

## **LegCo Panel on Health Services**

### **Studies on Health Care Financing and Feasibility of a Medical Savings Scheme in Hong Kong**

#### **Purpose**

The Government has recently completed an initial research on health care financing. This paper reports to Members on the key findings of our initial research.

#### **Background**

2. The public debate on Hong Kong's health care financing policy could be dated back to 1993 when the document "Towards Better Health", commonly known as the "Rainbow Document", was published by the Government. This document highlighted the need to reform the health care system and identified five options as possible remedies, which included the percentage subsidy approach, target group approach, coordinated voluntary insurance, compulsory insurance, and prioritisation of treatment. As none of these options or a combination of them could have the general support of the community, it was decided at the end of the consultation period that the status quo should be preserved.

3. In late 1997, the Government commissioned the School of Public Health of the Harvard University to study Hong Kong's health care system and to propose alternative options to improve its financing and delivery of health care. In a study report published in April 1999, the Harvard consultants pointed out that the long-term financial sustainability of our health care system was highly questionable. It proposed a Health Security Plan (HSP), which was a mandatory social insurance

scheme based on a risk-pooling concept, spreading financial risks arising from serious illness among the entire population and relying on substantial co-payments and deductibles as demand management tools to maintain its financial viability. The HSP proposal was not well received by the public, as they considered that such a social insurance scheme involved inter-generation subsidisation. Moreover, given the ageing population and the declining percentage of young people in Hong Kong, the scheme would put undue funding pressure on future generations.

4. In December 2000, having regard to the outcomes of the earlier consultation exercises, the Government has proposed in the "Health Care Reform Consultation Document" three strategic directions to address the issue of financial sustainability of our health care system. These three directions are (i) containment of costs and enhancement of productivity, (ii) revamp of public fees structure to better target public subsidies to those in need; and (iii) initiating studies to assess the feasibility of establishing a Health Protection Account (HPA) scheme in Hong Kong. The HPA concept is a mandatory medical savings scheme in which individuals will put a certain percentage of their monthly income into a personal account during working years, the savings accrued will be used to assist them in paying for medical services after retirement. For those patients who have managed to save very little or have already exhausted their savings because of frequent sickness, they will have the assistance of a safety net provided by the Government (details of the HPA proposal as outlined in the Health Care Reform Consultation Document is at **Annex A**). The HPA concept received mixed response from the community, but there was a wide support to the Government's suggestion to conduct further studies on the concept's feasibility.

5. Against this background, a Study Group involving medical doctors, epidemiologists, actuaries, economists, statisticians and social scientists from local universities, Health, Welfare & Food Bureau (HWFB), Hospital Authority (HA) and Department of Health (DH) has been formed to examine in greater depth the feasibility of the HPA scheme. The Study Group has recently completed an initial study on various health care financing sources and conducted an assessment on the economic feasibility of implementing a medical savings scheme in Hong Kong.

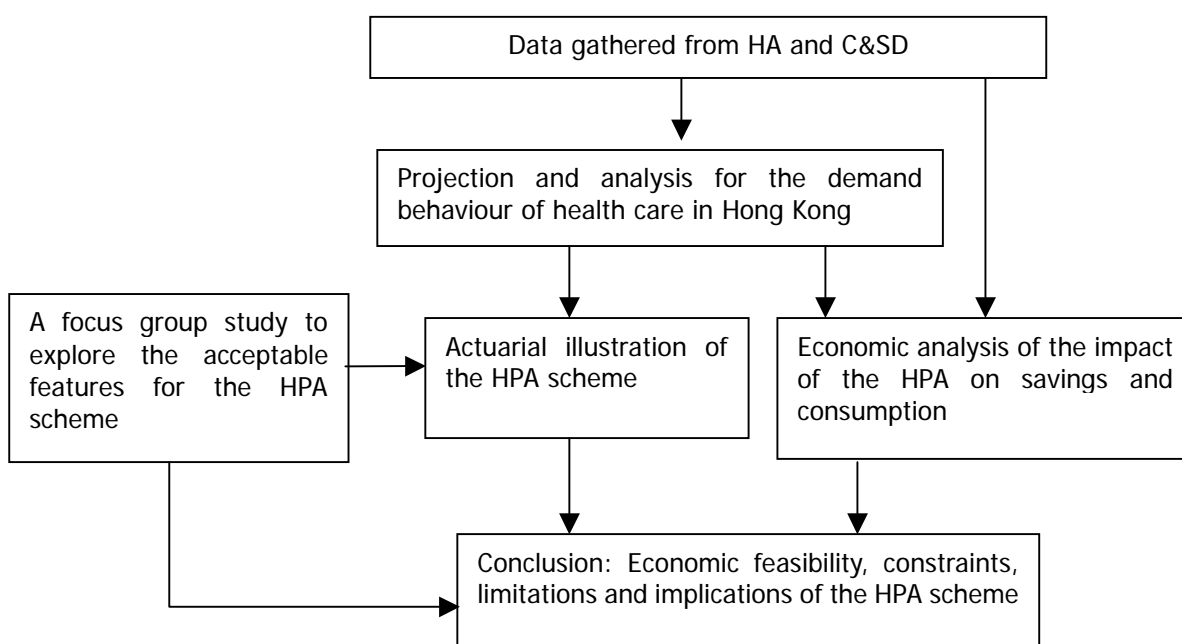
## Framework and Methodology

6. The research conducted by the Study Group could be separated into six major components, namely: -

- Comparative Analysis on Healthcare Financing Sources;
- Statistical Analysis of Savings Behaviour in Hong Kong;
- Determinants and Projection of Health Care Utilisation in Hong Kong;
- Public's Views on Medical Savings Scheme;
- Actuarial Illustration of the HPA Scheme; and
- Analysis of the Potential Economic Impact of the HPA Scheme.

7. All statistical data used in the study were mainly deployed from historical clinical data from HA, as well as a Thematic Household Survey published by the Census and Statistics Department (C&SD) in 2002, which covered data on the socio-demographic characteristics, self-perceived health status, health care utilisation, medical benefits and insurance coverage of the entire land-based population of Hong Kong. [Figure 1](#) shows the study's organisational framework and the relationship between various study components.

**Figure 1: Organisational Framework of the Study**



## Summary of the Key Findings

8. The key findings of individual major components are summarised in the following paragraphs.

### **Comparative Analysis on Healthcare Financing Sources**

9. There are four internationally recognised main sources of health care financing, namely (i) general taxation, (ii) social health insurance, (iii) private health insurance, and (iv) out-of-pocket expenditure. A comparative analysis of the major features of these four sources is as follows: -

- (a) General taxation: From a macroeconomic perspective, general taxation is a highly effective financing source as it incurs minimal additional administrative cost to the government, and gives the government a strong incentive and capacity to control medical expenditures. In addition, health care services financed by general taxation could allow universal access to the services irrespective of ability to pay. However, a too heavy reliance on general taxation could render a health care system vulnerable in times of economic and fiscal difficulties, and reduce user awareness on the social cost of services.
- (b) Social health insurance: Social health insurance contributions are legally mandatory for all or part of the population, which are usually levied as a proportion of income. The employees and their employers usually share the contributions as stipulated by the government or a statutory agent. However, the proportion of contribution each party should pay varies widely between different countries. The contributions collected are then pooled to a designated social insurance fund or sickness fund which will be shared by the entire population. It is the predominant funding source for the health care systems of Germany, France and Japan. Some scholars argue that such funds are based on a narrower base than general taxation, and provide little incentive for cost awareness to the service users, hence resulting in an inefficient use of resource.

Nevertheless, ageing population, sharply rising medical costs and continual deficits in many of these social insurance funds have caused some countries which rely on social health insurance as their predominant funding source to introduce reforms on their health care financing system.

- (c) Private health insurance: private health insurance is usually purchased by individuals or by employers on their behalf. In most countries, it is usually purchased by the middle or higher-income groups to suit their specific medical needs. However, there are also countries (e.g., USA) in which the majority of the population rely on private insurance as their sole means of health care cover. Under such a system, the level of access to health care services is determined by the level of insurance cover which an individual can afford to purchase, and contributions are based not only on the ability to pay but also an individual's health risk assessed by the insurer.
- (d) Out-of-pocket payments: Out-of-pocket payments are made directly by the actual users of health care services. It is the predominant funding source for the health care system of South Korea and Mainland China. The cost sharing concept underneath this funding source encourages the responsible use of health care services, and allows the government to target public subsidies on patients and services in the most appropriate manner. However, there are also suggestions that a too high co-payment level can discourage people from seeking treatment, or direct them to other services where a lower fee level is applicable.

10. Recently, a new kind of out-of-pocket payments, i.e., the medical savings accounts, has emerged as an intermediate source of health care financing. In gist, medical savings accounts are personalised accounts in which individuals regularly contribute a proportion of their income to save for medical expenditures. It is a relatively new concept and at present only Singapore is practising it on a nationwide basis, while the USA, Mainland China and South Africa are conducting some kind of pilot schemes (usually on a voluntary basis). The medical savings account itself is similar to other savings accounts and does not constitute insurance

(as there is no risk pooling), except that the money in the account can be used only for medical purposes. To protect those who have exhausted their saving accounts or have suffered catastrophic/chronic illnesses, medical savings accounts are usually accompanied by a safety net system.

11. We have also compared the health care funding pattern of Hong Kong with those of five other East Asian economies, namely Japan, South Korea, Mainland China, Taiwan and Singapore. The major findings are shown in Table 1 and Table 2.

**Table 1: GDP per Capita, Personal Income Taxation & Proportion of Health Care Expenditure of Selected Economies (2001 data)**

Economy	GDP per capita <sup>1</sup> (US\$)	Highest rates for personal income tax <sup>2</sup>	Health care expenditure <sup>3</sup>		
			As a % of GDP	Public funding (% of total)	Private funding (% of total)
Hong Kong	24,850	17.0%	4.6	53.8	46.2
Japan	25,130	50.0%	8.0	77.9	22.1
South Korea	15,090	36.0%	6.0	44.4	55.6
Mainland China	4,020	45.0%	5.5	37.2	62.8
Taiwan	17,200	40.0%	5.9	66.1	33.9
Singapore	22,680	28.0%	3.9	33.5	66.5

Notes:

1. Figures refer to purchasing power parity adjusted figures extracted from the Human Development Report 2003 published by the United Nation Development Programme (except for Taiwan).
2. Include central and local government taxation.
3. Figures (except for Hong Kong and Taiwan) are extracted from the World Health Report 2003 published by World Health Organization (WHO). Figures for Hong Kong are extracted from the Special Report on Estimates of Domestic Health Expenditures included in the Harvard Report published in 1999. Figures for Taiwan are published in the Governmental budget & settlement, Bureau of National Health Insurance of Taiwan.

**Table 2: Proportion of Health Care Expenditure<sup>1</sup> by Funding Source of Selected Economies (2001 data)**

Economy	General Taxation	Social Health Insurance	Private Health Insurance	Out-of-Pocket Payments	Other Private Sources <sup>2</sup>
Hong Kong	<b>53.8%</b>	-	1.6%	37.6%	7.0%
Japan	12.8%	<b>65.1%</b>	0.3%	16.6%	5.2%
South Korea	10.1%	34.3%	9.6%	<b>41.3%</b>	4.7%
Mainland China	18.3%	18.9%	0.3%	<b>59.9%</b>	2.6%
Taiwan	8.7%	<b>57.3%</b>	-	30.0%	4.0%
Singapore	25.3%	8.2%	-	<b>64.5%</b>	2.0%

Notes:

1. Figures (except for Hong Kong and Taiwan) are extracted from the World Health Report 2003 published by WHO. Figures for Hong Kong are extracted from the Special Report on Estimates of Domestic Health Expenditures included in the Harvard Report published in 1999. Figures for Taiwan are published in the Governmental budget & settlement, Bureau of National Health Insurance of Taiwan.
2. Other private sources include non-profit making institutions which provide health goods or services free or at subsidised

price and corporations which provide medical benefits to their employees directly.

12. Here are some key observations from the above tables: -

- All economies we have studied depend on a mix of these funding sources instead of one single source.
- For Hong Kong, general taxation is the predominant funding source. Meanwhile, social health insurance is the predominant funding source in Japan and Taiwan; and out-of-pocket payment is the predominant funding source in South Korea, Mainland China and Singapore.
- While Hong Kong has the lowest personal income tax rate among the six economies studied, public fundings still provide a solid support to her health care system and account for more than half of the total health care expenditure. Nevertheless, the performance of Hong Kong's health care system is also among the best in the world (comparing the major health indicators).
- Public fundings account for 77.9% of Japan's total health care expenditure, but only 37.2% of Mainland China's. Hong Kong (53.8%) is somewhere in between.

13. Since Singapore is the first economy to implement medical savings accounts on a nationwide basis, its experience is very useful for us in assessing the feasibility of introducing a similar scheme in Hong Kong. The Singaporean medical saving scheme, which is known as "Medisave", was established in 1984. Under this scheme, "Medisave" accounts are embedded in a broader framework that backs up the medical savings accounts with a cross-sectional catastrophic risk pooling scheme called "Medishield" (introduced in 1990) and a means-tested safety net for the lower-income groups called "Medifund" (introduced in 1993). The three-tier package ("Medisave", "Medishield", "Medifund") is backed up by government funding to the public sector. More details about the Singaporean experience can be found at **Annex B**.

## **Statistical Analysis of Savings Behaviour in Hong Kong**

14. In this study we analysed the relationship between saving rates and a number of other factors such as personal income and age.

15. Our study revealed that the median saving rate (savings divided by personal income net of Mandatory Provident Fund (MPF) contribution) of Hong Kong's working population is about 10.5% (please refer to [Table 3](#)). It is also noted that the higher-income groups have a higher saving rate than the lower-income groups. In particular, the median saving rate for the group with monthly income less than \$5,000 is zero. This result suggests that if a medical savings scheme is to be introduced, it will be prudent to consider whether this lower-income group should be exempted.

**Table 3: Relationship between Monthly Income and Saving Rates**

<b>Range Monthly Income (net of MPF Contributions)</b>	<b>Median Saving Rate</b>
Below \$5,000	0.0%
\$5,000 to \$19,999	7.5%
Over \$20,000	24.5%
<b>Overall average</b>	<b>10.5%</b>

16. Another major finding of this study is that in general, the younger groups have a higher propensity to save than the older groups. For instance, individuals aged 20 to 29 had the highest median saving rate of 14.3%. The median saving rate then gradually falls with age, with 7.0% for the age group 50 to 64. This suggests that if a medical savings scheme is to be introduced, the contribution should commence early in one's lifespan to raise its affordability and minimise impact on savings and consumption. This conclusion is reinforced in the actuarial illustration of the HPA scheme discussed later in this paper (please refer to paragraphs 33 to 40).

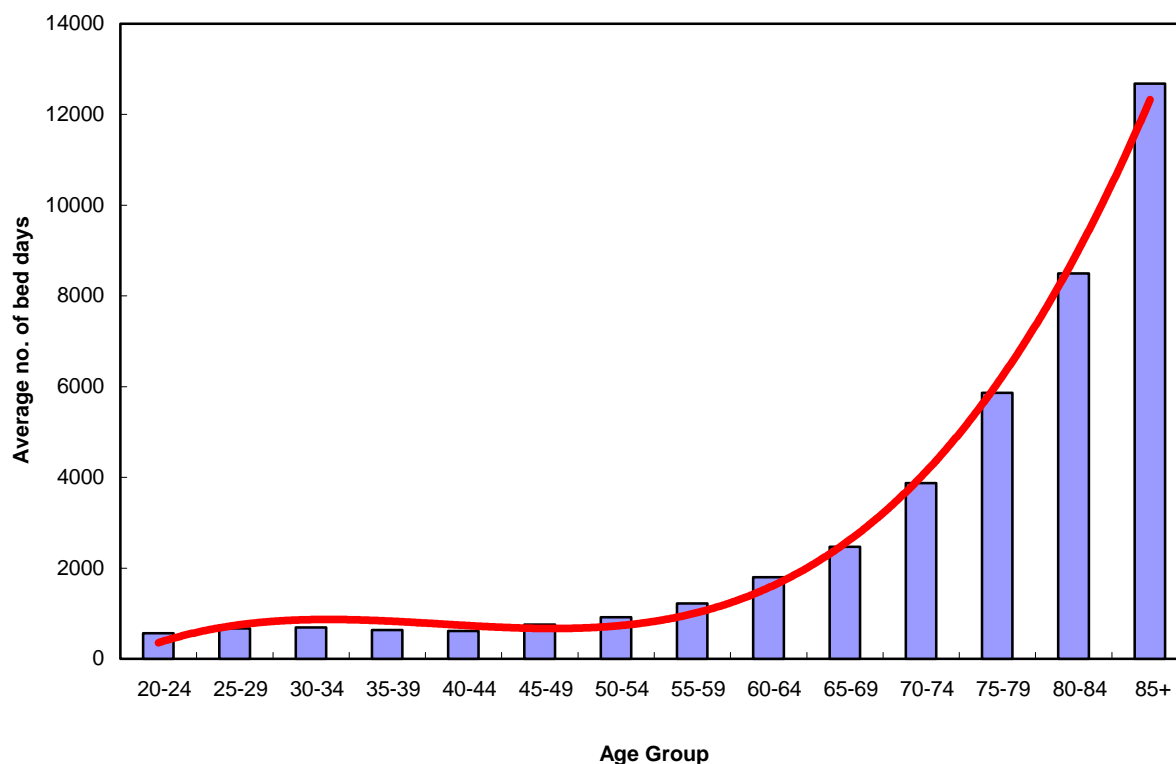


## **Determinants and Projection of Health Care Utilisation in Hong Kong**

17. In this study we analysed the relationship between health care utilisation and a number of variables, such as the patient's age, whether he/she has chronic illness and his/her health insurance coverage. We have also projected the in-patient and out-patient care utilisation for an average Hong Kong people after his/her retirement.

18. In terms of age, [Figure 2](#) shows the relationship between the average number of bed days and age (using HA's data of 2002). It is obvious that the overall hospital utilisation rate for older people is exponentially higher than that of the younger people, with the sharp rise starting from the age 60-64.

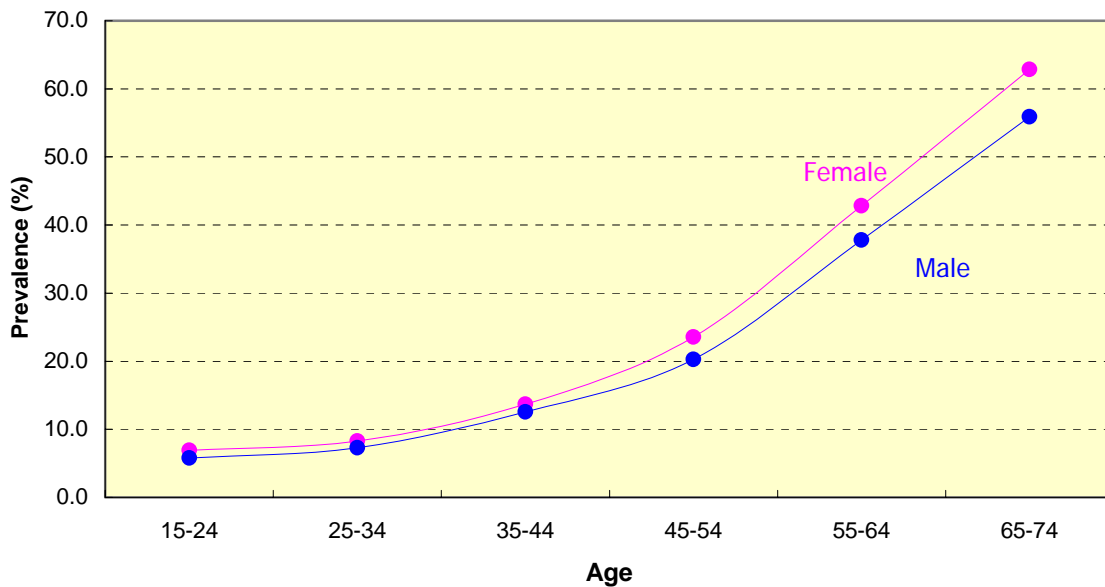
**Figure 2: Average No. of Bed Days for 1,000 Persons in Each Age Group (2002)**



19. The study also revealed that the overall hospital utilisation rate for the group aged 75 and above is 80% higher than the group aged 15-24, and that the utilisation for the older groups tend to take place more frequently in the public sector setting.

20. The hypothesis that patients with chronic illness would tend to utilise more hospital care than one who does not have chronic illness is also confirmed and quantified. On average, a chronic patient will use 3 times the amount of health care services as compared with a person without such a condition. Furthermore, the prevalence rate of chronic illness increases with age. For instance, the prevalence rate of chronic illness of an individual at age 70 is more than five times higher than that of an individual at age 20 (please refer to [Figure 3](#)).

**Figure 3: Prevalence of Chronic Diseases**



21. Using a sophisticated probability model and historical utilisation data, we have projected the utilisation of health care services for different age groups for the rest of their lives. To understand the post-retirement health care needs of an average member of the local population, we have chosen the age group of 65-69 as a reference point and projected their in-patient and out-patient utilisations in the next 20 years. The main results of our projection are shown in [Table 4](#).

**Table 4: Projected Total Health Care Utilisation of Individuals aged 65-69 in the next 20 Years**

		<b>Average Utilisation (Mean)</b>	<b>Light Users</b> (Note 1)	<b>Heavy Users</b> (Note 2)	<b>Heaviest Users</b> (Note 3)
In-patient	Male	86 days	≤ 19 days	≥ 122 days	≥ 181 days
	Female	91 days	≤ 14 days	≥ 124 days	≥ 186 days
Out-patient	Male	190 visits	≤ 80 visits	≥ 318 visits	≥ 349 visits
	Female	263 visits	≤ 125 visits	≥ 392 visits	≥ 415 visits

Note 1: Defined as the group of 20% with the lowest usage

Note 2: Defined as the group of 20% with the highest usage

Note 3: Defined as the group of 10% with the highest usage

22. As shown in Table 4, the average in-patient utilisation in the next 20 years for the age group 65-69 is projected to be 86 bed-days for males and 91 bed-days for females. However, the actual utilisation may differ greatly between individuals, as the heaviest users would utilise more than double of the bed-days their average counterparts would require (i.e., 181 bed-days for males and 186 bed-days for females), while the light users would only utilise about one-fifth of the average (i.e., 19 bed-days for males and 14 bed-days for females). A similar pattern is also found for out-patient services. On average, males of age 65-69 are projected to make 190 out-patient visits while females of the same age group are projected to make 263 visits over the next 20 years. However, the heaviest male and female users would make 84% and 58% more visits than their average counterparts. Furthermore, our data also showed that the top 10% users (in terms of utilisation rate) would use up about 40% of the total health care utilisation.

23. Through the above analysis, we have confirmed that the elderly people would tend to use more health care services, and they are more likely to be affected by chronic illnesses than the younger people. The drastic increase in utilisation has also been quantified. Therefore, the need to set aside specific savings for post-retirement medical expenditures during working years is a genuine issue for consideration.

24. Another major finding of our study is the phenomenon where individuals with health insurance are more likely to utilise health care services than

those who do not have such coverage. Our data have shown that the demand for public hospital care by individuals with medical insurance is on average 47% higher than those who are non-insured. Our data also show that individuals with medical insurance will use 84% more private hospital service than those who are non-insured. We will need to take this phenomenon into account when designing the future health care financing arrangement for Hong Kong.

### **Public's Views on Medical Savings Scheme**

25. To explore how the general public think about medical savings scheme and identify scheme features which would be salient to the public, the Study Group has commissioned a focus group research in March 2003. Focus group is a common research technique in which target persons are organised into informal gatherings to discuss a specific topic. The purpose of such gatherings is to ensure that the perceptions will be obtained in a free, relaxing and non-threatening environment. Comments obtained in a focus group research could provide useful information about the target persons' general impression on the selected topic, insight on unforeseen problems and possible research directions for the future.

26. For our focus group research, the participants were recruited through a purposive sampling method to ensure that the sample would provide a good representation of the general population of Hong Kong. The major sampling criteria included gender, education level and employment status, etc. The participants were divided into six groups, and designated researchers would then moderate a 100 minutes highly focused discussion session with each group.

27. In general, those who favoured a medical savings scheme realised that in the future, the Government might not be able to maintain the current high level of subsidy in health care services, and therefore they should set aside some personal savings for their post-retirement medical needs. Some considered that the medical savings scheme concept was in line with the user-pay principle. Others have expressed worries about the medical savings scheme's possible

duplication with the MPF scheme, and concerned that the scheme would put additional burden to the middle class. Some lower income participants were afraid that the introduction of a medical saving scheme would deprive their access to the public health care system.

28. We also noted that participants with lower income (with a monthly personal income of \$10,000 or below) tended to show a higher acceptance of the medical savings scheme concept. This may reflect their expectation that the medical savings scheme would enable them to save more and secure better medical protection.

29. The older participants (aged 40 or above) were generally more supportive of the medical savings scheme. It might be because some older participants had already experienced health problems related to chronic illnesses, while the younger participants considered retirement as too remote.

30. The participants also provided insight into the desirable features which would make a medical savings scheme more attractive, e.g.,

- **The need of early savings**: Most participants anticipated that if people started saving at the age of 40, the amount accumulated would be insufficient to cover their post-retirement medical expenses. Hence, people should start contributing to the scheme as soon as they start working.
- **Waiver of contributions**: Most participants suggested that only the working population should be required to contribute to the scheme. In addition, those who are earning less than \$5,000 per month should also be allowed for exemption.
- **Flexibility in Coverage**: Many participants suggested a more flexible use of medical savings and free choice of service providers (both public and private), as well as a greater range of services and products, should be allowed.
- **Account Cap**: The higher income participants generally agreed that there should be an account cap for their medical savings accounts,

while the lower income participants considered such a cap would generally not affect them.

- **Inheritance Rights**: Many participants considered that the medical savings should be regarded as a personal asset. In case they did not utilise the savings fully before their death, the residual savings should be passed to their family members or a designated person.
- **Tax Exemption**: Both the middle and higher income participants were concerned whether their medical savings contributions would be tax deductible.
- **Catastrophic Medical Insurance**: Many participants considered that a medical savings scheme would become more attractive if an insurance component was included. In particular, they would prefer to a voluntary catastrophic medical insurance element like what is being provided under the Singaporean “Medishield” scheme.
- **Investment Returns**: Most higher income participants suggested that there should be sound investment strategies for the medical savings and choices for investment plans, while most of the lower income participants expected to obtain modest interest from the medical savings.

31. During the focus group discussion, the participants had also commented on the following design features as undesirable:-

- **Mandatory Spousal Coverage**: Many participants did not favour this feature. Instead, the choice to cover their non-working spouse should be optional.
- **Mandatory Employer Contribution**: Nearly all participants did not consider employer contribution was a practical idea to pursue, as they believed that the employers would find ways to shift their burden to the employees.
- **Post-retirement Catastrophic Insurance**: This idea was not favoured by the participants, as they considered that it would be difficult for an elderly person to buy such an insurance policy at a

reasonable price in the private market.

32. In addition, the participants also expressed their views on the following issues relating to the implementation and administration of a medical savings scheme:-

- **Timing**: Nearly all participants considered that it would not be feasible to introduce a medical savings scheme in times of poor economic performance. In addition, many participants, especially the lower income ones, were still adjusting to the MPF scheme. Hence they would not welcome a medical savings scheme to be introduced in the near future.
- **Simple Administrative Mechanism**: Many participants were concerned about the efficiency of the medical savings scheme, e.g., whether the reimbursement procedures would be fast and simple, and the suspension of contributions under special circumstances such as unemployment should take effect promptly.
- **Management of Accounts**: Many participants suggested a specific agency should be designated for the management and investment of the medical savings with close monitoring by the Government. Moreover, they raised the issue of potential administration cost.
- **Importance of Incentives**: Although most participants had expressed that they could afford to contribute to a medical savings scheme, they did not welcome it to be mandatory. The Government would need to show the scheme's benefits to the contributors or build incentives into the scheme.
- **Public Education**: If a medical saving scheme is to be introduced, it is necessary for the Government to educate the public, in particular the younger ones, to understand and envisage their future health care needs and relevant financial implications (in particular the benefits of having designated savings for medical expenses).

## **Actuarial Illustration of the HPA Scheme**

33. In this study, an actuarial analysis was conducted to determine the extent that the HPA Scheme could assist individuals to pay for medical services after retirement. The proposed features of the HPA Scheme given in the Health Care Reform Consultation Document and the views collected in the focus group study conducted in March 2003 provided useful reference for determining the appropriate values for a number of key variables, e.g., contribution rate, starting age, account cap and cost recovery rate, for conducting the actuarial analysis.

34. In the simulation illustration, two phases for each working individual (i.e., the accumulation phase and disbursement phase) are involved. The accumulation phase represents the working years in which an individual put his/her savings into his/her HPA account, while the disbursement phase represents the post-retirement years in which the accumulated savings are withdrawn to meet medical expenditures.

35. Based on an assumption that the contribution rate is fixed at 2%, and the cost recovery rate for public health care services is fixed at 10% for in-patient services and 30% for out-patient services respectively, it is estimated that the percentage of accounts with resulting positive balance (i.e., the savings in the account are sufficient to cover the medical expenditures) will be very high at 82% (for the group which started to contribute at the age of 20-29) to 90% (for the group which started to contribute at the age of 30-39) (please refer to [Table 5](#)). It decreases substantially to 59% for the age group of 40-49 and 22% for the age group of 50-64. This is because when the HPA is first implemented, quite a number of contributors who are already in their middle age will not have a sufficiently long accumulation period to accumulate sufficient savings to cover their post-retirement medical expenditures. It is therefore more appropriate to evaluate the full effect of the HPA Scheme by focusing on the younger groups.



**Table 5: Proportion of contributors who would accrue sufficient savings to meet their post-retirement medical expenses**

<b>Starting age of contribution</b>	<b>Monthly income</b>	<b>% of HPA accounts with positive balance</b>	<b>Average surplus with positive account balance</b>
20-29	\$5,000 - \$9,999	83.0%	\$128,000
	\$10,000 - \$19,999	95.3%	\$226,400
	\$20,000 or above	96.6%	\$252,600
	<b>Overall</b>	<b>90.3%</b>	<b>\$192,200</b>
30-39	\$5,000 - \$9,999	53.7%	\$54,900
	\$10,000 - \$19,999	86.9%	\$128,000
	\$20,000 or above	93.5%	\$162,600
	<b>Overall</b>	<b>81.8%</b>	<b>\$130,900</b>
40-49	\$5,000 - \$9,999	26.8%	\$26,600
	\$10,000 - \$19,999	65.6%	\$61,800
	\$20,000 or above	81.7%	\$86,000
	<b>Overall</b>	<b>58.6%</b>	<b>\$67,200</b>
50-64	\$5,000 - \$9,999	7.5%	\$11,200
	\$10,000 - \$19,999	26.2%	\$23,900
	\$20,000 or above	44.7%	\$34,500
	<b>Overall</b>	<b>22.2%</b>	<b>\$26,900</b>

36. For those who would have negative balance in their HPA accounts, this does not necessarily imply that their accounts would be exhausted immediately when they are at the age of 65. Instead, as shown in [Table 6](#), their accounts would on average continue to maintain a positive balance until they are aged 75.0 (if their starting age of contribution is between 50-64) to 86.4 (if their starting age of contribution is between 20-29).

**Table 6: Average age when an account would be exhausted (NOT applicable to those whose account would have positive balance)**

<b>Starting age of contribution</b>	<b>Average age when the account starts to have negative balance</b>
20-29	86.4
30-39	84.6
40-49	81.1
50-64	75.0

37. Hence, under the scenario described in paragraph 35, even if the HPA savings accrued cannot cover an individual's entire post-retirement medical expenses, it can still provide support and protection for a period of time before it is

exhausted. Moreover, even if an individual's HPA account is exhausted and he/she has no other means to pay for his/her medical expenses, since it is the Government's overall principle that no one will be denied appropriate medical care due to lack of means, his/her right to receive appropriate medical care will still be protected by the Government's medical fee waiver mechanism.

38. To illustrate the amount of retirement savings an individual may need to deplete for medical expenses should there be no HPA or he/she had not set aside a specific saving for medical expenses during his/her working life, we have also calculated the total out-of-pocket expenditure an average individual would incur after his/her retirement. We have also calculated the respective amount for those who would become the top 10% user of public health care services (in terms of frequency). The results are shown in Table 7. In gist, this amount will vary depend on the current age of the individual, e.g., on average an individual of the age group 20-29 will have to deplete \$183,100 from his/her retirement savings to cover his/her total medical expenditures. However, if he/she were the top 10% user (in terms of frequency), then his/her total medical expenditures would increase drastically to \$357,400.

**Table 7: Total post-retirement out-of-pocket medical expenditures should there be no HPA**

<b>Current Age</b>	<b>Average post-retirement medical expenditure</b>	<b>The total expenditure if the individual is a top 10% user</b>
20-29	\$183,100	\$357,400
30-39	\$162,900	\$319,100
40-49	\$142,900	\$281,200
50-64	\$122,700	\$243,700

39. We have also conducted two other actuarial simulations to assess the potential effect of alternative contribution and cost recovery rates. In the first alternative simulation we adjusted the contribution rate from 2% to 1%. However, the results showed that this lower contribution rate would have a significant impact on the proportion of contributors who could accrue sufficient savings to meet their post-retirement medical expenditure. In the second alternative simulation, we adjusted the cost recovery rate of in-patient services from 10% to 15%, and the results showed that although the proportion of positive savings will also be

decreased, the extent of the impact would be lesser than in the previous scenario. Details of these two simulations are in **Annex C**.

40. Our actuarial study has concluded that the HPA scheme can provide sufficient funding to support the post-retirement medical expenditures of most contributors, especially if they start saving from the beginning of their career. Even if the amount saved in an HPA account would not be sufficient to meet all an individual's total post-retirement medical expenditures, the amount saved could still provide support and protection for quite a substantial period before it is exhausted.

### **Analysis of the Potential Economic Impact of the HPA Scheme**

41. With the data obtained from the studies on savings behaviour and the actuarial illustration, we have conducted an analysis on the potential economic impact of implementing the HPA Scheme in Hong Kong.

42. By applying a "Marginal Propensity to Save" (MPS) analysis technique, we estimated that the impact of a 2% HPA contribution on an individual's personal consumption would only be around 1.4% of his/her personal income. In addition, we have also adopted a separate economic simulation technique (the dynamic approach) to assess the potential impact of the HPA scheme. The results of this analysis also showed that if the contribution rate would be set at 2% of an individual's income, the resulting reduction in consumption would not be significant (less than 1.8%). If the contribution rate would be set at 1.5%, then the reduction in consumption would further be reduced to less than 1%. The above analyses show that the implementation of an HPA Scheme is not likely to have any significant impact on the general economy. Moreover, it should be noted that since the savings accrued in the HPA accounts will be re-invested in other economic activities, the HPA Scheme would in fact have a positive impact on job creation and in turn contributes to the economic growth of the community.

43. Our analysis also found that the younger group (aged 20-34) had a higher propensity to save than the more mature group (aged 35 and above). The

overall tendency to save at the last dollar income (after MPF contribution) was estimated to be around 31%. This further reinforced our earlier findings that the introduction of a medical savings scheme in Hong Kong would be feasible, and the contribution should start early in one's working life.

44. We have also compared Hong Kong's present health care system with a hypothetical one in which a medical savings scheme has been introduced. In general, it is considered that by maintaining the present medical fee waiver mechanism, the introduction of a medical savings scheme in Hong Kong would not appear to undermine the current strengths of our health care system. In particular, the accessibility of the three vulnerable groups in the community to our health care system, i.e., the low income group, chronically ill patients and elderly patients who have little income or assets, would not be adversely affected. Moreover, the scheme would also not affect the present efficiency and responsiveness of our health care system.

## **Way Forward**

45. The financial sustainability of our health care system has long been an important subject which draws the attention of both the Government and the community. We will continue to implement the short-term and medium-term measures to address the issue, including the introduction of rigorous cost-containment measures in the public health care system, and continual review of the system's fees structure to ensure that our resources can be prioritised to patients and services of greatest needs.

46. The initial research conducted by the Study Group has enhanced our understanding of the pros and cons of various health care financing sources. The study shows that there is no single best combination of funding sources which could meet the needs of every economy, and each economy has to take into account its own situation (e.g., level of subsidy to health care services, rate of taxation, economic development and demographic trends, etc) in coming up with the appropriate solution.

47. The research has also demonstrated that it is feasible to introduce a medical savings scheme in Hong Kong. However, we need to examine carefully the role of a medical savings scheme, and how it will complement other measures, in our health care financing arrangement, as well as the detailed features of such a scheme. We will take into account the feedbacks received in the focus group research exercise, as well as other comments from the major stakeholders and the general public. In particular, we have noted the viewpoint that a medical savings scheme should not be introduced in times when Hong Kong is facing economic difficulties. We will also continue our previous discussion with the private insurance industry, to explore the provision of new insurance products that could enhance the scheme's flexibility and attractiveness.

48. Through this initial research we hope to generate more discussion in the community about the health care financing issue. Given the complexity of the subject and the far-reaching implications a new financing arrangement may have on our community and the economy, further studies will be needed to develop new financing options that will be sustainable in the long-term, and equitable and accessible to all members of the community. These options should address not only the issue of the most appropriate mix of financing sources for Hong Kong, but also other issues like target subsidy, cost control measures and interface between public and private health care sectors. Nevertheless, we will maintain our long-established principle that no one will be denied appropriate medical care due to lack of means. We will take into account the views of the community, and consult the Legislative Council, the major stakeholders and the general public again when more details about this new model are available.

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**The Health Protection Account (HPA) Concept as outlined in the Health Care Reform Consultation Document**

(Note: The following is a reproduction of the Consultation Document's paragraphs 119 & 120, which was published by the Government in December 2000)

**Proposal**

119. To reduce the burden on our next generations and to strengthen the long term financial sustainability of the public health care system, we propose to introduce medical savings through a scheme of Health Protection Accounts as the principal supplementary funding source for health care services in the longer term. We propose that this scheme should comprise the following features: -

- (a) This will be a mandatory contributory scheme, with every individual putting approximately 1 to 2% of the earnings to a personal account, from the age of 40 to 64, to cover the future medical needs of both the individual and the spouse. The savings will attract investment returns.
- (b) The savings cannot normally be withdrawn until the person reaches the age of 65 (or earlier in case of disability). Upon withdrawal, the savings can be used either to pay for medical and dental expenses at public sector rates, or to purchase medical and dental insurance plans from private insurers.
- (c) If the person chooses services in the private sector, the person will still be reimbursed only at the public sector rates from the accumulated savings. The price difference will have to be met either from the person's own means outside the savings account or from the entitlement of private insurance.

- (d) In the case of the death of an individual, any unspent savings left in the account will be passed on to the surviving family.

120. This Health Protection Account is designed to assist individuals to continue to pay for heavily subsidised medical services after retirement, and not to shift the burden to the next generations. In order to keep the savings rate to an affordable minimum, we have therefore proposed to limit the withdrawal by the individual to until age 65 and above and to reimburse the individual only at public sector rates. For those patients who prefer private sector services, the savings will help meeting the medical bills. We estimate that for a family at median income level, the couple will be able to pay for, based on the territory's average utilisation rate, their medical expenditure at public sector rates up to the average life expectancy age. For those patients who have managed to save very little or who have already exhausted their savings because of frequent sickness, they will have the assistance of the second safety net provided by Government.

## **A Brief Introduction to the Health Care Financing System of Singapore**

Singapore is the first economy to implement medical savings accounts on a nationwide basis. Her medical saving scheme, which is known as “Medisave”, was established in 1984. Under this scheme, “Medisave” accounts are embedded in a broader framework that backs up the medical savings accounts with a cross-sectional catastrophic risk pooling scheme called “Medishield” (introduced in 1990) and a means-tested safety net for the lower-income groups called “Medifund” (introduced in 1993). The three-tier package (“Medisave”, “Medishield”, “Medifund”) is backed up by government funding to the public sector, with an aim to lowering the net prices charged to patients.

2. Contributions to Medisave are an integral part of Singapore’s compulsory Central Provident Fund (CPF), which is funded by a mandatory payroll tax equivalent to 40% of wage bill, split evenly between employers and employees. Between 6-8 percentage points are allocated to the member’s Medisave account. These contributions are income tax-deductible, interest bearing and can accumulate up to S\$19,000 (about HK\$86,800). Withdrawals from the accounts can be used to pay medical bills incurred by the account holder and immediate family members, but subject to two important exclusions: ambulatory care services and defined hospitalization expenses caps. Claims for Medishield are subject to a high annual deductible (S\$1,000 – about HK\$4,600), a 20% co-payment and claims limit of S\$20,000 (about HK\$91,400) per policy year and S\$80,000 (about HK\$365,600) per lifetime. As a last resort, patients unable to pay their bills at government hospitals can apply for the Medifund.

3. The Singaporean system has shifted from a tax-based national health services model to a mixed model with a combination of taxation and savings, with limited insurance only for catastrophic illness. It still retains the dominant role of the public sector in providing essential medical services. It limits insurance only for “insurable” expenditure (i.e. high-cost events of low probability). Thus, the



role of the state is a last resort to support the truly needy, while average individuals and families are expected to contribute towards greater cost-sharing of increasingly expensive health care, so as to encourage self-reliance.

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## Alternative Actuarial Simulations for the HPA Scheme

In addition to the basic actuarial model presented in paragraphs 33 to 38 of the paper (with a contribution rate of 2% and cost recovery rate of 10% for public in-patient services), we have also conducted two other actuarial simulations to assess the potential effect of alternative contribution and cost recovery rates. This Annex presents the key results of these two alternative models.

### Alternative Simulation 1:

Basic Assumptions: Contribution Rate = 1%

Cost Recovery Rate for Public In-patient Services = 10%

**Table 1: Proportion of contributors who would accrue sufficient savings to meet their post-retirement medical expenses**

Starting age of contribution	Monthly income	% of HPA accounts with positive balance	Average surplus with positive account balance
20-29	\$5,000 - \$9,999	42.7%	\$45,100
	\$10,000 - \$19,999	68.3%	\$75,000
	\$20,000 or above	73.8%	\$81,700
	<b>Overall</b>	<b>58.3%</b>	<b>\$66,900</b>
30-39	\$5,000 - \$9,999	18.6%	\$21,900
	\$10,000 - \$19,999	48.5%	\$44,300
	\$20,000 or above	60.7%	\$53,500
	<b>Overall</b>	<b>46.0%</b>	<b>\$46,500</b>
40-49	\$5,000 - \$9,999	7.6%	\$11,700
	\$10,000 - \$19,999	26.8%	\$24,000
	\$20,000 or above	40.0%	\$30,200
	<b>Overall</b>	<b>24.9%</b>	<b>\$25,900</b>
50-64	\$5,000 - \$9,999	1.9%	\$4,900
	\$10,000 - \$19,999	7.9%	\$10,200
	\$20,000 or above	14.9%	\$14,200
	<b>Overall</b>	<b>6.8%</b>	<b>\$11,500</b>

**Alternative Simulation 2:**

Basic Assumptions: Contribution Rate = 2%

Cost Recovery Rate for Public In-patient Services = 15%

**Table 2: Proportion of contributors who would accrue sufficient savings to meet their post-retirement medical expenses**

Starting age of contribution	Monthly income	% of HPA accounts with positive balance	Average surplus with positive account balance
20-29	\$5,000 - \$9,999	72.0%	\$119,600
	\$10,000 - \$19,999	89.7%	\$205,700
	\$20,000 or above	92.5%	\$227,600
	<b>Overall</b>	<b>82.7%</b>	<b>\$177,500</b>
30-39	\$5,000 - \$9,999	43.0%	\$53,300
	\$10,000 - \$19,999	76.8%	\$118,700
	\$20,000 or above	85.8%	\$148,000
	<b>Overall</b>	<b>72.4%</b>	<b>\$122,000</b>
40-49	\$5,000 - \$9,999	20.9%	\$26,800
	\$10,000 - \$19,999	53.9%	\$59,300
	\$20,000 or above	70.1%	\$80,200
	<b>Overall</b>	<b>48.7%</b>	<b>\$64,300</b>
50-64	\$5,000 - \$9,999	6.0%	\$11,300
	\$10,000 - \$19,999	20.5%	\$23,900
	\$20,000 or above	35.0%	\$34,100
	<b>Overall</b>	<b>17.4%</b>	<b>\$26,600</b>

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