The Geneva Papers on Risk and Insurance - Issues and Practice (2023) 48:1–4
https://doi.org/10.1057/s41288-022-00279-1

EDITORIAL

On insurance and health risks

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Health risk can be defined as the likelihood of a negative health consequence occurring due to a specific event, disease or condition. Its consequences can be strongly detrimental to individuals and society and managing health risks is a central concern for individuals and governments.

This special issue of *The Geneva Papers on Risk and Insurance* on health aims at better understanding the role of insurance mechanisms in financing and managing health risks. It concentrates on four topics: the structure and performance of health insurance markets, the drivers of long-term care (LTC) insurance purchase, the phenomena of moral hazard in health insurance, and the effect of health insurance on the health of individuals.

It offers nine contributions from various perspectives to better understand these issues and, in particular, the function and development of health insurance markets. These contributions tackle practical aspects and policy implications and are illustrated in the light of various health systems with application to countries such as Australia, Chile, China, South Korea, Switzerland and the U.S.

Health insurance markets are organised in various ways and insurance carriers can take different forms, principally as stock insurers, mutual insurers or health maintenance organisations (HMOs). Health insurers also deal with various types of populations as they can specialise in serving individuals, groups, low-income people, older people, civil servants, etc. Naturally, the structure of their organisation and the type of population they serve strongly influence the governance and activities of health insurers. The first two papers address supply-side issues of health insurance markets by investigating the behaviour and performance of health insurers, either in relation to HMOs or in serving poor individuals.

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The paper by Patricia Born, Evan Eastman and Tice Sirmans explores how managed care provides health insurers with a stronger ability to engage in loss control and improve their profitability. In particular, this paper examines whether insurers with greater opportunities to manage care report significantly better underwriting performance in the fourth quarter relative to other health insurers. Using U.S. data, it finds evidence that a health insurer's share of enrolment in HMO plans, characterised by their use of 'gatekeeper' physicians, is significantly and negatively related to their reported fourth quarter medical loss ratio. These results provide evidence that the managed care function may add value to insurers' ability to smooth underwriting and, therefore, overall performance.

In the paper by Etti Baranoff, Thomas Sager and Dalit Baranoff, the authors develop a novel methodology incorporating transactions cost economics theory with supply chain performance models, to understand why U.S. health insurers specialising in Medicaid financially outperformed health insurers specialising in other populations (i.e. groups, individuals, Medicare and federal employees) from 2002 to 2016. They regard the insured populations as products supplied to health insurers ('buyers') in a supply chain. The results suggest that Medicaid specialist insurers, with their extensive involvement with indigents, have the easiest pathways towards return on capital optimisation by tweaking benefits, premiums and administrative expenses, which proxy transaction cost advantages.

LTC, i.e. care for people dependent on help for daily living activities, is one of the largest financial risks faced by the elderly. Yet, it remains largely uninsured in many countries, which has given rise to a flourishing literature on this puzzle. The following two papers contribute to this literature by investigating factors which could affect the purchase of LTC insurance—the role of cognitive factors and the influence of children on their elderly parents' decision.

The paper by Katerina Gousia explores the relationship between cognitive abilities and private LTC insurance ownership. Using data from a European panel survey, it finds that memory, but not numeracy or verbal fluency, has a positive and statistically significant effect on the probability of owning private LTC insurance above and beyond other characteristics such as general education, family, risk factors, income and wealth. The findings suggest that cognitive limitations in LTC insurance decision-making are likely to be linked to information processing skills and can be an important factor affecting the expansion of the market. This should be taken into consideration in policy design.

The paper by Christophe Courbage, Guillem Montoliu-Montes and Joël Wagner investigates the interest and role of adult children as informal care givers to influence their elderly parents' LTC coverage in Switzerland and of their motives. It first identifies a set of variables, including self-reported interest about LTC insurance, whether elderly parents live with their children and if the latter have provided informal help with personal care, which help predict the interest of adult children in having their parents covered against LTC risk. Second, it investigates the main characteristics of children's motives for influencing their parents to purchase LTC insurance, which are classified as either altruistic or self-interested. The results offer valuable insights for both policymakers and insurers when designing public LTC policies and LTC insurance products.

Another set of papers focuses on the role of insurance in improving the health status of individuals. Indeed, health insurance not only allows insureds to spread health risks but can increase access to key promotive, preventive, curative and rehabilitative health. It could therefore be one key factor in determining health status, thereby influencing the welfare of individuals, families and society.

The paper by Daehwan Kim and Dong-hwa Lee empirically analyses the effect of private health insurance on objective health outcomes in the South Korean universal public health system. In particular, it explores whether there is a difference in the probability of contracting a critical illness or becoming disabled between the privately insured and uninsured. The empirical analysis shows that the incidence of severe disease and disability is lower for those with private health insurance. These results show that if health insurance lowers the likelihood of serious illness and disability, in the long run, it may lower healthcare utilisation and has a positive effect on human capital and social welfare.

The paper by Feiyan Yang and Li Wei assesses whether the introduction, in China, of tax-subsidised health insurance (TSHI) in 2015, as a way to encourage private health insurance purchase, improved health status and lowered personal health expenses. The authors find that TSHI has been effective in improving participants' health status, but not in lowering the out-of-pocket burden of healthcare financing. The paper shows that TSHI has the potential to reduce disparities in health and access to healthcare services. These results provide insights to better design TSHI as a way to better complement the basic medical insurance system and improve tax incentive policy to serve a larger number of low-income people.

While insurance is central in covering the financial consequences of illness and in giving access to care, it can also lead to various opportunistic behaviours, making health risks more expensive and difficult to cover. In that respect, the following two papers study the phenomena of *ex-post* moral hazard, i.e. health insurance coverage tends to make individuals overconsume healthcare, from two different perspectives.

The paper by Marcello Antonini, Richard van Kleef, Josefa Henriquez and Francesco Paolucci examines potential moral hazard reduction under both risk-rated and community-rated premiums. It considers health insurance markets with the option for consumers to choose a voluntary deductible as a way to reduce moral hazard in return for a premium rebate. Since voluntary deductibles are particularly attractive for low-risk consumers in community-rated systems, the total moral hazard reduction is hypothesised to be relatively small compared to total healthcare spending. Using Chile as a case study, the paper shows, using simulations, that the absolute moral hazard reduction from a voluntary deductible is indeed expected to be larger in a system with risk-rated premiums than in a system with community-rated premiums. These findings imply that regulators should consider voluntary deductibles, premium regulation and risk equalisation in combination rather than in isolation when designing health insurance schemes.

The paper by Lan Nguyen and Andrew Worthington assesses *ex post* moral hazard in Australian private health insurance related to dental care services. It finds that *ex post* moral hazard results in the additional use of dental care services by private health insurance holders. Further, dynamic analysis indicates that private health insurance, no matter how sporadic, is always associated with significantly more likely use of dental care services, and this increases when insurance is held continuously. This finding supports the role of private health insurance in fostering good healthcare behaviour and countering *ex ante* moral hazard.

Last but not least, the paper by Hua Chen, Yugang Ding and ShanShan Mou studies the factors that influence commercial health insurance consumption in China, focussing on family ties. This is the case as Chinese social culture emphasises family loyalty and mutual support amongst family members, and these factors are thus likely to affect consumer behaviour. It finds that family ties have significantly positive impacts on individuals' and families' commercial health insurance consumption, especially for individuals/families with higher income levels, those located in eastern provinces, and those who are older. Their results imply that insurers should consider providing services around families from underwriting to claims settlement, or designing insurance products that are adapted to individual family characteristics.

All in all, these contributions help to improve our understanding of the function of insurance in managing health risks. In particular, they show the importance of the organisational form of health insurers and of the type of population they serve to improve their performance. These contributions also highlight some significant determinants for extending LTC insurance coverage amongst the general population, i.e. the cognitive abilities of potential subscribers and the role of children in influencing their parents to purchase LTC insurance. Finally, they are supportive to the idea that health insurance contributes to better individual health, but that it can lead to opportunistic behaviour in terms of healthcare consumption. We hope that the papers published in this special issue provide some important messages for policymakers on how best to plan the financing and organisation of health systems, and on the role of insurance in covering health risks.