

Synopsis of Healthcare Financing Studies

Population-wide Mandatory Private Health Insurance

Objective

The main objective of the study is to identify possible designs of a mandatory private health insurance scheme that can provide supplementary funding for public health services. Such a mandatory scheme assumes that the Government will prescribe in law the elements that have to be included in a “minimal” package and the whole population has to subscribe to this package. A project team with actuarial consultants from Milliman Limited has been commissioned by the Food and Health Bureau to conduct this study.

Methodology

2. To illustrate the product designs, it is assumed that the mandatory basic insurance, together with patients’ co-payment, covers 40% of the cost of Hospital Authority (HA) services. The assumption of 40% coverage of HA cost is taken since a lower percentage may result in relatively high administration cost, and relatively low benefits as a percentage of premiums.

3. The premium rates in the product designs for the mandatory basic insurance are estimated using actuarial models based on private health insurance data as well as healthcare utilization pattern, expenditure and costing data collected from HA, the Department of Health, Private Hospitals Association, and the Thematic Household Survey conducted by the Census and Statistics Department.

Product Designs

4. Four basic products - 1A, 1B, 2A, and 2B - have been developed for the mandatory insurance. They cover the same services but differ in the way their benefit limits are structured, which is illustrated in paragraphs 8-17. In brief, Products 1A and 1B cover medical services uniformly across-the-board up to a maximum of 40% of HA costs. For Products 2A and 2B, they cover 100% of HA cost for some selected procedures which do not fall under the priority areas of HA,

and a lower percentage for other services, such that the overall payout from insurance comes to 40% of HA's cost. Furthermore, the benefit limits of Products 1A and 2A are based on HA's User Fee structure and applied to both public and private healthcare providers. For Products 1B and 2B, different benefit limits for the same medical services provided by public and private healthcare providers are applied.

5. The basic products cover both private and public sector services up to 40% of HA cost on average. Charges at the public sector are set at the average 40% level. If patients use public services, their co-payment is similar to the present public user fees (around 5% of HA cost on average), with the rest of the charges covered by the scheme. The private sector providers are free to set their own fees but the scheme does not pay above the benefit limits, and the rest have to be borne by the patients or paid by voluntary top-up insurance products.

Services Covered

6. All the four basic products cover hospital in-patient care (including day surgery), step-down facilities (including convalescent, rehabilitation and infirmary beds), specialist out-patient (SOP) services, specialist drugs, home nursing, and privately purchased medical items (e.g. pacemaker and stents). In-patient stays are limited to the general ward level. Specialist drugs are covered at 100% HA cost but restricted to a prescription of a maximum of 16 weeks and limited to the HA drug formulary.

Premium

7. Premiums for the basic products are community-rated, that is, the premium is the same for all the insured regardless of age, gender and health risks. The estimated monthly premiums for the four products range from \$155 to \$162. The rates are inclusive of an administrative cost of \$12.50 per member but assuming a zero profit margin for the insurance companies.

Product 1A

8. The benefit limit of Product 1A is 40% of HA cost across the board for all the covered services. This works out to be \$1,400 per day for in-patient care and \$340 per visit for SOP services. Payouts from the scheme follow the charging

structure of the public sector, as shown in Table 1. They are exactly the same for both public and private services.

Table 1. Product 1A – Summary of benefits

	Copay	Gross Benefit Limit
In-patient (per day, max. 90 days)		
First day	\$200	\$1,400
Subsequent days	\$100	\$1,400
Step-down facilities (per day, max. 365 days)	\$75	\$600
Home nursing (per visit)	\$50	\$125
Hospital day procedures	\$100	\$1,400
Out-patient services		
SOP consultations / procedures	\$60	\$340
Haemodialysis	\$60	\$1,000
Specialist drugs (per item, max. 16 weeks)	\$10	HA cost

Case Illustration

9. A man of age 51-55 who has chosen Product 1A has to pay a monthly premium of \$155 for the mandatory basic plan. Table 2 shows the payments to be made by the insurance scheme and the patient if this man has undergone a hernia operation that involves a 3-day stay in the general ward of a private or public hospital. A typical private hospital charge for the operation is \$30,500.

Table 2. Payments under Product 1A for a hernia operation with 3-day hospital stay

Benefits	Public hospital Total charge: \$4,200		Private hospital Total charge: \$30,500	
	Scheme payout	Patient payout	Scheme payout	Patient payout
In-patient	\$1,400 x 3 = \$3,800	\$4,200 - \$3,800 = \$400	\$1,400 x 3 = \$3,800	\$30,500 - \$3,800 = \$26,700

Pros and Cons

10. Product 1A follows the current HA fee structure, which is easy to understand and administer. However, it is incompatible with the private sector's charging structure, which renders it not being able to provide a meaningful coverage for private hospital care, unless the individual takes out a top-up private

health insurance plan.

Product 1B

11. The benefit structure of Product 1B differs for public and private sector services. Benefit limits for the public sector are flat rated and are set at 40% of HA cost across the board for all the covered services, as with Product 1A. Whereas benefit limits for private sector services follow the itemized charging structure of the private sector and are benchmarked at 40% of the average private hospital, general ward-level charges. The two benefit structures are illustrated in Table 3.

Table 3. Product 1B – Summary of benefits

Public Provider	Copay	Gross Benefit Limit	Private Provider (Ward-level for in-patient care)	Copay/ Coinsurance	Gross Benefit Limit
In-patient (per day, max. 90 days)			In-patient (max. 90 days)		
First day	\$200	\$1,400	Room & board (per day)	10%	\$200
Subsequent days	\$100	\$1,400	Intensive care unit (per day)	10%	\$1,200
			Surgeon's fee	10%	\$3,900
			Anaesthetist's fee	10%	\$1,600
			Operating theatre fee	10%	\$1,400
			Physician in-patient visit (per visit)	10%	\$270
			Specialist in-patient	10%	\$760
			Others	10%	\$3,000
Step-down facilities (per day, max. 365 days)	\$75	\$600	Step-down facilities (per day, max. 365 days)	\$75	\$600
Home nursing (per visit)	\$50	\$125	Home nursing (per visit)	\$50	\$125
Hospital day procedures	\$100	\$1,400	Hospital day procedures	10%	\$2,100
Out-patient services			Out-patient services		
SOP consultations/ procedures	\$60	\$340	SOP consultations	\$60	\$160
			Lab / X-rays	\$0	\$260
			SOP procedures	10%	\$760
Haemodialysis	\$60	\$1,000	Haemodialysis	\$60	\$1,000
Specialist drugs (per item, max. 16 weeks)	\$10	HA cost	Specialist drugs (per item, max. 16 weeks)	\$10	HA cost

Case Illustration

12. If the same man of age 51-55 chooses Product 1B, his monthly premium would be \$162 for the mandatory basic plan. For the hernia operation as illustrated in Table 2, payout from the insurance scheme and the patient will be the same as reported in Table 2, if the man chooses to go to a public hospital for the operation. On the other hand, Table 4 shows the payments for the operation if it is performed in a private hospital.

Table 4. Payments under Product 1B for a hernia operation with 3-day hospital stay and performed in a private hospital

Benefits	Hospital charges	Scheme payout	Patient payout
Room & board	\$1,800	\$540	\$1,260
Surgeon's fee	\$17,500	\$3,510	\$13,990
Anaesthetist's fee	\$4,500	\$1,440	\$3,060
Operating theatre fee	\$2,600	\$1,260	\$1,340
Physician in-patient visit	\$1,800	\$729	\$1,071
Other	\$2,300	\$2,070	\$230
Total	\$30,500	\$9,549	\$20,951

Pros and Cons

13. Product 1B provides better coverage for private hospital care as compared to 1A but the private fees borne by patients are still substantial. Also, the scheme payouts to private providers are higher than those to public providers.

Products 2A and 2B

14. The designs of products 1A and 1B will not help facilitate the repositioning of HA to focus on its priority services as set out in the earlier Discussion Paper "Building a Healthy Tomorrow" of the Health and Medical Development Advisory Committee (HMDAC). Products 2A and 2B are designed to address this weakness. For both 2A and 2B, some 200 services (called Selected Procedures) which do not fall within HA's priorities services are selected. The Selected Procedures are elective procedures that include various scopes such as arthroscopy and laparoscopy, minor surgery such as hernia repair and

haemorrhoids, and child delivery. In particular, these procedures do not relate to acute and emergency services and multi-disciplinary procedures or procedures involving advanced technology.

15. The benefit limits of these Selected Procedures are at 100% of HA costs and a lower percentage for other services, such that the overall benefit limits come to 40% of HA costs. Therefore, all the procedure-related costs (i.e. surgeon’s fees, operating theatre fees and anesthetic fees) are covered up to HA cost while for other services, the benefit limits are \$690 per day for in-patient care and \$230 for SOP. The difference between 2A and 2B is that the benefit limits of 2A are flat rated for both public and private services while those of 2B are itemized for private services. The benefit structures of 2A and 2B are illustrated in Table 5 and Table 6 respectively.

Table 5. Product 2A – Summary of Benefits

	Copay	Gross Benefit Limit	
In-patient (per day, max. 90 days)			Additional Gross Benefit Limit = 100% HA cost for procedure- related services for Selected Procedures
First day	\$200	\$690	
Subsequent days	\$100	\$690	
Step-down facilities (per day, max. 365 days)	\$75	\$410	
Home nursing (per visit)	\$20	\$80	
Hospital day procedures	\$100	\$690	
Out-patient services			
SOP consultations / procedures	\$60	\$230	
Haemodialysis (Selected Procedure)	\$0	HA cost	
Specialist drugs (per item, max. 16 weeks)	\$10	HA cost	

Table 6. Product 2B – Summary of benefits

Public Provider	Copay	Gross Benefit Limit	Private Provider (Ward-level for in-patient care)	Copay/ Co-insurance	Gross Benefit Limit	
In-patient (per day, max. 90 days)			In-patient (max. 90 days)			
First day	\$200	\$690	Room & board (per day)	10%	\$135	
Subsequent days	\$100	\$690	Intensive care unit (per day)	10%	\$810	
			Surgeon's fee	10%	\$2,700	Additional Gross Benefit Limit = 100% HA cost + for procedure- related services for Selected Procedures
			Anaesthetist's fee	10%	\$1,300	
			Operation theatre fee	10%	\$1,000	
			Physician in-patient visit (per visit)	10%	\$180	
			Specialist in-patient	10%	\$510	
			Others	10%	\$2,100	
Step-down facilities (per day, max. 365 days)	\$75	\$410	Step-down facilities (per day, max. 365 days)	\$75	\$410	
Home nursing (per visit)	\$20	\$80	Home nursing (per visit)	\$20	\$80	
Hospital day procedures	\$100	\$690	Hospital day procedures	10%	\$1,400	
Out-patient services			Out-patient services			
SOP consultations / procedures	\$60	\$230	SOP consultations	\$60	\$120	
			Lab / X-rays	\$0	\$180	
			SOP procedures	10%	\$550	
Haemodialysis (Sel. Procedure)	\$0	HA cost	Haemodialysis (Sel. Procedure)	\$0	HA cost	
Specialist drugs (per item, max. 16 weeks)	\$10	HA cost	Specialist drugs (per item, max. 16 weeks)	\$10	HA cost	

Case Illustration

16. Using the same man of age 51-55 for the case illustration, his monthly premium for the mandatory basic plan is \$155 for Product 2A, or \$161 if he chooses Product 2B. Tables 7 and 8 show the payments for the hernia operation (which is a Selected Procedure), if the operation is performed in a public hospital and a private hospital respectively.

Table 7. Payments (same under Products 2A and 2B) for a hernia operation (a Selected Procedure) with 3-day hospital stay and performed in a public hospital

Benefits	Hospital charges	Scheme payout	Patient payout
Procedure related	\$21,320	\$21,320	\$0
Other services	\$2,070	\$1,670	\$400
Total	\$23,390	\$22,990	\$400

Table 8. Payments under Products 2A and 2B for a hernia operation (a Selected Procedure) with 3-day hospital stay and performed in a private hospital

Benefits	Hospital charges	Scheme payout	Patient payout
<i>Product 2A</i>			
Procedure related	\$24,600	\$21,320	\$3,280
Other services	\$5,900	\$1,670	\$4,230
Total`	\$30,500	\$22,990	\$7,510
<i>Product 2B</i>			
Procedure related	\$24,600	\$21,320	\$3,280
Room & board	\$1,800	\$364	\$1,436
Physician in-patient visit	\$1,800	\$486	\$1,314
Other	\$2,300	\$1,890	\$410
Total	\$30,500	\$24,060	\$6,440

Pros and Cons

17. Products 2A and 2B provide a viable choice for insured patients to use private hospital care for some 200 relatively common procedures, and facilitate a more level public-private playing field for these procedures. However, it takes time for both patients and doctors to be familiarised with the list of Selected Procedures. Also, the insurance coverage for non Selected Procedures is less meaningful, compared to Products 1A and 1B.

Projection of Premium Rates

18. The premium rates are expected to increase over the years due to inflation and population ageing. Assuming that the structure of the benefit limits

and copays are kept unchanged, but the amounts are adjusted to keep up with medical inflation, the forecast of premium rates for Products 1A, 1B, 2A and 2B over the period 2005 – 2023 are shown in Table 9. In the projection of premium rates, in addition to the assumed real medical inflation of 3% per year, there is also assumed real administrative cost inflation of 1% per year.

Table 9. Projection of premium rates (in 2005 dollar) for various insurance products, 2005-2023

Product	2005	2010	2015	2020	2023
1A	\$155	\$190	\$234	\$288	\$326
1B	\$162	\$199	\$244	\$300	\$340
2A	\$155	\$188	\$230	\$281	\$318
2B	\$161	\$196	\$239	\$292	\$330

Caveats

19. The premium rates illustrated are based on health data from year 2005. They do not reflect any changes that may arise from the introduction of the scheme, such as a shift in the service utilization from HA to the private sector. Furthermore, the premium rates also do not reflect a possible increase in the overall service volume as a result of (a) private sector absorbing patients currently in the long queues for elective procedures at HA, and (b) the tendency to overuse healthcare, when providers and patients may have the incentives to over-supply and over-use healthcare.

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