Competitive Health Markets and Risk Equalisation in Australia: Lessons Learnt from Other Countries

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Compliance with Ethical Standards

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Abstract: This paper aims at evaluating the risk equalisation arrangement in Australia's private health insurance against practices in other countries with similar arrangements and proposing means of improving the system to advance economic efficiency and solidarity. Possible regulatory responses to insurance market failures are reviewed based on standard economic arguments. Various regulatory strategies used elsewhere are described, to identify essential system features against which the Australian system is compared. Results revealed that risk equalisation is preferred to alternative regulatory strategies such as premium rate restrictions, premium-compensation and claims-equalisation. Compared to some countries' practices, the calculated risk factors in Australia should be enhanced with further demographic, social and economic factors and indicators of chronic health issues. Other coveted features include prospective calculation and annual clearing of equalisation payments. System changes should be introduced in a stepwise manner. *Conclusions*: Australia currently operates with a crude mechanism for risk equalisation. The scheme incentivises insurers to select on risk rather than to focus on efficiency and equity-promoting actions. An incremental reform is proposed.

Key Points for Decision Makers Summary

- Risk equalisation is a well-established mechanism for ensuring sound competition in health insurance markets. Design features of the mechanism have been shown to critically affect its performance and the capacity to achieve social and health policy goals.
- In view of the most prominent international practice in other industrialised countries, Australia operates an inadequate, simplistic surrogate for which we suggest an incremental reform. Our approach is not only to show the desired system configuration, but also to enable its introduction without destabilising the existing system.
- The discussion sets out with general considerations about the adequacy of available regulatory strategies, and proceeds with detailed recommendations for the preferred solution. The sector stakeholders can follow this reasoning and confront the soundness of their own beliefs, both regarding the priorities for the health insurance market and at the level of the specific reform implementation.

1. Introduction

Competitive health insurance constitutes an option for funding access to health care, either in addition to primary public national health insurance (e.g., Australia's mixed funding of Medicare and private health insurance) or as the primary source of health care financing (for example in Germany, Switzerland and the Netherlands; also, contemplated in Australia under the Medicare Select proposal[1]). In Australia, the healthcare financing system is comprised of 2 layers: public and private systems. The public system is the Medicare program which is a national mandatory scheme that is funded through taxes. Competitive health insurance constitutes the second layer of the healthcare financing system in Australia and it offers a choice of purchasing private health insurance which cover services that are partially or completely covered by Medicare, where members are treated as 'Private Patients' in any of the public or private hospitals. Australia is considered to be one of the highest rates in OECD in private health insurance (PHI) coverage as it covers around 45% of the population and contributes to a total of 7% of the total health expenditure.[2]

The espoused merits of this competitive model are that it facilitates choice, direct consumer engagement in paying for health care and efficiency through competition.[3] At the core of

effective sector regulation is risk equalisation (RE), a mechanism that aims at equalising the risk profiles of competing health insurers. In most countries RE is adopted when insurers are simultaneously forced to enrol (open enrolment) and to charge applicants the same premium for the same product without the possibility to differentiate the policy premiums according to their individual risk profile (community rating). This prevents insurers from using strategies to risk-select thus promoting price competition. RE provides a robust framework as it aims at achieving risk solidarity without abandoning the objective of economic efficiency (i.e. through competition). In this respect, RE offers an important regulatory tool to widen the insurance umbrella in competitive markets.

The aim of this paper is to explain the role of RE exploring international practices in competitive markets and the lessons for improvement of the RE regime in Australia. Other than offering welfare improvements of the present system, robust RE can be seen as a necessary condition for an adequate managed competition reform of Medicare, such as the National Health & Hospitals Reform Commission's proposed 'Medicare Select'.[4]

2. Instruments for solidarity

2.1. Principles of solidarity and equivalence

Different regulatory strategies act as means for achieving risk solidarity and equitable financing of health care through cross-subsidisation of high-risk by low-risk individuals. Community rating combined with open enrolment is a popular instrument for pursuing solidarity objectives by imposing implicit cross-subsidies within a given health insurance product. However, this solution, on its own, is financially unsustainable in a competitive market. Since market competition leads to gradual decrease in the insurers' projected profits per enrolee, insurers cope with the expected financial unsustainability through reviewing the break-even point in each enrolee's contract; accordingly, insurers adjust the premium to reflect the individual risk (risk rating) or adjust the accepted and selected risks to the level of the premiums (risk selection).[5] In the long run, in voluntary systems this process makes health insurance less affordable for the higher risk and more affordable to the lower risk, pushing the outcome away from the socially desired market equilibrium and limits the coverage expansion from a health policy macro perspective. Restrictions on competition or choice, such as a single payer system, can prevent this from happening, but might as well reduce system efficiency. When a single payer system is regarded as politically not viable or not suitable, the most important policy question becomes that of framing a regulatory strategy

for the voluntary insurance markets to attain the best compromise between efficiency and solidarity.

2.2. Regulatory strategies

Competitive insurance markets in the absence of any regulation or subsidy tend to risk-rated premiums. Assuming perfect information and no transaction costs, high-risk individuals would pay higher premiums than low risk individuals (i.e. premium differentiation, which could also take the form of product differentiation) yielding allocative efficiency in the market, while solidarity/affordability objectives would be wholly disregarded. However, competitive insurance markets are pervaded by asymmetric information and transaction costs (e.g. to implement a risk-rating mechanism), leading to market failures. [6] [7] Hence, regulatory tools are needed to address these allocative issues, and specifically to temper the premium range resulting from risk-rating and to reduce incentives for risk-selection. Moreover, if the competitive insurance markets are used to provide the basic coverage (not a supplementary one like in Australia) other interventions are required to solve the affordability problems for low-income citizens. In what follows, we discuss a variety of regulatory tools to address risk-rating and risk selection in markets with voluntary coverage showing that different tools are used to overcome specific problems often with little attention to the overall regulatory strategy and to the effects of the interactions between such tools.

Premium rate restriction

Premium rate restrictions have numerous modes: community-rating per insurer or a prohibition on specific rating factors (i.e. setting a floor and ceiling on the premium range).[8] Most commonly used is community rating per insurer per product, often coupled with an open enrolment requirement that precludes the insurer from rejecting new or renewal contracts associated with high-risk individuals.[9] These implicit cross-subsidies cannot guarantee solidarity, however, as they allow insurers to infer projected profits and losses on classifiable subgroups of consumers, encouraging various forms of risk selection. In the US, premium rate restrictions were found to result in decreasing insurance coverage, substantial premium price increases, and phasing out of comprehensive packages.[10] Evidence from Germany shows that open enrolment and inadequate risk adjustment produce incentives for selection that are manifested by high mobility of young and healthy consumers.[11] In Switzerland, introducing open enrolment in 1996 marginally managed to sprout innovation in product design and strategies for cost containment among sickness funds.[12] [13]

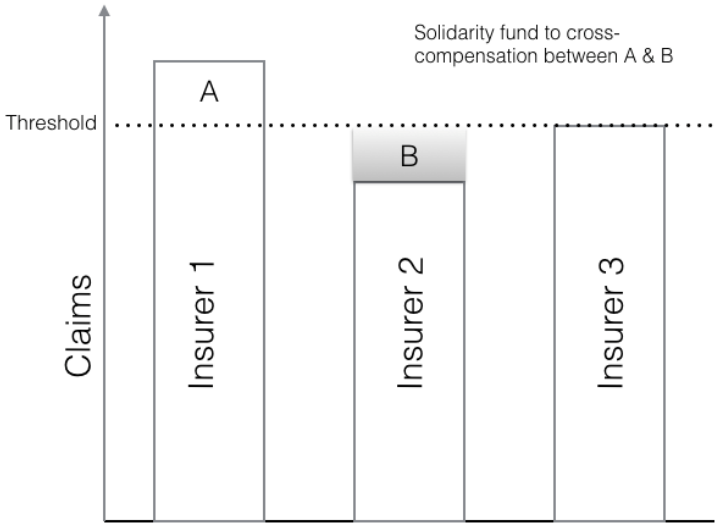
Premium compensation schemes

Premium compensation schemes are concerned with subsidizing insurance premiums, which can either be conveyed straightforwardly to consumers (e.g., as tax-deductibles for citizens with enough fiscal capacity to take advantage of them) or indirectly to insurers who then subtract the subsidy from nominal premiums (e.g., in Australia, premium related subsidies (i.e. the PHI Rebate) operate next, and in close connection with, other two regulatory tools: the Medicare Levy Surcharge (MLS) and the Lifetime Health Cover (LHC) loading. The combined effect of these strategies, considering that the MLS and the PHI rebate are stratified by income (as they are under current policies in Australia), is a tendency towards "locking in" consumers i.e. to reduce the price elasticity of demand).[14,15] While premium compensation schemes are used to pursue solidarity objectives, they diminish the consumers' sensitivity to premium prices. This marginalizes the competitive edge of the most efficient insurers and blunts incentives for price competition, possibly resulting in premium inflation. Premium-compensation can also intensify moral hazard by inducing consumers to purchase more comprehensive insurance coverage. Finally, as there is no direct compensation for contracting high-risk consumers, selection remains a strategic advantage for insurers.

Claims-equalisation schemes

In claims-equalisation schemes, a predetermined threshold is set and a cross compensation takes place in a reference period between insurers whose claims are above the threshold to insurers whose claims are below the threshold as illustrated in figure 1. This is typically done via a solidarity fund and for each individual insured, although other configurations exist.[16] The compensation may be either full, as in the Netherlands before 2006, or partial, as in Australia. Lowering the claims threshold may moderate selection practices and cream skimming in form of rejecting applicants with pre-existing medical conditions. However, because excess-loss-compensation reduces insurers' financial risks, solidarity gains come at the cost of a disincentive for efficiency, potentially leading to premium inflation.

Figure 1. Claims Equalisation Mechanism



Risk equalisation schemes

RE schemes exist in both compulsory and voluntary health insurance systems.[17] [18] They revolve around the idea of cross-subsidies between high-risk and low-risk enrolees and are facilitated by a solidarity fund. High-risk enrolees receive subsidies, which are non-transferable and designated for health insurance acquisition with a specified benefits package, from the solidarity fund which claims its contributions from low-risk enrolees as well. The subsidy value for each pre-defined risk group is based on the average expenses of all insurers within that group and its accuracy depends on the risk adjustment factors. Therefore, the balance of risk solidarity between perfect and imperfect chiefly relies on matching and balancing risk factors between the solidarity funds and insurers. For example, imperfect risk solidarity can occur in two scenarios: first, if insurers possess a higher number of risk factors than the ones used for estimating the risk-adjusted subsidies, which will put insurers with a high share of high risks in a disadvantage; and second, if insurers can differentiate between the enrollees' risk spectrum (high or low-risk) within the "risk-adjusted premium subsidy's risk groups", thus, favor to reject high-risk applicants rather than further breakdown and differentiate their premiums, which in this case will put applicants in a disadvantage. Simple RE models that use risk factors such as gender and age leave space for risk selection strategies exploiting the risk determinants that remain unaccounted for. Consequently, more comprehensive and sophisticated RE models are needed to effectively restrain risk selection by rendering its costs above the potential profits.

In principle, accurate RE models – coupled with direct and significant interventions to solve the affordability problem for low-income citizens - have the potential for securing an acceptable level of solidarity without affecting effective price competition and financial sustainability of the system in mandatory health insurance markets. Therefore, given the political choice in favour of a multi-payer system, with a publicly financed mechanism with mandatory coverage, and a privately financed one with voluntary coverage, the use of the RE models can be recommended to build a more effective regulatory framework for the voluntary health insurance markets.[19] [20]

3. Design of risk equalisation

3.1. Risk factors

Under open enrolment schemes, insurers' capacity of risk selection per applicant is restricted; nevertheless, selection based on different demographic factors such as age and gender; region; and income can be attained through directed branding and sales strategies and customizing the insurance package design. These demographic characteristics represent logical factors for adjustment. Other parameters, such as chronic conditions, may be factored in for an enhanced control of related benefit outlays. In principle, risk factors should be guided by the policy goals of mitigating risk selection, encouraging insurers to act as meso-level active purchasers[21], and achieving equity. In consideration of the latter, some adjusters may be barred.[22] [23]

Age

Health care utilization predictably varies with age groups. Consequently, age is the basic risk factor for any risk equalisation scheme. In Australia, equalisation payments correspond to increasing percentages of entitled hospital benefits, in five-year age groups starting from age 55, in state-based pools (Table 1). The benefits of entitled hospitals include inpatient treatment, hospital substitute treatment and pre-defined chronic disease managing plans. [24] Figure 2 demonstrates the average cost of health care utilization by age group and gender in Australia 2008-09.

Table 1. Hospital benefits eligible for risk equalisation in Australia

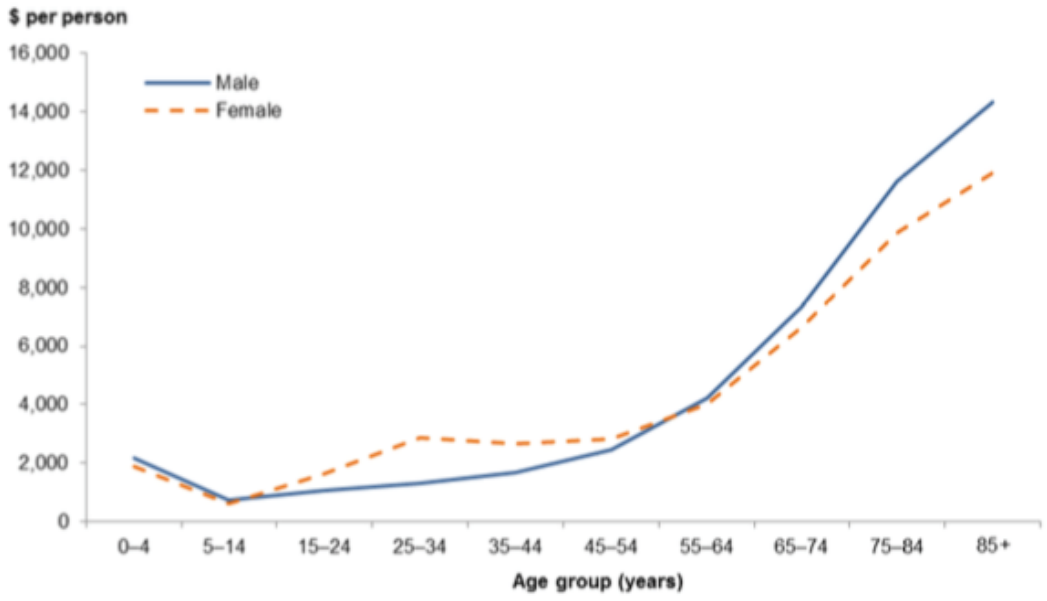
Age band	% eligible
0-54	0
55-59	15
60-64	42.5
65-69	60
70-74	70
75-79	76
80-84	78
85+	82

Source: Stoelwinder, J, and Paolucci F. "Improving the Efficiency and Solidarity of Australia's Risk Equalization Arrangements." Health Care in Australia: Prescriptions for Improvement.: Australian Centre for Health Research, 2011. 97-10

Sex

Health care expenses and utilization differ between females and males. For example, because of the associated maternal health at the maternity age, females tend to have higher expected health care expenses; while elder males use more health care resources than females of equal age (Figure 2). Gender is currently applied to risk equalisation formulas in Germany, the Netherlands and Switzerland, but not in Australia, Ireland, Israel, United Kingdom (UK) and South Africa.

Figure 2. Average health care expenditure by age and gender, Australia 2008-09 [25]



Adapted from Australian Institute of Health and Welfare. 25 years of health expenditure in Australia 1989-90 to 2013-14. 2016. P. 16

Chronic conditions

Individuals suffering from chronic health conditions such as Hypertension, Asthma or Cancers are surely higher utilisers of health care resources than healthy individuals. The most sophisticated system for equalisation of risks related to chronic conditions operates in the Netherlands and uses two cost models:

- Model 1: Twenty Pharmacy-based Cost Groups (FKGs or PCGs), (table 2) which maps medications prescribed for at least 181 days in one year onto a chronic disease classification. Fund redistributions account for about 14% of the Dutch insurance pool. [26] [27]
- Model 2: Thirteen Diagnosis-based Cost Groups (DKGs) based on admissions of over 2 days, where one group is clustered by comparable resource utilisation and defined by medical condition and treatment specialisation. The prevalence of the high cost group is 2.3% of the Dutch population and the redistribution accounts for 5% of the Dutch insurance pool.[28] [29]

Table 2. Pharmacy-based Cost Groups (PCGs) in the Netherlands [30]

PCG	Chronic disease descriptor
1	Hypertension
2	Glaucoma
3	Depression
4	Gout
5	Thyroid conditions
6	Hyperlipidaemia
7	Diabetes
8	Respiratory illness/Asthma
9	Epilepsy
10	Acid peptic disease
11	Inflammatory bowel diseases
12	Cardiac disease, Atherosclerosis, Congestive heart failure
13	Tuberculosis
14	Rheumatological conditions
15	Parkinson's disease
16	Cystic fibrosis
17	Transplantations
18	Tumours
19	Acquired immune deficiency syndrome
20	Renal disease (including end-stage renal failure)

Adapted from Lamers, L M, and R C J A Vliet. "Health-based Risk Adjustment Improving the Pharmacy-based Cost Group Model to Reduce Gaming Possibilities." Eur J Health Econ 4.2 (2003): 107-14. Print.

Germany, South Africa and Switzerland use or plan to use chronic disease cost groups for the purposes of risk equalisation. Germany initiated the 'morbi-RSA' risk equalisation scheme in 2009 as a prospective model based on the expected treatment expenses of 80 specific diseases with variable range of severity resulting in 106 morbidity groups. 50% of the risk equalisation pool is distributed by morbi-RSA and the rest is distributed by age, gender and disability benefits.[31] The Swiss risk formula contains a chronic disease proxy of hospital and nursing home episodes longer than 3 days in the previous 12 months. In South Africa, the shadow risk equalisation scheme was initiated in 2005 and it comprises of 26 chronic diseases instructed in the Prescribed Minimum Benefits Schedule for 19 age groups together with a classification for HIV/AIDS and modifiers for more than one chronic condition and maternity admission in the previous 12 months.[32] In the United States, risk equalisation or adjustment (as called in the US) was introduced as a permanent regulation along with 2 temporary regulations: reinsurance and risk corridors as part of the Affordable Care Act (ACA) in 2014. One of ACA's main objectives is to extend the coverage umbrella, especially to applicants with chronic conditions and control the practice of risk selection by insurers. In ACA, the risk equalisation payment occurs internally between insurers, not through Federal or state governments.[33] The ACA cost groups for adjusting clinical conditions in the new Department of Health and Human Services-Hierarchal Condition Category (HHS-HCC) risk equalisation model stems from a special US variant of the International Classification of Diseases called ICD-10-CM, where a clinical classification is applied to systematise the large number of ICD to simpler and more articulate diagnostic categories.[34]

Socio-economic status and area of residence

The German and Dutch risk equalisation schemes incorporate more sophisticated risk factors to their formulas which are: socio-economic status and area of residence in their systems in their quest to counter the insurers' risk factors to eliminate possible risk-selection and to attain fine-tuned equitable payment approaches, although the inclusion of these factors can be challenging from the cost perspective due to computational challenges.

In the Netherlands, socio-economic status is factored in with a sophisticated set of variables including postal code (to reflect the level of urbanisation, ratio of single individuals, uniform death rates and closeness to health care providers), the source of income (income support, disability benefits or other public benefits), and the lowest three deciles of average income per household member. In Germany, the risk equalisation scheme includes six bands of disability benefits. In the United States, the risk adjustment methodology incorporates an

adjuster for the geographic cost factor where different prices for services depend on the geographic location on both the federal and state levels.[35] In UK, the insurance scheme is a national tax-based mechanism where the responsibility for commissioning healthcare services is shifted at the local level to Clinical Commissioning Groups (CCGs). In such a context, the approach to risk equalisation is deployed calculating weighted capitation formula, even if CCGs have a territorial basis with no possibility to select risks. Recently, even this formula has been modified introducing factors related to the historical costs of treatment for individuals in order to strengthen the budget constrain of the CCGs providing them with proper incentives to keep costs under control through a more efficient organization of primary care and a harder bargaining stance when negotiating with healthcare providers. This innovation shows that even in health systems where funds are not allocated to private insurers in a competitive setting with the problem of keeping under control risk selection strategies, still sophisticated RE mechanisms are regarded as useful tools to contain the moral hazard problem due to the misalignment between central funding authorities and local commissioners. More specifically, the weighted capitation formula considers the unavoidable costs related to the area of residence which are represented in the formula under two main components: Market forces factors, which represents the inescapable disparities in input costs (disparities in pricing due to differences in medical and dental charges; land prices; building prices) between each CCG area due to the different geographical location; and the unavoidable costs of remoteness, which is a new adjustment that has been introduced in the 2016-17 formula with the purpose of adjusting for the geographical discrepancies resulting from the higher costs of hospitals that compensate for the low activity level and consequently a lower income due to remoteness.[36 37]

3.2. Prospective or retrospective

Payments for risk equalisation schemes can be calculated either prospectively, before any insured events take place using only past information, or retrospectively, after the relevant insured events have occurred.

The retrospective calculations shield health plans in competitive markets from adverse selection by high-cost patients whose conditions are diagnosed within the equalisation period. On the other hand, prospective models enable accurate setting of premium contributions and expected risk-equalization revenues at the beginning of each period. This predictability is

compelling for both insurers and sponsors. Particularly in the voluntary setting, strategic determination of premiums is important because consumers use prices not only as signals in their choice of insurers, but also in deciding whether or not to insure in the first place. Furthermore, prospective schemes shed more light on information on chronic and persistent conditions, while retrospective schemes tend to emphasise signals of current acute problems. Paying prospectively will create corrective incentives for increased prevention and constrain over-diagnosis of clinical conditions. This manifestation of moral hazard also hinges on the market share of the biggest insurance provider, as the market share is inversely proportional to efficiency pressures. [38 39]

In practice, both the incentive and fairness attributes of the retrospective framework are not essentially superior. Chapman argued in favour of retrospective models based on group-level predictions.[40] Dunn et al. compared the predictive precision of prospective and retrospective schemes and unexpectedly revealed minor differences in predictive power for groups of enrolees in large samples.[41] Ash and Bryne-Logan likewise found similar performance of the two schemes when non-random groups were formed using only prior-year information.[42] While this discussion is not unequivocal, in consideration of the economic efficiency the arguments are weighted in favour of the prospective scheme.

In the United States, where transition took place after the implementation of ACA in 2014, a special case of concurrent payment was deployed instead of prospective payment in the 1st year of implementation as the prospective model was infeasible due to the lack of its core requirement: information regarding previous years.[43]

3.3. Frequency

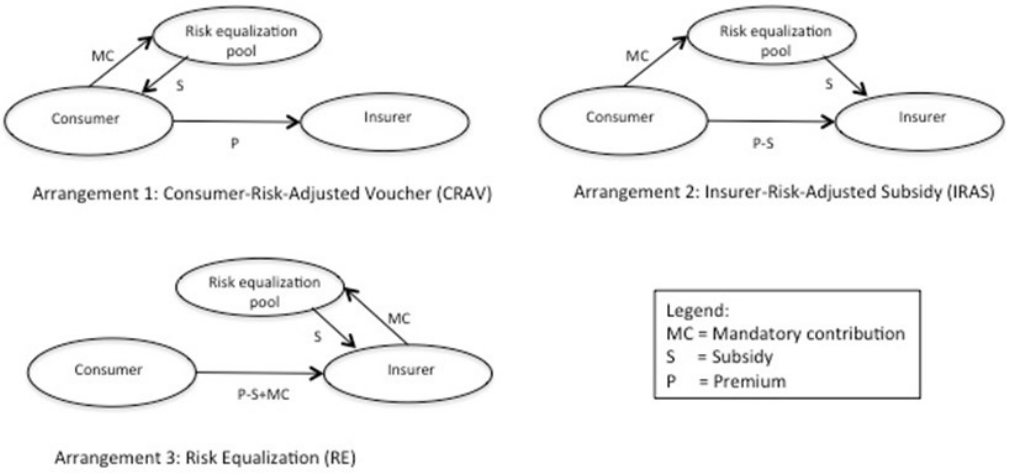
The transfer calculation takes place on yearly basis in many countries and on quarterly basis in the Australian case. More significant than the legally prescribed frequency and time of transfer, and their corresponding transaction costs, are disruptive delays in the actual transfer occurrence -- up to 3 years in the Netherlands [44]. The delays may affect all health insurance market participants and have negative consequences for efficiency and performance. This is because the ambiguity around the transfers scheduling and volume confounds premiums setting, package design, contracting strategies, and compensation agendas.

3.4. Flow of funds

There are several ways of organising the solidarity payment flows (Figure 3): Consumer-Risk-Adjusted Voucher (CRAV), Insurer-Risk-Adjusted Subsidy (IRAS), and Risk

Equalisation (RE). Under CRAV, equalisation takes place among consumers away from the insurers where low-risk enrolees contribute with a compulsory contribution to the solidarity fund, from which high-risk enrolees obtain a risk-adjusted premium subsidy. Payments are provided independently of the insurance market, for example through tax authorities. IRAS arrangement is operated in Israel and the Netherlands. Here, insurers receive the equalisation fund subsidies, which are subtracted from premiums paid by consumers. In Germany, Ireland and Switzerland, consumers pay the premium to insurers, while the insurers and the equalisation fund clear the net difference of all solidarity contributions and subsidies. Importantly, the organisation of the flow of funds has no consequence for how the cross-subsidies are calculated and thus has no impact on economic incentives.[45 46 47]

Figure 3. Alternative flows of cross-subsidies



Adapted from Armstrong J, McLeod H, Paolucci F. 2011. Risk Adjustment-Lessons Learned: Experience in VHI Markets & Ven, W.P.M.M. van de, F.T. Schut (2008), Universal mandatory health insurance in the Netherlands: a model for the United States?, Health Affairs 27(3): 771-781.

4. Implications for Australia

Regulation of private health insurance in Australia has been reformed over the past 60 years from regulation using Special Accounts to the introduction of the reinsurance schemes and currently the risk equalisation scheme which replaced the reinsurance scheme in 1997. [48]

In Australia, the private health insurance market is currently supervised by the Australian Prudential Regulation Authority (APRA) since July 2015, as the supervision of private health insurers has been transferred from the Private Health Insurance Administration Council (PHIAC) to APRA. The statutory goal of regulating the private health insurance market in Australia aims at providing all Australians with accessible community-rated adjusted

(currently to age) private health insurance regardless of age, sex or health status. [49] APRA administers the Risk Equalisation Trust Fund of 39 registered private health insurance funds.

The underlying risk equalisation mechanism is crude and inadequate. Its sole risk factor, age grouped into eight bands, is insufficient to attain fair treatment of competing insurers with diverse risk pools. Consequently, funds are disadvantaged if they have other demographic factors imbalanced such as: female vs. male ratio; females of maternity age vs. other female ratio; or a pool with higher share of risk than other funds in the particular state. Moreover, product-based community-rating is a threat to the market stability, manifested by premium discrimination via product differentiation, one outcome being the significant premium discrimination in hospital cover premiums where the ratio of the high-risk to the low-risk policies nears 4:1.[50] In addition, the in-effect risk equalisation mechanism is a retrospective claims-equalisation scheme where the costs between insurers that result from differences in actual claims are equalised. This reduces price-competition and decreases efficiency as insurers pool their financial risks and also provides insurers with incentives for risk selection. [51] Novak et al. also argue that the existing regulation "effectively weakens incentives for insurers to minimize their costs, undertake efficient investments or act in an innovative or competitive manner". [52]

Instead, a more sophisticated RE mechanism would allow for a superior balance between efficiency and solidarity in the Australian voluntary health insurance market. In particular, considering the 2003 'Risk-Based Capitation' proposal,[53] we recommend a prospective RE scheme with eight to ten age-gender groups. Additional risk-adjusters can be applied to fine-tune the formula towards socially desired degrees of solidarity and guaranteed benefits. Experiences in other countries (although some of them refer to RE applied to mandatory insurance markets) show that health proxies and socio-economic variables prove effective in a more refined determination of risk-adjusted subsidies.[54] [55] Additionally, linking the RE framework to a defined benefit package would counteract risk selection based on product exclusions.

Changes to the RE mechanism can have a considerable impact on individual funds' financial performance. To avoid disruption, time should be allowed for product premiums to accommodate the changes in factors that determine insurer pools' risk assessment and compensation. This requires a gradual implementation strategy, which in Australia could follow four stages:

1. Comprehensively reviewing the existing private health insurance market regulatory framework and setting explicit social goals in the process of stakeholder consultations.
2. Introducing a prospective age-gender adjusted subsidy replacing the current premium rebate and setting an explicit basic benefit package with community-rating and open enrolment. The prospective risk equalisation would be put in effect only to the acceptable costs defined within the basic package, leaving the space for insurers to offer supplementary coverage without limitations on premium rating and no further subsidies. Any insufficiency in the achieved level of risk solidarity could be corrected for by a provisional adoption of pure claim compensation as a complementary risk-sharing mechanism. Efficiency disincentives of this solution could be moderated by gradual improvements in the retrospective equalisation formula. A market (voluntary reinsurance) or government (regulatory) mechanism would be established for the indemnification of excess risk.
3. Implementing the prospective risk equalisation formula with socio-economic and demographic variables; community rating based on allowing risk groups with the purpose of impeding any forms of risk selection and fostering price competition; retaining the claims equalisation model with concurrently stimulating the quality of risk equalisation by progressive increases in annual loss thresholds that determine the extent of compensation; re-evaluating the necessity and proportionality of external government subsidies.
4. Further improving of the prospective risk equalisation scheme with the incremental addition of health status proxies, starting from a refined version of DRGs and transitioning to a new Australianised edition of Dutch DCGs, PCGs and disability-related adjusters; evaluating the effectiveness and efficiency of risk groups and economic evaluation of risk rating in both basic and supplementary packages; removing or further increasing loss thresholds.

5. Concluding remarks

The policy relevance of risk equalisation has increased during the past twenty years as more countries introduce it as a regulatory tool to enhance the performances of their competitive health insurance markets (especially those with mandatory insurance).[56] The objective stated by the policy makers is to establish a cost-conscious, quality-oriented, innovative and responsive system for health care financing, reducing the problems in providing affordable

coverage for high-risk individuals. These complex goals are impossible to achieve in a competitive setting without a well-crafted risk adjustment mechanism.

Common regulations on package design and premium modelling, notably community-rating, set implicit cross-subsidies from low-risk to high-risk enrolees, which create an incentive to attract the former predictably profitable enrolees while avoiding the latter. The resulting selection and risk segmentation can undesirably affect access, quality and economic efficiency of the system.[57] Instead, risk equalisation aims at providing explicit subsidies to high-risk enrolees with the potential to remove most market distortions. Based on the most prominent international practices, such a mechanism can reduce the costs of balancing efficiency and solidarity even when applied to a market with voluntary health insurance. Moreover, it can also provide an important reference to neighbouring countries to observe and take notes for further implementation and fine-tuning. Our paper illustrates how this can be achieved in Australia.

Author Contribution

Francesco Paolucci wrote the first draft of sections 2.2, 3.1 on Australia and the Netherlands, 3.4, and 4 building on and further developing the chapter of the ACHR report "Health Care in Australia: Prescriptions for improvements"; Ayman Fouda wrote the first draft of sections 2.1, 3.2 and 3.3; Gianluca Fiorentini wrote the first draft of section 3.1 on the UK. Ayman Fouda and Gianluca Fiorentini reviewed subsequent drafts of the paper also in light of the comments of the referees for this journal.

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