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Managing the Cost of Health Insurance in Singapore

*This document was prepared by the Health Insurance Task Force
("HITF"), Singapore*



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Introduction

Background and Objectives of the Paper

1. Globally, healthcare cost inflation typically outstrips consumer inflation and the same is observed in Singapore. For the ten-year period from 2005 to 2015, the Consumer Price Index (“CPI”) for healthcare increased by 30.6 per cent¹. The CPI for healthcare includes cost of medical treatment and health insurance². For the same period, prices of consumer goods and services, as measured by the MAS Core Inflation³, rose more slowly by 21.7 per cent. If it continues to go unchecked, healthcare costs will soon become unsustainable.
2. Healthcare cost inflation is driven by several dynamics, including the ageing rate of the population (which affects the frequency of utilising healthcare facilities), access to healthcare, public and private funding mechanisms (including private health insurance), advances in medical technology and market pricing for healthcare treatment. Public and private sectors’ efforts are needed to deal with the healthcare cost inflation issue collectively.
3. The Ministry of Health (“MOH”) has taken active steps over the years to manage the affordability of healthcare for the Singapore public. These include recent policy shifts to significantly increase subsidies for outpatient services and drugs, enhance MediShield Life benefits and extend coverage for all Singapore Citizens and Permanent Residents (collectively referred to as “Singapore residents”) for life, as well as extend the use of Medisave funds. MOH has also published hospital bill sizes to improve the transparency of local healthcare costs and manage costs at public hospitals to provide Singapore residents with affordable and quality healthcare services.
4. The insurance sector plays an important role in helping the public finance their healthcare needs. It has introduced and has been continually enhancing the coverage of health insurance plans such as the Integrated Shield Plans (“IPs”). IPs provide two-thirds of the population with additional health insurance coverage above the MediShield Life cover. Being a major private payer of medical costs, IP insurers have made a concerted effort to improve operational cost efficiencies to manage the escalating healthcare costs. However, IP insurers continue to face rising claims costs which will eventually result in health insurance premiums becoming unsustainable and less affordable. Hence, it is vital for the various stakeholders to address the issue of increasing cost of health insurance in Singapore.
5. This paper aims to better understand the factors affecting the cost of health insurance in Singapore and sets out the Health Insurance Task Force (“HITF”)’s recommendations to manage claims escalation that will then help moderate escalation of IP premiums. It highlights the relationship between patient, healthcare provider and payer and, the importance of greater collaboration amongst various stakeholders to ensure continued accessibility and affordability of healthcare services in Singapore.

¹ Singapore Department of Statistics (“SDOS”), Consumer Price Index from 2005 to 2015, <http://www.tablebuilder.singstat.gov.sg/publicfacing/mainMenu.action>, accessed on 16 August 2016.

² SDOS, Rebasings of the Consumer Price Index,

http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/prices/ip-e44.pdf, accessed on 19 August 2016

³ The MAS Core Inflation is used as a comparison instead of the Consumer Price Index for all items, because it excludes housing and private road transport prices which are impacted by government policies.

Health Insurance Task Force

6. Ensuring that Singapore residents have access to affordable quality healthcare requires collaboration across all industry stakeholders including insurers, healthcare professionals, relevant Government bodies, and industry associations. As it is critical that the industry stakeholders come together to realise this common objective, the HITF was formed in February 2016 to evaluate the issue of increasing pressures on IP premiums and make recommendations to moderate the escalation of future IP premiums in Singapore.

7. The HITF is an industry-led initiative chaired by Ms Mimi Ho of Regulatory Professionals Pte Ltd, along with representatives from the Life Insurance Association, Singapore (“LIA Singapore”), the Consumer Association of Singapore (“CASE”), and the Singapore Medical Association (“SMA”). The initiative is also supported and represented by MOH and the Monetary Authority of Singapore (“MAS”). Please refer to Appendix A for HITF’s composition and Appendix B for HITF’s Terms of Reference.

8. The representation of the various stakeholder groups reflected the HITF’s focus on IP premiums, and enabled the HITF to identify and discuss a broad spectrum of issues contributing to increasing IP premiums. Where relevant, the HITF also engaged other stakeholders in the medical industry, e.g. the Agency for Care Effectiveness (“ACE”) and the Good Life Cooperative, to understand the scope of their work and seek their professional views on key issues.

9. The HITF considered measures that could be implemented in the short to medium term to moderate the escalation of IP premiums. The HITF has taken reference to useful approaches and good practices in other countries and considered how they can be adapted for Singapore’s context to ensure that IP premiums remain sustainable in the long run.

Current Situation

Singapore's Healthcare Financing System

10. Singapore's healthcare financing system, known as the S+3Ms, comprises four main components⁴ – Government subsidies, Medisave, MediShield Life (and other insurance i.e. IPs and ElderShield), and Medifund.

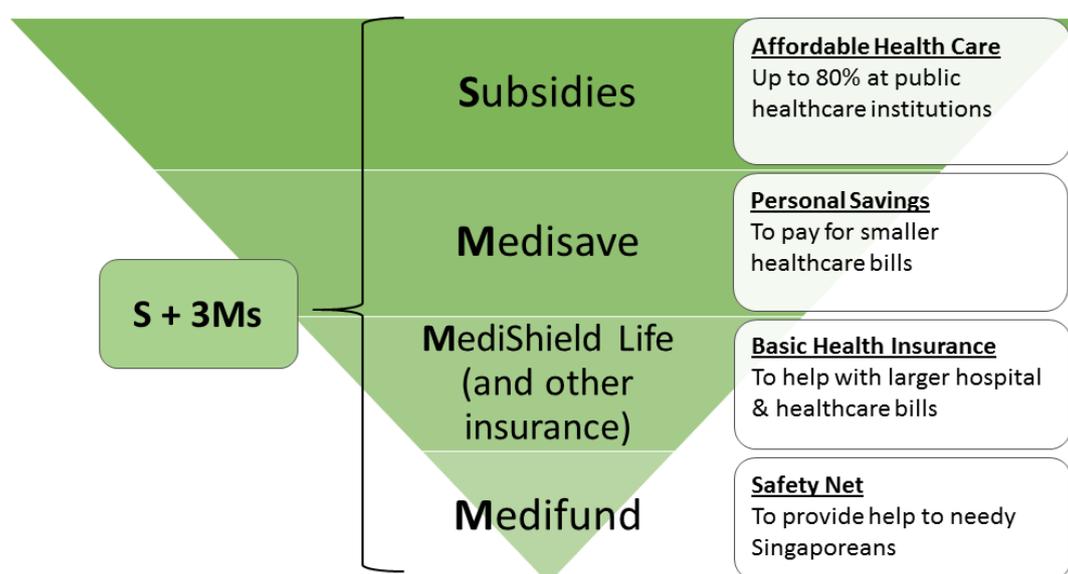


Figure 1: Main Components in Singapore's Healthcare Financing System (MOH)

11. The first tier of protection, provided to all Singapore residents, is through heavy Government subsidies of up to 80 per cent of the total bill in acute public hospital wards. The second tier of protection is provided by Medisave, a compulsory individual medical savings account scheme which helps individuals put aside part of their income to meet future medical expenses – be it personal or that of family members. Working Singapore residents and their employers contribute a part of the monthly wages into the Medisave account and this is portable across jobs and even after retirement.

12. MediShield Life, the third tier of protection, is a universal health insurance scheme that provides protection from large hospitalisation bills for all Singapore residents, without age limits or pre-existing conditions⁵ exclusion. It also covers selected outpatient treatments such as chemotherapy, radiotherapy and kidney dialysis. MediShield Life provides coverage for all ward types, with payouts designed to be sufficient for subsidised healthcare services i.e. Class B2/C wards. MediShield Life also has co-payment features such as deductible⁶ and co-insurance⁷ to ensure premiums are affordable and to promote individual responsibility of one's medical care needs.

⁴ Information on Government subsidies, Medisave, MediShield Life and Medifund was obtained from MOH, Singapore, Financing, https://www.moh.gov.sg/content/moh_web/home/costs_and_financing/financing.html.

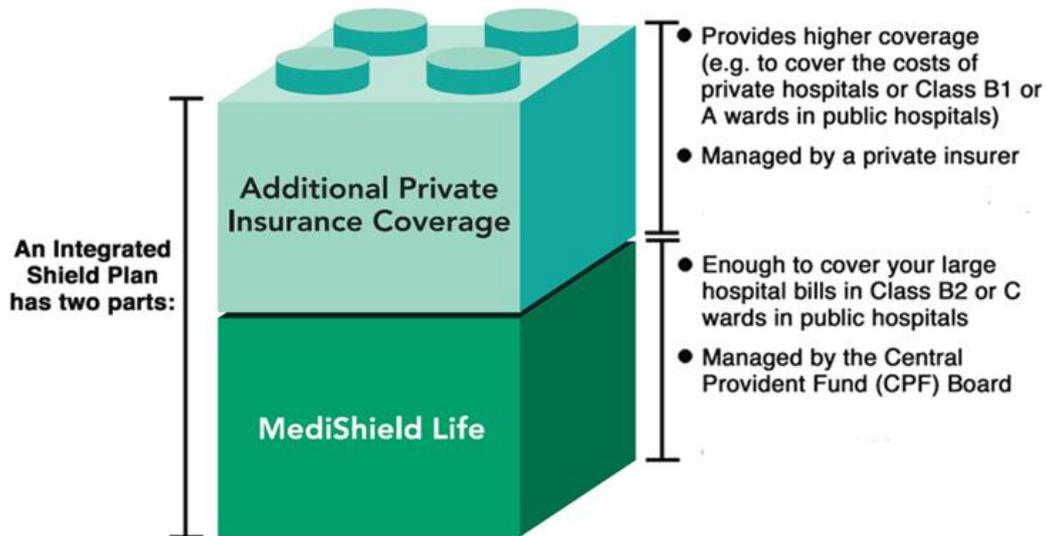
⁵ A pre-existing condition is a medical condition or illness that an individual already has before he/she is covered under an insurance plan.

⁶ The deductible is a fixed amount of the expenses which the policyholder has to pay out of pocket before he/she claims from the insurer.

⁷ The co-insurance portion is a fixed percentage of the claimable amount (the amount of expenses above the deductible amount and below the applicable limit) which the policyholder has to pay out of pocket.

13. In addition to MediShield Life, many Singapore residents also choose to increase their coverage with IPs. IPs are made up of two components, as shown in Figure 2, – (1) MediShield Life and (2) additional private insurance coverage which provides additional benefits (e.g. coverage for higher costs of private hospitals or Class A/B1 wards in the public hospitals). As of 2015, approximately two-thirds of Singapore residents have an IP.

Figure 2: Components of IP (MOH)



*Diagram is not drawn to scale

14. Apart from MediShield Life, ElderShield, a severe disability insurance, is offered to Singapore residents with Medisave accounts when they turn 40 years old, to risk-pool against the financial risks of suffering a severe disability. Some policyholders may purchase Private ElderShield Supplements which provide additional disability benefits coverage.

15. Finally, Medifund is a medical endowment fund set up by the Government to act as the ultimate safety net for needy Singaporean patients who face financial difficulties with their remaining medical bills after receiving Government subsidies and drawing on other means of payments including MediShield Life, and Medisave. As such, at an individual level, medical bills (after applicable subsidies) are financed through various means:

- a) Employer-sponsored medical benefits, if any;
- b) MediShield Life and voluntary health insurance (e.g. IPs or other private health insurance⁸);
- c) Self-financing, using Medisave or cash balances; and/or
- d) Medifund or other social assistance programmes.

Role of Integrated Shield Plans

16. Today, there are six IP insurers – AIA Singapore Private Limited (“AIA”), Aviva Ltd (“Aviva”), AXA Life Insurance Singapore Private Limited (“AXA Life”), NTUC Income Insurance Co-operative Limited (“NTUC Income”), Prudential Assurance Co. Singapore (Pte) Ltd (“Prudential”), and The Great Eastern Life Assurance Company Limited (“Great Eastern”). Please refer to **Box 1 for further background on IPs and related developments over the**

⁸ Other private health insurance refers to health insurance which are not integrated with MediShield Life and offered by both general and life insurers in Singapore, e.g. medical expense insurance.

years. IPs play a significant role in Singapore’s healthcare financing system. It supplements MediShield Life by offering policyholders higher coverage for stays in Class B1 and above wards in public hospitals, as well as in private hospitals. Like MediShield Life, IPs have deductibles and co-insurance features to help keep premiums affordable. The deductibles and co-insurance features also serve a “skin in the game” function to align the financial interests of policyholders and IP insurers. Subject to the Additional Withdrawal Limits (“AWLs”)⁹, premiums for IPs may be wholly or partly paid using Medisave monies. To complement IPs, insurers also offer IP riders that cover the deductible and co-insurance portion of IPs. These IP riders can only be paid using cash instead of Medisave monies.

17. Apart from providing policyholders the choice to obtain greater coverage, as the payers of hospital bills, IP insurers play an integral role in managing Singapore’s healthcare costs. As we will discuss in the subsequent sections, IP insurers can utilise product design and claims settlement processes to encourage cost-effective consumer and healthcare provider behaviour to control claims cost escalation and ensure that healthcare costs is manageable at a systemic level.

18. Currently, all Singapore residents are covered by MediShield Life and two of three Singapore residents have an IP. In the last three years, the percentage of Singapore residents with both IP and IP riders has increased significantly from 19 per cent in 2011 to 32 per cent in 2015 and today, one of three Singapore residents have an IP and an IP rider. Please refer to Figure 3 for the breakdown in the last five years.

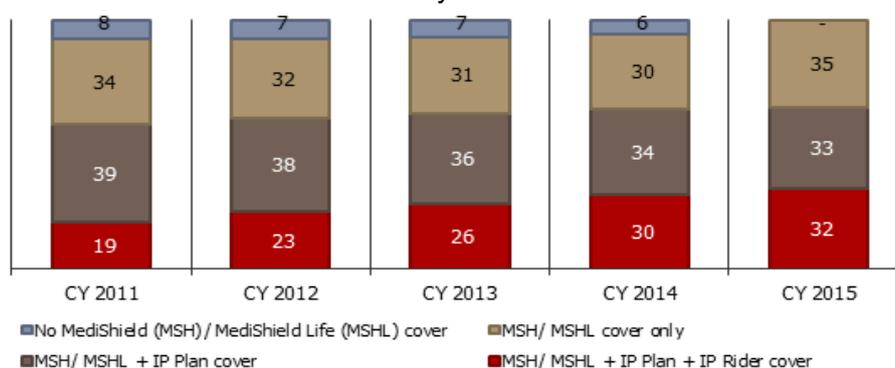


Figure 3: Proportion of Singapore Residents with MediShield Life, IPs and IP Riders (LIA Singapore and MOH¹⁰)

⁹ AWLs allow Singapore residents to use Medisave to pay for the premiums for the additional private insurance coverage component of IPs, subject to the following caps:

- a. \$300 for those with age next birthday at 40 years and below;
- b. \$600 for age next birthday at 41 to 70 years; and
- c. \$900 for age next birthday at 71 years and above.

¹⁰ The statistics on policyholders with MediShield/ MediShield Life (Life) and IPs were provided by MOH and the statistics on policyholders with IP riders were provided by LIA Singapore.

Box 1: Background and Developments of Integrated Shield Plans

Medisave-approved private insurance plans were first introduced in 1994, four years after the introduction of MediShield in 1990, as an alternative medical expense insurance plan¹¹ to MediShield. These were known as Private Medical Insurance Schemes (“PMIS”) and was not integrated with MediShield. NTUC Income, followed by AIA and Great Eastern, were approved to be PMIS insurers in 1994 to 2002. In 2005, as part of the MediShield Reform¹², PMIS were restructured and renamed Integrated Shield Plans. Instead of being a separate insurance product, IPs were integrated with MediShield and provided additional benefits such as coverage for stays in Class A/B1 wards in public hospitals and private hospitals.

Thus, IPs do not provide duplicate coverage with MediShield¹³. MOH required IPs to be guaranteed renewable and have co-payment features (i.e. deductible and co-insurance). That year, MOH also welcomed two new entrants, Aviva (July 2005) and Prudential (October 2005). In 2005, Aviva entered the market with the first “as-charged”¹⁴ plan and, by 2006, the other insurers also offered “as-charged” plans.

In 2006, insurers started to offer IP riders which covered the deductible and co-insurance portion of the IPs. Premiums for IP riders are paid in cash. This effectively provided consumers with first dollar coverage and protection against the entire hospital bill. Insurers also packaged these IP riders with additional benefits such as reimbursement for ambulatory services and coverage of traditional Chinese medicine treatments. IP riders gained popularity as many policyholders saw the value in purchasing IP riders for the additional peace of mind to avoid any out-of-pocket expenses during hospitalisation.

There were further enhancements to MediShield in 2008¹⁵ and 2013¹⁶. Similarly, IP insurers also enhanced IP benefits to cater to their policyholders’ medical care needs. For instance, during the 2013 MediShield enhancements, some IP insurers extended the coverage period for pre- and post-hospitalisation medical expenses and provided coverage for medical treatment at selected overseas hospitals.

The launch of MediShield Life in 2015 replaced MediShield. Consequently, the MediShield component of IPs was replaced with MediShield Life (please refer to Figure 2). IP insurers worked closely with MOH to ensure policyholders were aware of the changes arising from the introduction of MediShield Life as well as to implement system and operational changes, such as enhanced disclosure requirements. Most recently, in May 2016, AXA was approved by MOH to sell IPs to provide policyholders with more options and encourage market competition.

19. The better and wider coverage by IPs and the inclusion of IP riders that were introduced over the years to meet policyholders’ needs have led to an overall increase in IP premiums. The increase in IP premiums also reflected the rise in IP claims over the years as

¹¹ Compared to MediShield, PMIS had higher claims limits and offered additional coverage for outpatient treatment, such as immunotherapy, and final expenses.

¹² The objectives of the MediShield Reform was to (i) ensure the purpose of MediShield was to provide coverage for catastrophic illness; (ii) ensure MediShield premiums were kept affordable as premiums were increasing due to the poorer risk pool under MediShield, which was due to the PMIS insurers attracting younger and healthier lives; and (iii) ensure all Singapore residents were provided basic coverage on an opt-out basis.

¹³ When a policyholder purchased an IP, a portion of the premiums paid to the insurer will be transmitted to the Central Provident Fund Board (“CPF Board”) for the MediShield Life portion. Likewise, when an insurer settles a claim, it will recover a portion of the claim amount from the CPF Board.

¹⁴ “As-charged” plans do not have sub-limits on a benefit level, this meant medical expenses such as daily room and board and, surgical procedures were claimable and not subject to specified limits. The medical expenses would still be subject to the annual policy limit.

¹⁵ In 2008, MOH (i) increased MediShield payouts such that MediShield provided up to 80 per cent coverage of large hospital bills from Class B2/C wards in public hospitals; (ii) revised premiums; (iii) provided Medisave top-ups for the elderly; and (iv) increased the annual Medisave withdrawal limit for policyholders above 80 years old.

¹⁶ In 2013, MOH (i) increased the coverage age of MediShield from 85 to 90 years old; (ii) extended coverage to inpatient psychiatric treatment and short-stay wards in Emergency Departments; (iii) increased the policy year and lifetime claims limits; (iv) increased the deductible for Class B2/C wards by \$500; (v) increased the annual Medisave withdrawal limit for those above age 76; (vi) removed the maximum entry age of 75; and (vii) revised premiums.

a result of the escalation of medical claims costs as discussed above. IP insurers paid out claims amounting to \$488 million in 2014¹⁷.

Reasons for Rising IP Claims

20. Based on publicly available statistics and data from the IP insurers, LIA Singapore conducted a study in 2015 (referred to as “the LIA Study”) on the factors which contributed to increasing IP claims. The LIA Study considered **claims incidence rate**¹⁸, based on (i) ward entitlement of IP purchased and (ii) whether policyholders had an IP rider, and **average hospital bill sizes**¹⁹ based on (a) type of bills²⁰; (b) bills by hospital ward type; (c) breakdown of inpatient bills by components; (d) average length of stay in hospitals by hospital ward type and (e) bill components of common surgical procedures²¹. The LIA Study covered data from 2009 to 2014, and highlighted important observations on the usage of medical services by policyholders. Please refer to Appendix D for the LIA Study.

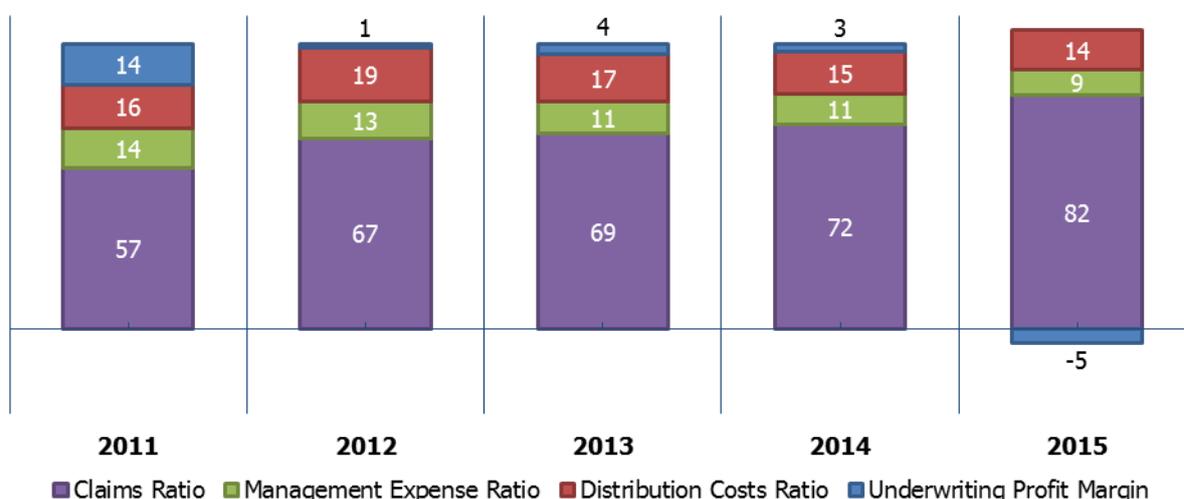


Figure 4: Weighted Average Expense and Claims Ratios for 5 IP Insurers²² (LIA Singapore)

21. Since the introduction of private medical insurance plans in 1994, private insurers have been operating fairly efficiently and, as shown in Figure 4, IP insurers have reported a steady decline in the distribution and management costs of IPs in the last few years. However, insurers have been unable to translate these scale efficiencies to overall net premium savings for consumers as they have been facing increasing insurance claims since 2009. As insurance is based on the concept of risk pooling, where large numbers of people are grouped together to share the impact of their claims experience, a higher level of insurance claims will eventually result in a higher level of premium. Given the rapid rate at which medical charges are

¹⁷ 2014 claims figure obtained from the LIA Study.

¹⁸ The claims incidence rate is the rate in which patients make valid claims on their insurance claims that may arise from both inpatient and outpatient medical treatment.

¹⁹ The LIA Study considered average hospital bill size in lieu of average claims cost as the latter may be distorted by the designs of IPs by different IP insurers.

²⁰ The LIA Study considered three types of bills – outpatient, inpatient and day surgery. A more detailed examination of inpatient claims cost was also conducted.

²¹ For the purpose of the LIA Study, LIA Singapore focused on four common procedures, which made up 12 per cent of total bill count – colonoscopy, cataract surgery, removal of gall stone and knee replacement.

²² Figures are extracted from Form 7 of MAS’ Annual Returns with adjustments by the respective insurers to remove non-recurring items. The Form 7 figures used pertain to long-term individual medical expense insurance, which includes both IP and non-IP plans offered by the 5 IP insurers (AIA, Aviva, GE, Income and Prudential).

increasing, the insurers have concluded that the current level of premiums for IP and IP riders are becoming unsustainable.

22. Further, the increase in IP claims will outpace the initial “savings”²³ accorded by the increased coverage limits under MediShield Life as insurers expect growth in claims in non-subsidised ward classes²⁴ to be greater than the increased coverage by MediShield Life, which was designed to cover public hospital bills in Class B2/C wards. The increasing claims trend will inevitably place pressure on private insurance providers to increase the premium rates. IP policyholders will eventually bear the brunt of higher medical claims and higher insurance premiums.

23. This section assesses the contributors of increasing claims by analysing frequency of medical treatment and average medical treatment charges. Statistics provided in this section were based on the LIA Study.

Medical Treatment Frequency

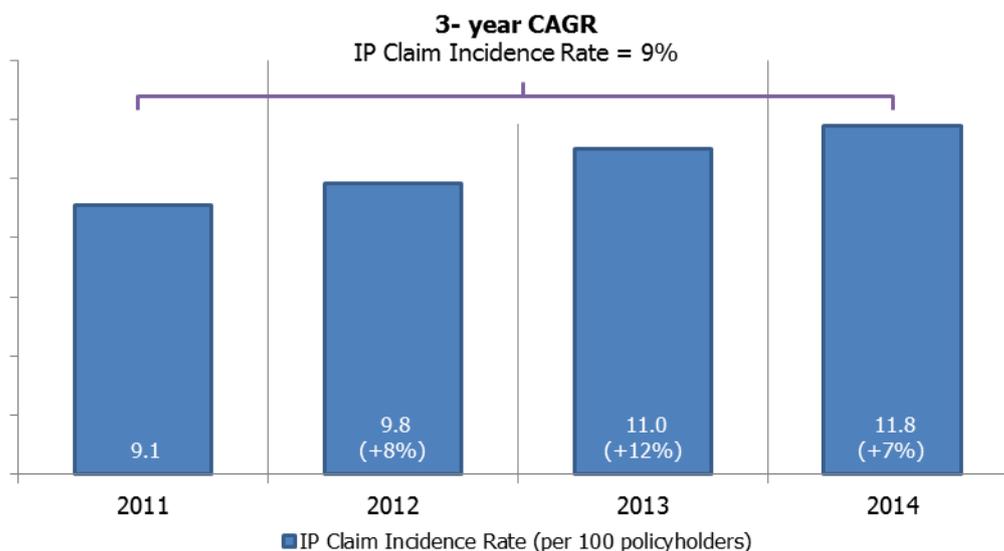


Figure 5: Average IP Claims Incidence Rate (LIA Singapore)

24. The claims incidence rate for IPs, which includes outpatient treatment in addition to hospital admission, has increased from 9.1 per cent in 2011 to 11.8 per cent in 2014. Based on the LIA Study, the HITF observed that the claims incidence rate for IPs has been increasing at a 3-year CAGR²⁵ of 9 per cent, suggesting that the incidence rate for IPs is growing steadily. Given that medical treatment frequency is a main driver of increasing claims, the HITF found this trend disconcerting and have analysed, in the subsequent sections, the factors that contribute to high claims incidence rate.

²³ The introduction of MediShield Life on 1 November 2015 has provided greater basic coverage for Class B2/C wards in the public hospitals by covering a larger portion of the total bill. This means that the payout by IPs for the total hospital bill should thus be correspondingly lower if the IP insurer does not enhance its IP benefits.

²⁴ Non-subsidised ward classes refer to Class B1 and A wards in public hospitals and private hospitals.

²⁵ Compound annual growth rate (“CAGR”) is a measure of growth over a period of 3 years (from 2011 to 2014).

Medical Treatment Charges

25. To better understand the claims drivers in Singapore, the HITF considered the key components of medical treatment costs incurred in both public and private healthcare sectors. While public hospital charges are expected to be lower on average, the inflation rates of the respective sectors and the contributing factors may provide insights to the escalation of insurance claims.

26. The LIA Study observed that there was a significant contrast between private hospital treatment inflation and public hospital inflation. Between 2012 and 2014, overall bill sizes increased at 8.7 per cent per year for private hospitals versus 0.6 per cent per year for public hospitals across inpatient treatment, day surgery and outpatient (Please refer to Appendix D, Table 1). The observation indicated that average bill sizes incurred at private hospitals was rising at a more rapid rate than those incurred at public hospitals. The cost in private hospitals was approximately two times more than public hospitals for inpatient treatments, 2.5 to three times more for outpatient treatments, and four times more for day surgeries.

27. Given the substantial average bill size observed for inpatient bills as compared to day surgery and outpatient bills, the LIA Study also analysed the components of inpatient bills – room and board, surgery and surgical implants. The LIA Study observed that charges for the various components of inpatient hospital treatments were higher in private hospitals compared to public hospitals. The largest differential came from the component of surgery charges where there was a marked difference of two to 2.4 times in charges (please refer to Appendix D, Chart H). The component with the least differential was room and board charges, where the difference in charges was only 1.25 to 1.4 times. Nevertheless, the LIA Study observed that, despite lower average length of stay, bills at private hospitals were inflating at a faster pace compared to bills at public hospitals (please refer to Appendix D, Chart I). This trend is exacerbated by the observation that a greater proportion of IP policyholders (particularly those with IP riders) were seeking treatment in private hospitals over public hospitals. Clearly, the choice of hospital was a material driver of overall claims costs.

Factors that Impact Medical Treatment Frequency and Charges

28. There are natural factors for the increase in medical treatment frequency and charges. These include an ageing population, higher awareness and better access to medical facilities, and advancement in medical and pharmaceutical research. However, there are also other undesirable behaviours that adversely affect frequency of medical treatment and charges which should be discouraged or eliminated.

Anomalies in Medical Treatment and Medical Services Charges

29. The type and frequency of medical treatment and the medical treatment charges are dependent on the healthcare provider's assessment and recommendation. There can be anomalies in medical treatment and medical services charges which can be broadly categorised as over-charging, over-servicing, and inappropriate medical intervention.

30. Based on examples of private surgical bills provided by LIA Singapore, the HITF noted instances where private hospitals and medical professionals may have over-charged patients by inflating certain components of the bill, unbundling certain routine laboratory tests for higher

total billing or charging excessive amounts for consumables. While doctors' fees are currently not explicitly regulated in Singapore, doctors have an ethical obligation under the Singapore Medical Council ("SMC") Ethical Code and Ethical Guidelines ("ECEG") to uphold the best interests of their patients, and not allow their clinical judgment to be driven by financial considerations.

31. The HITF also discussed examples of possible inappropriate treatment by healthcare providers, which were provided by the IP insurers. While recourse is available through reporting by patients to SMA or SMC, in reality, patients are often not in the position to identify anomalies in medical treatment. Insurers with medically trained staff are more able to flag out cases of anomalies in treatment during the claims assessment process, although it is recognised that it is difficult to definitively determine the appropriateness of treatment without full knowledge of the clinical circumstances of the treatment conducted.

32. Apart from contributing to escalating claims costs, patients' well-being may be at risk when inappropriate treatments are prescribed.

33. Over-charging and inappropriate treatment by healthcare providers not only contribute to increases in medical treatment frequency and charges, but also threaten the patient's well-being.

Insurance Product Design

34. Patients' choice of medical treatment options may be influenced by the product design of insurance, such as whether the treatment or illness is covered, and if there are waiting periods or claim limits. Where there is no perceived connection between patients' out-of-pocket costs and the actual cost of medical services, policyholders may be less incentivised to manage their medical expenditure, a behaviour quipped as the "buffet syndrome". To mitigate risks of overconsumption, insurance products often include features such as deductibles and co-insurance to improve the policyholders' awareness of costs and encourage customers to seek cost effective medical care. With an element of shared responsibility, policyholders would appreciate the impact of their medical care decisions and lifestyle habits on overall healthcare cost, which includes the level of insurance premiums.

35. Clearly, an important tool in keeping premiums affordable is the use of product design to encourage customers and medical professionals to choose treatment paths that are medically necessary and appropriate for the patient's circumstances. Currently, IP plans with IP riders are more expensive and provide nearly 100 per cent cover for treatment under the plan where policyholders have little or no out-of-pocket payments. As these policyholders are insulated from the cost of their medical charges, they may lack the incentive to manage their health and medical costs, translating to higher insurance claims. This trend was observed by the LIA Study which noted that, on average, policyholders with IP and IP riders incurred 20 to 25 per cent higher medical bill sizes compared to policyholders with IPs only (please refer to Appendix D, Table 3). This highlights the necessity to review product design to reduce over-utilisation of services.

Referral Fees

36. The HITF observed an emerging trend of persons engaged in referring IP policyholders to healthcare providers in exchange for fees from the healthcare providers. These persons

include medical concierges, insurance intermediaries, third party administrators (“TPAs”)²⁶ and companies that are set up mainly to refer policyholders to doctors. In some cases, the fee is determined as a percentage of the healthcare providers’ charges, which may place the medical professionals in a situation where there is a conflict of interest. Such financial considerations could cloud the clinical judgement of medical professionals. The HITF noted that SMC’s ECEG²⁷ states that medical professionals “must not let business or financial considerations influence the objectivity of (their) clinical judgment in (their) management of patients”. It also states that “(they) must not pay fees that are so high as to constitute ‘fee splitting’ or ‘fee sharing’, or which render (them) unable to provide the required standard of care. In addition, if (they) pass on such fees to patients, (they) must disclose this to (their) patients”.

37. The HITF recognises that these referral service providers serve a useful purpose in linking patients and healthcare providers and in efficient claims management. At the same time, the HITF also recognises that the layering of additional costs arising from such referral fees may lead to an inflation of medical costs which may be passed on to insurers through claims, and ultimately result in increased pressure on insurance premiums. The SMC’s new guideline is a timely and positive measure in ensuring the suitability of financial incentives.

Information Asymmetry

38. Even though consumers are the largest stakeholder in keeping quality healthcare affordable, they are arguably the least informed and empowered to make decisions. While the consumer’s decision on the type of insurance to purchase or the healthcare provider to approach has a direct bearing on treatment cost outcomes, consumers currently play a passive role in managing their medical care cost. This is largely because consumers have limited access to information and are, hence, less equipped to evaluate or question the costs of their treatment plans. Moreover, with insurance plans and IP riders providing a near 100 per cent cover for medical treatments, consumers are less incentivised to actively seek out the most appropriate and cost-effective treatment to manage their medical expenditure. Correspondingly, healthcare providers may take advantage of the circumstances of the insured and over-charge or over-prescribe medical treatment. Information asymmetry also exists with payers, the insurers, as the lack of information on reasonable range of medical charges results in insurers relying on their own claims data in product designs and claims processing. These internal data reflect the behaviours of existing policyholders and may not be representative of the norm.

39. The HITF noted that there are existing efforts to provide stakeholders greater access to information. First, ACE was formed by MOH to promote and drive appropriate care in Singapore through evidence-based analysis and Health Technology Assessments²⁸. ACE’s evaluations will be published as guidance or guidelines to complement health policy and to support clinicians and patients in making better decisions in selecting healthcare options that

²⁶ Within the healthcare delivery system, the HITF noted that TPAs play an increasingly vital role. TPAs are often engaged by insurers to manage and form panels of doctors, administer health services, collect data, validate policy coverage and enable policyholders to access the appropriate medical care within the terms of their policies. TPAs can assist insurers in managing claims cost by providing medical expertise and infrastructure capabilities to assess and manage voluminous insurance claims as well as to manage a selected panel of healthcare providers through agreed fee schedules.

²⁷ Section H3 of SMC’s 2016 ECEG covers financial conflicts of interest, including fee arrangements. The 2016 ECEG will be effective from 1 January 2017.

²⁸ Health Technology Assessments is a multidisciplinary process of evaluating how well a new health technology works compared with the established practice and whether it represents efficient use of limited resources. Health technologies could include drugs, devices, diagnostics and procedures.

provide better value. Second, MOH publishes hospital inpatient bill sizes for various medical conditions in both public and private hospitals. MOH has also published details on the charges for common surgical procedures at public and private hospitals.

40. While the currently available information provides insights into total hospital bills, more granular information is required to enhance transparency and understanding of the underlying bill charges. This also provides insurers with more information to develop appropriate product features.

41. In understanding the factors contributing to rising health insurance premium rates, the HITF acknowledges that **all stakeholders can play a more pro-active role in managing escalating claims** in the long run so that the public can continue to afford the IP premiums and enjoy a higher standard of living.

Recommendations

42. Given that the healthcare system is complex and involves various stakeholders, the HITF recognises that collaboration amongst industry stakeholders is critical in addressing the escalation of healthcare costs and insurance claims. Hence, the HITF has recommended targeted measures involving all stakeholders with the aim of steering them towards more efficient outcomes specifically to keep claims escalation in check and IP premium levels affordable.

43. While the paper makes specific recommendations, the HITF acknowledges that further work²⁹ has to be undertaken to resolve the escalation of claims. Nonetheless, the recommendations serve as practical first steps needed to tackle the challenge of managing rising IP premium levels by addressing areas that can help contain the size and incidence of medical insurance claims.

44. Table 1 summarises the HITF’s recommendations and what they seek to address.

Table 1: Summary of HITF's Recommendations

Recommendations	Impact on Stakeholders
<p><u>Introducing Medical Fee Benchmarks or Guidelines</u></p> <ul style="list-style-type: none"> - To have a set of medical fee benchmarks or guidelines to provide a range of professional fees. Benchmarks or guidelines should be calibrated to ensure the appropriate involvement and adoption by stakeholders - To address the issue of information asymmetry by providing stakeholders access to information on appropriate charges - To mitigate cases of over-charging by providers 	<p>Consumers (or Patients)</p> <ul style="list-style-type: none"> • Provides an approximation of charges and allows consumers to manage their personal healthcare financing <p>Healthcare Providers</p> <ul style="list-style-type: none"> • Enhances the financial counselling process conducted by healthcare providers as consumers are aware of the possible charges • Provides greater transparency on charges to promote trust and to improve the patient-doctor relationship <p>Payers (IP insurers)</p> <ul style="list-style-type: none"> • Provides a reference for insurers to review size of claims and develop appropriate product features (e.g. charges are within claim limits) • Addresses cases of inflated claims

²⁹ It is not the intent for the HITF to consider broader policy areas relating to overall demand and supply of healthcare including the dynamics between the public and private healthcare systems.

<p><u>Clarification on Existing Process to Surface Inappropriate Medical Treatment</u></p> <ul style="list-style-type: none"> - To clarify the existing escalation process which allows insurers to raise cases of inappropriate and excessive medical intervention to the relevant authorities - To clarify on the practices amongst insurers when dealing with such claims so as to minimise the impact on policyholders whose cases are subject to investigation - To increase awareness of the existing avenue for insurers to raise cases of inappropriate and excessive medical intervention noted in their review of claims 	<p>Consumers (or Patients)</p> <ul style="list-style-type: none"> • Ensures impact on policyholders' claims is managed by insurers • Provides assurance of a robust and accountable process when claims are denied on the basis that treatments were not medically necessary <p>Healthcare Providers</p> <ul style="list-style-type: none"> • Emphasises the importance of providing medically necessary treatment and discourages medical professionals from malpractices <p>Payers (IP insurers)</p> <ul style="list-style-type: none"> • Provides greater clarity and awareness of the escalation process • Allows insurers to play a more active role in supporting medically necessary treatments
<p><u>Enhancing Insurance Procedures and Product Features</u></p> <ul style="list-style-type: none"> • Panel of Preferred Healthcare Providers - To suggest that insurers consider the use of preferred healthcare provider panels, where appropriate, to manage medical costs through fee agreements. IP insurers should make clear to their customers that their choice of healthcare providers is not restricted by the existence of the panels, although the coverage may be affected - To enhance and ensure transparency of the arrangement (e.g. disclosures on the healthcare provider selection process) - To suggest that insurers consider, during the appointment of preferred healthcare providers, TPAs, and intermediaries, whether their fee arrangements are in line with SMC's ECEG 	<p>Consumers (or Patients)</p> <ul style="list-style-type: none"> • Provides assurance that charges by panel healthcare providers are appropriate and correspondingly, out-of-pocket costs in the form of deductible and co-insurance are appropriate • Provides clarity on the potential implications of using a non-panel healthcare provider in terms of making insurance claims <p>Healthcare Providers</p> <ul style="list-style-type: none"> • Emphasises the importance of providing required standard of care to patients and discourages medical professionals from fee arrangements that may influence the objectivity of their clinical judgement in their management of patients <p>Payers (IP insurers)</p> <ul style="list-style-type: none"> • Encourages insurers to influence their preferred healthcare providers, TPAs, and intermediaries to have fee arrangements with medical professionals that are in line with SMC's ECEG • Ensures leakage of claims costs is minimised as claims are based on agreed medical fee charges and treatment

<p><u>Enhancing Insurance Procedures and Product Features</u></p> <ul style="list-style-type: none"> • Co-insurance & Deductibles - To encourage insurers to include co-insurance and/or deductible features in product design to ensure consumers' interest are aligned with managing healthcare costs - To address the risks of overconsumption due to poor product features 	<p>Consumers (or Patients)</p> <ul style="list-style-type: none"> • Encourages consumers to play a more active role in managing their medical care costs • Encourages consumers to be more responsible for their lifestyle habits <p>Healthcare Providers</p> <ul style="list-style-type: none"> • Increases pressure to provide medically effective and cost efficient treatment • Encourages communication between consumer and healthcare provider on type and cost of medical care recommended and, improves the patient-doctor relationship <p>Payers (IP insurers)</p> <ul style="list-style-type: none"> • Aligns product features with consumers' interest for long term sustainability of IP premiums • Ensures better claims cost management
<p><u>Enhancing Insurance Procedures and Product Features</u></p> <ul style="list-style-type: none"> • Pre-approval of Medical Treatment - To encourage insurers to approve claims for medical treatment and estimated bill size prior to the actual procedure, which provides certainty to patients on what can be claimed from their insurance policy - To address the risks of inappropriate treatment and high medical charges 	<p>Consumers (or Patients)</p> <ul style="list-style-type: none"> • Provides a peace of mind as policyholders know their procedure is within insurance coverage when actual treatment is sought • Protects consumers as insurers would not endorse and providers are unlikely to recommend procedures that are not medically necessary <p>Healthcare Providers</p> <ul style="list-style-type: none"> • Decreases disputes with payers and consumers over medical treatment and bills • Encourages greater communication between payer and provider <p>Payers (IP insurers)</p> <ul style="list-style-type: none"> • Provides greater control over cost of medical bills
<p><u>Educating Consumers</u></p> <ul style="list-style-type: none"> - To educate the public on the available options, such as the types of hospitals and wards, and the corresponding costs of their medical treatments 	<p>Consumers (or Patients)</p> <ul style="list-style-type: none"> • Educates consumers to assess the available information and make informed healthcare choices

- | | |
|---|--|
| <ul style="list-style-type: none"> - To address the issue of information asymmetry by ensuring information on medical charges is readily accessible and easily comprehensible by consumers | |
|---|--|

Introducing Medical Fee Benchmarks or Guidelines

45. Publication of fee structures is common practice internationally and provides an important baseline for assessing reasonable charges (please refer to Appendix C on List of Countries with Medical Fee Structures). Publishing information on fee structure enables the market to operate with greater efficiency – healthcare professionals are provided with data on treatment cost and insurers are equipped with benchmarks or guidelines of medical claims to improve product design and claims assessment. The HITF noted that the removal of SMA's Guidelines on Fees in 2007 had resulted in a lack of available benchmarks or guidelines for medical charges which insurers could reference to effectively and efficiently detect inflated claims.

46. Publication of fee structures also benefits consumers, who are arguably the least informed and empowered to make decisions despite playing a central role in determining their individual healthcare journey. With limited access to information on fees, consumers are less equipped to evaluate the costs of their treatment plans relative to the purchase of other professional services as they lack an understanding of what constitutes medically necessary and appropriate treatment and their corresponding charges. Knowledge on what constitutes appropriate medical charges is particularly important to policyholders with IPs (without IP riders) and/or MediShield Life as they have to self-finance a portion of their hospital bills. Publication of fee structures will bridge the information asymmetry gap which currently exists between healthcare providers and consumers. The importance of greater accessibility to information is supported by a global shift towards greater patient participation in clinical encounters as consumers have resources to actively manage their healthcare, particularly in the management of long-term chronic diseases.

47. As MOH, hospitals and insurers have granular data on medical charges, there is an opportunity to harness the power of big data with the aim to manage healthcare cost. For a start, a major nationwide exercise can be conducted to standardise the collection of these data and collate the information to facilitate the design of the fee benchmarks or guidelines to manage the overall cost escalation.

48. The HITF recommends that MOH drives the publication of medical fee benchmarks or guidelines and suggests the following:

- a) MOH may wish to consider appointing an independent body to collate the data gathered from government, private hospitals and insurers. To facilitate the data collection exercise, MOH may wish to consider requiring stakeholders to provide data on a regular basis to enable the study to be carried out systematically and robustly year after year.

- b) The HITF recommends that the publishing of medical fee benchmarks or guidelines should be focused on professional fees given the urgency to manage escalation of healthcare costs. Medical fee benchmarks or guidelines on other services (such as implants, facility charges and consumables) can be considered at a later phase.
- c) The HITF recommends that the medical fee benchmarks or guidelines are designed having regard to empirical data to make the disclosure meaningful. This will effectively remove the outliers that contribute to inflated medical costs. The HITF also recommends engaging experts (e.g. SMA) in the relevant fields to establish the reasonableness and appropriateness of the fees based on prevailing clinical practices.
- d) To ensure that the medical fee benchmarks or guidelines can be applied meaningfully, the HITF suggests engaging insurers to ensure that the benchmarks or guidelines can be practically applied for the purposes of claims assessment. Insurers should also allow for sufficient flexibility in application of any benchmarks or guidelines to cater for individual patients' medical treatment requirements and ensure policyholders are not disadvantaged by the benchmarks or guidelines.
- e) MOH should consider how best to heighten consumer awareness of medical fee benchmarks or guidelines. One way is for hospitals and specialists to disclose the fee benchmarks or guidelines versus their own charges in a timely manner to allow patients to make informed decision on the choice of care.

49. With the successful implementation of medical fee benchmarks or guidelines, insurers would be more empowered to detect inflated claims and take an active approach towards claims adjudication. The HITF recommends that IP insurers consider adopting policy contract wording that enables claims adjudication that:

- References charges which are reasonable and customary;
- Is based on clinical practice guidelines and references to publicly available data on medical care costs;
- Considers new medical technology required based on appropriate evidence that it is the most effective treatment available; and
- Emphasises the need to engage healthcare professionals who charge and practice within reasonable limits.

50. The HITF believes the adoption of published fee benchmarks or guidelines is paramount to improving transparency of medical costs in Singapore. Similar approaches have been implemented globally and are a cornerstone to achieving quality healthcare at an affordable cost.

Clarification on Existing Process to Surface Inappropriate Medical Treatment

51. Apart from adverse implications to patients' health and well-being, inappropriate medical intervention also erodes the public's trust in the medical profession. Further, as

insurers only provide coverage for medically necessary treatment, patients may be required to pay out of their pockets for treatment received due to inappropriate medical intervention.

52. In Singapore, patients may approach SMC to seek recourse on inappropriate medical interventions or to complain on unsatisfactory services or treatments provided to them, or to approach SMA to facilitate the conciliation and explanation from the doctor.

53. Insurers also play an active role in supporting patients' medical treatments as they have access to extensive health insurance claims data and are well placed to identify potential anomalies in medical treatment through their review of claims. Hence, the HITF also explored avenues for IP insurers to raise cases of over-charging and inappropriate medical intervention. The HITF noted that insurers can refer cases to SMC if there are concerns of over-charging and inappropriate medical intervention amounting to professional misconduct by the medical professionals for SMC's investigation. It is critical for insurers to be aware and utilise this process to raise cases for investigation so as to reduce instances of inappropriate and excessive medical interventions, which contribute to escalating healthcare costs.

54. To ensure systemic issues are investigated by SMC and consumers' best interests are considered in the long run, the HITF recommends that MOH work with SMC and LIA Singapore to clarify and refine the existing process which allows insurers to raise cases of inappropriate and excessive medical interventions to the relevant authorities. The HITF also recommends that LIA Singapore engages IP insurers to clarify on their individual company practices when dealing with such claims to minimise the impact on policyholders while their claims are being investigated.

Enhancing Insurance Procedures and Product Features

55. The HITF recommends that IP insurers consider some of the following procedures and product features to contain claims escalation.

Panel of Preferred Healthcare Providers

56. In a free market healthcare system, charging practices will vary across different medical professionals. The HITF noted that the extent of information asymmetry was reduced in countries such as Germany, where payers (statutory health insurers) would negotiate cost of medical treatment with providers to ensure the statutory health insurance funds were sustainable. It is common practice locally and internationally for insurers providing employee benefits insurance to form panels of preferred healthcare providers to manage the variation in fee charging behaviour. This has proven to be very effective in managing excessive charges as fees are negotiated upfront with the preferred healthcare providers and generally based on reasonable and customary charges observed in the market place. The national medical fee benchmarks or guidelines as outlined above will assist insurers in setting reasonable fees schedules with providers.

57. The HITF recommends that:

- a) IP insurers consider adopting the use of preferred healthcare provider panels where appropriate. IP insurers should readily disclose guidelines related to their

panel and maintain an updated register of the panel providers on their website and portal for easy access by policyholders and insurance intermediaries. IP insurers should make clear to their customers that their choice of healthcare providers is not restricted by the existence of the panels, although the coverage may be affected. The use of preferred healthcare provider panels should not compromise the standard of care received by policyholders.

- b) As part of the disclosure of guidelines related to the use of the panel, IP insurers should include information on how the healthcare providers on the panels are selected, the fee arrangements for the panel of providers, and when or under what circumstances the policyholder must use the panel of providers in order for coverage not to be affected.
- c) In Singapore, preferred healthcare provider panels are typically formed through the use of TPAs. The HITF noted recent concerns and feedback raised by the medical community and the media regarding TPAs, specifically certain fee arrangements between TPAs and general practitioners or specialists. In appointing preferred healthcare providers, TPAs, and intermediaries, the HITF recommends that insurers should consider whether their fee arrangements are in line with SMC's ECEG so as to safeguard the interests of policyholders.

As per SMC's ECEG, medical professionals should not pay fees to TPAs unless (1) services were rendered to the doctor by the TPA; (2) the fees were based on the services rendered; and (3) the fees were not primarily based on the services provided by the doctor or the fees collected by the doctor.

- d) As an alternative to TPAs, the HITF recommends that insurers can consider developing in-house medical expertise so that they can engage the doctors and healthcare providers directly.

Co-insurance & Deductibles

58. The introduction of IP riders has led to increased claims costs through higher average costs on the IPs. Adoption of co-insurance and/or deductible features will encourage consumers to play a more active role in managing their medical care costs as they are more acutely aware of the medical charges incurred. The amount of the co-insurance and/or deductible does not need to be excessive to achieve success in managing claims costs.

59. The HITF recommends that all life and general insurers offering medical insurance consider co-insurance and/or deductibles in their product design. However, insurers should take efforts to ensure any changes in product design of IPs and IP riders will not put existing policyholders at a disadvantage.

Pre-Approval of Medical Treatment

60. The HITF recommends a "pre-authorisation" framework, which is commonly used by international health insurers, where the insurer would approve the medical treatment and estimated bill size prior to the actual procedure. This framework benefits all stakeholders –

- First, payers (insurers) are allowed to assess the medical necessity and cost of the treatment to ensure it is within the terms and conditions of the policy's coverage;
- Second, patients or policyholders gain a peace of mind knowing their procedure is within their insurance coverage; and
- Third, healthcare providers have clarity on the type of procedures covered by insurance to better advise their patients prior to the actual procedure.

61. The HITF encourages IP insurers to adopt a pre-approval framework to help consumers manage costs of hospitalisation based on the type of IP purchased. The HITF recommends that LIA Singapore should lead the initiative and work with insurers on the following:

- Consider the capability and infrastructure required to successfully deliver the service to the policyholder;
- Incorporate pre-approval wordings into the IP terms and conditions;
- Align the pre-approval framework with the adoption of a panel of preferred healthcare providers; and
- Ensure sufficient flexibility for urgent treatment and access to the required medical treatment. Policyholders' health should not be compromised by the delivery of healthcare services through the pre-approval framework.

Educating Consumers

62. Equipping consumers with information that is useful in their healthcare decision-making process will encourage consumers to actively manage their health and healthcare cost. Given the myriad of healthcare decisions faced by consumers, useful information may include (i) the types of medical facilities and treatment options available, e.g. private or public hospitals; (ii) the appropriateness of treatment and their charges, e.g. medical fee benchmarks or guidelines, as proposed by the HITF, to assess the reasonableness of charges; (iii) the avenues to seek resolution on disputes, e.g. SMC's complaint resolution process; and (iv) the healthcare financing options available to consumers, e.g. subsidies granted for certain income levels and types of health insurance plans.

63. The HITF recommends that CASE work with SMA, LIA Singapore and MOH to ensure such information is readily accessible and easily comprehensible to empower consumers to make informed choices.

Conclusion

64. The Singapore healthcare system is evolving – MediShield Life was launched in late 2015 and, more recently, in his 2016 National Day Rally Speech, the Prime Minister shared an impending review of the ElderShield insurance scheme to ensure greater coverage and protection. As the Singapore healthcare system develops to cater to changing demands and an ageing population, it is even more crucial for all stakeholders to play an active role in ensuring the healthcare system remains sustainable.

65. The HITF hopes the industry can work together to effectively implement its recommendations to moderate escalation of IP premiums. While the HITF made specific recommendations targeted at managing IP premium levels, the HITF acknowledges that further work has to be undertaken by the relevant stakeholders to follow through the recommendations to achieve the objective. The industry should continue to seek effective and innovative ways to improve price transparency and comparison of professional fees within the healthcare industry, as well as utilise in-depth data analytics to better scrutinise unusually high medical charges to better manage claims costs and keep premiums affordable for all.

Appendix

Appendix A: Health Insurance Task Force Composition

Name	Designation
Ms Mimi Ho (Chairman)	Principal, Regulatory Professionals Pte Ltd
Dr Khoo Kah Siang	President, Life Insurance Association, Singapore
Mr Richard Wyber	Deputy Convenor, Health Insurance Subcommittee, Life Insurance Association, Singapore
Mr Lim Biow Chuan	President, Consumers Association of Singapore
Mr Seah Seng Choon	Executive Director, Consumers Association of Singapore
Dr Wong Tien Hua	President, Singapore Medical Association
Dr Wong Chiang Yin	Council Member, Singapore Medical Association
Mr Chin Chee Kiat	Director (Finance Policy), Ministry of Health, Singapore
Ms Jasmin Lau	Deputy Director (Finance Policy), Ministry of Health, Singapore
Ms Lee Keng Yi	Director & Department Head (Insurance), Monetary Authority of Singapore
Ms Tan Siew Yen	Director & Division Head (Insurance), Monetary Authority of Singapore

Industry experts:

Name	Designation
Dr Leow Yung Khee	Head of Group Insurance and Claims, The Great Eastern Life Assurance Company Limited and The Overseas Assurance Corporation Limited
Mr Martin Ho	Chief Administrator, Singapore Medical Association

Appendix B: HITF Terms of Reference

To recommend measures to bring about moderation in the escalation of health insurance premiums in Singapore, including, but not limited to:

- Measures that increase the transparency of health services charging;
- Measures conducive to the provision of appropriate care at appropriate cost by healthcare professionals; and
- Educational measures to help consumers make prudent choices of health services, and to raise the awareness of healthcare providers of measures conducive to the provision of appropriate care at appropriate cost.

Appendix C: List of Countries with Medical Fee Structures*

Global Practice: Fee Structures

Fee schedules are common practice in many other countries, and applied in both the public and private sector settings

Country	Provider type		Comments
	Public	Private	
	✓	✓	<ul style="list-style-type: none"> Fees set between regional health ministries and medical associations Regulations prohibit private physicians from billing more than public fees
	✓	✗	<ul style="list-style-type: none"> Department of Health recommends fees to be incorporated into legislation Private providers negotiate rates with private health insurers
	✓	✗ (Limited market)	<ul style="list-style-type: none"> Negotiated between British Medical Association and government Include capitation, FFS, DRG payments, optional performance-element
	✓	✓	<ul style="list-style-type: none"> Set by Centers for Medicare and Medicaid Services (often referenced for private sector fee schedules) Some adjustments to schedule allowed
	✓	✓	<ul style="list-style-type: none"> Set by Central Social Insurance Medical Council and includes FFS and incentives for care coordination and certain ambulatory services
	✓	✓	<ul style="list-style-type: none"> Public fees set by Ministry of Health and subsidized via central treasury Private fees set by Ministry of Health with input from Malaysia Medical Assn.
	✓	✓	<ul style="list-style-type: none"> FFS costs nationally regulated by government Investigating cost controls: DRG based payment, pay for performance, etc.
	✓	✗ (Limited market)	<ul style="list-style-type: none"> Public fees set by Hospital Authority / Dept. of Health and subsidized by govt. Private fees are not regulated
	✓	✗	<ul style="list-style-type: none"> N/A

Source: Commonwealth Fund, Oliver Wyman research

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*Chart by Oliver Wyman

Appendix D: Study by LIA Singapore

Please refer to '*LIA Study on the Cost of Health Insurance in Singapore*'.



**Life Insurance Association
Singapore**

LIFE IS WORTH PROTECTING. INVEST IN IT.

October 13, 2015

LIA Study on the Cost of Health Insurance in Singapore

This is a document prepared by the Life Insurance Association, Singapore

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Introduction

1. The objective of this paper is to better understand and analyse the numerous factors affecting the cost of health insurance in Singapore, what can be done to manage cost escalation and, importantly, encourage greater collaboration amongst key stakeholders in our joint efforts to ensure continued accessibility and affordability of healthcare services in Singapore. The paper provides an overall snapshot of the current situation based on publicly available statistics as well as data provided by insurers offering integration shield plans.
2. Since 2005, five life insurance companies have been approved by the Ministry of Health (MOH) to offer private health insurance cover to the public on a voluntary purchase basis. These private insurance plans are called integrated shield plans (IPs) and they provide additional cover on top of the basic MediShield¹ plans offered and insured by the Central Provident Fund Board (CPF Board).

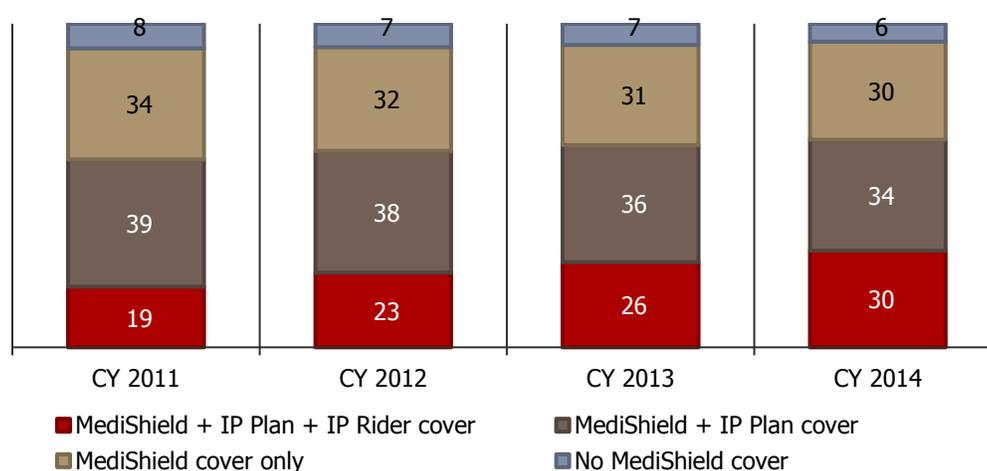


Chart A: Proportion of Singapore Residents with Medical Insurance

3. IPs have served the public well. Funded largely by their Medisave² and sold largely via tied agents and financial advisers, IPs quickly gained popularity amongst Singapore residents and the proportion of residents with IP cover increases every year, averaging three per cent per annum over the past four years³. Today, **IPs provide cover to two-thirds⁴ of Singapore residents and have paid out claims amounting to S\$488 million** for the financial year 2014.
4. In recognising the value IPs have been providing policyholders and the opportunity to enhance their coverage, private insurers introduced IP Riders which enable first dollar coverage together with additional benefits, such as reimbursement for ambulatory services and other incentives to aid life assured to recover. Today, approximately half of all IP policyholders have an IP Rider.

¹ MediShield is a low cost basic medical insurance scheme, funded by each individual's Medisave monies. Introduced in 1990, the Singapore government designed MediShield to help members meet large Class B2/C hospitalisation bills.

² Medisave is a national medical savings scheme which helps individuals put aside part of their income into their Medisave Accounts to meet their future personal or immediate family's medical expenses.

³ For the figures in Chart A – the number of policyholders with MediShield and IPs is provided by MOH, while number of policyholders with IP Riders is provided by LIA's statistics.

⁴ Source: Ministry of Health. (2015 April 30). Government Health Expenditure and Healthcare Financing. Retrieved from https://www.moh.gov.sg/content/moh_web/home/statistics/Health_Facts_Singapore/Healthcare_Financing.html

5. Unfortunately, the long-term sustainability of IPs and IP Riders may be at risk, **especially for plans which provide coverage for private hospitals and the related medical expenses** which have seen a significant increase in claims. This overall escalation will inevitably put more pressure on private insurance providers to increase the premium rates of IPs and IP Riders to offset the hike in claims. The insured public as the end consumers will eventually be most negatively impacted.
6. The introduction of MediShield Life in the fourth quarter of 2015 will provide greater basic coverage for B2 / C Wards in the public hospitals by covering a larger portion of the total bill. However, this will be insufficient to prevent a necessary increase in the premium rates for IPs and IP Riders because the cost of claims per policy are expected to increase much more than the higher portion of claims being absorbed by MediShield Life. Moreover, B2 / C Ward cover may not be perceived as adequate by many insured lives with many still prefer the option of staying in higher class Wards and gaining immediate access to medical treatments when needed. These premium options are mostly covered by the top-up IPs and IP Riders and consequently, increasing the total amount of claims payment by private insurance providers.
7. In understanding the factors contributing to rising health insurance premium rates, **all stakeholders can play a more pro-active role in managing escalating private healthcare costs** in the long run so that that the public can continue to afford the choices offered by the IPs and IP Riders, and enjoy a higher standard of life.
8. The Life Insurance Association Singapore (LIA Singapore) and IP insurers look forward to working more closely with the Government and relevant bodies to manage both healthcare and healthcare insurance costs in Singapore. This includes seeking effective and innovative ways to improve price transparency and comparison of professional fees within the healthcare industry, as well as using in-depth data analytics to better scrutinise unusually high healthcare bills to better manage claims costs and keep premiums affordable for all.
9. LIA Singapore will also continue to work closely with all relevant parties to further improve internal and external communications on how MediShield Life and IPs work, the complementary relationship of both, and benefits to policyholders.
10. Financial advisers and customer service teams of all IP insurers will continue to help clients and respond to queries on IPs with the implementation of MediShield Life based on training and information resources provided by MOH. This is part of LIA Singapore's proactive effort to increase awareness and improve education on health insurance to ensure that the community is well-served during this period of dynamic change.

Factors Contributing to Rising Health Insurance Premium Rates

11. The premium rate of an insurance plan is made up mainly of three components⁵:

- the **cost** of the benefits of the product;
- the **expenses** incurred in selling and managing the product; and
- profits** to shareholders for taking the risks on this business and the associated taxes.

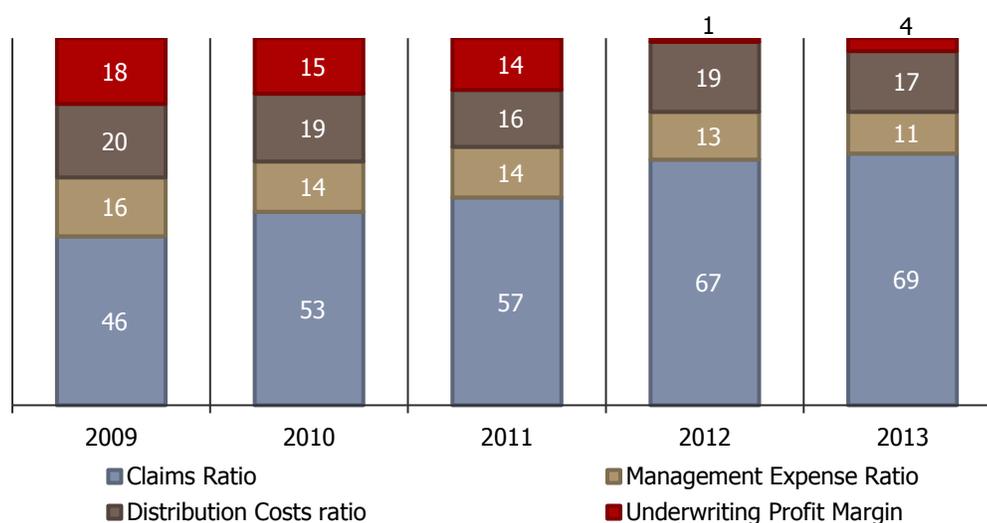


Chart B: Weighted Average Expense and claims ratios across five IP insurers

12. The life insurance industry has been operating fairly efficiently in the last few years during which management expenses and distribution costs incurred (Refer 11b) on the products have been declining steadily as shown in Chart B⁶. The total level of 28 – 36 per cent is comparable to the general insurance industry total expense (commissions, distribution expenses and management expenses) ratio of approximately 35 per cent⁷ observed in the last few years.

13. On the other hand, the **costs of the benefits of the product (Refer point 11a) - in this case the claims payable by insurers to policyholders for hospitalisation and its associated costs (e.g. Pre and post hospitalisation costs, outpatient costs on chemotherapy, kidney dialysis, etc) - have been trending upward rapidly, outstripping the cost savings made by IP insurers in management expenses and distribution costs.**

14. This, consequently, adds pressure on sustainability of the premium rates of IP plans and IP Riders given the three components affecting premium rates of insurance plans.

⁵ There is also the less obvious cost incurred by insurers such as the cost of holding reserves and capital to ensure that the insurance funds are able to meet the claims obligation now and in the future. These will not be discussed here as they are complicated and may further confuse the main focus of this paper. Nevertheless, it is important to recognize that insurance companies incurred these costs to run the health insurance business.

⁶ Source: Huang, C. (2014, August 7). High claims, costs hit integrated shield plans. *The Business Times*. Retrieved from <http://www.businesstimes.com.sg/top-stories/high-claims-costs-hit-integrated-shield-plans>

⁷ Source: GIA statistics

15. As such, it is important to further understand the factors affecting the escalating health insurance claims cost in Singapore.
16. There are two key factors affecting the health insurance claims cost in Singapore:

Costs of the Benefits = Claims Incidence Rate X Average Claims Cost
--

Claims Incidence Rate

17. The claims incidence rate for IPs is the rate with which the policyholders make valid claims on their insurance plans. The claims incidence rate signifies the incidence of policyholders falling sick and requiring medical treatments in the hospital or outpatient treatment for critical illnesses such as chemotherapy and kidney dialysis.
18. Chart C below shows the average claims incidence rate⁸ on all IPs offered by the five MOH-approved insurers for the last five years.

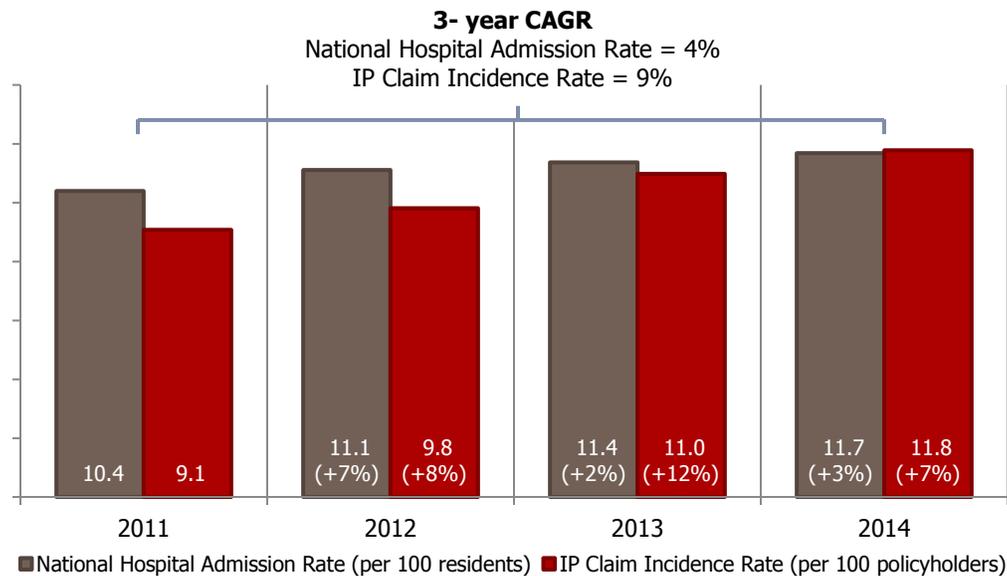


Chart C: National Hospital Admission Rate vs Average IP Claims Incidence Rate

19. As can be seen from Chart C, the IPs claims incidence rate has been escalating at approximately nine per cent per annum.
20. Compared to the National Hospital Admission rate⁹, we observe that while the two statistics may not be entirely comparable (IPs claims incidences would include some outpatient treatments that were carried out at medical clinics instead of hospitals), there is a general trend of increasing incidence rate over time.
21. Moreover, the profile of the policyholders in the IPs portfolio is not the same as the general population, resulting in different rates of increase. Despite the IPs portfolio experiencing higher increasing rate over the years, the absolute incidence rate for the IPs portfolio is generally below that of the population.

Observation 1: The claims incidence rate for IPs is increasing rapidly at nine per cent. This is supported by a general trend of higher hospital admission rate across the population as a whole.

⁸ Each incidence of hospitalization or outpatient treatment is treated as one event

⁹ Based on MOH statistics over the past few years

22. We will analyse and explore the factors contributing to the escalating claims incidence and whether it reflects a natural increase in line with the public's higher utilisation of healthcare services.

Claims Incidence Rates of IPs with different Ward entitlements

23. Chart D shows the claims incidence rates broken up by IPs type with different Ward entitlements.

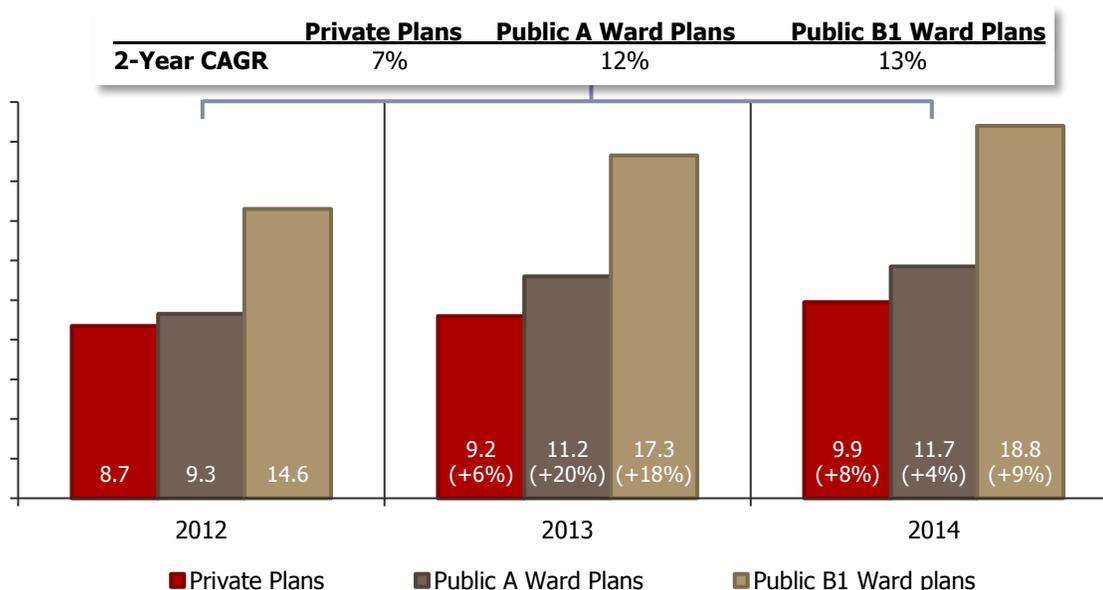


Chart D: Claims incidence rates of IPs by plan Ward type

24. While it is interesting to note the higher claims incidence rates for B1 Ward plans, further enquiries with IP insurers show that the age profile of the policyholders of B1 Ward plans is significantly higher than policyholders of Private and A Ward plans. This could explain for the higher incidence rates as claims incidence rate of hospitalisation increases with age.

25. B1 Ward plans are useful complement to the suite of IPs. They allow policyholders to downgrade their IPs when they are older and premiums for IP Private Plans get higher, allowing them the ability to obtain coverage and treatments at hospital Ward higher than B2/C as covered by MediShield and MediShield Life in future.

Observation 2: Plans with lower Ward entitlements have higher claims incidence rate than those plans with higher Ward entitlements. This is because the average attained age on plans with lower Ward entitlements are higher.

Effect of IP Riders on Claims Incidence Rate

26. Having covered the deductible and coinsurance portion, there will be little or no out-of-pocket costs for policyholders with both IPs and IP Riders. Policyholders may start exposing themselves to unnecessary health risks ("moral hazard") knowing they are fully covered, and they may end up over-consuming medication and treatments ("buffet syndrome") unknowingly given that the financial burden falls on the insurers. We will investigate this further in the statistics presented in this section.

27. Chart E below shows the average incidence rates of all IPs with and without IP Riders attached as well as the proportion of utilisation of private versus public hospitals.

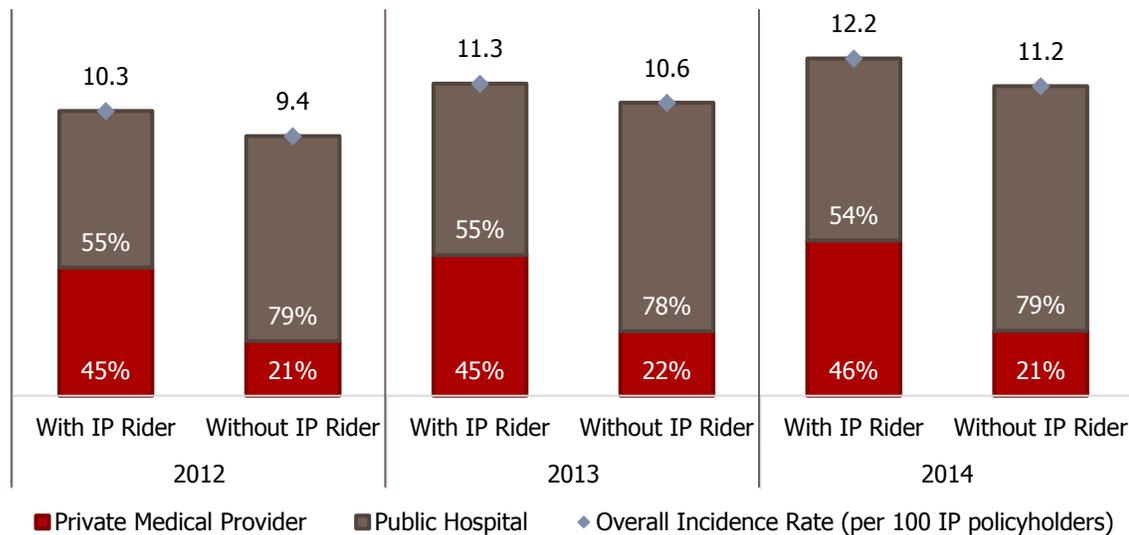


Chart E: Average incidence rates of all IPs with and without IP Riders with utilisation proportion

28. IPs with IP Riders have slightly higher claims incidence rates compared to IPs without IP Riders with difference of less than 10 per cent.
29. The slightly higher claims incidence rates for IPs with IP Riders could be due to several factors. For one, this may indicate that IP Riders are now giving the insured earlier access to medical treatment since out of pocket costs are no longer a concern. IP Riders are sometimes embedded with benefits other than just covering the deductibles and co-insurance. This may further encourage policyholders to consume the medical benefits, and obtain early access to medical treatment.
30. However, it is also noted that policyholders with IPs and IP Riders tend to have higher tendencies of visiting private medical providers (24 percentage point difference). IP Riders cover from the first dollar so there is probably little difference in the considerations for consuming the treatment with either the private or public medical provider by the policyholders.

Observation 3: It is noted that IP Riders on IPs cause only slightly higher incidence rate or higher utilisation. However, there is a clear pattern of higher propensity to utilise private hospital services for policyholders with both IPs and IP Riders.

Average Claims Cost

31. The second factor affecting the costs of the benefits is the average claims costs incurred when one is hospitalised or being administered outpatient treatments. The costs typically relate to the hospital facility charges, doctor's fees including any pre and post hospitalisation expenses, the laboratory and medication administered. For certain medical conditions, the drugs charges and diagnostic and therapeutic charges can constitute more than half of the total claims cost.
32. Advancement of medical technology and treatment regimens as well as Singapore's greying population and higher cases of chronic illnesses contribute to the natural inflation of healthcare costs. Taking this into consideration, it is important to correctly identify the areas that require effective cost containment without compromising the quality of care.
33. Accordingly, a recommended approach to look at the issue of healthcare inflation is through the analysis of average bill sizes so that that data is not distorted by the designs of IPs of different insurance providers.
34. Medical bills can typically be split into three types;
- Inpatient** means the patient has to be admitted into the hospital for the purpose of medical or surgical treatments for more than a day, with room and board charges incurred and would include both pre- and post- hospitalisation expenses incurred associated with the hospitalisation;
 - Day surgery** is surgery performed either in hospitals or in outpatient clinics with surgical facilities that does not require an overnight hospital stay; and
 - Outpatient** means any other medical treatments that are provided to the patient that are not surgical in nature such as kidney dialysis, chemotherapy and radiotherapy.

Both day surgery and outpatient does not require the patient to stay overnight in the facilities.

35. The table below shows the average bill sizes incurred by the five IP insurers, broken down into different bill types and hospital Wards.

Year	Average Inpatient Bill Sizes		Average Day Surgery Bill Sizes		Average Outpatient Bill Sizes		Overall Average Bill Sizes	
	Private Hospital Wards	Public Hospital A Wards	Private	Public Hospital	Private	Public Hospital	Private	Public Hospital
2012	10,367	5,647	3,251	845	4,483	1,728	5,893	2,070
2013	11,426	5,515	3,437	864	4,441	1,654	6,431	2,048
2014	12,105	5,955	3,684	894	5,090	1,670	6,962	2,095
2-Year CAGR (%)	8.1	2.7	6.5	2.9	6.6	-1.7	8.7	0.6

Table 1 – Average bill sizes incurred of IPs broken down by bill types and hospital Wards

36. The average private bill sizes is increasing at approximately eight per cent compared to less than three per cent for public bill sizes, and the difference in the bill sizes has also been widening over the years.
37. Average inpatient bill sizes for public hospitals is about 2 times less than at private hospitals, 2.5 to 3 times less for outpatient treatments, and 4 times less for day surgeries.
38. The chart below shows the average of median hospital inpatient bill sizes obtained from MOH as another source of data to validate the LIA statistics above.

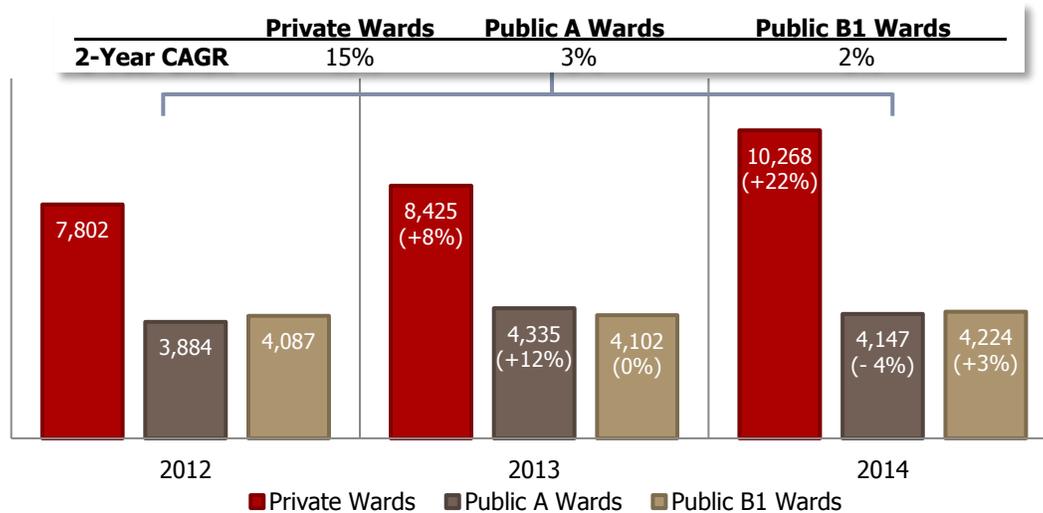


Chart F: Average of median hospital (inpatient) bill sizes from MOH by hospital Ward type, for the top 100 surgical procedures

39. Although the data in Chart F cannot be compared directly with that in Table 1 (for example inpatient bills for insurers would include claims for pre and post hospitalisation expenses), there is consistency in the observations on higher claims inflation for private hospitals over the last few years.

Observation 4: The average bill sizes incurred at private hospitals is inflating at a more rapid rate than public hospitals, with the difference in costs of about two times for inpatient treatments, 2.5 to 3 times for outpatient treatments, and four times for day surgeries.

More Detailed Examination of Inpatient Claims Cost by Bill Components

40. Since inpatient bills are the larger compared to day surgery and outpatient bills, it is worthy to study the components of inpatient bills further. A typical inpatient bill can be split into a few components namely;

- i. **Room & Board Charges** refer to the daily charges incurred for room and board, the daily treatment fees and the miscellaneous hospital charges including medical consumables;
- ii. **Surgery Charges** comprising of surgeon and anaesthetist fees and surgical facility fees; and
- iii. **Surgical Implants.**

41. The chart below shows the breakdown of the inpatient bills¹⁰ submitted by the five IP insurers. We will compare the bill sizes of private hospitals with public hospital A Wards. Public hospitals B1 Wards and below have government subsidies, and as such, the bill sizes are not suitable for comparison to the bill sizes of private hospitals.

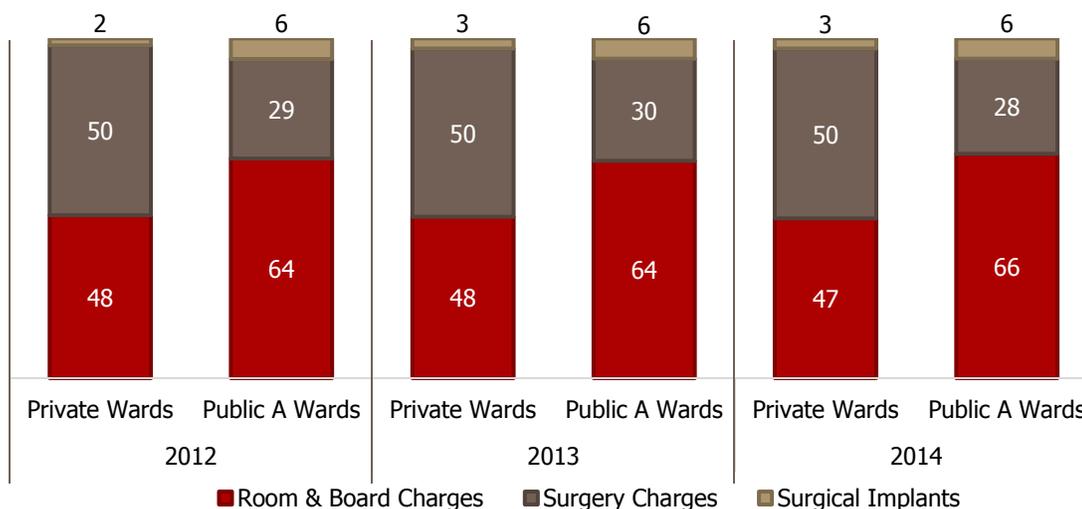


Chart G: Breakdown of inpatient bills by components for Private hospitals and Public hospitals A Wards

42. From the chart above, the surgery charges for inpatient treatments in private hospitals account for around 50% of the total bill sizes as compared to 29% for public hospitals A Wards.

43. Chart H¹¹ below shows the average bill sizes for each bill components over the years.

¹⁰ Electronically filed bills submitted by medical providers directly to insurers via a centralized claims filing system

¹¹ The average bill size for each component is computed as the average amount of the bill component with amount greater than zero. Hence the sum of bill components in chart H is not equal to the average total inpatient bill sizes shown in table 1.

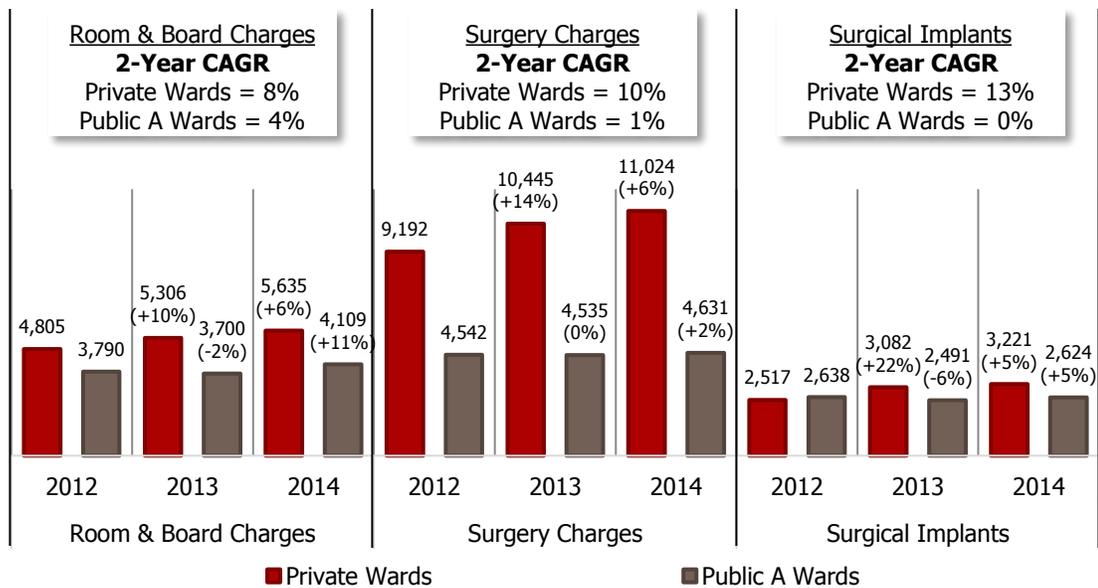


Chart H: Average size of inpatient bill components in Private hospitals and Public hospitals A Wards

44. It is observed from chart H that the average bill sizes for all the components are higher in the private hospitals than the public hospitals A Wards, with surgery charges in private hospitals having the largest average inpatient bill component sizes.
45. The difference between the surgery charges in private hospitals and public hospitals A Wards is also the widest amongst all the bill components ranging from 2 - 2.4 times. This is also consistent with the big differential observed for day surgery (Refer: Table 1) of which surgery charges account for a major portion of the day surgery bills.
46. The inpatient bill component with the highest inflation rate for private hospitals is surgical implants, while for public hospitals A Wards is room and board charges.
47. Chart I below shows the average length of stay in hospitals.

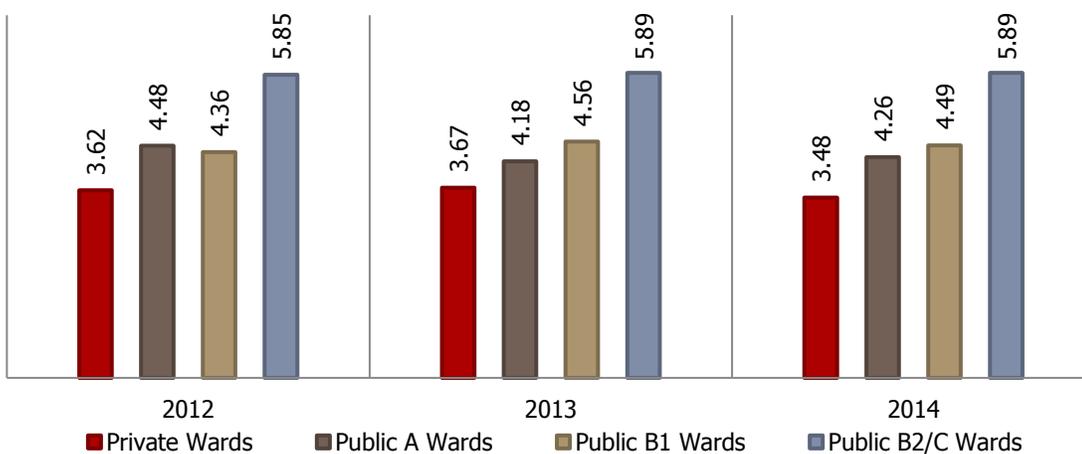


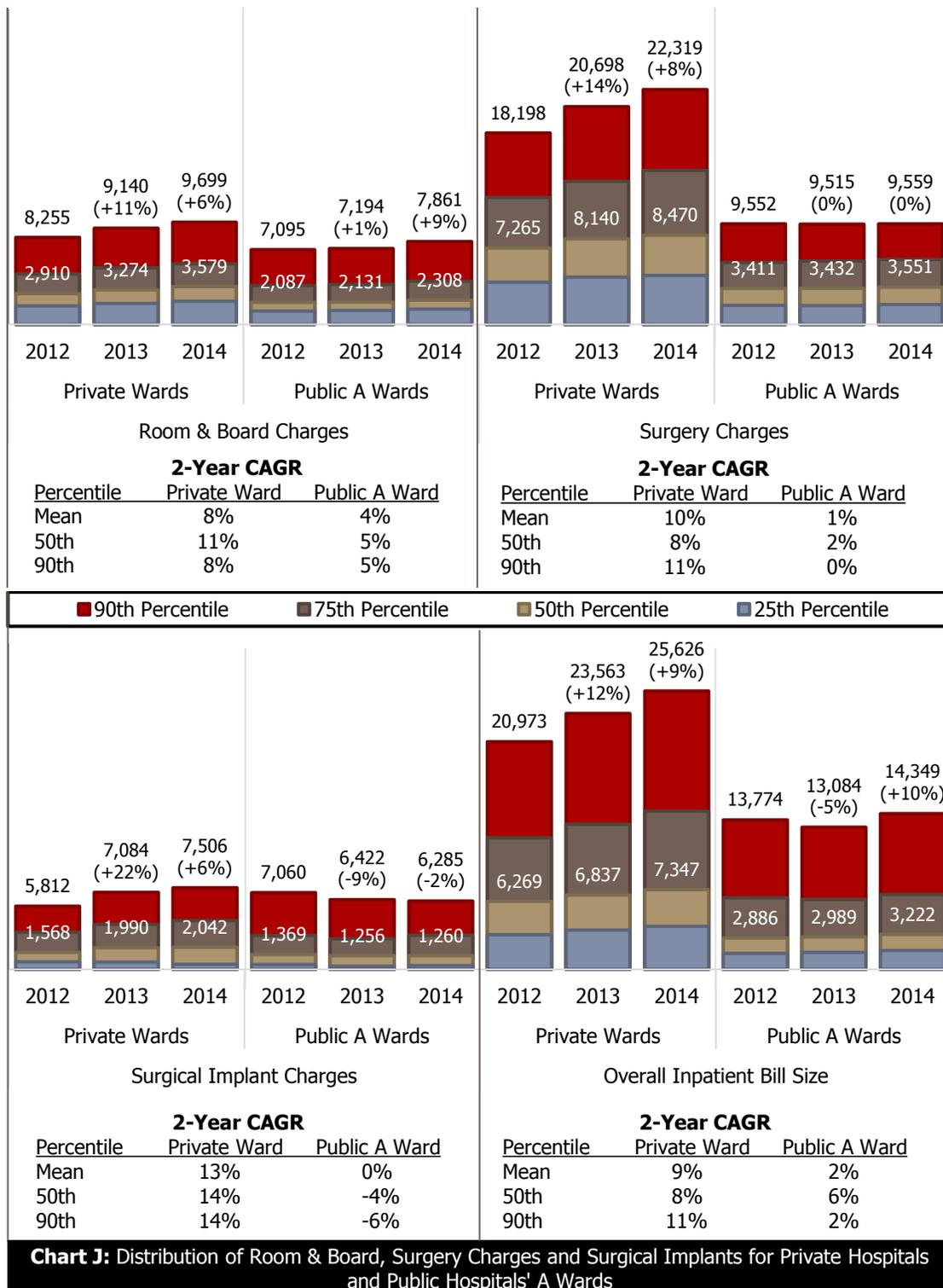
Chart I: Average length of stay in hospitals by Ward types

48. The average inpatient room and board charges in public hospitals A Wards are 1.25 - 1.4 times lower than private hospitals and the differential is not as large as surgical charges or surgical implants. This could be due to the lower average length of stay at private hospitals as observed in Chart I.

Observation 5: Costs for the various components of inpatient hospital treatments are higher in private hospitals compared to public hospitals. The biggest differential comes from surgery charge where there is a difference of 2 - 2.4 times in costs.

Room and board costs have the smallest difference between private hospitals and public hospitals of 1.25 - 1.4 times. Nevertheless, bills at private hospitals are inflating at a faster rate despite lower average length of stay compared to public hospitals.

49. The distribution of the inpatient bill component sizes in chart J below will provide greater insight on the variability of the inflations for the components at various percentiles.



50. The inflation rates for all inpatient bill components are much higher for private hospitals versus public hospitals Ward A across all distribution levels.

51. There is no clear evidence that the inflation rates are higher at any specific distribution levels for both private as well as public hospitals.
52. For both private and public hospitals, the mean (from chart H) is higher than the median (from chart J) for all the bill components, indicating that the costs distribution for all the components is positively skewed.

Observation 6: The inflation rates for all inpatient bill components are much higher for Private hospitals compared to Public hospitals Ward A across all distribution levels. The costs distribution for all the components is positively skewed for both private and public hospitals.

Comparison of Bill Components for Common Surgical Procedures

53. The difference between private and public surgical charges may be due to the different complexity of the procedures performed. We attempt to remove this effect by focusing our study on a few common procedures amongst the IPs claimants.
54. We identified the following four common procedures, arranged in order of complexity. They made up approximately 12 per cent of total bill count:
- Colonoscopy** (typically day surgery) which is an endoscopic examination of the large bowel and the distal part of the small bowel with a charged-couple device (CCD) camera or a fibre optic camera on a flexible tube passed through the anus
 - Cataract surgery** (typically day surgery) which is a procedure that involves removing the natural lens of the eye that has developed an opacification
 - Removal of Gall Stone** (typically inpatient) via Cholecystectomy which is a surgical procedure
 - Knee replacement** (typically inpatient) which is a surgical procedure to replace the weight-bearing surfaces of the knee joint to relieve pain and disability
55. Chart K below shows the ward distribution of the procedures mentioned above for the period 2012 - 2014.

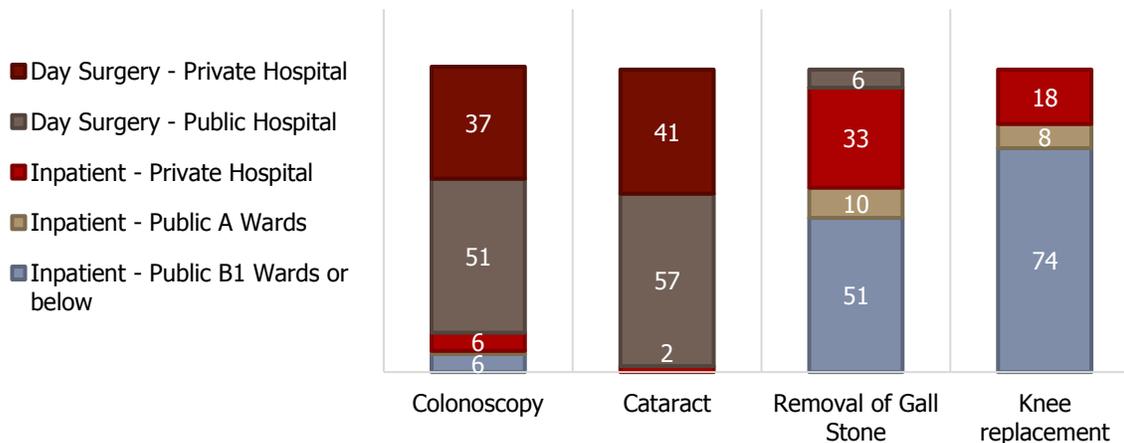


Chart K: Ward distribution (based on bill count) of the four common procedures (2012-2014)

56. The distribution shown in Chart K above suggests that more complex procedures are performed in public hospitals.

57. Tables 2a and 2b below show the average bill sizes by the various bill components of the four procedures above.

Average Bill Sizes (S\$)	2012		2013		2014	
	Private	Public	Private	Public	Private	Public
Procedure A - Colonoscopy (Mostly Day Surgeries)						
Room & Board Charges	461	148	498	157	495	159
Surgery Charges	2,126	622	2,276	638	2,525	655
Surgical Implants	153	22	10	28	10	28
Overall Average	2,268	680	2,430	708	2,670	734
Procedure B - Cataract (Mostly Day Surgeries)						
Room & Board Charges	333	185	361	179	383	176
Surgery Charges	3,320	1,163	3,558	1,154	3,815	1,148
Surgical Implants	703	285	846	280	968	266
Overall Average	3,555	1,371	3,835	1,304	4,115	1,302

Table 2a¹² – Average size of bill components in private and public facilities (mostly day surgeries) for different procedures

Average Bill Sizes (S\$)	2012		2013		2014	
	Private Hospitals	Public Hospitals A Wards	Private Hospitals	Public Hospitals A Wards	Private Hospitals	Public Hospitals A Wards
Procedure C - Removal of Gall Stone via Cholecystectomy procedure (Inpatient)						
Room & Board Charges	2,946	2,996	3,091	2,411	3,050	2,101
Surgery Charges	6,369	3,462	6,449	3,622	6,791	3,179
Surgical Implants	2,127	2,013	3,324	1,984	2,552	1,418
Overall Average	11,213	3,655	11,624	4,311	12,385	4,807
Procedure D - Knee replacement (Inpatient)						
Room & Board Charges	8,444	3,832	9,421	4,393	9,803	3,818
Surgery Charges	11,094	4,623	12,254	5,247	13,164	6,290
Surgical Implants	10,038	5,944	10,167	5,528	11,712	5,785
Overall Average	14,596	9,392	15,571	9,683	16,401	9,537

Table 2b¹² – Average size of bill components in private hospitals and public hospitals A Wards (mostly inpatient) for different procedures

58. We observed earlier that the average day surgery bill sizes has the highest differential between private and public (observation 4) and that surgery charges is the largest component of private inpatient bills and also the biggest differential between private hospitals and public hospitals A Wards (observation 5).

¹² The average bill size for each component is computed as the average amount of the bill component with amount greater than zero. Hence the sum of the average bill component sizes is not equal to the average total bill sizes.

59. Table 2a and Table 2b show that the differentials between private and public is more pronounced for simpler day surgery procedures (3.4 - 3.9 times for colonoscopy) than complex inpatient treatments (2.1 - 2.4 times for knee replacement).
60. On the other hand, the differential for inpatient room and board charges is higher for more complex knee surgery (2.1 - 2.6 times) compared to removal of gall stone (less than 1.5 times).

Observation 7: There are higher tendencies to utilise public hospitals for more complex procedures.

The difference in bill sizes between private and public hospitals is widest for simple day surgery type procedures. On the other hand, the difference between private and public for inpatient room and board bill sizes is widest for complex surgery.

Effect of IP Riders on Average Bill Sizes

61. The table below shows how IPs with IP Riders fair against those without IP Riders, in the private medical setting. We have left out bill sizes from public hospitals because the level of medical subsidies given will distort the true cost differential for the purpose of this analysis.

Year	Average Private Inpatient Bill Sizes		Average Private Day Surgery Bill Sizes		Average Private Outpatient Bill Sizes		Overall Average Private Bill Sizes	
	IPs with IP Rider	IPs without IP Rider	IPs with IP Rider	IPs without IP Rider	IPs with IP Rider	IPs without IP Rider	IPs with IP Rider	IPs without IP Rider
2012	9,779	11,177	3,221	3,230	4,871	2,946	5,909	4,848
2013	10,812	12,877	3,425	3,431	4,851	2,790	6,344	5,247
2014	11,585	13,669	3,696	3,661	5,556	3,119	6,967	5,540
2-Year CAGR	8.8	10.6	7.1	6.5	6.8	2.9	8.6	6.9

Table 3 – Comparison of the average private bill size for IPs with IP Riders and IPs without IP Riders by bill types

62. With the first dollar cover, policyholders with IPs with IP Riders generally have higher private medical bill sizes than those without IP Riders with an average difference of approximately 20 - 25 per cent during the last three years largely due to outpatient treatments. There is minimal differential for day surgery.
63. Inpatient treatments show the opposite trend where the bill size is approximately 15 per cent lower for IPs with IP Riders. This observation of inpatient treatments bucks the general trend.
64. Further breakdown of private inpatient bills into medical and surgical bills show that the cause of this trend is that a higher proportion of the bills incurred by those without IP Riders involve surgery, as shown in Chart L below. This may suggest that policyholders with IP Riders are less hesitant to be hospitalised for minor non-surgical illnesses or injuries compared to those without IP Riders.

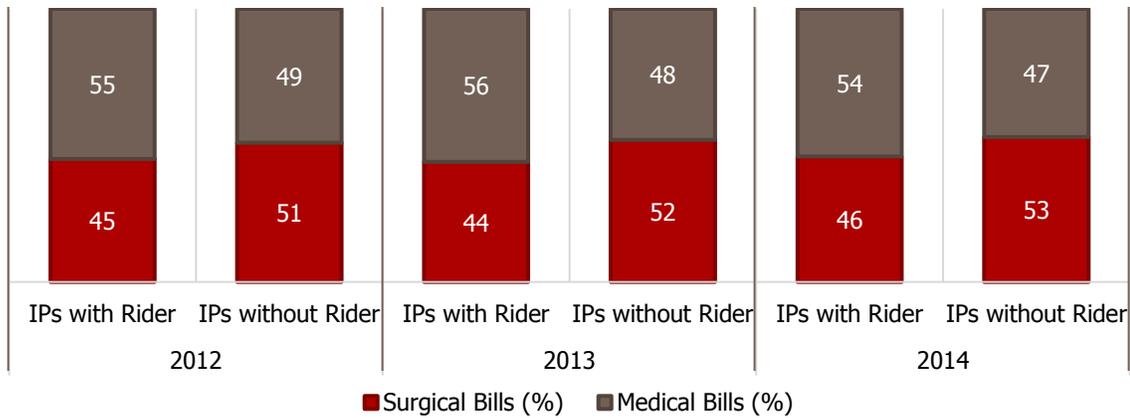


Chart L: Breakdown of private inpatient bills into medical and surgical bills

65. The overall trend of higher average overall bill sizes incurred for IPs with IP Riders remains, making it a key area for further discussion to manage claims escalation and overall increases in health insurance premiums and medical inflations.

Observation 8: Higher average bill sizes averaging 20 - 25 per cent is observed for IPs with IP Riders. This indicates the need to review cost control measures by all relevant stakeholders during the treatment process to reduce over-utilisation of services or higher-than-average bill sizes.

MediShield Life’s Impact on Average Claim Cost

66. With the introduction of MediShield Life in November 2015, the enhanced benefits will mean lower portion of IPs payout for the total bills assuming IP insurers do not enhance their IP benefits. The estimated impact of MediShield Life can be seen in Chart M below.

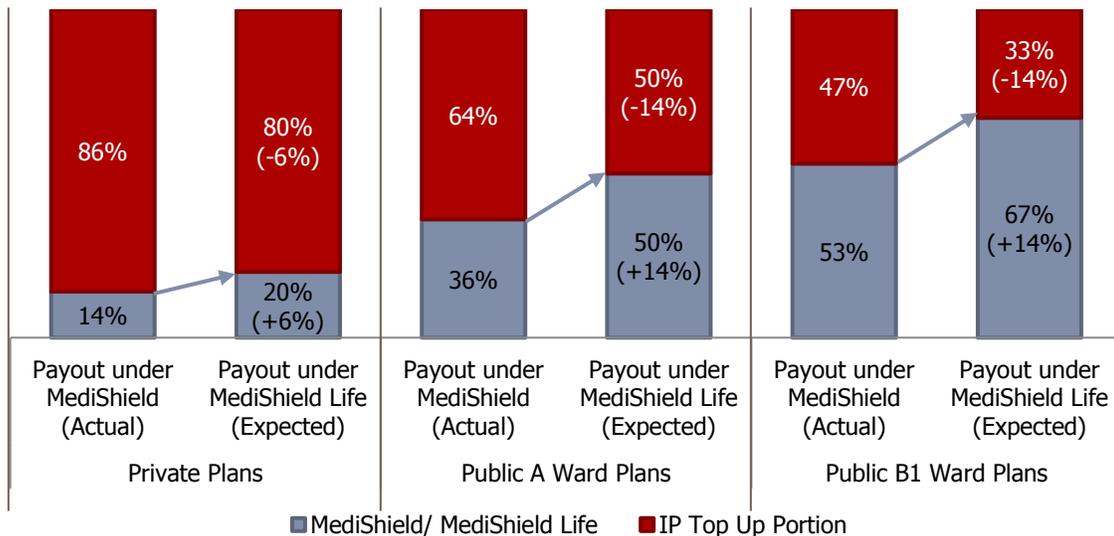


Chart M: Proportion of Claims contributed by MediShield and the proportion of claims expected to be contributed by MediShield Life, broken down by IPs type

67. With claims incidence rate increasing at around nine per cent, and bill inflation at approximately three to fifteen per cent per annum depending on the medical provider chosen, the savings due to higher

proportion of bill sizes being absorbed by the higher coverage of MediShield Life will be offset by higher claims incidence rate and claims cost within one to two years. The last time insurers re-priced the IPs and IP Riders were in 2013.

Observation 9: There are some savings to IPs and IP Riders when MediShield Life is introduced. However, the savings will not be adequate to offset the higher claims incidence rate and higher claims cost expected.

68. The example below provides clearer illustration of Observation 4 – that inflation rate of average claims cost experienced by private IPs and the IP Riders is high.
69. The cost of benefits which affect the premium calculation will also be dependent on claims incidence rate. The example below shows only one aspect of the component with the total impact, taking into consideration all the factors, would have a greater total impact.

Healthcare Costs Escalation versus Savings With Implementation of Medishield Life

Scenario of a 55 year-old policyholder (Singapore citizen) with an IP, who has undergone a total knee surgery for his rheumatoid arthritis condition at a private hospital

Components	Year T		Year T+1 under MediShield Life	
	MSH Scheme	MSHL Scheme	Assume 5% Bill Inflation	Assume 10% Bill Inflation
Private bill size	55,000	55,000	57,750	60,500
Less: Deductible	3,500	3,500	3,500	3,500
Coinsurance (10%)	5,150	5,150	5,425	5,700
IP Claim Payout	46,350	46,350	48,825	51,300
MSH/MSHL Payout (Table 7 Surgery)	6,646	9,354	9,834	10,314
Eventual Payout by Insurer	48,354	45,646	47,916	50,186
% of Original Payout	Original Payout	94%	99%	104%

Proposed Next Steps

70. A discussion will be held with various stakeholders on possible approaches that could be adopted to better manage healthcare cost escalation in the long-term so that feedback and new ideas could be incorporated to develop a more holistic approach to address this national issue.
71. The eventual adaptation and success of the various approaches explored would depend on their feasibility as well as the ability to change and introduce regulations to facilitate this process.

APPENDIX A: Data Collection & Methodology

1. The statistics presented in this paper are derived from various sources:
 - a. Data supplied via email requests to the five IP insurers – AIA Singapore Private Limited, Aviva Ltd, NTUC Income Insurance Co-operative limited, Prudential Assurance Co. Singapore (Pte) Ltd and The Great Eastern Life Assurance Company Limited.
 - b. Data extracted from industry reports prepared by the Life Insurance Association Singapore (LIA Singapore).
 - c. Data supplied via email requests by the Ministry of Health (MOH)
 - d. Data extracted from published statistics via the official MOH website
2. The statistics derived in this paper relied heavily on the integrity of the data at the sources that supplied the data. For data from the five IP insurers (source 1a), three rounds of data requests were made to the insurers via email.

Glossary of Common Terms used

3. The table below provides some of the common terms used in the tables and charts in this paper.

Common Terms	Definition
Average	Simple average
Annual Increase	Annual Increase for year x = $\frac{\text{Figure presented in year x}}{\text{Figure presented in year x-1}}$
Average Bill Sizes	For all valid claims, Average Bill Sizes for year x = $\frac{\text{Total bill amounts in year x}}{\text{Total number of claim counts for year x}}$
Average Length of Stay	For all valid claims, Average Length of Stay for year x = $\frac{\text{Total number of days stayed in hospital in year x}}{\text{Total number of inpatient claim counts for year x}}$
Day Surgery Claim	An IP claim for a day surgery episode and is inclusive of the associated pre/ post hospitalisation claim.
IP with/ without IP Rider	An IP claimant is considered to have an IP Rider if at the point of claim; the insured has an IP Rider that is in-force, regardless of whether the claim will trigger a payout under the IP Rider. Otherwise, the IP claimant is considered to be without IP Rider.
Incidence Rate(s)	For all valid claims, Number of claims per life insured for year x = $\frac{\text{Number of Claims incurred in year x}}{\text{Number of exposed lives in year x}}$
Inpatient Claim	An IP claim for a hospitalisation episode (overnight stay in hospital) and is inclusive of the associated pre/ post hospitalisation costs.
Medical Bills	Bills with no surgical procedures performed
Number of exposed lives	An exposed life in year x = $\frac{\text{Number of days the life is insured in year x}}{\text{Total number of days in year x}}$

Common Terms	Definition
Outpatient Claim	An IP claim for outpatient chemotherapy/ kidney dialysis sessions. Each session is considered a separate claim.
Private Medical Provider	Non-governmental medical provider.
Surgical Bills	Bills with surgical procedures performed
Valid claim(s)	An IP claim is considered valid as long as the claim amount before deductibles and coinsurance is more than zero, and was incurred in the year of study.
X-year CAGR	Compound Annual Growth rate over the period of X years

Methodology

4. The table below will explain how the statistics were derived in the various tables and charts used in this paper.

No	Chart	Data Source	Statistics Derivation
A	Proportion of Singapore Residents with Medical Insurance	<p>Number of policyholders with MediShield and IPs is extracted from MOH's website, with the latest figure provided by MOH via Email request.</p> <p>The number of policyholders with IP Riders is extracted from LIA's industry reports.</p>	<p>Percentage of residents for each calendar year is computed as follows, where x represents the respective calendar year:</p> <p>% of Residents with cover for year x</p> $= \frac{\text{Number of Policyholders with cover for year x}}{\text{Number of Singapore Residents for year x}}$
B	Weighted Average Expense and claims ratios across five IP insurers	Newspaper article	The chart was reproduced based on an article published in The Business Times, by Claire Huang on the 7 August 2014.
C	National Hospital Admission Rate vs Average IP Claim Incidence	<p>IP Claims Incidence rates derived from data from IP insurers.</p> <p>All claim types (inpatient, day surgery and outpatient) are included.</p> <p>National Hospital Admission rates were extracted from MOH's published data in their website.</p>	<p>The IP Claims statistics provided by each insurer are aggregated by applying a simple average across all insurers.</p> <p>Annual increase and 3-Year CAGR are derived from this aggregated average.</p>

No	Chart	Data Source	Statistics Derivation
D	Claims incidence rates of IPs by plan Ward type	Data from IP insurers. All claim types (inpatient, day surgery and outpatient) included.	The IP Claims statistics provided by each insurer are aggregated by applying a simple average across all insurers. Annual increase and 2-Year CAGR are derived from this aggregated average.
E	Average incidence rates of all IPs with and without IP Riders with utilization proportion	Data from IP insurers. All claim types (inpatient, day surgery and outpatient) included. Classification on the utilisation based on discharge Ward type (i.e. ignore any change in Wards during hospitalisation).	The IP Claims statistics provided by each insurer are aggregated by applying a simple average across all insurers.
F	Average of median hospital (inpatient) bill sizes from MOH by hospital Ward type, for the top 100 surgical procedures	The median bill sizes of the top 100 surgical procedures performed in Singapore from 2012 to 2014 were extracted from an MOH report provided to all IP insurers.	The average median bill size is a simple average of the statistics presented in the MOH report. Annual increase and 2-Year CAGR are derived from this aggregated average.
G	Breakdown of inpatient bills by components for Private hospitals and Public hospitals A Wards	Data from IP insurers derived from their electronically filed claims. The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).	The proportion of the various bill components is a simple average of the proportion of bill components by each insurer.
H	Average size of inpatient bill components in private hospitals and public hospitals A Wards	Data from IP insurers derived from their electronically filed claims. The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).	The IP Claims statistics provided by each insurer are aggregated by applying a simple average across all insurers to derive the average bill component sizes. Average size of each bill component is computed as the total bill amount of each component divided by the number of valid claims with such bill component being more than zero dollars. Annual increase and 2-Year CAGR are derived from this aggregated average.

No	Chart	Data Source	Statistics Derivation
I	Average length of stay in hospitals by Ward types	<p>Data from IP insurers derived from their electronically filed claims.</p> <p>The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).</p>	A simple average of all insurers' average length of stay data.
J	Distribution of Room & Board, Surgery Charges and Surgical Implants for private hospitals and public hospitals A Wards	<p>The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).</p>	<p>The statistics provided by each insurer are aggregated by applying a simple average across all insurers for each percentile of bill sizes.</p> <p>Annual increase and 2-Year CAGR are derived from this aggregated average.</p>
K	Ward distribution (based on bill count) of the four common procedures (2012-2014)	<p>Data from IP insurers derived from their electronically filed claims (one insurer's data not meaningful so was excluded).</p> <p>The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).</p> <p>For purpose of identifying these procedures, the surgical codes (Appendix B) are used.</p>	The Ward distributions by each insurer are aggregated by applying a simple average across all insurers.
L	Breakdown of private inpatient bills into medical and surgical bills	Data from IP insurers derived from their electronically filed claims.	The statistics on the breakdown between medical and surgical bills of each insurer are aggregated by applying a simple average across all insurers.
M	Proportion of Claims contributed by MediShield and the proportion of claims expected to be contributed by MediShield Life, broken down by IP types	Data from IP insurers as well as based on projections estimated from IP insurers.	-

No	Table	Data Source	Statistics Derivation
1	Average of bill size incurred of IPs by bill types and hospital Wards	Data from IP insurers derived from their electronically filed claims.	<p>The IP claims statistics provided by each insurer are aggregated by applying a simple average across all insurers.</p> <p>2-Year CAGR are derived from this aggregated average.</p>
2a	Average size of bill components in private and public facilities (mostly day surgeries) for different procedures	<p>Data from IP insurers derived from their electronically filed claims (one insurer's data not meaningful so was excluded).</p> <p>The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).</p> <p>For purpose of identifying these procedures, the surgical codes (Appendix B) are used.</p>	<p>The IP claims statistics provided by each insurer are aggregated by applying a simple average across all insurers.</p> <p>Average size of each bill component is computed as the total bill amount of each component divided by the number of valid claims with such bill component being more than zero dollars.</p>
2b	Average size of bill components in private hospitals and public hospitals A Wards (mostly inpatient) for different procedures	<p>Data from IP insurers derived from their electronically filed claims.</p> <p>The Ward types are based on discharged Ward types (i.e. ignore any change in Wards during hospitalisation).</p> <p>For purpose of identifying these procedures, the surgical codes (Appendix B) are used.</p>	<p>The IP claims statistics provided by each insurer are aggregated by applying a simple average across all insurers.</p> <p>Average size of each bill component is computed as the total bill amount of each component divided by the number of valid claims with such bill component being more than zero dollars.</p>
3	Comparison of the average private bill sizes for IPs with IP Riders against IPs without IP Riders by bill types	Data from IP insurers derived from their electronically filed claims.	<p>The IP claims statistics provided by each insurer are aggregated by applying a simple average across all insurers.</p> <p>2-Year CAGR are derived from this aggregated average</p>

APPENDIX B: Surgical Codes Used

The Surgical codes used to identify the four common procedures in paragraph 54 above.

TOSP Code	TOSP Description
Procedure A: Colonoscopy (Day surgery)	
LF001Y	Colonoscopy, fibreoptic – complete
LF003Y	Colonoscopy, fibreoptic - with/without biopsy
SF001Y	Colonoscopy, fibreoptic - complete
SF003Y	Colonoscopy, fibreoptic - with/without biopsy
SF010Y	Colonoscopy, fibreoptic – complete, with/without biopsy (screening)
SY001C	Colonoscopy, fibreoptic - complete
SY003C	Colonoscopy, fibreoptic - with/without biopsy
SF702C	Colon, colonoscopy, fibreoptic - with/without biopsy (diagnostic)
SF703C	Colon, colonoscopy, fibreoptic – with/without biopsy (screening)
LF002Y	Colonoscopy, fibreoptic with removal of polyps
SF002Y	Colonoscopy, fibreoptic with removal of polyps
SF011Y	Colonoscopy, fibreoptic with removal of polyps (screening)
SY002C	Colonoscopy, fibreoptic with removal of polyps
SF704C	Colon, colonoscopy (diagnostic), fibreoptic with removal of polyp (single or multiple less than 1cm)
SF706C	Colon, colonoscopy (screening), fibreoptic with removal of polyp (single or multiple less than 1cm)
SF705C	Colon, colonoscopy (diagnostic), fibreoptic with removal of polyps (multiple more than 1cm)
SF707C	Colon, colonoscopy (screening), fibreoptic with removal of polyps (multiple more than 1cm)
SF708C	Colon, colonoscopy with emr (endoscopic mucosal resection) of large polyps (>3cm)
Procedure B: Cataract (Day Surgeries)	
SL107L	Lens, various lesions, yag laser capsulotomy
LL107L	Lens, various lesions, yag laser capsulotomy (laparoscopic/minimal access)
LL103L	Lens, cataract (juvenile), removal and needlings (laparoscopic/minimal access)
SL103L	Lens, cataract (juvenile), removal and needlings
LL100L	Lens, cataract, extraction with intra-ocular lens implant (unilateral left) (laparoscopic/minimal access)
LL102L	Lens, cataract, extraction with trabeculectomy (laparoscopic/minimal access)
LL108L	Lens, cataract, extraction with intra-ocular lens implant (unilateral right) (laparoscopic/minimal access)
SL100L	Lens, cataract, extraction with intra-ocular lens implant (unilateral left)
SL102L	Lens, cataract, extraction with trabeculectomy
SL108L	Lens, cataract, extraction with intra-ocular lens implant (unilateral right)
LL101L	Lens, cataract, extraction with intra-ocular lens implant and trabeculectomy (laparoscopic/minimal access)
LL109L	Lens, cataract, extraction with intra-ocular lens implant (bilateral) (laparoscopic/minimal access)
SL101L	Lens, cataract, extraction with intra-ocular lens implant and trabeculectomy
SL109L	Lens, cataract, extraction with intra-ocular lens implant (bilateral)
LL107C	Cornea, various lesions, transplantation with cataract extraction and intra-ocular lens implantation (laparoscopic/mini)
SL107C	Cornea, various lesions, transplantation with cataract extraction and intra-ocular lens implantation
SL806L	Lens, Cataract (Juvenile), Removal And Needlings
SL807L	Lens, Cataract, Extraction With Intra-Ocular Lens Implant (Bilateral)
SL808L	Lens, Cataract, Extraction With Intra-Ocular Lens Implant (Unilateral Left)
SL809L	Lens, Cataract, Extraction With Intra-Ocular Lens Implant (Unilateral Right)
SL810L	Lens, Cataract, Extraction With Intra-Ocular Lens Implant And Trabeculectomy With/Without Antimetabolites
SL811C	Cornea, Various Lesions, Transplantation with Cataract Extraction and Intra-ocular Lens Implantation
SL811L	Lens, Cataract, Extraction With Trabeculectomy
SL815L	Lens, Various Lesions, Yag Laser Capsulotomy

TOSP Code	TOSP Description
Procedure C: Removal of Gall Stone via Cholecystectomy procedure (Inpatient)	
LF001G	Gall bladder, various lesions, cholecystectomy (laparoscopic/minimal access)
SF001G	Gall bladder, various lesions, cholecystectomy
SF801G	Gall bladder, various lesions, cholecystectomy (open or lap)
SF704G	Gallbladder, various lesions, cholecystectomy with intraoperative cholangiogram (open or lap)
SF705G	Gallbladder, various lesions, open/laparoscopic cholecystectomy and transcystic common bile duct exploration
LF003G	Gall bladder, various lesions, cholecystectomy and choledocho-jejunostomy/duodenostomy/gastrostomy (laparoscopic/minimal)
LF005G	Gall bladder, various lesions, cholecystectomy & exploration common bile duct (laparoscopic/minimal access)
SF003G	Gall bladder, various lesions, cholecystectomy and choledocho-jejunostomy/duodenostomy/gastrostomy
SF005G	Gall bladder, various lesions, cholecystectomy & exploration common bile duct
SF707G	Gallbladder, various lesions, cholecystectomy, choledochotomy, common bile duct exploration with choledocho-duodenostomy (open or lap)
SF802G	Gall bladder, various lesions, cholecystectomy and choledocho-jejunostomy/duodenostomy/gastrostomy
SF703G	Gallbladder, various lesions, cholecystectomy and repair of cholecysto-enteric/ cholecysto-choledochal fistula (open or lap)
SF701G	Gallbladder, tumour, radical cholecystectomy with segment 4b and 5 liver resection and radical lymphadenectomy
SF702G	Gallbladder, tumour, radical cholecystectomy with segment 4b and 5 liver resection and radical lymphadenectomy and choledochectomy with hepatico-enteric anastomosis
Procedure D: Knee replacement (Inpatient)	
SB810K	Knee, various lesions, primary total joint replacement (unilateral), open/mis/navigated
SB716K	Knee, various lesions, primary total joint replacement (unilateral) with augmentation, requiring extra implants or bone grafts, open/mis/navigated
LB010K	Knee, various lesions, total joint replacement (unilateral left) (laparoscopic/minimal access)
LB012K	Knee, various lesions, total joint replacement (unilateral right) (laparoscopic/minimal access)
SB010K	Knee, various lesions, total joint replacement (unilateral left)
SB012K	Knee, various lesions, total joint replacement (unilateral right)
SB717K	Knee, various lesions, revision total joint replacement, open/mis/navigated
SB809K	Knee, various lesions, total joint replacement (bilateral)
LB013K	Knee, various lesions, total joint replacement (bilateral) (laparoscopic/minimal access)
SB013K	Knee, various lesions, total joint replacement (bilateral)