

Health Insurance

Actuarial Practice - Health Insurance¹

Professor Benjamin Avanzi



11 October 2021

- 1 National Insurance
- 2 Private Health Insurance
- 3 The actuarial expert corner
- 4 Industry Insights
- 5 References

- 1 National Insurance
- 2 Private Health Insurance
- 3 The actuarial expert corner
- 4 Industry Insights
- 5 References

1 National Insurance

- Universal public coverage
- Medicare

Universal public coverage

- Some societies (mainly, developed societies) collectively decide that some risks should be covered for everyone, and decide to offer that coverage by the government.
- **National Insurance** essentially refers to such coverage of certain risks by the government.
- These include welfare benefits, covering for basic necessities such as an old age pension, a disability pension, basic health care, and unemployment benefits.
- Australia has a “Government Actuary” who provides advice to the government on a range of issues. These would be heavily influenced by demographic considerations, and would involve estimating the current and future costs of benefits under a range of scenarios.

- National insurance differs from conventional insurance in a number of ways:
 - Benefits are usually financed via government levies/taxes (specific or not) rather than premiums. Furthermore, these are often financed in a PAYG fashion.
 - The government is not subject to the same statutory requirements as private insurance companies. This is because they have very strong ability to raise money and can force its population to pay.
 - It can also change law—the “terms” of the (social) “contract.”

1 National Insurance

- Universal public coverage
- Medicare

Medicare

- Medicare is the health cover that all Australians and Permanent residents enjoy (there are others under certain conditions).
- The scheme is a national scheme which is free for people with no income.
- It is funded:
 - via a Medicare Levy, which is a fixed percentage of income (2021: 2% of taxable income)
 - a Medicare Levy surcharge (for people without private health insurance), which is a percentage of income (2021: 1-1.5%) above a certain threshold (2021: 90k for singles, and 180k for couples/families)
 - income taxes (in particular for infrastructure such as hospitals, as well as research)

US: 15% GDP

Medicare covers:

bulk bill

- free or subsidised treatment by health professionals, such as doctors, specialists, optometrists, and in specific circumstances, dentists and other allied health professionals;
- free treatment and accommodation for patients in a public hospital;
- 75% of the Medicare schedule fee for services and procedures if you're a private patient in a public or private hospital (but not including hospital accommodation, theatre fees, medicines and other items).

A safety net reduces gaps under certain conditions.

- 1 National Insurance
- 2 Private Health Insurance**
- 3 The actuarial expert corner
- 4 Industry Insights
- 5 References

- 2 Private Health Insurance
 - Private Health Insurance
 - Principle of Community Rating

Private Health Insurance

- One of the largest risk insurance sector in Australia: private health insurance
- Heavily regulated, additional premiums
- National Health Act 1954 & Regulations
- Complements Medicare
- Products:
 - **Hospital cover**: accommodation, theatre fees, medical fees, private/public hospitals, excesses, exclusions, benefit level; see this government fact sheet about product tiers
 - **Ancillary cover**: optical, chiropractic, dental, pharmacy, physiotherapy etc
- general reference: government website

no surcharge tax

- 2 Private Health Insurance
 - Private Health Insurance
 - Principle of Community Rating

Principle of Community Rating

Community rating means that one cannot discriminate in private health insurance pricing in Australia by either:

- health status or similar,
- age (other than for Lifetime Health Cover),
- sex, or
- other demographic features.

Also, one cannot refuse applicants.

Community rating presents issues:

- does not rate according to risk;
- adverse selection (unless compulsory for all);
- increasing costs as healthier lives opt out.

Lifetime Health Cover

To deal with Community Rating issues, an age at entry community rating was introduced - Lifetime Health Cover

- proxies age as a rating factor
- more expensive as you enter at older ages

There are also tax incentives to encourage people to be covered by Private Health Insurance, such as the Medicare Levy surcharge, as well as premium rebates (2021: up to 32.812% with income thresholds. Nothing for incomes above 140k/280k for singles/families).

- 1 National Insurance
- 2 Private Health Insurance
- 3 The actuarial expert corner**
- 4 Industry Insights
- 5 References

- 3 The actuarial expert corner
 - Interview: Ignatius Li
 - Ignatius Li: take-aways

Interview: Ignatius Li

Video Interview

Ignatius Li FIAA

Health Actuary, Partner at Deloitte Actuaries and Consultants

Now also Convenor of the Health Practice Committee (HPC)

- 3 The actuarial expert corner
 - Interview: Ignatius Li
 - Ignatius Li: take-aways

Ignatius Li: take-aways

0:04 (Background)

- “combine quantitative skills with solving social problems, economic problems, that are very tangible”
- “So I think the combination of being able to apply the mathematical skills to a social problem like that is what drew me to actuarial studies.”

1:45 (Actuaries in Health)

- focus on payers (insurers and government), and in particular health insurance companies
- questions: risks involved in new products, premium setting, risk profile likely to attract, how much capital is required

3:27 (Who hires Health Actuaries)

- consultancies (big 4 through to boutique consultants focusing on health)
- direct insurers with actuaries on staff (Medibank, BUPA, ...)
- new 'broader health' area: governments (health policies), understand drivers of health (data analytics), new types of insurance (e.g. NDIS)

6:08 (Current and Future Challenges)

- knowledge and understanding of products (→ simplify products? educate the public?)
- what is the minimum we should offer? (everything, where do we stop?)
- sustainability (related to previous point)
- emerging technologies, big data (wearable technology, incentivise healthy behaviour, detects early signs of health issue)
- problem with community rating is that insurers don't reap all the benefits of their successes in terms of risk mitigation

13:03 (*Advice*)

- what drew you to actuarial studies?
- work out where your passion is
- be curious, challenge the status quo, make a contribution to that area that passions you
- actuaries have a role of 'disinterested voice' in important areas
- keep an open mind, and expose yourself to as many different issues as possible
- don't specialise too early

- 1 National Insurance
- 2 Private Health Insurance
- 3 The actuarial expert corner
- 4 Industry Insights**
- 5 References

4 Industry Insights

- AD: Future of Health Seminar 2021 – an overview
- Health Practice Committee

AD: Future of Health Seminar 2021 – an overview

Future of Health Seminar 2021 – an overview

- “how healthcare providers, governments and insurers are using data to create better patient outcomes and improve resource efficiency”
 - growing role of data science, analytics, and technology in healthcare
 - exploding amounts of data presents challenges
- costs rising faster than economic growth across OECD
- study of demand, supply, and sustainability
- mental health as a major and increasing issue

4 Industry Insights

- AD: Future of Health Seminar 2021 – an overview
- Health Practice Committee

Health Practice Committee

Health Practice Committee (HPC) website
(non mandatory)

- 1 National Insurance
- 2 Private Health Insurance
- 3 The actuarial expert corner
- 4 Industry Insights
- 5 References**

References

Here is the correspondence of sections with the book Atkinson and Dickson (2011):

- Section 1: 4.7
- Section 2: 4.4

Atkinson, M. E., and David C. M. Dickson. 2011. *An Introduction to Actuarial Studies*. 2nd ed. Edward Elgar.