes from the shape of a population pyramid that has fewer younger persons (namely in the 5 to 14-year old cohorts) than older ages such as the 35 to 49-year cohorts, which is the case for Australia.)

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The implication for PHI is that the cost pressures associated with ageing are likely to increase and there may not be the quantum of younger persons available to absorb these costs.

The effects of changes to a product's demographic profile would be expected to be incorporated, in part, into the product's historical drawing rates. For example, if a product did not generate any new members last year, it would be expected that the change in the drawing rates experienced would be higher than if the product had achieved its targeted growth rate. The use of last year's 'larger' change in drawing rates to determine future benefit assumptions may be less valid if over the projection period the product is expected to grow, reducing the impact of ageing and lowering drawing rate growth in relation to previous years. However, this then results in the future drawing rate assumptions being in part dependent on the success of the insurer's growth strategy for the product.

Considering the demographic profile of PHI, the effects of ageing may also not be linear or constant every year.

The demographic profile of a product (particularly top products) is also where the 'rubber hits the road' on the value proposition of PHI. As Australia operates a two tier health system, changes in the environment may alter the attractiveness of PHI. Should this occur, insurers may experience a change in the number of persons covered, growth rates and/or the level of coverage being sought. In addition to the reduction in overall profit, margins can also be affected by the risk of adverse selection. This is discussed further in *Market Considerations*.

6.2. Health Status

While age and gender are important influences on the health and expected claiming rates of a person, Figure 1 suggests that there are a number of other factors that also have an impact. Gale (2005) reaffirms that demographics do not fully explain experience.

“Benefit utilisation, after adjusting for age and sex profiles, for high cover products can be more than twice those for low cover products. These utilisation differences reflect unobserved heterogeneity between members with similar demographic profiles.”

As outlined earlier, a person's use of medical services will be affected by his or her general health. Those with numerous chronic diseases or a number of risk factors use around four times more medical services than those with better health, according to the AIHW.

Therefore, two insurers that have identical products and identical demographic profiles, are unlikely to pay the same in benefits. Therefore, the drawing rates of these products may be quite different and may change in different ways over time. So the appropriate price for a product will also be affected by the health status of the persons covered.

As there is no primary data available on the health status of the individuals covered, it can be difficult to incorporate this information into the calculation of future drawing rates. While demographic information is not able to directly affect the prices charged, there is data available to influence decision making.

Data on recent claiming behaviour or utilisation, age adjusted, could be used as a proxy for the health status of the membership group. However, claiming behaviour also encompasses a number of other characteristics as discussed below.

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6.3. Access to Health Services

A person's claiming behaviour reflects their utilisation of health services. For a person to incur a medical service and make a claim, they need to be aware that they have a condition, that the condition can be treated and have treatment accessible. Persons who are not aware of these factors or have barriers to treatment would be expected to use fewer services and have a lower drawing rate than persons with treatment readily accessible. This may be particularly evident in remote and rural areas, where health services can be more limited than in major cities.

Page 251 of *Australia's Health 2010* states:

“The health-care system in rural and remote areas can be influenced by common factors such as larger client capture areas, smaller populations, fewer general and specialist medical professionals, and fewer health services overall. People in rural and remote areas also have different patterns of service use. For example, they may make greater use of hospital emergency departments as a source of primary care than people in Major cities.”

This is perhaps another reason for lower claiming rates in the NT. There are two private hospitals in the NT, both in Darwin, and only one caters for overnight patients. It is also doubtful that these facilities would offer the same breadth of services as the collective facilities in Sydney or Melbourne. For persons living in Alice Springs, the nearest private hospital is 1,500km away, creating a significant barrier to utilisation.

This suggests that the appropriate price is partly based on the access that the persons covered have to medical services. The more medical services accessible, the higher the expected utilisation rates, with a flow through effect on the appropriate price. If a private hospital is constructed in Alice Springs, for example, thereby improving access to health services to policyholders in that area, drawing rates may increase. As a result, the current price may no longer be appropriate due to the improvement in access to medical services.

This may also have parallels to general treatment facilities such as dental and optical centres, the introduction of which could have an impact on general drawing rates as:

- The facility may increase the availability of dental/optical practitioners in the area
- The facility may provide services at a lower net cost (after PHI) to the policyholder than non insurer operated centres. The lower cost may increase utilisation rates.

The concept of ‘supplier induced demand’ is well known in health economics. Essentially, it posits that the availability of new services and technologies (or an increase in supply) can lead to an increase in demand. This may reflect a latent health burden in society that has not previously been met or healthcare practitioners encouraging patients to demand healthcare they do not necessarily need. It would also be expected that a private hospital, with shareholders of its own, will be seeking to operate at an efficient level and achieve a return on its capital. Regardless, an improvement in the availability of medical services can lead to higher utilisation rates and appropriate prices.

An extract from Treasury's Intergenerational Report 2010 *Australia to 2050: future challenges*, page 52 discusses some of the reasons for the growth in spending on health care:

“After fluctuating throughout the 1970s and 1980s, Australian government spending on health care has been on a steadily rising path since the early 1990s. A large part

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of the growth over this period was driven by non-demographic factors. This includes increasing use of doctors, tests and pharmaceuticals, and decisions to subsidise the introduction of new technologies or list new drugs on the Pharmaceutical Benefits Scheme.”

6.4. Treatment of Conditions

The section above refers to a person’s access to the medical treatments currently available, which is often inhibited by geographic location. The *Treatment of Conditions* refers to changes in the costs of medical procedures and hospital contracting, as well as changes in the methods by which medical conditions are treated. A change in the treatment of conditions can have a similar, although separate, effect as an improvement in the accessibility to current treatments in a given region.

As technology develops, so do the treatments of conditions, with the use of new equipment, different procedures and a greater range of pharmaceuticals. Each technological advancement often improves a person’s health and the quality of care received. However, new procedures and technologies are often more expensive and these costs need to be met.

In addition to the increase in costs for new treatments, technological improvements may give rise to changes in utilisation rates. New procedures can reduce some of the barriers to treatment such as physical discomfort, time in hospital and side effects. All of these can influence a person’s decision about whether or not they seek a particular type of treatment. An article in the *Daily Telegraph* dated 11 August 2010 reported on a new type of hip replacement surgery. This procedure now occurs within 24 hours and has the patient at home and walking the next day. It would be expected that such developments will not reduce utilisation rates and may have an effect of supplier induced demand. In some cases, new technology can reduce the costs of the procedure and this would need to be incorporated into assessing the total impact.

Medical advancements can also result in persons being able to seek treatment where none may have previously existed. One example of this could be for pharmaceuticals, where some insurers may have experienced a rise in the costs of general treatment benefits when Viagra became available. This particular treatment could be an interesting example of how changes in the demographic profile of PHI and changing views in society can affect utilisation rates and total costs.

A comprehensive assessment on the treatment of medical conditions and improvements in technology is a lengthy topic and would include consideration of quality control, preventative and management techniques, and the pros and cons of various options. This is beyond the scope of this paper, and perhaps one more suited to an author with a medical background. For the purpose of this paper, it is sufficient to note that changes in the treatment of conditions and improvements in technology can dramatically affect drawing rates.

The impact of these changes over the next 40 years has been quantified in Treasury’s Intergenerational Report 2010 which notes that “In addition to demographic pressures, demand for higher standards of care will place pressure on the Government to increase expenditure, as will rapid technological innovation” (page 51). Treasury expects that demand for new technologies and increased standards of care will have a larger impact on health expenditure than the ageing of Australia’s population.

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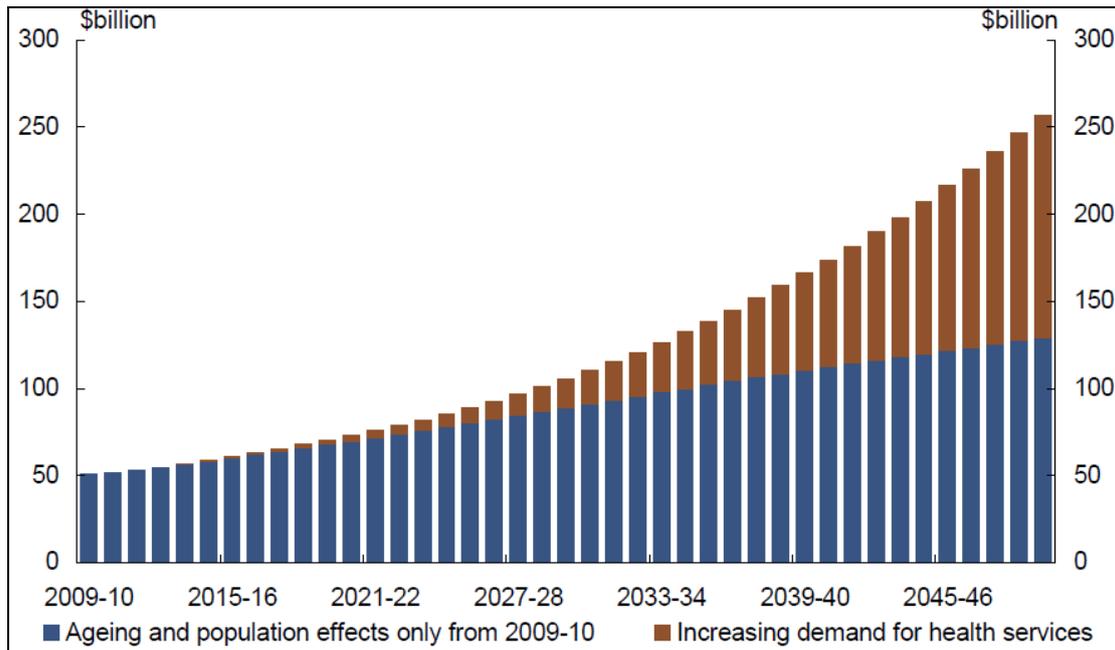


Figure 9: Total Australian Government Health expenditure with and without non-demographic growth in 2009-10 dollars (Chart 4.5 from Treasury’s IGR 2010)

6.5. Waiting Periods

Waiting periods formally prohibit a person from making a claim. During this time persons on waiting periods do not add to total claims, but are considered a ‘person covered’. Should drawing rates be calculated as total benefit payments divided by total persons covered, the resulting number may be artificially reduced by the effect of persons serving waiting periods.

This can be deceptive when assessing the changes in drawing rates for a growing product. Without specifically noting this factor, the reduction in drawing rates may be attributed to ‘good profitable growth’ that can result in a lower premium increase, rather than a temporary reduction in claims as a result of members serving waiting periods.

Once waiting periods have expired and these members are permitted to claim, it would be expected that the individual’s and product’s drawing rates will increase.

This artificial reduction in claims will mainly be an issue in the event that there is a change in the proportion of persons serving waiting periods. This is demonstrated in the following example of a product that achieves two years of high growth, which is followed by a year of zero growth.

Year	Growth rates – with all new members serving waiting periods
1	0%
2	15%
3	15%
4	0%

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Assuming annual underlying benefit inflation of 6% p.a., this growth would have the following effect on an insurer's drawing rates, gross of risk equalisation.

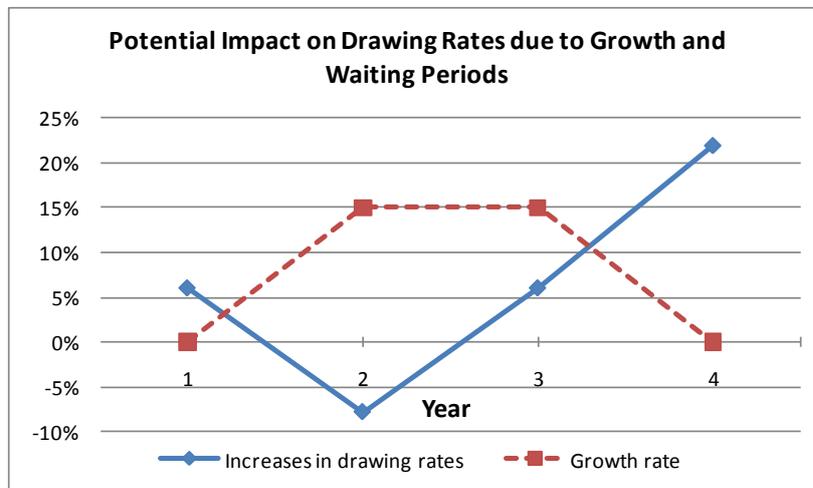


Figure 10: Potential impact on drawing rates due to grow and waiting periods

In year 1, the product's increase in drawing rates would be the underlying rate of 6%, followed by minus 8% as drawing rates are impacted by a large increase in persons serving waiting periods. This is followed by drawing rates increasing at 6% in year three, as the proportion of persons on waiting periods is constant and 22% in the fourth year as the waiting period effect is removed, *ceteris paribus*.

Without specifically considering waiting periods, at the end of year 2, the reduction in drawing rates may result in a minimal or even negative premium increase. At the end of year 3, the premium increase may be similar to historical levels at 6%. In year 4, the artificial reduction in drawing rates is no longer evident as all persons covered have served their waiting periods and are able to claim. In this example, this will lead to a year of poor performance and possibly a high premium increase depending on the decision made two years earlier.

Should an insurer be able to maintain a constant proportion of persons covered on waiting periods (say 15%), then the premiums of these persons can continually be used to pay the benefits of other persons and the insurer may be able to offer the product at a lower price. If the proportion of members serving waiting periods decreases, the effect on performance may be a sudden large and sustained increase in drawing rates.

6.6. Honeymoons (and Spikes)

Similar to waiting periods in effect, 'honeymoons' refer to a reduction in observed experience due to an event. In this case, the term is used to describe persons who, despite having served their waiting periods, have favourable experience with drawing rates below their long term average.

It would be expected that upon the expiration of a waiting period, a person would not immediately be admitted to hospital for major surgery. Although, this does raise the question of how long after the expiration of formal waiting periods it would be expected that policyholders exhibits a long term claiming pattern.

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‘Spikes’ are the opposite to a honeymoon and can occur where those who have recently served waiting periods, or transferred from another insurer, make large claims as soon as they are able. These claims then subside in later years. Intuitively this has merit, as a person who undergoes a procedure immediately after serving a waiting period is likely to be reacting to a pre-existing condition, rather than reflecting a long term claiming behaviour.

Honeymoons and spikes make it difficult to assess the future claiming patterning of new members with certainty. As discussed earlier, claiming patterns can be very different depending on the individuals in the group. Therefore, determining whether the difference in drawing rates between existing and new members is a result of honeymoons, spikes or a group of persons with a higher drawing rate is not straightforward.

From discussions with industry practitioners, there are different views on the duration of honeymoons and spikes. However, it seems that these effects persist for somewhere between 1 and 5 years after joining. It is only after these effects subside that the true claiming pattern of new members becomes apparent and reliable forecasts can be made.

6.7. Risk Equalisation Trust Fund (Risk Equalisation)

The factors affecting drawing rates discussed thus far have primarily considered drawing rates before the impact of risk equalisation. Risk equalisation is vital in reducing the impact of a product’s exposure to older persons and persons of extremely poor health. Risk equalisation results in a narrowing of the difference between the net claims costs of a 30-year old and a 95-year old, as noted in Figure 3. Following risk equalisation, a 30-year old will not have a net impact on an insurer that is 5% of a 95-year old. Similarly, an insurer which pays a hospital claim of \$400,000 for a person will be reimbursed up to \$287,000 from risk equalisation.

While risk equalisation reduces the impacts of these factors, they are not eliminated. Persons covered are not fungible after risk equalisation. For example, after risk equalisation, the net drawing rates of a 95-year old and a 30-year old will not be the same. The high claimer noted above, is likely to have a net cost to the insurer of at least \$113,000. Figure 4 illustrates that very different prices are offered in NSW for comprehensive hospital treatment (zero excess) products, despite being subject to the same risk equalisation pool.

Even if risk equalisation did equalise the claiming pattern between the average 30-year old and 95-year old exactly, there are two factors that should be noted:

- This would reflect the *average* claiming behaviour of both age groups; most insurers would have a group at least slightly different.
- Risk equalisation only applies to claims costs. Due to differences in products and the premium revenue received from each policy, risk equalisation will not necessarily equalise the level of performance attributed to each person.

Risk equalisation broadly seeks to equalise a proportion of the costs incurred per SEU. This can be either a net gain or loss depending on the relative characteristics of the product.

As the costs of claims are shared among all insurers, risk equalisation does have other repercussions. Notably an insurer’s net benefits are affected by the actions of other insurers, including the:

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- Claims paid by other insurers
- Growth in SEUs of other insurers.

While risk equalisation assists in reducing the cost of a product's claims, the reverse is also true as a product will assist in reducing the costs of the broader industry. For example, if a single large insurer pays substantially more in claims eligible for the pool, this will increase the net benefits of all other insurers operating in the state or territory.

Similarly, if the industry as a whole is less successful in recruiting younger healthier persons, there will be fewer people to spread the claims eligible to the pool among. This may increase the calculated deficit, regardless of the success of the insurer's own marketing campaigns.

Further, risk equalisation is a zero sum pool and works on the premise of 'equalising' risk. If the change in an insurer's experience is the same as the rest of the industry (in a given state or territory), the relative transfers will be unchanged. For example, if a net payer to the pool has its claims suddenly double, the insurer will remain a net payer to the pool if the claims of all other insurers in the state or territory also double. In other words, risk equalisation will only be of assistance if an insurer's experience is different to that of the industry.

Considering the demographic profile of Australia and those with PHI, particularly the baby boomers, the size of the risk equalisation pool is unlikely to decrease and may be a source of increasing importance over the coming years.

6.8. Treatment under the Public or Private System

The factors mentioned thus far have focused on a person's utilisation of health services and the corresponding costs. As mentioned earlier, Australia operates a two tier medical system and treatment can occur in either public or private facilities. The main difference for insurers is that where treatment occurs under the public system, the Government will pay for the service, whereas if the service occurs under the private system, the insurer will pay for the service.

The difference also extends to whether a patient is admitted to a public hospital as a public or private patient. If a patient is treated as a 'private patient' in a public hospital, this has a similar effect as a person undertaking the procedure in a private hospital, that is, a claim will be received by the insurer.

There was recently some media coverage of 'Private Patient Liaison Officers' operating in Western Australia. The coverage suggested that the purpose of these officers was to encourage patients in public hospitals to use their PHI and be treated as a 'private patient'. From an insurer's perspective, this results in a benefit payment that would have otherwise been paid by the Government.

The higher the proportion of procedures that occur in private facilities or as a private patient, the more benefits the insurer will pay, with a resulting increase in drawing rates and the appropriate price. The opposite is also true and an increase in the proportion of persons being admitted as a public patient may reduce the appropriate price. This could occur in the event that the public system reduces the length of waiting lists, provides services at lower out of pocket expenses, provides a better quality of care, or if the Federal Government begins to cover services in private hospitals.

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Similarly, changes in the cost structure for treatment as a private patient in a public hospital may also affect drawing rates and the appropriate price.

6.9. Medical Benefits Schedule and Prostheses List

As noted in *Background*, private health insurers can pay up to 100% of the difference between the cost of medical procedures and 75% of the MBS, which is paid by the Federal Government.

So the Federal Government continues to cover a substantial proportion of the cost of medical procedures in private facilities. This means that current drawing rates are affected by the level of Federal Government funding, including:

- The items included in the MBS
- How the MBS is indexed over time
- The Federal Government paying 75% of the MBS.

Any changes in these arrangements may have an impact on drawing rates and prices. In 2010, there was broad media coverage of changes to the MBS regarding midwifery.

Similarly, changes to the Federal Government's Private Health Insurance *Prostheses List* and amounts prescribed may also impact drawing rates and prices.

7. OTHER PRICING CONSIDERATIONS

7.1. Product Relativities and Cannibalisation

The definition of an appropriate price focuses on the performance of a single product operating within a state or territory. In practice, insurers offer multiple products that provide different levels of coverage. They range from basic public hospital products with numerous exclusions and co-payments through to comprehensive products that cover 100% of the cost of all treatments. A review of the Ombudsman's website shows that some insurers have up to 70 different products for family hospital treatment within a single state.

Using the definition of a product's appropriate price – that it results in a consistent level of return – the price will be driven by the level of benefits paid. However, this approach will not necessarily incorporate the actual level of coverage provided or suitable relativities between the various products offered by the insurer.

In the absence of specifically considering product relativities, insurers run the risk of offering a more comprehensive product at a lower price. The concern with this structure is that if this becomes common knowledge, policyholders will have an incentive to transfer to the better policy, claim more in benefits and potentially pay less in premiums.

This raises the question of suitable or appropriate relativities between products.

Perhaps the simplest assessment is between two identical products, one without an annual excess and one with an excess of \$100. It is expected that the difference in premium should be less than the excess, so less than \$100. If the difference between the premiums is \$150, then the policyholder will be financially disadvantaged in purchasing the zero excess policy. This is true whether or not the person makes a claim and needs to pay the excess.

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Whether the impact of the excess on a premium should be net or gross of the PHI rebate is another factor to consider, particularly with proposed changes to the structure of the rebate.

The extent by which the difference in premium is less than the excess is a matter for each insurer and would be expected to incorporate the reduction in benefits, premium revenue and the impact on consumer behaviour.

Determining appropriate product relativities is less straightforward for products that are not the same. Separating the differences in drawing rates due to product design from the differences in the particular persons covered can be difficult. Setting a pricing structure for a portfolio of products can be more difficult, if it is overlaid with an objective of achieving a minimum level of performance for each product and having each product sustainable in its own right.

It is also worth noting what a different level of cover means in practice, whether coverage is reduced across the board or only on certain services. For example, a mid-level product may be developed to exclude benefits for hip or knee reconstructions but provide top level obstetric treatments. As the mid-level product provides a lower level of coverage, it may be expected that the product will similarly have a lower drawing rate and appropriate price. However, if the mid-level product only attracts members who are seeking to have a family and wish to use the comprehensive obstetrics and obstetric related treatments, a lower drawing rate may not necessarily eventuate. Further, this may cannibalise the insurer's own products by encouraging persons covered to 'downgrade' their policy if they are seeking to start a family.

It is not the intention of this paper to delve into product relativities in more detail. However, it is clear that a product's appropriate price should include consideration of the other products in the portfolio, the relativities between them and the potential for cannibalisation.

7.2. Market Considerations

A key consideration in pricing any product is the likely impact on its marketability, notably, the product's ability to attract new members and retain existing ones. This is particularly the case in PHI, as community rated industries are heavily exposed to adverse selection and are reliant on recruiting younger healthier members to remain viable.

PHI cannot charge a premium based on risk, therefore, if the appropriate price is at a point that encourages persons to drop the product, it may be subject to adverse selection. It is likely that those who decide to withdraw from the product have not received sufficient 'value' to justify the premium. Essentially, it is likely that those persons are younger and healthier and less likely to claim. The risk is that the amount of premium revenue received reduces without a commensurate, or any, decrease in benefit payments. Gale (2005) notes that "Adverse selection has been described as the annoying tendency people have of doing what is best for themselves!"

The loss of a product's younger and healthier members would be expected to lead to a higher appropriate price. This, in turn, can result in more healthy members leaving the product, resulting in a further increase in the appropriate price, and ultimately a death spiral for the product. This can be material for an insurer should the product have a large proportion of its total members.

There is an argument that the risk of adverse selection is addressed through LHC and the MLS. As these measures encourage people to take out PHI, there will always be younger persons seeking coverage. However, LHC and the MLS do not differentiate between levels of hospital cover and do not incorporate general treatment. Therefore, while these initiatives may reduce the risk of

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adverse selection at an industry or insurer level, they provide minimal protection for products other than basic hospital. It is also noted that there is a proposal to change the structure of the MLS, as well as the PHI rebate.

An increase in the number of persons downgrading is a serious risk for PHI. The difference in premiums between a top and budget product is often greater than the total premium for the budget product. As a result, the impact of younger and healthy persons downgrading from a top to a budget product, or a reduction in the number of persons upgrading, can have a more severe impact than those on a budget policy dropping coverage completely.

It is noted that increasing premiums is not the only strategy to address higher drawing rates. For example, lowering the price may attract additional younger members, thereby reducing the appropriate price. However, for the purpose of this paper, the issues associated with this strategy have not been considered.

What is the Appropriate Price for a Community Rated Product?

8. CONCLUSIONS AND IMPLICATIONS

8.1. Conclusions

What is the appropriate price for a community rated product?

There are a number of factors that affect the appropriate price of a product, however the dominant factor seems to be the amount of benefits paid or the drawing rates of the persons covered. It is these differences that enable Medibank Private to offer its Blue Ribbon product in different states or territories with a price difference of 80%.

The reasons for differences in drawing rates between states can also be prevalent within a state between insurers. While these differences are reduced through risk equalisation, they are not eliminated. As mentioned earlier, persons covered are not fungible after risk equalisation. Drawing rates for a product above the calculated deficit reflect the use of medical services by the individuals on the product. The individuals on each product will be different, therefore they will have at least a slightly different claiming pattern and drawing rates after risk equalisation. This can lead to a different appropriate price. It appears that it is these differences in the persons covered that enable insurers, in part, to offer similar products with a price difference of up to 73%, as noted in Figure 4.

As discussed in this paper, there are a number of factors that can affect drawing rates and can lead to changes in the appropriate price. They can be summarised as follows:

- The demographic profile of the product
- The health status of the persons covered
- Access to health services
- Treatment of conditions
- Cost of medical treatments
- Proportion of persons covered on waiting periods
- Proportion of persons on honeymoon periods
- Claims and membership changes of other insurers
- Risk equalisation calculations
- Treatment undertaken in the public versus private system
- The Medical Benefits Schedule and the Federal Government's Protheses List.

In practice, all of these factors will change over time. Differences in the rate and/or extent of changes will impact premium increases relative to previous years. Further, the impact of most of these factors may not be apparent by an assessment of drawing rates or performance, and may need to be monitored separately.

Relying on drawing rates and performance to determine future premiums ignores some issues that are vital to the risk profile of an insurer, particularly:

- The potential for cannibalisation between products in the portfolio
- The marketability of the product and the potential for adverse selection.

In defining an appropriate price for a product, it is worth including the relativities to other products in the suite and its marketability.

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If insurers were no longer able to differentiate between persons covered in Victoria and the NT, how would this affect the appropriate price?

If the NT and Victoria were considered one area for PHI and premiums were unable to vary, the persons covered in the NT and Victoria would be subject to the same price. This price would need to be sufficient to cover the total benefits and still provide the desired level of performance.

Figure 11 below estimates the price for top hospital cover if the NT and Victoria were combined into one region. This estimate is based on two major assumptions:

- That the drawing rate (net of risk equalisation) for 'One Region' is the sum of total benefits paid divided by total persons covered on the products in the NT and Victoria. The weighting has been determined by the number of top hospital policies of all insurers with zero excess in NT and Victoria as at 30 June 2010. This equates to those from the NT comprising around 5% of One Region's policies.
- A change in the price has no impact on the persons covered, in particular, persons from the NT do not drop the product.

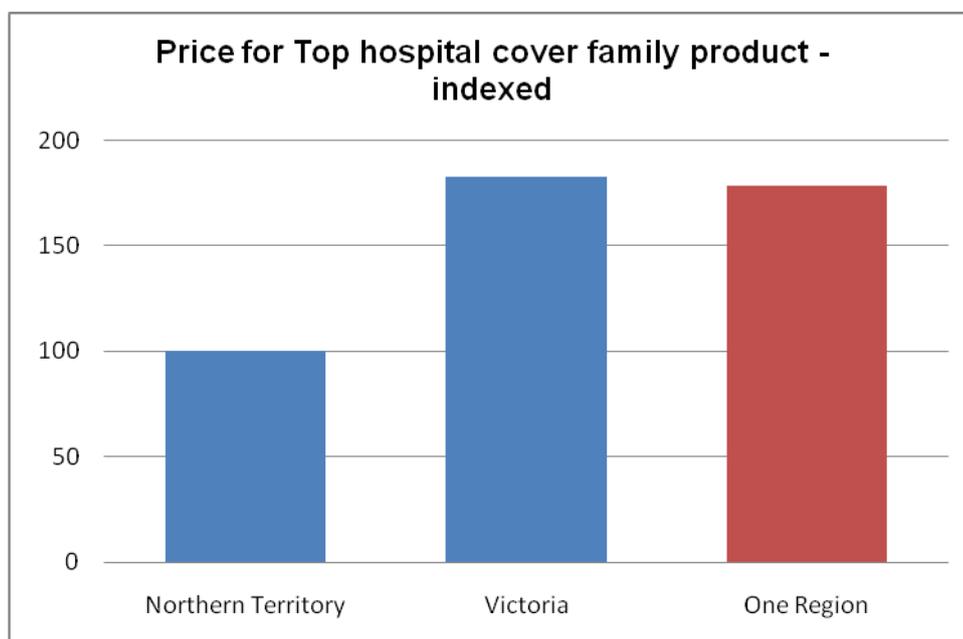


Figure 11: Price for top hospital cover if the NT and Victoria were combined

Figure 11 shows that should the NT and Victoria be treated as one region for PHI (subject to the assumptions outlined above), the price charged to persons from the NT would increase by around 78%. The price charged to Victorians would decrease by around 2%.

This change in price occurs in the absence of any change in the claiming behaviour or costs of the individual persons covered.

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A Conceptual Framework for Health

As mentioned earlier, there are many factors that can affect the price of a product. The AIHW has published a conceptual framework in *Australia's Health 2010*—all of which may affect drawing rates and the prices of a PHI product.

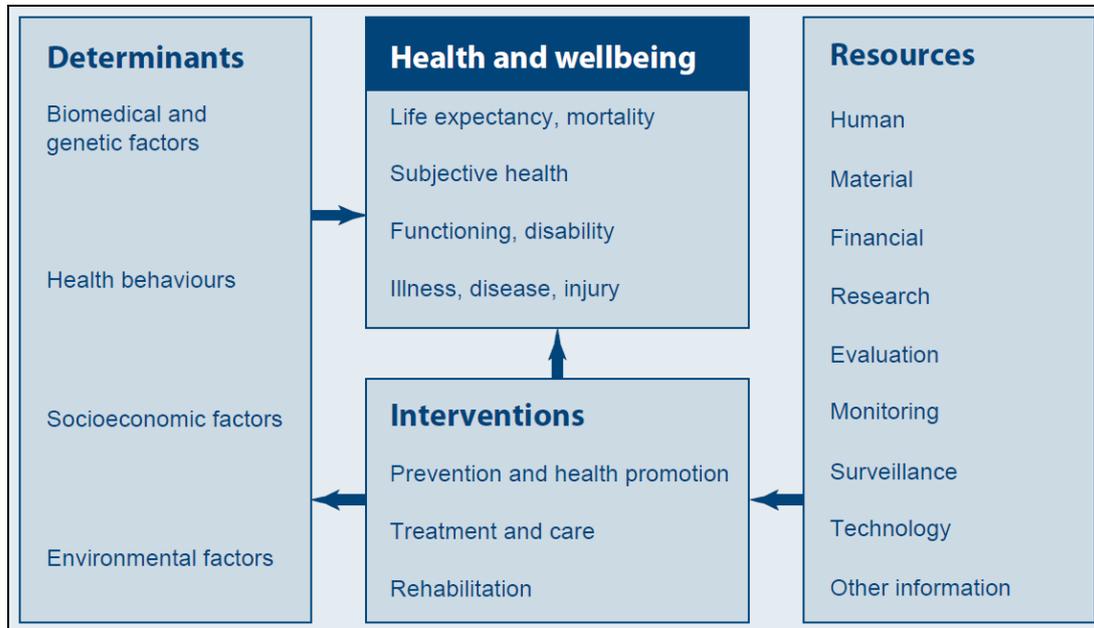


Figure 12: Conceptual framework for Australia's health 2010 (Figure 1.1 from Australia's Health).

8.2. Implications

Gaining Younger/Healthier Persons

It is often reported that recruiting younger healthier persons is of critical importance to the industry and individual insurers. Gale (2005) describes it as "... retaining and attracting their market share of younger and healthier risks ... are the lifeblood of the industry". Figure 7, which shows hospital benefits by age and gender, illustrates this point.

A product that has a demographic profile which rapidly ages is at risk of having an appropriate price that is in excess of the market. Should an insurer generate lower amounts of growth for a couple of years, this may lead to a higher price than if more 'normal' growth rates had been experienced. This may, in turn, reduce the product's ability to entice and maintain good risks as the price is now higher. Should such a trend continue, the risk is that the product may enter a death spiral.

The demographic profile of a product is subject to continual change and drawing rates may be affected through the number and characteristics of:

- Existing persons ageing
- New memberships
- Lapses.

While recruiting new members is of critical importance, it also entails a number of risks.

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Risks Associated with Growth

A large broker in PHI currently has a promotional campaign that claims it can save a person up to 25% by changing insurers, whilst maintaining the same level of coverage. This is consistent with Figure 4 which shows that price differences between comparable products can be up to 73%.

The risk for an insurer is that the addition of new members can result in a dramatic change in the appropriate price for a product. Further, whether this risk is materialising may not be known for a considerable period. That is, until there is sufficient experience to determine the underlying claiming pattern of the new persons and to differentiate it from the impact of waiting periods and honeymoon effects. Should this take up to five years, a product may be providing coverage for a large amount of new members with a claiming pattern substantially above that existing for the product. The effects of which, can render the current price inappropriate.

In summary, the risks associated with growth are that:

- It is not known whether the new members will have a claiming pattern that allows current prices to be maintained, that is, whether the insurer's strategy is consistent with its pricing structure.
- Waiting periods, honeymoons effects and spikes can temporarily reduce or mask the true underlying claiming patterns of new members.

Pricing Structure and Relationship to Industry

This paper has emphasised that there are valid reasons for an insurer to have a price different to the broader industry. It also notes that differences in prices can result from providing cover to a group of persons who have a different claiming pattern.

It is important to assess the reasons for price differences between an insurer's products and those of the rest of the industry. Where the difference is a result of providing cover to a group of persons with a lower claiming pattern, it is worthwhile to note this and for it to be included in the insurer's strategy. If the insurer has premiums substantially below other insurers (for instance by 73%), it is also worth asking whether this is sustainable and what circumstances support its sustainability.

For example, should a small restricted insurer focus on a young community in rural Victoria, it may have prices significantly below its peers that focus on the Melbourne metropolitan area. A pricing structure below the market may not be sustainable if the insurer starts to shift its focus and provide cover for persons from more urbanised regions. This may be a consideration in determining whether the insurer should start a mass marketing campaign in Melbourne or pursue an agreement with a broker.

While strategies can be developed to target specific members and limit the exposure to gaining new persons with a risk profile different to the existing membership, the structure of PHI means that this cannot be guaranteed, as:

- Shown by the AIHW's determinants of health (Figure 1), there are a number of characteristics that affect a person's utilisation of medical services. Focusing on a small number of determinants (for example, age and employment) negates a number of other determinants that affect a person's utilisation.

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- All insurers have their products on the Ombudsman’s website, therefore consumers who use the site may become aware of the insurer, its products and seek to join, despite the insurer’s marketing efforts.
- Community rating means that insurers are unable to refuse a valid membership application regardless of whether or not it is from a person inside the insurer’s target market.

Importance of Monitoring Waiting Periods and Honeymoon Effects

As noted in Figure 9, waiting periods and honeymoon effects can have a dramatic impact on a product’s drawing rate. If not specifically considered, the underlying claiming patterns can be masked for a number of years before ultimate experience emerges. In the situation where an insurer or a product achieves significant growth in the order of 20-30%, drawing rates can be significantly impacted when the growth rates eventually subside.

Importance of Relativities between Products

If relativities between an insurer’s products do not reflect the difference in coverage, insurers are “relying on the inertia and ignorance of their members to support such pricing structures” (Gale, 2005). The risk is that members will become aware of this and change policies to one that provides better value. If this risk materialises, the insurer may receive less in premium revenue and pay more in benefits.

Potentially this can materialise very quickly if, for example, a sales force is incentivised to sell the particular product. Considering that the industry operates in an environment that mandates time periods before benefit changes can take effect and Ministerial approval for changes to premiums, it can be a while before corrective action can be implemented.

Pricing New Products

The factors that affect drawing rates are compounded in launching a new product as there is limited information on the demographic profile and health status of the future persons covered. In assessing the experience of a new product, the drawing rates of all members may also be affected by waiting periods and honeymoons. Further, should the persons who join the product differ from expectations, it could be worthwhile to consider how the appropriate price will be affected and how much the premiums may need to be adjusted in the future.

Closed Products

Closed products are not able to accept new members. In the absence of gaining any new members, the existing persons covered may age at a faster rate, leading to larger increases in drawing rates than if the product had remained open. This also raises the question of whether higher drawing rates driven by management’s decision to close a product, should result in commensurate premium increases.

Monitoring these Factors and Materiality

Gathering sufficient information to regularly analyse all of these factors on a product level can be quite difficult, especially when an insurer has a large number of products in each state or territory.

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In the majority of cases, these factors may not be material, particularly when considering the work involved to provide regular assessments.

A likely scenario is that such factors may only be assessed in the event of large increases in drawing rates. In this situation, there may be a desire to better understand why drawing rates increased and resources may be allocated accordingly. It might also be asked whether the deterioration in performance could have been identified prior to materialising.

Considering that the industry operates on a net margin of around 4% (or less for a number of not-for-profit insurers), it does not require a large increase in benefits to result in significant losses.

9. FURTHER FOOD FOR THOUGHT

How could the factors discussed in this paper be quantified?

Insurance risk is often quantified through an assessment of historical drawing rates and/or performance. However, most of the issues discussed in this paper will not necessarily be apparent from an assessment of historical drawing rates and, therefore, may not be represented in the calculation of risk.

This leads us to the question of whether, and how, these factors should be quantified. If so, how should they be incorporated into capital management plans and linked to risk appetites?

What will be the appropriate price for a PHI product going forward?

Treasury's *Intergenerational Report 2010* includes the following information:

- “Health spending is projected to grow from 4.0 per cent of GDP in 2009–10 to 7.1 per cent of GDP in 2049–50.”
- “The private health insurance rebate is ... projected to grow from \$192 real per capita in 2012–13 to \$319 real per capita in 2022–23, an increase of over 50 per cent in real spending per person. This is notwithstanding recent changes to the private health insurance rebate that, if enacted, are expected to deliver net savings of \$2.0 billion over five years.” The increases in the PHI rebate equates to around 5.2%p.a. real or 7.7%p.a. nominal.
- The figure below on increases in health spending by the Federal Government per person.

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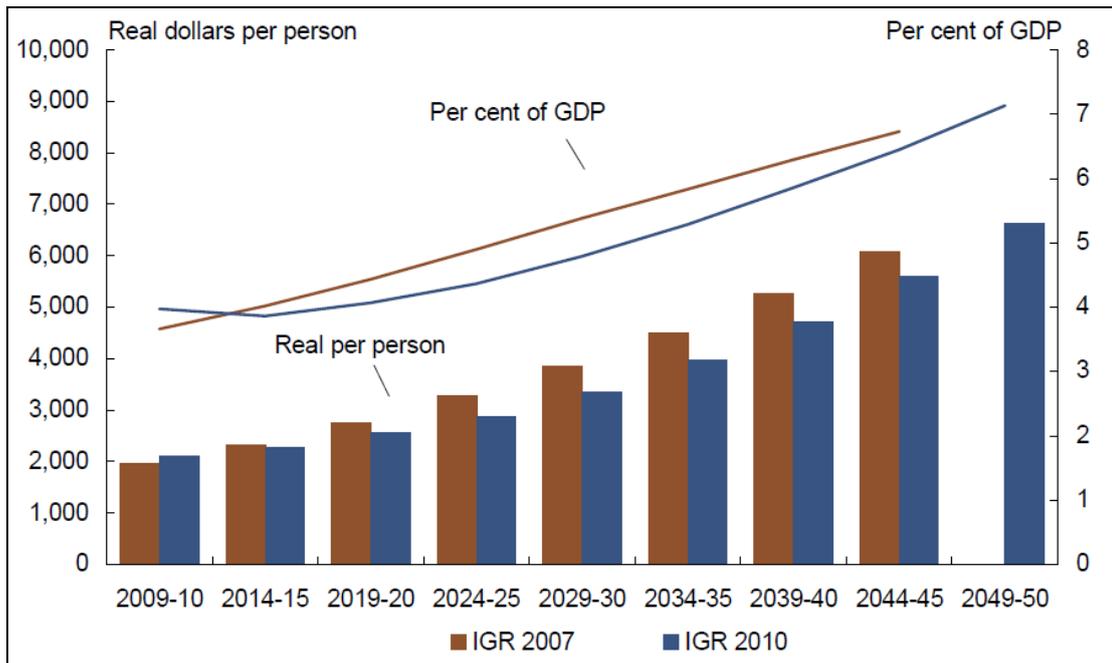


Figure 13: Projections of Australian Government health spending (Chart 4.8 from IGR 2010)

PHI is unlikely to be immune from these increases. If Treasury's estimates hold, it appears that spending on health per person will more than treble over the next 40 years. This equates to a rate of around 2.9% p.a. real or 5.4% nominal. Each year that premium increases are applied at rates above increases in average weekly earnings, the proportion of household budgets allocated to PHI premiums increases.

Should Treasury's estimates hold:

- How will this affect benefits and prices in PHI?
- Will PHI be affordable?

What impact, if any, will a broker have on a product's appropriate price?

How many younger members are required to offset or reduce the effects of ageing as the baby boomers enter the post 65 age groups?

How would the price of budget policies be affected if the persons covered had the same claiming pattern as top cover?

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