Risk equalisation: Final report

Department of Health and Aged Care

finity

1 Executive Summary

1.1 Purpose and scope

The Australian Government Department of Health and Aged Care (Department) has engaged Finity to assess the operation of the current risk equalisation (RE) system, and to identify whether there are RE options which could enhance the affordability, value and attractiveness of Private Health Insurance (PHI) to consumers.

This report addresses this question from the point of view that regulation of PHI should be designed to benefit the community. RE transfers funds between insurers, so the discussion of the current RE arrangements and options must consider the impact on insurers. However, the review of RE is for the purpose of enhancing the system, and the value and attractiveness of PHI to individuals.

The purpose of this report is to provide the Department with a summary of key findings and recommendations.

1.2 System features, challenges and context

The overall goals of the health system can be summarised as: universal access to high quality care that results in the best health outcomes at an efficient and affordable cost to individuals and the community. Australia has a mixed public and private system for the provision of health services. The PHI system is part of the funding of the system with the objective of optimising the private contribution to funding the cost of health care provision with financially viable, affordable, quality PHI and effective choice for consumers.

PHI in Australia operates under community rating with guaranteed acceptance, which means that insurers may not deny cover to, or charge higher premiums, for persons who are expected to claim more based on their health status or needs. Community rating improves access to private healthcare for people with significant treatment needs, enjoys broad stakeholder support, and is a foundation of Australian PHI policy.

The decision to regulate premiums by requiring community rating creates the following challenges to be addressed:

- Challenge 1: Incentivise efficiency and the meeting of preferences of vulnerable groups in poor health. This is a direct impact for RE policy, which has a vital role in reducing incentives for risk selection.
- Challenge 2: Encourage people in good health to insure, which is the objective of policies such as the premium rebate, Medicare Levy Surcharge (MLS) and Lifetime Health Cover (LHC). The direct impact of RE is limited in this area, however there can be an indirect impact through the potential effect of RE on the premium structure across product tiers.

If these challenges are not appropriately addressed, community rated PHI will not be affordable, valuable or attractive to consumers. In particular, without robust RE arrangements, healthy people will be predictably profitable to insurers while the elderly and chronically ill will be predictably unprofitable. This would create strong incentives for insurers to risk select according to expected claim costs, with adverse consequences for consumers.

There is no single industry or government response which can address these challenges, however ensuring all PHI policy settings are optimised will improve the sustainability of Australia's mixed public and private model of healthcare delivery.

1.3 Findings

Finding 1:
Australia's current RE system has limitations, which have consequences for incentives for efficiency (cost control) and risk selection. These limitations impact the affordability of PHI for consumers, and access to products which meet consumer needs.

The current RE regulations include an age-based pool (ABP) which shares a subset of actual costs for participants above the age of 55. The proportion of claims pooled increases with age, with over 80% of costs shared for the oldest members. There is also a high-cost claims pool (HCCP) which shares 82% of costs if someone claims more than $50,000 per year, which is rare.

In combination, this means that there is some support for all claims from persons aged above 55, but for younger participants there is only support if their claim exceeds $50,000. This means that the system does not adjust for predictable differences in claim costs below this level and below age 55, including the costs of pregnancy and mental health hospitalisation.

Our work has included significant stakeholder consultation, including two large meetings with over 100 attendees. Stakeholders identified both efficiency and risk selection challenges with this system:

- Efficiency: Retrospectively sharing a high proportion of claims paid reduces incentives for insurers to operate efficiently. For example, insurers advised they would like to increase investment in helping members remain well and avoid unnecessary hospital treatment, however these initiatives often do not make financial sense for an insurer after RE.
- Risk selection: The premium insurers receive is poorly matched to expected claim costs after risk equalisation. The impacts of risk selection are:
  - Strong incentives for insurers to design and market products to people with low expected costs after RE. Equivalently, there is a disincentive to offer products which meet the preferences of people with specific healthcare needs.
  - Risk selection might be a more effective strategy for insurers to contain cost than improving the efficiency of care.
  - Because people with low expected claim costs can choose policies with exclusions, premiums for comprehensive (Gold) policies required by people in poor health will increase, which may be considered unfair.

Finding 2:
International research has identified alternative RE models which better address these challenges.

There are two main RE tools:

- Risk sharing (or retrospective RE) compensates insurers for differences in actual spending, which is the model used in Australia.
  - This improves incentives for insurers to serve people with high expected costs where costs are shared, which is generally only for older members in Australia.
  - As noted above, this method reduces incentives for insurers to control costs as the benefit of efficiencies are shared.
- Risk adjustment (or prospective RE) compensates insurers for differences in expected spending.

- Compared to risk sharing there is a much stronger incentive for cost control, as differences between actual and expected costs are retained by insurers rather than being shared.
- Expected costs are calculated based on "risk adjusters" such as policyholder age and sex. This also improves incentives for insurers to serve people with high expected costs, where the risk adjusters provide appropriate compensation to insurers. A limitation of prospective RE is that data availability limits choice of risk adjusters.

Our team included international academics who have developed RE systems for other countries. The findings of our international research are:

- Australia is unusual in only using retrospective risk sharing for RE.
- Other countries with RE have adopted prospective models, or hybrid models which include both prospective and retrospective elements
  - Countries with prospective models and no/limited retrospective elements rely on rich data on health status to use as risk-adjuster variables.
  - Where simpler prospective models are used, there is more need for retrospective elements to appropriately compensate insurers serving people with high expected costs.

Based on our investigations, we suggest three principles for developing RE models:

- Recognise RE reform is an ongoing process, so design models that allow for future changes. This can include adding new risk adjusters or modifying risk sharing, where an evaluation process shows this to be beneficial.
- Where the two are substitutes, we prefer risk adjustment over risk sharing, to preserve incentives for insurers to control costs.
- Use risk sharing wisely, for example, targeting outliers in spending where risk adjustment falls short, or in times of transition.

Finding 3:
We have demonstrated that alternative models test better than the current model, using actual Australian insurer data and a comprehensive set of criteria.

A simple hybrid model can outperform the current RE system. We focussed on a simple model because it relies only on data already held by insurers, so could be implemented quickly. We also tested more complex models, which in turn outperform the simple hybrid model. Full calibration and testing of these more complex models would require insurers and regulators to collect additional data, so these options require longer to implement.

Our simple hybrid model includes:

- Prospective RE, redistributing funds between insurers based on policyholder age, sex and state.
- Retrospective sharing of 90% of individual-level claims above $20k.

We expect implementation planning and industry consultation could improve and validate the performance of this simple model.

Under the current RE model, over one third of claims equalised are small claims from older members claiming under $20k in a year. The hybrid equalises these stable, predictable claims prospectively, increasing incentives for efficiency. RE continues to retrospectively share the larger, less predictable claims. The hybrid also provides

more support for younger people with higher expected claim costs, for example, people requiring mental health treatment.

We tested the simple hybrid scheme against a series of criteria and measures, and the results are summarised in the table below.

Table 1.1 – Assessment of simple hybrid RE against current RE system

Criteria	Why this matters	Assessment of hybrid RE model
Incentives for efficiency	Identified as a major limitation of the current RE system. Incentivising insurers to operate efficiently improves affordability for consumers.	Significantly improved, as the proportion of claims shared retrospectively is halved. Predictable differences due to age and sex are adjusted prospectively.
Statistical variation in spending	Removing predictable profits and losses minimises incentives for insurer risk selection.	Similar to the current RE system.
Incentives for risk selection	Insurers may target or seek to minimise insurance of under compensated groups. Risk selection has several negative effects: inappropriate product design, reduced efforts by insurers to improve efficiency of care, and distortions of market based on insurers market share in individuals for which they are under/over compensated. Reducing incentives for risk selection assists consumers to access affordable cover that meets their needs.	Modest improvement for the simple hybrid using age, sex and state as risk adjusters. However, a material improvement if health status is included as a risk adjuster in future.
Protect insurers against large losses	Premiums charged to policyholders reflect uncertainty.	Improvement, especially for younger members, as sharing is directed to large claims rather than smaller claims.
RE system set-up and maintenance costs	Costs ultimately reflected in premiums charged to policyholders.	No significant additional cost, as all models rely on information already collected by insurers.
Platform for future improvement and adaptability	A basis for further improvement by including indicators of health status as data quality improves. At a minimum enable regular updating of weights on risk adjustors based on industry trends.	Improvement. The current system is only adaptable in terms of the proportion shared.

Premium rates vary by product tier (Gold, Silver, Bronze, Basic), and this adds complexity to RE. The current RE system includes implicit cross-subsidies from lower tiers to higher tiers, as all product tiers have the same calculated deficit used to determine equalisation payments between insurers. A new RE system could be calibrated such that there is minimal impact on pricing by tier on implementation, while retaining the ability for regulators to make future adjustments. The level of cross-subsidy between tiers would become an explicit choice for the regulator.

1.4 Transition

Our recommendations are set out in Section 5 and include replacing the current RE system with a simple hybrid, and collecting health status indicators to allow for further enhancement.

1.5 Summary

The current system limits incentives for efficiency and will therefore have an adverse impact on affordability for consumers. Insurers have incentives for risk selection, because RE transfers are not well matched to expected claim costs. Risk selection makes it more difficult for consumers to access an affordable policy which meets their needs. While these issues have been widely recognised by stakeholders, the current system is rigid and not able to incorporate new risk adjustors as data quality improves.

The simple hybrid model is a better RE choice because it increases incentives for efficiency, reduces incentives for risk selection, and continues to protect insurers against risk of loss. It can be implemented based on information currently collected by insurers and is a flexible choice which can be improved over time.

Changing RE will benefit policyholders through:

- Greater access to PHI. Better RE improves incentives to meet preferences of groups with specific needs (by offering appropriate coverage) and improves incentives for insurers to invest in the efficiency of care (since investing in risk selection becomes less profitable).
- Greater incentives for efficiency which, if acted on by insurers, will support affordability by putting downward pressure on premium inflation. International experience suggests changes to RE systems such as we have proposed cannot be expected to result in large premium reductions. Features of the system such as patient choice of provider would remain protected by law. It is intuitive that a RE system which rewards investments in preventive care and cost containment would result in lower inflation.

International experience demonstrates collaboration between insurers, providers and other stakeholders to ensure appropriate allocation of healthcare funding through RE. Stakeholders are able to suggest changes to RE to incentivise (or disincentivise) certain actions, allowing testing of whether these changes will benefit policyholders.

2 Context and background

2.1 Regulatory context

PHI in Australia operates under community rating with guaranteed acceptance, which means that insurers may not deny cover to or charge higher premiums for persons who are expected to claim more based on their health status or needs. This is supported through age-based retrospective risk equalisation, where a subset of the claim costs of PHI customers over the age of 55 are pooled and spread across all customers. This actuarial study aims to determine whether the current system could be improved to better meet the goals of encouraging uptake of PHI, while maintaining or improving value for money.

Community rating creates challenges for the health system. By design, it makes PHI cover appealing to older patients or those in poor health, and relatively expensive to persons who expect to claim infrequently – as the premiums for the latter group subsidise higher cost claimants. If non-claimers choose not to purchase PHI, the prices for everyone else will increase, which may in turn result in further lapses by the lowest claiming remaining participants. Other policy levers, such as the youth discount, LHC, MLS and premium rebates are in place to incentivise participation by a broader group.

Risk equalisation functions to reduce the risk of excess claims for individual insurers. The current regulations include an age-based pool (ABP) which shares a subset of actual costs for participants above the age of 55, with the proportion of claims pooled increasing with age. There is also a high cost claims pool (HCCP) which shares 82% of costs above $50,000 per person. In combination, this means that there is some support for all claims from persons aged above 55, but for younger participants support only exists if their claim exceeds $50,000. This means that the system does not adjust for predictable differences in claim costs below this level and below age 55, including the costs of pregnancy and mental health hospitalisation.

Community-rating also affects incentives for insurers. Without robust risk equalisation arrangements, healthy people will be predictably profitable to insurers while the elderly and chronically ill will be predictably unprofitable. These predictable profits and losses provide insurers with incentives for risk selection, which has several negative effects:

- Inefficient product design, since insurers have disincentives to meet preferences of people with specific healthcare needs.
- Insurers might refrain from investments in the efficiency of healthcare when risk selection is a more effective tool for them to contain cost.
- To the extent that low-risk people and high-risk people choose different types of PHI product, premium variation between products will reflect both differences in benefits and the effect of selection. People who require comprehensive policies may not be able to access cover at an affordable price, and this might be considered unfair.

The goal for risk equalisation is to:

> Improve value for money by providing insurers with incentives for efficiency, while mitigating risk selection and ensuring appropriate compensation to insurers who cover people with high expected claim costs

2.2 History

Risk equalisation has been in place in some form in PHI in Australia since the 1950s. The current risk equalisation arrangements were implemented on 1 April 2007.

Table 2.1 – Summary of historical risk equalisation arrangements

Implementation date	Persons covered	Amount
1959	Chronic or pre-existing illness, long hospital stays	Difference between premium and claim costs
1976	Long hospital stays	Full cost of eligible claims
1989	Over 65s, and long hospital stays for under 65s	Full cost of eligible claims
1995	Over 65s, and long hospital stays for under 65s	79% of eligible claims
2007	Over 55s, and claims over $50,000	Varies by age, from 15% for age 55-59 to 82% for ages 85+; 82% for high cost claims

Since the introduction of the current arrangements in 2007, the proportion of costs equalised has increased from 38% to 46% of insured hospital claim costs. This increase in the proportion of costs pooled continues to create pressure on community-rated premiums, as the minimum premium for a policy has to cover that policy's portion of the pooled claim costs (and insurer expenses). Increases in the proportion of costs shared reduces the incentive for insurers to control costs (efficiency).

2.3 Policy settings

Retrospective vs prospective risk adjustment

The current RE system in Australia is retrospective in that it applies to actual costs and retrospectively redistributes the pooled claims between all SEU[1]s in the market. The key benefit of this approach is that it provides very good fit to actual claims, the level of subsidy closely matches the incurred costs, and age (the only adjustment factor) is a good proxy for morbidity risk. However, it limits the incentive to control costs for persons whose claims are predominantly pooled, for an 85-year-old customer, an insurer will only retain 18% of any savings achieved through cost containment mechanisms. Retrospective RE is also referred to as risk sharing.

An alternative to a retrospective system is to make the risk adjustment prospective. Instead of pooling claims based on actual incurred costs, funds could be redistributed in the industry based on the expected costs or risk profile of the customers of each fund. This creates the incentive to control costs that is missing from a retrospective system. If premiums are redistributed based on risk profile and an insurer receives a fixed contribution to the claims cost for a specific person, any costs above that level must be funded by the insurer. Therefore, any benefit from investments to contain costs (such as hospital substitution or preventive care) flow to the insurer directly.

Prospective RE leaves the insurer exposed to unpredictable extreme claims. Insurers may respond to this risk by increasing premiums, or attempting to reduce their exposure to policyholders who may need to make large claims (e.g. through product design and marketing choices).

Having considered these options, we have focused our investigations on a hybrid system combining both retrospective and prospective elements. Such a system would include prospective redistribution of premiums from funds with a relatively low risk customer base to those who have higher-risk customers, with a retrospective adjustment to cover the costs of extreme claims. The latter would be pooled in a similar way[2] to the high cost claims pool under current arrangements.

[1] SEU stands for single equivalent unit, and it the basis for RE calculations. Generally speaking, each insured adult is 1 SEU.

[2] The specific arrangements in the current system (which balances each States pool every quarter) could be retained, or adjustments could be made e.g. a calendar year / premium year / financial year approach. This should be decided as part of the final policy design.

A range of different prospective risk equalisation models are used internationally. The Netherlands has developed sophisticated prospective models which predict policyholder claim costs. Countries adopting prospective RE start with simpler models, which estimate claim costs based on a small number of risk adjusters such as age and sex. Where a simple prospective model is used, the addition of retrospective cost sharing ensures the RE system appropriately compensates insurers who cover people who need to make large claims.

Available settings to influence outcomes

The table below summarises the many settings which are able to be changed to achieve the desired outcomes of increasing incentives for insurer efficiency while maintaining access to cover.

Table 2.2 – Summary of policy settings for a hybrid system

Hybrid system setting	Choices and implications
Subset of population to include	The current system shares claim costs for only persons over the age of 55 (with the exception of the largest claims). This could be retained or different subgroups could be included based on age, health status, or other indicators.
Factors to use in setting prospective payments	Prospective redistribution of premiums could be based on a variety of different factors to define the expected claim cost. This could include age, sex, and various different morbidity (health status) indicators such as past hospitalisation or diagnoses.
Types of retrospective sharing	The current system combines two types of sharing (a specified portion of all costs, where the portion depends on age, plus a reinsurance arrangement for costs above $50,000 after sharing). Other options could include conventional reinsurance based on a cost threshold, a specified portion of all costs above an "expected" level, or a portion of costs for certain conditions or subgroups.
Symmetry of retrospective sharing	The current system is one-sided, with excess costs are pooled and shared among all participants. In a system with a prospective component, funds could also pool some of their savings for members whose claims were significantly below the prospective payment received. This would be symmetrical (sharing both costs and savings) but reduces the incentive for cost saving. International experience suggests this will be of limited usefulness in a system with only age-sex risk adjustment.
Factors to use in allocating the equalised costs to insurers	The current system requires insurers to make an equal contribution to fund the retrospective pool for each SEU covered. This could be adjusted to allow variable contributions on many factors, allowing insurers to lower prices for some products and support PHI affordability. However, our price elasticity studies (and other studies we have reviewed) indicate that small price reductions are unlikely to have a material impact on PHI participation.

International RE systems

The table below briefly summarises RE models used in various countries.

There are a range of health system and other differences between each country, including those relating to whether PHI participation is mandatory, the benefits covered by insurance, public health alternatives, and the regulations applying to insurers and providers. The feature which makes these countries useful reference points is health insurance which uses a form of community rating, and therefore require RE.

Differences between the systems will impact the data available to determine risk adjusters, and constrain how stakeholders can respond to efficiency incentives. In particular, the differences between health systems are not relevant to the choice of whether or not to introduce prospective elements into the RE design.

Table 2.3 – Summary of International RE systems

Country	Risk sharing (retrospective RE)	Risk adjustment (prospective RE)
Australia	Proportional risk sharing	
Ireland	Shared hospital costs and experience rating of premiums	Demographic
Chile		Demographic
Switzerland	Proportional risk sharing of hospital costs	Demographic, health factors
USA	Depends on sector. Limited reinsurance in Marketplaces; otherwise little risk sharing	Demographic, health factors
Germany	High-cost risk pooling	Demographic, health factors
Netherlands	Reinsurance for mental health costs	Demographic, socioeconomic, health factors

In the context of the international RE comparison, reinsurance refers to retrospective sharing of costs above a threshold. The Australian system includes only very limited large claim sharing, for claims costs exceeding $50k after age-based sharing.

Australia is the only country which has opted to have an entirely retrospective RE system. All the other countries use prospective RE, and most combine this with retrospective elements. Some countries use simple prospective factors reflecting only policyholder demographics, whereas others use more sophisticated models.

The Netherlands system has developed over more than 20 years, and RE reflects expected claim costs based on more than 10 categories of data, including demographic, socioeconomic, diagnosis and pharmacy data. Notably, the Netherlands initially had a simple prospective system with significant sharing, and has refined its RE arrangements over time, increasing the number of risk-adjustor variables and decreasing the reliance on risk sharing.

More generally, our investigations found international RE systems tend to change over time in response to data availability and stakeholder requirements. The risk adjustment factors are typically reset annually, and additional risk adjusters are added overtime in response to stakeholder feedback. An advantage of prospective models is that they provide a platform for change.

We are not recommending Australia mimic the RE system of any other country. Having considered the themes of the international experience, however, we conclude that:

- Including prospective elements in RE arrangements would bring Australia into line with typical practice.
- There are several examples of countries combining a simple prospective model with risk adjustment, and refining the RE system over time.

We have not identified any studies which measure the impact of introducing prospective RE on claim costs, premiums or any other factor. We understand this is because it is not possible to identify the changes attributable to RE separately from other variables.

2.4 Goals, criteria and measures

As noted above, the goal for risk equalisation is to provide an incentive for efficiency while ensuring appropriate compensation to insurers who cover people with high expected claim costs. Providing appropriate compensation to insurers reduces incentives for insurer risk selection.

Three key criteria were identified for this process: access, equity and efficiency. This is underpinned by practicality, that is, finding options which can be implemented at reasonable cost (time and money).

Figure 2.1 – Project criteria

We also proposed measures to determine whether suggested solutions are an appropriate alternative. The measures and our assessment are set out in Section 3.7.

3 Key findings

3.1 Efficiency

We undertook an international literature review and considered Australian PHI data. We first consider whether there are opportunities for improvement, whether insurers would respond to incentives, and attempt to quantify benefits.

3.1.1 Opportunities to improvement

We have not identified any research suggesting the Australian health system (or indeed any other health system) is operating without any inefficiency.

Several Productivity Commission reports have explicitly considered Australian PHI. For example, the 2017 Productivity Commission report (Shifting the dial, 5-year productivity review) concluded that the RE system "has the serious disadvantage of lowering the incentive to invest in preventative care, because any gains made by one insurer are shared with the others. Where insurers are investing in prevention, they could readily lose 50 cents for every dollar of benefit they obtain from avoiding healthcare costs, which must weaken the commercial viability of such actions."

Two examples of opportunities for Australian PHIs to operate more efficiently include:

- Contracting more efficiently: Analysis of Australian PHI data shows differences in average claim costs between insurers, even after data is adjusted (to the extent possible) for other factors which might explain differences such as member age and location. If funds with above average costs are able to achieve average cost levels, we estimate a 6% reduction in claim costs.
- Wellness and prevention programs: The findings of the Productivity Commission report may explain why Australian PHI evidence is limited, however international research on the Vitality program (for example) suggests it is able to help participants avoid hospital admissions.

International studies show that restricting patient choice or clinical autonomy reduces average claim costs. These options are not under consideration in Australia, and are not enabled by changing RE. These international studies do demonstrate that insurers will respond to reduce average claim costs, to the extent permitted by regulation, if action is incentivised.

3.1.2 Insurer response to incentives

As set out in the Productivity Commission report quoted above, high levels of sharing reduce the incentive for insurers to invest in programs which reduce cost. Changing RE to reduce the level of retrospective sharing will increase the incentive for insurers to operate efficiently. Insurers who do not act on those incentives will find they are at a competitive disadvantage.

It will take time for insurers to develop tools to operate more efficiently, for example, by developing effective prevention and wellness programs, and provider contracting tools.

Differences in average claim costs between insurer may indicate that the current system is not efficient at communicating differences in fund performance and controlling costs to policyholders. Regulatory action to provide funds with greater visibility of differences in average claim cost may assist funds in identifying opportunities to operate more efficiently.

3.1.3 Quantification

Unfortunately, the efficiency impacts of changing RE cannot be precisely quantified. We have not identified studies in other jurisdictions which quantify the impact of changing the level of retrospective sharing in RE. We understand this may be because RE systems tend to change progressively over time, and the insurer responses also occur over an extended period. The incremental change in claim costs due to RE can therefore not be separated from other changes occurring in the same period.

While no precise quantification is possible, we consider an efficiency dividend in the order of 6% would be a realistic target if incentives for cost containment increased, with any savings to occur over several years. This is a necessarily judgemental assumption, and higher or lower estimates could also be supported. We did not did not select a materially lower assumption given the opportunities indicated by differences in average costs between insurers, and research on the benefits of prevention programs overseas. However, we did not select a materially higher assumption, given RE is only one of many PHI system policies, and patient choice and clinical autonomy will not be constrained.

Updating Australia's RE system to reflect more typical international practice would have a positive impact on premium rates. However, RE changes on their own will not have a material short term impact on PHI affordability.

3.2 How does the current RE system perform against the criteria?

The main findings of our review of the current risk equalisation arrangements are:

- The size of the risk equalisation pool has increased at a faster rate than overall hospital benefits, so that a greater proportion of benefits is pooled each year. This reduces incentives for individual insurers to manage their costs, which puts inflationary pressure on premiums.
- While risk sharing reduces risk selection incentives, this is only true for the groups included in risk sharing. Pregnancy and mental health claims for persons under the age of 55 are typically not covered due to age definitions.
- PHI needs to be attractive to younger Australians in order for community rating to remain viable, however participation rates have been falling for these groups. Better incentives for cost control may help reduce premiums, but other policy responses may be required to incentivise participation.

The table below summarises the key strengths and limitations of the current risk equalisation arrangements.

Table 3.1 – Strengths and limitations

Strengths	Limiting factors
Simple established calculations based on prescribed formula.	Results in a high flagfall premium, particularly for young people, where this can be a large proportion of income.
Age is a proxy for risk at older ages, and the system does largely equalise costs by age.	The risk equalisation pool has inevitably grown over time, making it more challenging to provide value to those in good health.
Covers most of the cost of large cost per period (over $50k), reducing volatility for smaller funds.	Competition in the market can be focused on risk selection by product exclusions, leading to risk stratification. This compromises affordability for those requiring comprehensive cover.

Strengths	Limiting factors
Compulsory for all funds to participate in risk equalisation	Risk equalisation only includes benefits based on age bands but allows funds to risk select on other predictable variables, such as region and socio-demographic predictors.
	Retrospective claims equalisation does not provide incentives for funds to reduce predictable claims. For example, it fails to incorporate chronic disease as a variable amenable to management.
	A failure to contain future claim costs will result in greater pressure on premium and hence affordability.
	Quarterly net cashflows to/from risk equalisation can be unpredictable, for example, if a large fund is experiencing backlogs in claim payments.
	No standard benefits package on which claims experience is assessed.
	No regular review or update of risk equalisation system parameters.

3.3 Prospective risk equalisation ensures incentives for cost control

The current RE system in Australia is based on retrospective sharing of claim costs. Funds are pooled and redistributed between funds based on actual claims of the persons included in the sharing scheme (based on age and high cost claims). While this ensures that the payments closely approximate the costs incurred by insurers, it limits the incentive for cost control. If claims for an elderly customer are almost entirely reimbursed by the risk equalisation pool, the insurer will have a very low return on investment for any effort to contain the claims of that person (for example, through hospital substitution or preventive care offerings).

Prospective risk adjustment offers an improved policy compared to a retrospective claim sharing system:

- Since it is based on expected rather than actual cost, insurers are reimbursed based on the profile of members covered rather than actual costs incurred.
- If the design of the system appropriately compensates insurers for the risk accepted in covering their members, there is less incentive to risk select.

If the risk equalisation for that same elderly customer was done prospectively, the insurer would receive a fixed payment amount (to supplement the community-rated premium received) which is intended to cover the expected cost of claims. Cost reductions achieved through insurer programs such as hospital substitution would not be shared with other insurers, offering a much stronger incentive to invest in such programs.

3.4 A hybrid system improves incentives for cost control, while maintaining the fit of the system

Payment system fit is measured using R^2 – type statistics, which show how closely the RE system matches actual costs incurred. The result ranges between 0% (lowest fit) and 100% (highest fit). High fit limits the incentive for insurers to risk select, ensuring policyholders with high expected claim costs can access appropriate cover.

The current system has very good fit, in excess of 75%. By comparison, the full prospective system in The Netherlands (which has the highest fit of any prospective system internationally) is less than 40%. The high fit in Australia is due to the heavy reliance on risk sharing. Introducing a hybrid system of the type we propose maintains a high fit but which much less reliance on risk sharing.

Implementing a simple prospective system without retrospective sharing is likely to reduce the system fit dramatically. Our testing showed that a prospective system based on age and sex alone has an R^2 measure of only 6%. Such a low fit exposes insurers to large losses, and the risk may be passed through to consumers through high prices or changes to product design.

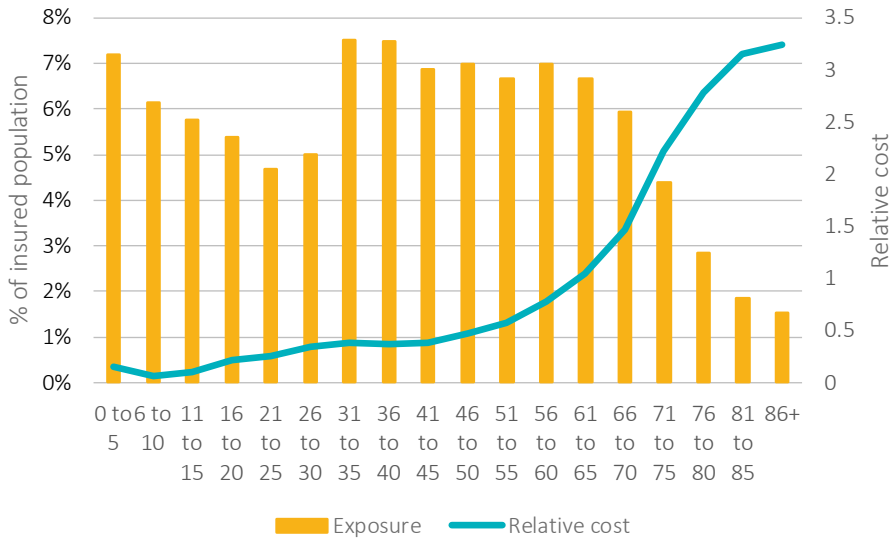
However, supplementing that same simple prospective system with a high cost claims sharing pool, which reimburses 90% of the excess[3] claim costs above $20,000 in a premium year[4] (for individuals whose annual hospital costs exceed this level) improves the fit to 71% - a close approximation to the current system's performance while retaining strong incentives for cost control.

3.5 What defines the likely level of claims for an individual customer?

We have tested a variety of factors that could be included in the prospective adjustment calculation to find the best predictors of cost. Our findings were as follows:

- Age: Age-based adjustment is a strong proxy for overall morbidity. The graph below shows how hospital benefit costs per person covered by PHI increase sharply from age 55 onwards. It is therefore necessary that RE transfers funds to insurers which cover older Australians. The result of this is increased financial viability for funds to offer products which meet the needs of higher cost and older people. In addition, the reduction in uncertainty enables such services at a reduced margin where insurers may otherwise have to increase the price to allow for uncertainty. This means improved affordability for individuals.

Figure 3.1 – Relative difference in annual costs per person, by age



[3] Excess claims in this context refers to claims above the level that was predicted in the prospective sharing system. If an insurer receives a premium of $1,000 for person A, and the prospective redistribution increases this by another $2,000, the retrospective sharing would apply for costs in excess of $23,000 in that year.

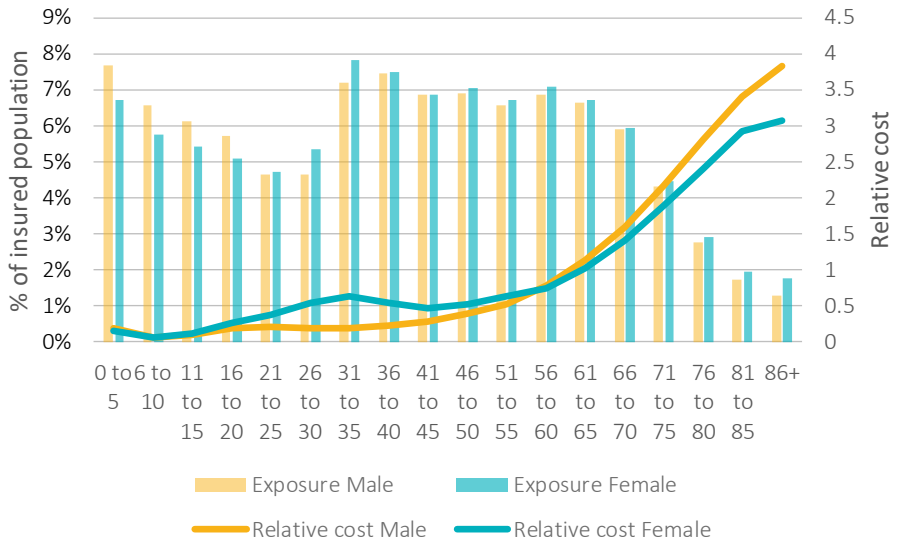
[4] We have assessed the impact of $20,000 costs over a full year, modelled per premium year. Both the attachment point at $20,000 and the practicality of applying it over a full premium year should be considered as part of the design of the desired new system.

- Sex: The difference between claims for men and women vary by age, as shown in the graph below. Until age 55, the average cost for women is higher than men, at which point it reverses. If no adjustment is made for sex in an age-adjusted prospective system, funds would be under-compensated for insuring younger women and over-compensated for older women.

  Furthermore, including sex in RE would be fairly straightforward, as it is data already collected by insurers.

  Premiums charged by insurers do not vary based on policyholder sex or age, and this would continue to be the case. RE transfers funds between insurers to reflect predicable differences in claim costs, however there can be no price discrimination against policyholders based on sex or age.

Figure 3.2 – Relative difference in annual costs per person, by age and sex



- Health status – past claims: The international comparison showed some jurisdictions use health status as a risk adjuster. We investigated claim costs as these are one of the few indicators of health status available to health insurers. We expect superior health status indicators could be developed if claim costs were combined with other health data such as pharmacy records, although note a range of practical barriers in undertaking such a study (including those relating to legal and privacy concerns).

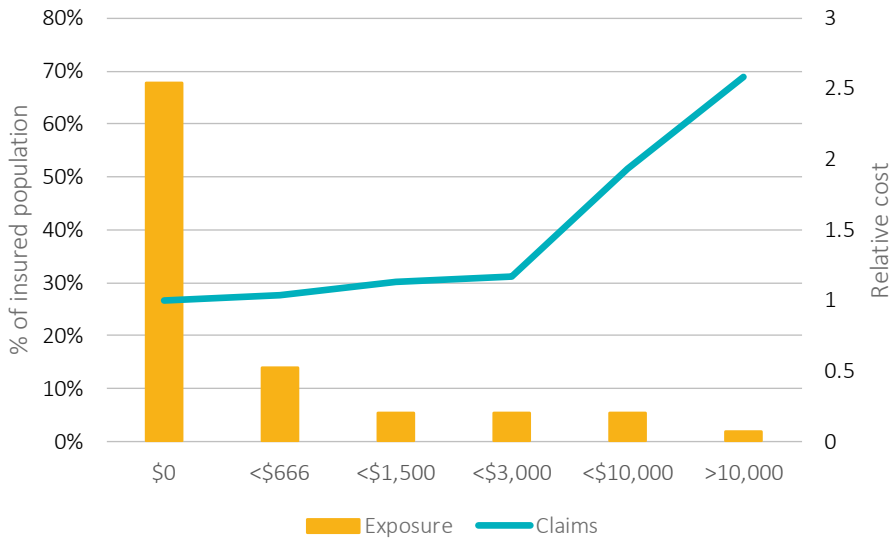
  The total hospital benefit claims for each person over the last three years was found to be highly predictive of costs, even after adjusting for all other factors including age and sex. While there is little variation if claims were less than $3,000 over the last three years, a person who claimed in excess of $10,000 in the last three years typically claims 2.5 times more than someone who had no claims, all else being equal. In a prospective risk equalisation system that does not include this as a factor, an insurer would receive the same prospective adjustment for two customers, one of whom had claimed a large amount in the last few years and the other had no claims. The insurer is likely to be over-compensated for the customer with no past claims and under-compensated for the person with high past claims.

  This analysis does not adjust for factors such as excesses, which add an additional layer of complexity. Two patients may appear to both have claimed $750 in the last year, but if one of them has a product with no excess and the other has a $750 excess, the actual claim for the latter would be double that of the person with no excess. Implementing a system that incorporates this complexity for Australia is likely to require further analysis to ensure fairness. The results modelled in this project were based on benefits paid by insurers.

  An additional data requirement for using past claims in risk equalisation would be that past claims per person is either shared between insurers when a customer moves from one insurer to another, or

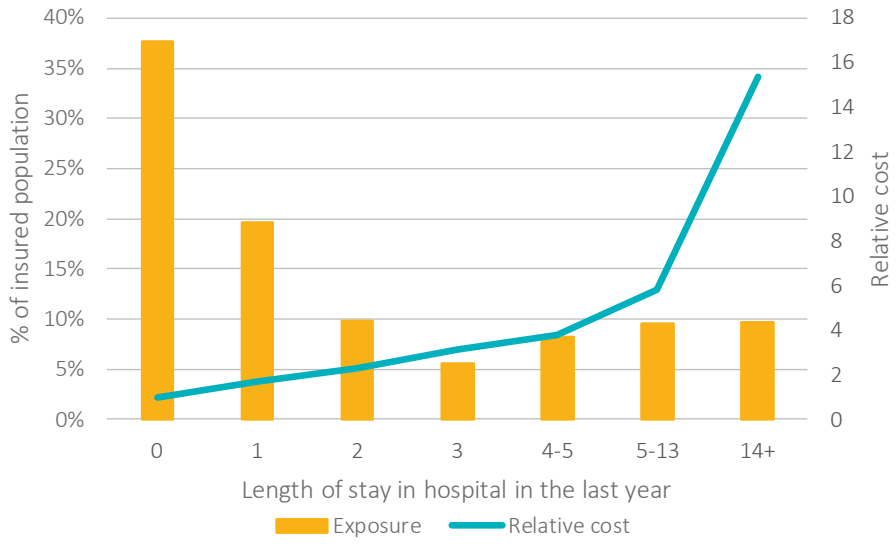
shared to a central data repository which would require unique identifiers for each PHI customer. Our analysis excluded persons for whom no past claims history was available at their current insurer (around 10% of records).

Figure 3.3 – Relative difference in drawing rate, based on amount of hospital benefit claims in the last 3 years



- Health status - Number of days in hospital: The total number of days that a person spent in hospital in the last year is another health status indicator available to insurers. This is also an important predictor of cost, even after adjusting for age, sex, cost and other factors. A person of the same age, sex and cost who spent more than 14 days in hospital is expected to be 15 times more expensive in the following year than a person who spent less than a day in hospital.

Figure 3.4 – Relative difference in drawing rate, based on number of days in hospital in the previous year

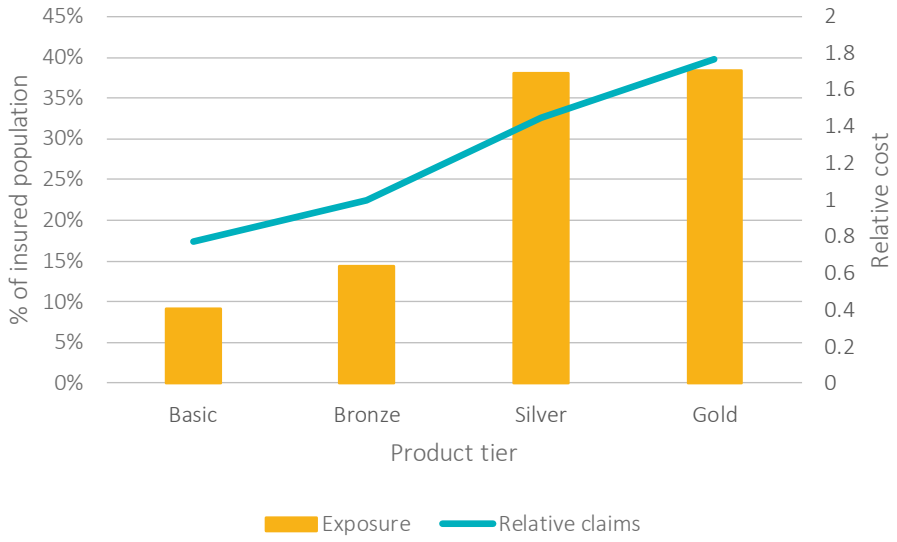


In these investigations, past claims cost and past length of stay have been shown to be important predictors of future cost, but they are still only proxy indicators for true morbidity risk. Countries that have broad prospective adjustment for claims cost, such as the Netherlands, typically use diagnostic information captured through DRG or ICD-10 information, or more sophisticated proxies such as pharmacy cost groups. The latter is a mechanism

to identify, for example, diabetes patients through their insulin prescriptions. Hospital Casemix Protocol data may provide a basis to include health status in Australian PHI.

- Product tier: Policyholder with higher benefits, e.g. those on a Gold tier product, will have higher average claim costs than those with less benefits, e.g. on Bronze. This is also what we found in the insurer data investigated. A person on a Gold product (with the same age, sex, and past costs) has average claim costs almost twice the level of a Bronze product. This is not only a result of claims for those categories that are only covered on Gold, such as mental health or pregnancy, but reflects self-selection by persons who expect that they may have a high need for medical care.

Figure 3.5 – Relative difference in drawing rate, based on product tier



Product tier adds additional complexity to RE since insurers are already allowed to implement differential prices for different product tiers. The current system includes implicit cross-subsidies from lower tiers to higher tiers, as all product tiers have the same calculated deficit used to support claims (which mostly originates from the higher tiers).

Changing the RE systems provides an opportunity to review and, if appropriate, adjust the level of cross-subsidy between tier. Alternatively, a new RE system could be calibrated such that there is minimal impact on pricing by tier on implementation, while retaining the ability for regulators to make future adjustments. The level of cross-subsidy between tiers would become an explicit choice for the regulator.

We explore product tier further in Attachment A.

Conclusion:

The Table 3.2 summarises our view and recommendation of various risk adjusters.

Table 3.2 – Recommendations for various risk adjusters

Consideration	Age, sex	Health indicator	Product tier	Other factors
High predictive power	Yes	Yes	Yes	Other potential factors include as sociol-economic status, or regional/metro location. These could have predictive power but have not been investigated in detail.
Confidence in definition	Yes	No	Yes	Varies
Implementable	Yes	Yes (although potentially not immediately)	Challenging, since insurers can respond through pricing	Varies
Used in international prospective RE schemes	Yes	Yes	N/A (Other jurisdictions use a standard product)	Not in initial implementation
Recommendation	Likely feature	Data should be collected to allow future use	The level of subsidy between tiers becomes an explicit decision by the regulator. Relative premium by tier could remain consistent with the current arrangements, or adjusted to achieve target outcomes.	An adaptable RE system that would allow future consideration

It is not practical to immediately include all of the desirable risk adjusters in an Australian RE system. Some of the required data is not currently collected by insurers. Even if data was available, rapid implementation may result in a sharp discontinuity in experience for individual funds or their members.

Other nations that moved to implement prospective models have typically done so over a prolonged period. However, a hybrid system that includes prospective and retrospective elements will improve incentives for efficiency while retaining all the preferred features of the existing system. This can be used as an initial step towards a more comprehensive adjustment, if this is chosen as a policy goal.

3.6 Is a hybrid system better at providing support for high risk groups?

We considered how mental health claims are supported under the current system, and whether a simple hybrid system would have improved results. The key findings are as follows. We note that other vulnerable groups could be considered as part of an implementation planning.

- Funds receive less compensation for mental health claims than other claim types under the current system. Since mental health claimants are typically younger than persons who claim for other types,

67% of persons who claimed for in-hospital psychiatric care were entirely excluded from the risk equalisation pool. By comparison, only 42% of other claimants did not have any claims pooled. Furthermore, mental health claims are more expensive than others, with an annual cost per person of more than $25,000 compared to $7,100 for persons who claimed for other benefits. Pooling a lower proportion of claims, especially if they are also more expensive claims, results in a significant disincentive for funds to cover mental health claims.

- Better reimbursement for mental health claimants is possible under a simple hybrid system. As shown in the table below, a hybrid system offers better support to funds for mental health claimants than the current system, while improving incentives for cost control through a reduction in the overall proportion of costs shared retrospectively. In the current system, mental health claims are shared at a lower rate than other claims, with the reverse being true under a simple hybrid system.

Table 3.3 – Proportion of claimants and costs shared under current & simple hybrid system compared

	% of claimants whose costs are shared retrospectively		% of costs shared retrospectively	
Claimant type	Current system	Hybrid system	Current system	Hybrid system
Mental health claimant	41%	44%	35%	41%
Other claimant	58%	9%	47%	23%
All claimants	58%	10%	46%	23%

It is important to note that the hybrid we examined represents only one option for RE change. Alternative options could be developed which provide greater levels of support for groups where access to PHI can be improved. For example, our simple hybrid shares 90% of costs above $20k, but a lower threshold could be introduced for some claim types.

3.7 How will the results per fund change if a simple hybrid system were to be implemented?

While the objective of the study is to improve outcomes for policyholders, we have undertaken some analysis of the impact on other stakeholders. We have tested the financial impact of moving to a simple hybrid system on specific groupings of funds.

Table 3.4 – Change in net claims after risk equalisation – fund types

Groups	Change in claims net of risk equalisation
Not for profit	0.0%
For profit	0.0%
Open	0.1%
Restricted	-0.5%
Fund average age:	
Below 40	1.3%
41-45	-0.1%
Above 45	-2.9%

The model tested did not bias towards for-profit funds or not-for-profit funds.

Open funds had a slightly higher net benefit cost (i.e. slightly lower reimbursement from the risk equalisation pool) with the opposite true of restricted funds; similarly funds with a younger membership would receive slightly less support and funds with older membership would receive more support.

We note again that this is just one possible hybrid RE model, with results from one time period. While the impacts on net RE cost/benefit are small in percentage terms, if these movements are considered problematic this could be addressed through scheme design changes. Alternatively, movements could be addressed through implementation and transition, for example, phasing RE changes over several years. When the design for a new RE policy is being finalised, an implementation planning should be conducted to derive the likely impact of that scheme design on the relevant stakeholders.

We provide further information on insurer impact and stakeholder feedback in Attachment C.

3.8 The current system compared to a hybrid – on the criteria and measures

We proposed measures to determine whether suggested solutions are an appropriate alternative. The conclusions are based on analysis of a simple hybrid model (sharing 90% of claims above $20k) and actual data from 35 health insurers.

Table 3.5 – Criteria, measures and conclusions

Consideration	Rationale	Measure
Are incentives for efficiency improved? [Efficiency]	Reducing the proportion shared creates stronger incentives for insurers to control costs.	Proportion of claim costs shared: Current = 47% Revised = 23%
What is the statistical variation in spending? [Equity] The degree to which the combination of risk equalisation and risk sharing reduce variation; level playing field for insurers covering those with higher or lower healthcare needs	Individual Fit: Payment System Fit, R^2; (e.g. insurers with high shares of elderly will not be disadvantaged compared to those with high shares of young).	R^2 measure (where 100% is highest fit): Current = 76% Revised = Can maintain at 70-75%
To what extent are incentives for risk selection reduced? Under/Over compensation, the degree to which there is a systematic difference between expected revenues and expected costs for particular groups.	Lower under/overcompensations imply smaller incentives for risk selection. This in turn results in better incentives to meet preferences of groups with specific needs, and better incentives for insurers to invest in the efficiency of healthcare rather than in risk selection. Groups can be defined on the basis of age and, subject to testing, by number of previous hospitalisations.	Mild improvement when age, sex, state used. Material improvement when a health status indicator like prior hospitalisation is included. Refer to Attachment B for more details.
How well does system protect of insurers against risk of large (unforeseen) losses? [Accessibility]	This prevents insurers from needing to ask high loading fees for uncertainty making insurance more attractive to consumers.	The current system uses risk sharing inefficiently because it directs risk sharing to low-cost cases

Consideration	Rationale	Measure
How much does it cost to set up and maintain the system? [Practicality]	Degree of burden depends on how much new information is required, and on the cost and effort of collecting that information.	All rely on information already collected. No significant additional administrative burden on insurers, although there would be some initial costs due to system changes.
Does the platform allow for future improvements and adaptability? [Practicality]	Support further improvement and provides a basis for incorporation of additional risk adjustors	Current system does not allow adaptation

We developed the criteria following extensive consultation with stakeholders. If the criteria are current, then hybrid RE is superior to the current system.

4 How will we get there?

The current system can be improved in the short term by making immediate reforms that address the issues in the current system, as noted above.

4.1 Step 1: Introduce a simple hybrid system

Using data already collected by Australian insurers (age and sex), introduce a hybrid model. This offers better incentives for cost control and more appropriate support for funds covering some high-risk groups (such as mental health and pregnancy), while having excellent fit to the data. Furthermore, this offers a policy chassis that can be expanded upon in later iterations of the risk equalisation system.

The risk equalisation system would have a prospective component, where premiums are equalised between all insurers based on the relative risk profile of the customers of each fund. Note that this adjustment does not necessarily impede the profit margin inherent in different funds' pricing structures as the prospective adjustment is based on the *difference* in claims expected for a specific group (based on age and sex, and adjusted for product tier if included), compared to the claims expected for the industry as a whole. Whether the fund includes a large or small profit target in their pricing does not impact on the amount they would receive from or contribute to the pool for the relative risk difference.

The retrospective component would continue to work in the same way as the current high cost claims pool, with all claims meeting the threshold (for example, 90% of all claims exceeding $20,000 for an individual in a year is pooled), and distributed between all funds.

This offers the following specific advantages above the current system:

- The age-sex cell weights are straightforward to recalibrate as patterns of healthcare change over time. Regular (e.g. annual) recalibration ensures that the system remains appropriate and captures changes in healthcare delivery.
- Risk adjustment by age and sex ensures that there is no systemic over- or under-compensation for the age classes included as risk adjusters.
- This system forms the basis for potentially incorporating additional risk adjustor variables, for example an indicator of health status (such as prior hospitalisation count).
- Lower retrospective sharing (reducing the systemic retrospective sharing from 46% to 23%) improves incentives to control claim costs, while maintaining a high sharing of high cost claims provides protection to insurers against outlier claims.

The table below summarises the implementation path for a simple hybrid system:

Table 4.1 – Transition path for simple hybrid RE

Transition step	Description
Confirm high level design	As above, we recommend a simple design with risk adjustment and targeted risk sharing.
Regulation and monitoring	Identify responsibility for setting risk adjustment parameters, scheme administration, evaluation and monitoring. A single regulator could be responsible for all activities, but it is more likely that multiple existing bodies would provide the required range of capabilities.

Transition step	Description
Calibrate RE design	The simple hybrid model we have prepared could be recalibrated based on the most up-to-date experience. A range of alternative similar designs could also be considered; for example, different attachment points and percentage for sharing. Determine explicit adjustments for product tier. Consult on preferred scheme design, enabling insurers to conduct their own financial analysis of the implementation impact.
Confirm data impost	The initial data is already collected by APRA, so does not represent an additional data impost. Testing indicates a health status indicator would significantly enhance RE, so data requirements should be investigated.
Transition time	Agree appropriate time to adapt systems and develop tools to pursue efficiency opportunities. We consider a period of 2-3 years would be reasonable to transition to a simple hybrid RE system. This consists of 12-18 months to calibrate, test and consult on a proposal, and a further 12-18 months for funds to make system and other changes after the design is finalised.
Transfers	During transition, set up and demonstrate the process to transfer funds between insurers. We recommend quarterly RE transfers with an annual adjustment process.

4.2 Step 2: Monitor and evaluate

Through stakeholder engagement and data analysis, the new system can be evaluated to determine whether any unintended consequences have been experienced. Studies can also be undertaken into whether new incentives for cost containment are effective, and insurers are responding appropriately. PHI funds can contribute to this process by evaluating the barriers that prevent them from more effective cost containment, and the Department can consider addressing these barriers if they are policy-related.

Explicit criteria and metrics should be defined when the system is designed in order to ensure fair evaluation of system performance on an ongoing basis. This should include the criteria used in this project, but others may also be appropriate. Specific criteria to monitor include:

- Proportion of claims shared
- Analysis of the extent to which insurers are under or overcompensated for predictable differences in claim cost. This should be analysed:
  - By age, sex, and product tier.
  - By identifiable indicators of health status such as prior claim history.
  - For vulnerable groups who may have challenges accessing affordable cover, such as those who requirement treatment for mental health.
- Differences in average costs by insurer, and the extent to which there are differences between funds.
- Investment by insurers in prevention programs, and insurer assessments of the effectiveness of these programs.

- Qualitative feedback on areas where PHI is not meeting policyholder needs. When the RE system is reviewed, this will allow consideration of whether RE is contributing to these issues, or could be used to incentivise better outcomes.

Data audit and verification measures should be considered as an ongoing part of the implementation. In practice, implementing any new system could include a year or more of shadow implementation where no change is made in how funds are moved, but each fund provides the data and receives the calculation results that would have been in place had implementation already been concluded.

4.3 Step 3: Longer term refinement

Insurers can be required to collect and report new data for the purpose of refining risk equalisation, of which a health status indicator may be the first additional risk adjuster to include in future. A clear definition can be set up front, with funds reporting data on this basis before it is implemented as a feature of the risk equalisation model. For example, if the health status indicator is a count of the number of hospitalisations for an individual in the 12 months prior, definitional clarity is required on what a hospitalisation means. Inclusion or not of outpatient treatment, public hospital admissions, readmissions within a short period, rehabilitation at a separate facility, and other grey areas which could lead to discontinuities in the data if not clarified upfront.

The system can continuously be improved as better data and richer insights become available. A possible timeframe would be to collect health status data during a 24-month period, which could be initiated prior to the commencement of a hybrid RE system. It would then be reasonable to allow 12 months to review the experience, propose and consult on a new risk adjuster, and implement the RE changes.

5 Conclusions and Recommendations

This study examines what PHI RE arrangements best support the overall health system to achieve the goals of universal access, good quality outcomes provided efficiently, and affordability for the community and individuals. The approach has been to evaluate the current system and to develop and assess options for improvement following international research and experience. In the light of the analysis and models used in the analysis, some powerful conclusions and messages emerge.

After considering these overarching themes, this chapter lists the specific conclusions and recommendations of the Study. These concern the following areas:

- Key Conclusions: Evaluation of the current system.
- Recommendations: Four main components:
  - > The essential recommendation for the design
  - > Recommendations for transition and implementing the design
  - > Recommendations for PHI sustainability over the longer term
  - > Other recommendations and observations.

5.1 Key conclusions

Here we explored the question – Are there shortcomings in the current system? Importantly, we looked at whether identified shortcomings were validated by international research and on actual data for PHI in Australia.

1 Our first key conclusion is that the current system has some ***crucial shortcomings***, principally:

- ***Incentives for efficiency are undermined,*** both in terms of negotiating lower claims costs and preventative initiatives to reduce hospital utilisation. This is a result of relying exclusively and heavily on risk sharing for RE. More specifically, in the current scheme a one-dollar higher (lower) claims cost results in a more than 45 cents higher (lower) RE payment, which greatly mitigates incentives for cost control.
- The current system confronts insurers with ***incentives for risk selection***. This has negative effects such as:
  - > Inefficient product design for people with specific healthcare needs (since these people are unprofitable to insurers)
  - > Reduced incentives for insurers to invest in the efficiency of healthcare, since risk selection might be a more effective strategy for reducing claims cost
  - > Absence of a level playing field, since insurers with disproportionate shares of elderly and chronically ill enrolees may have to charge relatively higher premiums.
- The current system does not include a ***platform for future improvement.***

2 Our second key conclusion is that ***international research and experience*** provide promising alternatives:

- Other countries like the Netherlands, Switzerland, Ireland and the United States use 'risk adjustment' as a tool for RE. Risk adjustment means that RE payments are based on *expected* claims costs rather than *actual* claims costs (as is the case with risk sharing). An advantage of risk adjustment over risk sharing is

that risk adjustment can mitigate selection incentives while (largely) maintaining incentives for efficiency.

- Other countries use targeted forms of risk sharing. Where the current Australian system heavily relies on proportional risk sharing, these targeted forms of risk sharing focus on risk sharing payments to outliers in claims costs. International research has demonstrated that outlier-risk sharing is:
  - > A useful supplement to risk adjustment for reducing selection incentives and,
  - > A powerful tool for protecting insurers against the risk of large (unforeseen) losses.

3 Our third key conclusion is that ***simulations on actual data from the Australian PHI sector*** show empirically that alternative designs indeed outperform the current system. A summary of the analysis was included in Section 3.8, and in the Attachments. Compared to the current system, the alternative system:

- Reduces incentives for risk selection, improving incentives for insurers to meet preferences of high-risk people and level the playing field.
- Results in higher incentives for efficiency, improving incentives for insurers to negotiate lower prices and avoid unnecessary treatments.
- Provides a platform for future change, including allowing for adding new risk adjustors and/or changing the level of risk sharing.

5.2 Recommendations

5.2.1 The Essential Recommendation

The identification of shortcomings raises the question - Is there a better long-term alternative vision for RE? The conclusions above led us to the following key recommendation:

1 **Replace the current Age-Based Pool (ABP) and High-Cost Claims Pool (HCCP) with a hybrid RE system that combines risk adjustment with a targeted form of risk sharing, and provides a platform for improvement.**

The new system prospectively redistributes premium revenues on the basis of age, sex and possibly other policyholder characteristics (a form of risk adjustment). In addition, the new system retrospectivity redistributes outliers in policyholder claims costs (a form of risk sharing also known as reinsurance).

The new system involves a commitment to evolve that allows for the future addition of new risk adjustors (such as health indicators) and modifications of the claims cost threshold used for risk sharing.

5.2.2 Recommended Transition for Implementing the Design

This section explores the pathway towards the longer-term alternative identified and in particular the question of: Is there a practical transition pathway towards the long-term vision? This results in a list of more detailed recommendations regarding implementation and transition pathway. The following recommendations relate to transitioning to the improved design principles committed to in Recommendation 1:

2 **Implement a simple hybrid RE system: Replace the current ABP and HCCP with a simple hybrid system that combines risk adjustment and a high degree of risk sharing.**

A simple hybrid system is better all-around than the current model against criteria shown in this report.

The key components include:

- Risk adjustment (age, sex-based and geographical state).
- Targeted risk sharing (reinsurance).

This reduces selection incentives, increases efficiency incentives due to a substantial reduction in retrospective sharing, and platform for improvement as data quality improves and additional risk-adjustor variables can be added.

3 **Risk Adjusters: The analysis indicates risk adjusters of age, sex and state for initial implementation together with a system that allows a platform for adding further risk adjustment when calibrated.**

- Start with: age in 5-year groupings (0-5, 5-10 etc), sex and state. This data is already collected for RE and could be established to run as risk adjusters in a target transition time of 2-3 years.
- Consider developing: health-based risk adjusters are collected for the future. This can include hospitalisations, Diagnosis-related group (DRG), and Clinical category. Our testing (summarised in Attachment B) shows that including indicators of health status in risk adjustment offers significant improvement. This may take six years to gather, build credibility and implement.

4 **Risk Sharing involving an attachment point and a proportion shared.**

The simulation analysis tested a number of options and, while not purporting to be optimum, an attachment of $20,000 annual cost and a 90% proportion shared for costs above this tested well. These settings can be reviewed annually. The extent of risk sharing can be reduced as risk adjustment improves.

5 **The RE pool transfers to insurers continue to operate on a quarterly basis with an annual review process to balance the accounts.**

A process can be set up by the regulator to show the cashflows at work. The annual review process would review both risk adjusters and risk sharing including the attachment point and proportion shared, to meet the commitment of ongoing improvements.

5.2.3 Recommendations for sustainability

This section includes recommendations for sustainability over the long term.

6 **A regulator**: Identifying a 'regulator' to take responsibility of setting the risk adjustment parameters based on experience data. The regulator would require significant lead time to develop and implement the new capability required.

The options include APRA, IPHA and the Department. This is an important step and the body of our report sets out some of the important issues that the regulator will need to carry out.

7 **Evaluation and monitoring:** This is a vital part of a successful system that aims to evolve as a platform for improvement. We recommend that an ongoing process of evaluation and monitoring be established.

Evaluation and monitoring will likely include:

- Monitoring the predictable profits/losses that insurers face for covering various groups of policyholders.
- Monitoring indicators based on criteria and measures established in this study.
- Evaluate the opportunity to add risk adjusters, services or potential optimisation of product design.

- Creation of a forum for stakeholder collaboration, including industry experts and insurer representatives.
- Regular analysis provided to the regulator.

8 **Data Imposition** and Impact Assessment: We recommend the implementation process confirm the data impost on stakeholders.

- As set out in Section 4, the initial data (age, sex and state) are already collected by APRA quarterly, so does not represent an additional data impost.
- Health status: Testing of insurer data shows potential (refer Attachment B) but is not currently in a reliable state. IHPA and Department currently collect data that potentially could be available to this process without further imposition on insurers. The potential to use this data can be explored.

9 **Product coverage tiers:** The recommended approach is to implement a series of risk adjustor variables for coverage tiers in combination with a set of 'constraints' on the coefficients (payment weights) for these variables.

A longer-term superior design may include a standard benefit package, however PHI currently includes Gold/Silver/Bronze/Basic product tiers. There are cross-subsidies from lower to higher tiers. Changes in the RE system can affect the size of these cross-subsidies and thereby affect premiums. This can be managed by making a transparent policy decision on the intended premium structure across tiers. This need not be rigid and is a policy setting to decide on annually. Refer to Attachment A for further details.

5.2.4 Other recommendations and further considerations

Other recommendations are:

9 **Stakeholder Impact:** Our analysis indicates the financial impact on implementation is not material for most insurers (refer Attachment C).

We recommend insurers be enabled to conduct their own analysis considering their specific policies. We suggest mechanisms which cap variances where insurers have a short-term transition issue.

10 **Transition time***:* Given the need to develop tools for efficiency and adapt to a new system, it is recommended that an appropriate transition time be identified and agreed upon.

We have suggested transition times in this study, though it is expected these may be adjusted as experience emerges.

There are a number of important observations for further consideration:

- **Tools for efficiency**: The RE system can be enhanced to increase the incentives for efficiency. Acting on these incentives will require tools (for example 'contracting') to be in place for actors within the system. We suggest a process for insurers to identify and invest in development of the required tools.
- A further consideration is whether government contributes to the RE pool particularly in respect of vulnerable persons. In this case, the pool should not always be considered a 'zero sum game' between private health insurers.
- Mental Health is just one example of a high cost area that will need to have appropriate RE. We showed the hybrid model is better than the current model at sharing mental health claims, and this would apply to other similar claim types too. It is noted that many of the complex mental health treatments are in the public system, however, this is an example of a high cost area in private health.

The RE system alone cannot solve all affordability, efficiency and participation issues in PHI, as it is only one part of the system. However, effective RE is an important pre-condition for a successful community rated PHI system. If RE is not effective, the incentives for insurers are not aligned with public objectives, distorting the functioning of the healthcare systems with negative effects on affordability and efficiency.

5.3 Direction for Next steps

This study contributes options in how to adapt RE in the future. This study has gone back to first principles to begin the process of finding answers, looking at learnings from international schemes and analysis of Australian PHI data. The analysis and recommendations highlight a preferred option for future direction, and implementation would represent a radical shift which will take time to organise. The next step is stakeholder engagement on implementation to ensure the first steps enable a transition towards enhancing the system. To that end we have collected some key themes and questions that stakeholders have raised (refer Attachment C).

6 Reliances and limitations

6.1 Distribution and Use

This report is provided for the sole use of Department for the purpose of understanding the findings of the RE study. It should be considered together with our previous RE reports, which provide more detail on our findings. The report is not intended, or necessarily suitable, for any other purpose. This report should only be relied on by the Department for the purpose for which it is intended.

No other distribution of the report is allowed, unless we give our approval in writing. Any third party receiving this report should not rely on it, and this report is not a substitute for their own due diligence. We accept no liability to third parties relying on the analyses and conclusions of this report.

Please read the report in full. If you only read part of the report, you may miss something important. If anything in the report is unclear, please contact us. We are always pleased to answer your questions.

6.2 Data provided

We relied on the completeness and accuracy of the information we received. This includes detailed data provided by Australian health funds.

We did not audit or verify the information provided to us, but have reviewed it for general reasonableness and consistency. If the information provided to us is inaccurate or incomplete, we may need to change our advice.

6.3 Uncertainty

Many things may change in the future. We have formed our views based on the current environment and what we know today. If future circumstances change, it is possible that our findings may not prove to be correct.

As well as difficulties caused by limitations on the historical information, outcomes remain dependent on future events, including legislative, social and economic forces. It is quite possible that one or more changes to the environment could produce an outcome materially different from that expected.

Attachments

A Product tier

A.1 Purpose

This attachment examines issues relating to product tiers and RE, and identify possible regulatory responses to accommodate product coverage tier differences within the RE system.

A.2 Background

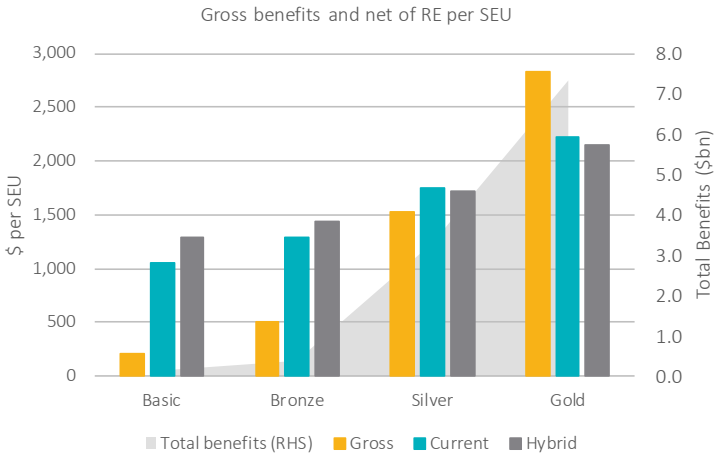
International RE examples often only apply to a standard package of cover, and applying the same approach in Australia is not recommended because it would reduce the support offered for claims from policyholders on comprehensive (Gold) cover.

Product tier is a challenging risk adjuster because it is also part of the premium structure. That is, changes in RE relating to product tier could have a material impact on the relative pricing of different product types, and consequently on economic efficiency (consumers choosing appropriate products). This is different from other risk adjusters such as age and health status, which cannot be reflected in pricing and so will not have such impacts. The impact on pricing will be a constraining factor in how product tier is included in RE.

A.3 Product tier under current and simple hybrid RE systems

The chart below shows the average benefits per person covered for each product tier. We also show the benefits after RE under both the current system, and the simple hybrid model we have presented in this report. The amounts quoted in this section reflect 2019/20 financials.

Table A.1 – Net benefits per SEU by product tier



Gross (before RE) benefits per person are lowest for Basic products and highest for Gold products. Under both the current and hybrid systems, Gold products are subsidised by other tiers, especially by Basic and Bronze.

The RE systems reduce the relative spread of benefit cost by tier, from 12% (Basic) to 155% (Gold) of average gross benefit cost per SEU to:

- 58% to 122% of average cost per SEU under current scheme

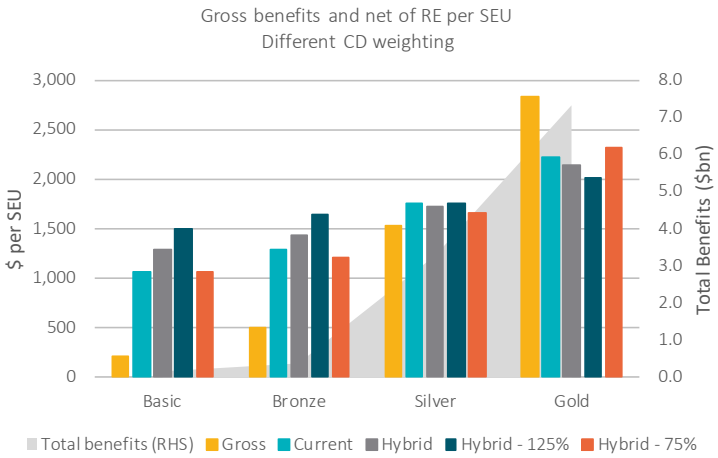
- 71% to 118% of average cost per SEU under hybrid scheme.

Under the simple hybrid system, assuming no explicit adjustment for product tier, the net benefit cost of Gold would reduce by $72 relative to the current scheme, meaning it would become more affordable if this was reflected in pricing. However, since this is a result of a deeper cross-subsidy from other products, Basic and Bronze products would increase in cost by $237 and $146 respectively.

With the possible exception of Basic policies, relative pricing by product tier under the hybrid model is similar to the current model. However, pricing could be more closely aligned to the current levels if this was considered desirable.

The above assumes that the calculated deficit is the same for each SEU within a state and independent of product tier. Changing this could change the relative affordability of each tier. For example, if the objective is to make Gold more affordable, an approximate 10% increase in calculated deficit paid by Basic and Bronze tiers (dark blue column, "hybrid 125%") would reduce calculated deficit paid by Gold tiers by 8% or $140. Alternatively, if the goal was to make lower coverage products more affordable, an 8% or $140 increase in the calculated deficit paid by Gold tier product holders would reduce the calculated deficit paid by Basic and Bronze tiers by nearly $200 (orange column, "hybrid 75%").

Table A.2 – Adjusting cross-subsidy by product tier



A.4 Adjusting risk equalisation scheme to achieve objectives

The price by tier is likely to change whatever the choice of RE risk adjusters, although mechanisms exist to fix price by tier at the level of the current system. Remaining with the current RE system also results in changes in price by tier over time, although there is currently no mechanism to adjust for this. The level of cross-subsidy is currently implicit in the RE calculations – we are not aware of any studies having been undertaken to determine the optimum level of cross-subsidy.

Changing the RE systems provides an opportunity to review and, if appropriate, adjust the level of cross-subsidy between tiers. Alternatively, adjustments could be made such that there is minimal impact on pricing by tier on implementation, but retain the ability for regulators to make future adjustments. The level of cross-subsidy between tiers would become an explicit choice for the regulator.

The tier issue should not be seen as a reason to retain the current RE system. Instead, this can be considered an opportunity to allow policy makers to set the level of cross-subsidies between tier explicitly, and with the option to maintain the current level of cross-subsidies if this is determined to be the preferred outcome.

There are multiple mechanisms which policymakers could apply to the RE system to change the level of cross-subsidies by tier. We demonstrated one possible mechanism (calculated deficit adjustment) above, and set out other considerations below:

A.4.1 Cross-subsidy - implicit or explicit

The cross-subsidy could be:

- Implicit – the level of cross-subsidisation is not transparent, but rather an outcome of the calculation methodology. For example, the current system for setting cross-subsidy is implicit as higher coverage products are more likely to receive from risk pool, but all SEUs contribute to risk pool equally.

  The level of subsidisation can be approximated at the start of the premium year, but its exact value is unknown, making it difficult to price by tier and/or target a specific level of cross-subsidisation. Insurers without a balanced portfolio will face greater levels of uncertainty.
- Explicit – a fixed level of cross-subsidisation stated in advance e.g. the calculated deficit per SEU by product tier announced at the same time as the ex-ante payment.

  This will assist insurers in their pricing, however for the RE system to remain zero sum it may still require a balancing step at end of year.

A combination of the two approaches could be used with a dollar value adjustment to the calculated deficit being announced at the commencement of the premium year which is then applied in addition to normal RE process. For example, this could be used to smooth transition of risk equalisation systems by setting adjustments in such a way as to bridge old and new systems, then reducing size of adjustment over time.

Another approach could be to explicitly state that under 30-year-olds will pay (say) 90% of the average calculated deficit, so that insurers would be more willing to offer aged based discounts to encourage participation. This will likely also improve cross-subsidisation by tier as younger cohorts will typically hold lower levels of cover, but may also assist young people who require Gold cover.

A.4.2 Level of cross-subsidy

The level of cross-subsidy can be controlled in multiple ways, for example, cross-subsidy between product tiers could be completely removed by pooling and sharing RE transfers within each product tier i.e. similar to state-based pools; however, this would also likely remove a lot of age cross-subsidisation. When determining the level of cross-subsidy, policymakers will need to consider:

- The objective of cross-subsidisation by tier.
- Which benefit categories or cohorts should be subsidised, and to what extent.
- How much additional should individuals contribute to their health costs as their expected claim costs increase?
- Whether the outcomes of the cross-subsidies are fair.

The RE system structure can then be adapted to support that subsidisation approach which could be done through adjustment of gross deficit and calculated deficit e.g. a low threshold for large claims will assist cross-subsidy risk of mental health claims, but a system which more equally shares benefits by age may reduce participation by younger cohorts by making entry level products more expensive.

A.4.3 Does impact need to be net zero across tiers

If a policy objective is to improve affordability of all tiers, or asymmetrically improve affordability of a particular tier (e.g. Gold) without impacting affordability of other tiers, a zero-sum RE system could not meet this objective (except as a secondary impact through better incentives for cost control).

Alternative sources of funding for the RE system could include tax funding or redirecting lifetime health cover loadings collected to the RE pool. This is not intended to be an exhaustive list, but rather to illustrate that a zero-sum risk equalisation pool is not the only option available.

Alternatively, a RE system that collects a higher calculated deficit than gross deficit (e.g. collects more than distributes) could be used to further subsidise very high cost claimants or claims categories (e.g. mental health or cancer).

A.5 Conclusions – Proposed approach

Private health insurance comprises several coverage tiers (Gold, Silver, Bronze, Basic). To the extent that the RE system compensates for spending differences across these tiers, people with Basic/Bronze plans will cross-subsidise those with more comprehensive plans. Such cross-subsidisation drives up premiums for Basic/Bronze plans and brings down premiums for Gold in particular. This affects the relative attractiveness of these coverage tiers and secondly, makes private health insurance less attractive for healthy people with moderate risk aversion.

The key focus questions are:

- What is the appropriate level of cross-subsidies across coverage tiers given the goals of PHI?
- How to incorporate such a decision in the RE system?

A.5.1 Finding: Some cross-subsidisation is desired across coverage tiers

The recommended approach is to implement a series of risk adjustor variables for coverage tiers in combination with a set of 'constraints' on the coefficients (payment weights) for these variables.

This constraint could be that the risk equalisation model should reduce the difference in mean spending between Gold and Basic to a pre-determined amount. Such a constraint could be implemented in the calculated deficit factors as demonstrated above.

A.5.2 Implications

The implications for stakeholders are as follows:

- Regulator – An explicit cross-subsidy between product coverage tiers would be a policy setting. Initially, this could be set at a similar level to the current system if desired. The system would require periodic recalibration, most likely annually, and ideally as input to the annual premium round.
- Insurers – Data would need to be submitted by product coverage tier.
- Policyholders – The cross-subsidy between payers will still affect the relative attractiveness of product coverage tiers.

B Under and over compensation

B.1 Purpose

An objective of RE is to ensure there is appropriate compensation of insurers who cover people with high expected claim costs. This section identifies how moving to the simple hybrid model would change the levels of under or over compensation of insurers.

The extent of under and over compensation is important because it provides incentives for insurer risk selection, for example, designing products which do not meet the needs of under compensated groups. Risk selection has several negative effects: inappropriate product design, reduced efforts by insurers to improve efficiency of care, and market distortions where an insurer covers large number of over or undercompensated individuals.

B.2 Overall impact by age

The total claims included in this analysis is $11.1b which represents $1,826 per SEU in the 2019/20 premium year. The table below shows the claims by age grouping before RE (gross), and after the two RE systems (net). We show the amounts graphically on the following figure.

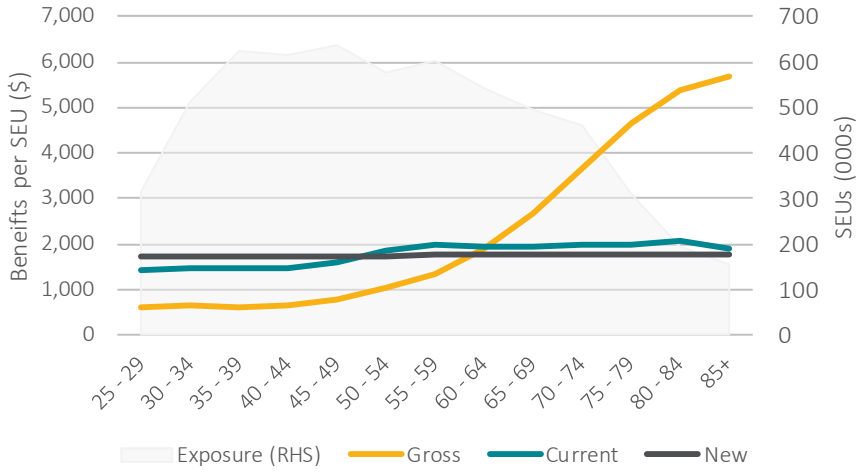
The analysis is limited to persons with a full year of exposure in the 2019/20 premium year. We exclude any persons who were only covered by the insurer for part of the year, as data is deidentified (meaning we cannot join memberships across insurers).

We do not show the cost per SEU calculation for persons under the age of 25, as a large proportion of this group are not counted as SEUs because they are dependents. All costs and SEUs are included in the total line.

Table B.1 – Benefits per SEU – before and after RE

	Average per SEU ($)		
	Gross	Current RE	Hybrid RE
25 - 29	588	1,423	1,730
30 - 34	640	1,483	1,733
35 - 39	622	1,465	1,735
40 - 44	629	1,472	1,736
45 - 49	767	1,603	1,740
50 - 54	1,028	1,846	1,743
55 - 59	1,345	1,972	1,745
60 - 64	1,875	1,928	1,746
65 - 69	2,662	1,927	1,749
70 - 74	3,643	1,961	1,754
75 - 79	4,635	1,983	1,758
80 - 84	5,405	2,062	1,764
85+	5,696	1,900	1,768
Total	1,826	1,826	1,826

Figure B.1 – Benefits per SEU – before and after RE



Per SEU, gross costs increase with age, which is to be expected as age is a proxy for morbidity. The current RE system mitigates these increases to a great extent, but persons above the age of 50 are still more expensive than the average while those younger than 50 have lower costs. A simple hybrid system performs better at equalising costs by age, as can be seen in the graph above.

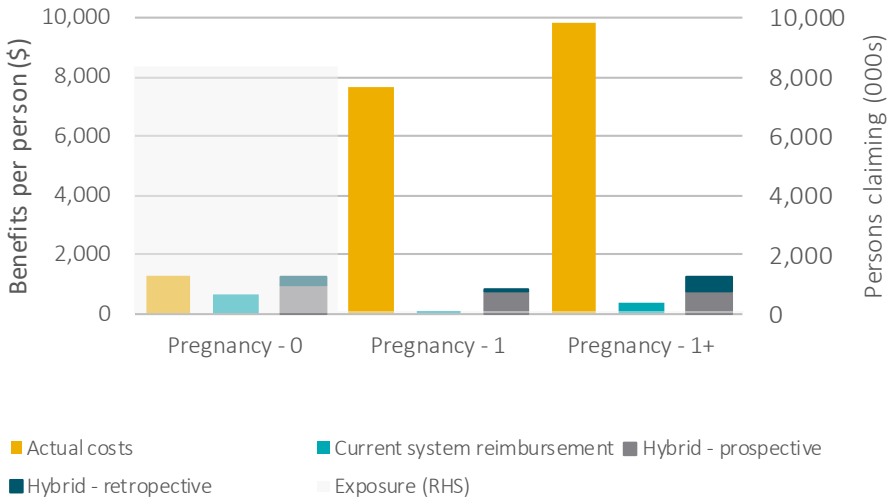
The simple hybrid system does not have any adjustment for product tier. This means that the ex-ante component (or premium redistribution), which captures the relative risk profile of each fund's members, ignores differences in product tier, and only determines expected cost based on age and sex. Currently, younger members are more likely to buy Basic or Bronze policies compared to older members, and vice versa for Gold policies for older members. However, this means that a 30-year-old policyholder with a Gold product is estimated to have the same risk profile as a 30-year-old with a Basic product, even though these two are likely to have very different costs. As explained in Attachment A, the recommended approach is to implement a series of risk adjustor variables for coverage tiers to make the cross-subsidisation between the tiers explicit.

B.3 Impact by subgroup - persons with a pregnancy claim

We also considered the levels of over or under compensation by people requiring particular types of treatment. Analysis for people accessing mental health treatment was set out in Section 3.6, and this section considers persons claiming for pregnancy.

The design of the current RE system provides minimal support for pregnancy claims. Typical pregnancy claims fall outside the ABP, which only starts at age 55, and the HCCP only reimburses for costs above $50,000 per person.

Figure B.2 – Claims and reimbursement from the RE system: Pregnancy



In this graph, all persons without a pregnancy claim are clustered in the first group, and persons with one or more pregnancy-related hospitalisations are shown in the second and third group respectively. From this graph, we note:

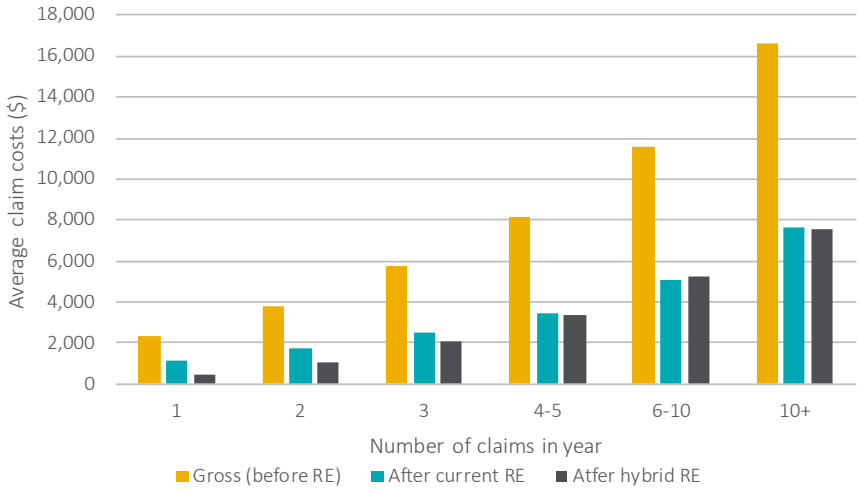
- Pregnancy claim costs to insurers typically average $7,000 to $10,000 per person (in yellow).
- The current RE system reimbursement (in teal) is lower for persons with pregnancy claims than for the average person.
- Under a hybrid prospective system, persons with pregnancy claims will still have a lower prospective premium redistribution than the average, since these are usually younger PHI members (in grey).
- The retrospective component of a simple hybrid system will provide very little support for persons with a single pregnancy admission (in dark blue), as it only covers claims above $20,000. However, once more than one admission in the year becomes necessary (which may be a proxy for a complicated pregnancy), more support is available.
- While the chart suggests neither system provides funds with strong support for the claims incurred for pregnancy, since the prospective adjustment is based on age and sex, funds will receive payment for all women insured during child bearing ages. Consequently, funds insuring large numbers of women would receive compensating adjustment under the new prospective system. The product tier adjustments set out in Attachment A remain important, since pregnancy is typically only covered on Gold products.

B.4 Impact by health status – number of hospitalisations

We consider number of hospitalisations as a proxy for health status.

As expected, persons who have multiple hospitalisations in a year are more expensive than those who have fewer or none, regardless of the type of hospitalisation. The figure below shows the average costs by number of hospitalisations in a year. We show actual costs (before RE) and amounts after RE under both the current and hybrid RE systems.

Figure B.3 – Average claim costs by number of hospitalisations



A simple hybrid system performs similar to the current system for persons with 4 or more hospitalisations, and reduces net claims for persons with 3 or fewer hospitalisations.

Note that it is the retrospective sharing component of the hybrid RE that ensures higher reimbursement for people making large numbers of claims, since the prospective element varies only with age and sex.

Under both the current and hybrid RE systems, funds are undercompensated for very high utilisation members because health status is not considered in the calculations. An advantage of moving to hybrid RE is that it is an adaptable system, meaning that health status indicators can be added at a later date. The table below shows the impact of adding simple health status indicators, based on information already available to health insurers. The risk adjusters are based on an individual's prior claims.

Table B.3 – Over and (under) compensation by RE model and number of prior hospitalisations

Number of prior hospitalisations	Current	Hybrid: Age, sex and number of prior hospitalisations	Hybrid: Age, sex and prior hospital length of stay	Hybrid: Age, sex, and prior hospital clinical category
1	(485)	781	(163)	185
2	(1,085)	27	(217)	181
3	(1,849)	(1,032)	(563)	(34)
4+	(4,388)	(4,000)	(2,784)	(1,185)

The table can be read as follows:

- The current system undercompensates insurers for members who make a large number of claims, that is, claims (after RE) exceed premiums.
  - > The reason this is problematic is that the losses will often be predictable, that is, insurers will know the types of products or members which are expected to be unprofitable. This creates opportunities for risk selection, which leads to adverse outcomes as set out at the start of this attachment.

- Including a risk adjuster based on number of hospitalisations in the prior year reduces the level of under compensation for people with one or two claims, however there are still losses for people with larger claims.
- Adding a risk adjuster based on prior length of stay or prior hospital clinical categories claimed reduces the level of under compensation for people making large numbers of claims.

We have suggested insurers provide data to allow a health status indicator to be included in RE at a later date. While the testing has indicated a health status indicator would reduce the level of over and under compensation, more analysis is necessary to identify the most appropriate indicator, undertake testing and determine any practical challenges. For example:

- If the health status indicator is a count of the number of hospitalisations for an individual in the 12 months prior, definitional clarity is required on what a hospitalisation means. Inclusion or not of outpatient treatment, public hospital admissions, readmissions within a short period, rehabilitation at a separate facility, and other grey areas which could lead to discontinuities in the data if not clarified upfront.
- Issues relating to new members and transfers between funds would also need to be considered, including what health status information is obtained and how this is verified.

B.5 Sharing arrangements

The simple hybrid RE model we have considered includes retrospective sharing of 90% of individual-level claims above $20k. The table below shows how different attachment points impact payment system fit and the percentage of claims shared. We also show the statistics for the current RE system.

Sharing model (attachment point)	Current RE model	$20k (preferred)	$15k	$30k
Payment system fit (R^2)				
High fit limits the incentives for insurer to risk select.	76%	72%	79%	58%
Percentage of claims shared				
Reducing the percentage shared created stronger incentives for efficiency.	47%	23%	30%	14%

The $20k attachment is preferred, because it results in a similar level of fit to the current RE system, while materially increasing the incentives for efficiency (by reducing the level of retrospective sharing).

A lower $15k attachment outperforms the current system in terms of both the level of fit, and the incentives for efficiency (due to less retrospective sharing). However, the current RE system already has a very high level of fit compared to international RE systems so increasing R^2 is not an objective.

A higher $30k attachment significantly reduces the level of retrospective sharing, so would provide much stronger incentives for efficiency than the other models. However the fit of this model is materially lower than the others shown, so incentives for risk selection may increase.

A $20k attachment has been selected because it provides a good balance between risk selection (fit) and efficiency (% shared) considerations. Different sharing arrangements could be adopted:

- At implementation, in response to stakeholder consultation.
- Over time, as additional prospective factors are added, and the requirement for retrospective sharing reduces.

B.6 Summary

The simple hybrid model we have tested closely reflects differences in expected claim costs by age and sex, because these are included as risk adjusters.

The current RE system has assumptions which vary by age, but only for older members. The hybrid system therefore better matches expected differences in claim costs by age and sex. In particular, it provides more support to insurers covering younger people who claim for pregnancy or mental health treatment.

Neither the current system nor the hybrid system includes health status, so will undercompensate insurers who cover people in poor health, who may require multiple hospital admissions in a year (all else being equal). Because the hybrid is an adaptable platform, a health status indicator can be added at a later date.

C Stakeholder impact

C.1 Purpose

This report provides further detail on the stakeholder impacts of moving to a simple hybrid RE model.

RE is a system for transferring funds between insurers, so the majority of this section is a financial analysis of insurer impacts. We have engaged with a range of insurers and other stakeholders, and summarise their feedback in this section.

C.2 Insurer financial impact

We calculated the net RE amount paid or received by each fund under both the current RE system and the simple hybrid model. We base our analysis on people who were covered by the same insurer throughout the 2019/20 pricing year.

This section does not identify any individual funds. Readers are also referred to the analysis in Section 3, which showed the impact by fund type (for-profit/not-for-profit, open/restricted) and by member age cohort.

RE currently redistributes almost half of all hospital claims, and therefore any change to RE will have some financial impact on individual insurers. If there is no tolerance for variation in fund level results, there can be no meaningful change to RE.

We estimated the change in net benefit per SEU, showing how the fund's benefit costs after all RE transfers would change from the current system to a simple hybrid system. For example, suppose a fund currently has $120 of benefit costs and receives $20 from the RE pool, giving net benefits $100. If under the new RE system the fund instead receives $15 net from the RE pool, the benefit change is +5% ($5 increase in net benefit from $100 and $105).

Of the 5 largest funds, two will have lower net claims (and higher reimbursement from RE), while 3 will have higher claims and lower reimbursement. The range of change in claims per SEU is from -2.6% to +2.2%.

Most of the variations for the smaller funds are also small, however there are some larger changes which may be considered problematic to individual funds. The overall change in net benefits per fund varies from 8.3% lower net benefits to 12% higher net benefits. We have investigated the funds with the largest variances (above 5%) and found that these are small funds with limited product sets, and mostly younger age cohorts. The product impacts mean the variances are expected to reduce if there is an explicit allowance for product tier with RE.

Should these variances be regarded as problematic, this could be addressed through the implementation phase of a new system. Mechanisms that could reduce these variances include, for example, by capping large variances for the first few years. This may mean that the new system is implemented but calculations continue to also be undertaken under the current RE system.

A capping arrangement could operate by comparing results under the old and new systems, with adjustments made such that no fund will have an impact outside an acceptable range (say -5% to 5%). Impacts outside this range can be redistributed among all funds through a temporary implementation risk sharing pool. Given that the analysis shows large variances for only a limited number of small funds, the capping process is unlikely to have a material impact on the industry as a whole. Specifically, had this process applied in 2019/20, the amount of benefits transferred through the capping would have been only around $300k.

C.3 Stakeholder feedback

We have presented the findings to most insurers, either individually or at PHI industry events. We have also discussed our findings with providers and their representative bodies, and with government bodies with expertise in health data and regulation.

Themes across all the stakeholder interactions have been as follows:

- Limitations of the current RE system are recognised, and there is appetite to explore alternatives.
- Qualified agreement that the simple hybrid RE model appears to be a better option.

It is reasonable for stakeholders to provide only qualified support for an alternative RE model, when they have only been provided with an overview of the model and have not been able to undertake a thorough assessment. Specific feedback from different stakeholders is summarised below:

Table C.1 – Summary of stakeholder feedback

Stakeholders	Specific reactions and issues raised	Comment
Insurers	Wish to understand individual insurer financial impact on implementation. Agree that increased incentives for efficiency are needed, but wish to understand what behaviours will be rewarded. Further, what tools will be needed to action on these incentives. Details for implementation will need to be addressed (including data and systems issues). Some insurers have indicated they are operating more efficiently than their peers, and would prefer to receive credit for that through more significant RE reform.	Initial financial impacts are minimal by design, and can be further reduced if necessary through implementation. If government signals a move to prospective RE, insurers can start investing in the required tools to increase efficiency. The proposal uses existing insurer data, and would be implemented over 2+ years. The proposal is a significant improvement on current RE, and can be implemented in a reasonable time with existing data. Importantly, it is adaptable so provides a platform for further change if appropriate.
Providers	The impact on providers should be explicitly considered. There is an openness for greater collaboration between stakeholders, however there is a question regarding what is needed here. Incentives alone do not create efficiency.	RE is a scheme to transfer funds between insurers based on risk profile. It is not able to materially impact providers, noting that clinical autonomy and patient choice are protected. However, stakeholder concerns can be formally examined as part of the implementation process.

Stakeholders	Specific reactions and issues raised	Comment
Regulators	Scheme parameters need to be set, and ongoing administration and other requirements will change. New regulatory requirements are within capabilities but spread across different bodies and areas.	Roles and responsibilities can be formalised during implementation.

We have not sought qualitative feedback from individual policyholders, but not that their interests are captured within the assessment criteria shown in Section 3. That is, individuals will benefit from better access to PHI due to less incentives for risk selection, as well as increased incentives for insurer efficiency.

C.4 Summary

We are examining whether there are RE options which could enhance the affordability, value and attractiveness of PHI for individuals. It is the interests of policyholders rather than other stakeholders which are of interest.

With respect to insurers, the financial impact on implementation is not material for most insurers. This is because both the current and hybrid RE systems closely match claim costs (statistically, there is a high fit of the RE models to the claims data).

Testing identified five smaller funds where benefits may change by more than 5% on implementation. Noting variances are not material as a proportion of total industry insured benefits, we suggest individual fund variances be capped for a transition period, with amounts in excess of the cap spread across all funds.

D Research papers

A number of papers were commissioned from an international expert panel as part of this project, the content of which is briefly summarised below. We acknowledge the work of the international panel led by Francesco Paolucci, Thomas McGuire and Richard Van Kleef.

D.1 Paper 1 - Lifetime Health Cover and Risk Equalisation – Health policy context, objectives and outcomes

This paper sets the context for analysing the effectiveness of the LHC and the RE arrangements by describing Australia's hybrid public/private health care system, including governance arrangements and the corresponding regulatory framework. These regulations, as well as interactions between the public and the PHI system have shaped many of the outcomes of the PHI system. Identifying these outcomes is intended to assist Finity in developing and modelling health policy reform options.

D.2 Paper 2 - Regulatory tools and risk equalisation in health insurance markets: A cross country comparison to inform policy reforms in Australia

This paper performs a cross-country review of regulatory tools and focuses on the risk equalisation scheme. Comparative analysis is useful to inform policy, allowing benchmarking and to identify if different policies may be more (or less) adequate to achieve the goals of the heath system.

D.3 Paper 3 - Private Health Insurance and Risk Equalisation in Australia

The objectives of this paper are to determine whether there is a compelling case for enhancing the current Australian RE system. The key focus areas are:

1. To describe the workings of the Australian risk equalisation system and analyse the shortcomings of the current system,

2. To discuss potential directions for reform and

3. To propose a set of criteria for evaluating these potential directions for reform.

D.4 Paper 4 - Hybrid transition from ex-post to ex-ante Risk Equalisation: evaluation of options

In this report, based on data from the PHI sector, we simulate the effects of alternative risk equalisation models and compare with the current system, using various metrics to quantify incentives conveyed by the alternatives. Risk equalisation schemes can take several forms. Indeed, using the definitions in Paper 3, risk adjustment, risk sharing or a combination of both can be used to redistribute funds among insurers to compensate for higher-cost enrolees. The current risk equalisation scheme in Australia uses only differential risk sharing by age applying to the full range of costs. In this paper we examine risk equalisation schemes that incorporate both risk adjustment (using different risk adjustors such as age and sex) and maintain a targeted risk sharing (in the form of reinsurance). Models are compared according to the following criteria: overall fit, over and under compensations at the group level, incentives for cost control, and protection of insurers against large losses in any one year. Incorporating rudimentary risk adjustment into the risk equalisation scheme can maintain overall fit, improve group-level incentives, and substantially improve incentives for cost control.