



The Government of HKSAR Food and Health Bureau

Consultancy Study on the Benefit Limits of Standard Plan under
the Voluntary Health Insurance Scheme with Premium and
Impact Assessment

Executive Summary



28 September 2018

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1. Executive Summary

This report sets out the methodology, data sources, and assumptions we used in the analysis for the following three tasks in relation to the Standard Plan of the Voluntary Health Insurance Scheme ("VHIS"):

1. Developing the benefit schedule of the VHIS Standard Plan;
2. Estimating the standard premium of the VHIS Standard Plan and the pricing impact of major benefit items; and
3. Projecting the impact of the proposed VHIS on the individual indemnity hospital insurance products ("IHIP") market and the healthcare sector.

1.1. Benefit Schedule of VHIS Standard Plan

Table 1.1 in this section exhibits the proposed Benefit Schedule of VHIS Standard Plan. A review mechanism has also been introduced to update the benefit coverage and limits periodically. We have:

- summarised our findings of the benefit schedules for the current active ward-level individual IHIPs in the Hong Kong market; the private market charges for non-surgical inpatient services (including common hospital services, advanced diagnostic imaging tests, and non-surgical cancer treatments), the private market charges for surgical procedures, and the charges for private Inpatient services and Day Case Procedure;
- proposed the benefit items and the corresponding benefit limits of the VHIS Standard Plan; and
- proposed the review and update mechanism of the benefit limits.

We have reviewed and analysed the data collected from insurance companies, private hospitals, Hospital Authority, and healthcare service providers. Most of the individual hospital indemnity plans in the market have been reviewed and 33 of them are identified as ward-level individual hospital indemnity plans and selected for detailed review.

In addition, actual fees or costs of medical services including those for relatively new features such as Prescribed Diagnostic Imaging Tests performed in an ambulatory setting and psychiatric treatments, have also been examined in developing the Benefit Schedules. Balance has been struck in addressing three key considerations, namely **protection adequacy, level of premium** and **room for Flexi Plan** in the determination of benefit limits.

In terms of benefit items, the VHIS Standard Plan introduces a number of features which are not yet common in the Hong Kong market, such as:

- Advanced diagnostic imaging test in an ambulatory setting;
- Psychiatric treatment;
- Non-surgical cancer treatment; and
- Day case procedure.

A summary of the proposed Standard Plan Benefit Schedule can be found in Table 1.1. The benefit schedule, as part of the standard policy terms and conditions, was presented to the Consultative Group for discussion on 14 December 2017. Another version of the benefit schedule was submitted to the Consultation Group on 1 February 2018 for discussion. The first complete draft of the benefit schedule, as part of the Certified Plan Policy Template, was published on the government website on 1 March 2018. Further revision was made in recent months to finalise our recommendations.

Table 1.1 Proposed Standard Plan Benefit Schedule (in Hong Kong dollars)

Benefit Items	Benefit Limit (in HKD)
Room and board	\$750 per day Maximum 180 days per Policy Year
Miscellaneous charges	\$14,000 per Policy Year
Attending doctor's visit fee	\$750 per day Maximum 180 days per Policy Year
Specialist's fee	\$4,300 per Policy Year
Intensive care	\$3,500 per day Maximum 25 days per Policy Year
Pre- and post-Confinement/ Day Case Procedure outpatient care	\$580 per visit, up to \$3,000 per Policy Year 1 prior outpatient visit or emergency consultation per Confinement / Day Case Procedure 3 follow-up outpatient visits per Confinement/ Day Case Procedure (within 90 days after discharge from Hospital or completion of Day Case Procedure)
Surgeon's fee	Per Surgery, subject to surgical category for the surgery/procedure in the Schedule of Surgical Operations- Complex: \$50,000 Major: \$25,000 Inter: \$12,500 Minor: \$5,000
Anaesthetist's fee	35% of surgeon's fee payable
Operating Theatre Charges	35% of surgeon's fee payable
Prescribed Diagnostic Imaging Tests	\$20,000 per Policy Year Subject to 30% coinsurance
Prescribed Non-surgical Cancer Treatments	\$80,000 per Policy Year
Psychiatric treatments	\$30,000 per Policy Year
Annual Benefit Limit	\$420,000
Lifetime Benefit Limit	Nil

The Standard Plan Benefit Schedule should be subject to review on a need basis, giving regard to the premium implications involved, trend in hospital insurance market as well as healthcare service development, and comparison against non-VHIS market segment. In this regard, a review and update mechanism would need to be introduced. However, due to the uncertainties and complexities involved, it is difficult to ascertain a review timeline

at present and accumulation of sufficient market experience over time is necessary to make the review effective. The proposal set forth in regard of this is therefore only a broad conceptual framework for future reference.

1.2. Pricing and Actuarial Model

Compared to the Base Plan, which is a hypothetical ward-level product characterised by common features of existing individual IHIP products in the current market, the VHIS Standard Plan enhances the common features and introduces some new benefit coverages, as described in the Section 1.1.

We have built a Core Pricing Model for the common features and Other Pricing Models for additional benefit coverages considered, based on a set of assumptions as well as generally accepted actuarial methods. The model is fed with a number of data sources, including the Thematic Household Survey Reports from Census and Statistics Department, the Claims and Policies Database from the Hong Kong Federation of Insurers, and the Casemix Database from Hospital Authority etc.

Through our analysis, the annual standard premium of the VHIS Standard Plan is expected to be \$4,833 on average across all ages and genders, on the 2017 basis. This compares with the annual premium of \$4,210 for the Base Plan. Among the new features introduced in the VHIS Standard Plan, the coverages for Prescribed Non-surgical Cancer Treatments and Prescribed Diagnostic Imaging Tests account for most of the premium differences, at \$116 (3%) per annum and \$420 (10%) per annum respectively.

Due to the intrinsic uncertainty of actuarial pricing, we have also supplemented the best estimate of the VHIS Standard Plan premium with a range of estimates made especially for the additional coverage components with higher uncertainty. We estimate that the average VHIS Standard Plan premium would range from \$4,450 to \$5,271.

1.3. Projection Model

This section summarises the results of the Projection Model to estimate the impact of the proposed VHIS on the individual IHIP market with respect to the following:

- (a) total uptake of IHIP;
- (b) premium revenue and claim amount in the IHIP with breakdown by the VHIS segment and the non-VHIS segment; and
- (c) total public and private healthcare expenditure and activities including number of procedures and number of bed-days in inpatient and ambulatory setting.

We have compared two scenarios in estimating the impact of the VHIS:

- Baseline Scenario, which simulates the individual IHIP market without the implementation of the VHIS.
- VHIS Scenario, which reflects the situation of the market when VHIS is launched.

The impact of the VHIS is illustrated by the difference between the two scenarios. The projection results indicate noticeable positive impact of VHIS in terms of uptake of IHIP and hence utilisation of private healthcare facilities.

In the VHIS Scenario, we have considered the following potential changes to the individual IHIP market due to the launch of the VHIS:

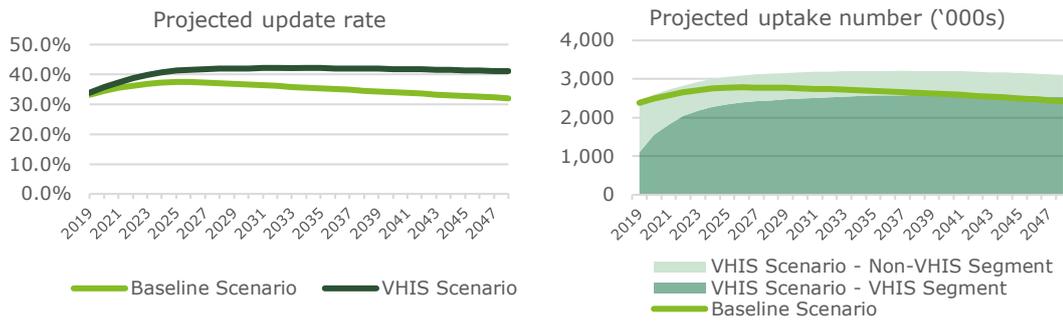
1. **Tax incentives** capped at \$8,000 taxable income reduction per insured person for purchases of VHIS-compliant products.
2. **Higher average premium due to enhanced features** introduced in the VHIS.
3. **Quality assurance** due to the standardisation of the insurance products and a set of transparent code of practice.
4. **Improved efficiency and transparency** in the IHIP market induced by VHIS.
5. **Nominal substitution¹** of medical procedures in public facilities by those in private facilities, due to higher penetration rate of hospital insurance products in the market.
6. **Increased level of medical services utilisation** due to a higher demand for procedures such as Prescribed Diagnostic Imaging Tests and endoscopic procedures.
7. **IP-AP shift** (shift from inpatient setting to ambulatory) of certain minor and/or intermediate procedures due to the full coverage of ambulatory procedures.

The effect of the above changes is reflected in the results of our projections, which suggest noticeable positive impact of VHIS:

- As shown in Figure 1.2, driven by the influences induced by VHIS described above, individual IHIP uptake rate will reach 41% in 2048 with the launch of VHIS, compared with 32% under the Baseline Scenario. The total number of uptake under the VHIS Scenario will also reach 3.1 million in 2048, compared with 2.4 million without VHIS. Within the 3.1 million uptake, the VHIS segment will account for 2.5 million.
- However, due to high level of uncertainties in the short-run for the advent of the scheme in Hong Kong, the uptake of VHIS segment is conservatively estimated to be at around 1 million in the 2nd year (2020) and around 1.5 million in the 3rd year (2021). The long-run uptake rate is shown in Figure 1.2.

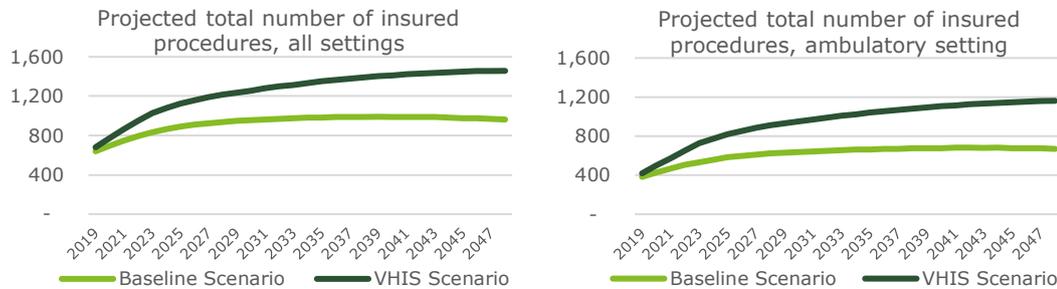
¹ Given high demand for public healthcare, the impact of VHIS would translate into shorter waiting times rather than savings in budget and reduction in capacity. The estimated impact on expenditure and activity in the public sector is thus a "nominal substitution" in the sense that they represent resources and capacity that can be released to enhance public healthcare services and reduce waiting times. Yet due to the market dynamics involved, including the concurrent influence of other factors, it is difficult to single out and estimate with acceptable degree of precision the magnitude of reduction in waiting times.

Figure 1.2 Projected uptake rate and number in the individual IHIP market



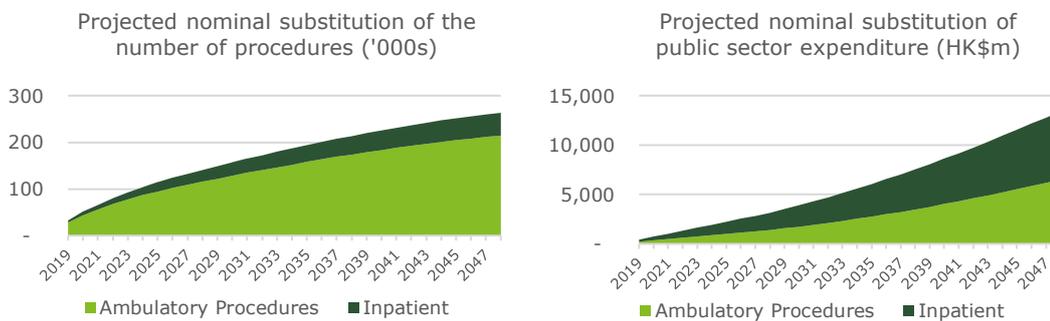
- Additional features and benefits introduced in the VHIS would lead to more medical procedures being insured by individual IHIP products, in particular in ambulatory settings.

Figure 1.3 Projected number of total insured procedures of individual IHIP market ('000s)



- The nominal substitution would amplify significantly over the years and more than 263,000 procedures in the public sector are expected to be substituted per annum by 2048; nominal substitution of public sector expenditure would rise to around HK\$13.4 billion per annum by 2048.

Figure 1.4 Projected nominal substitution of the number of procedures and public sector expenditures as a result of VHIS

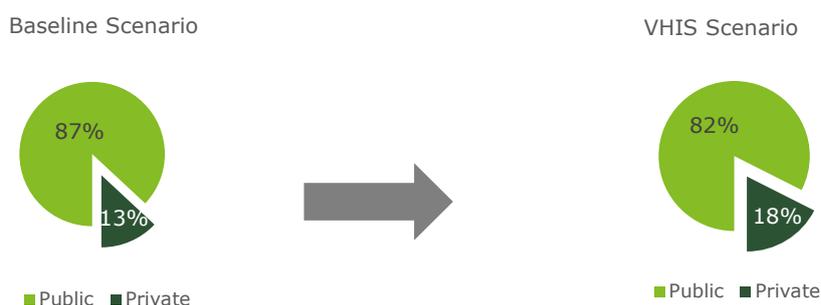


- The proportion of public sector measured by the number of inpatient discharges (including hospital day case procedure discharges) is estimated at 82% in 2017. Without VHIS (i.e. Baseline Scenario), this proportion would rise to 86% in 2040 and further to 87% in 2048; whereas with VHIS (i.e. VHIS Scenario), this

proportion would drop from the aforesaid 86% to 81% in 2040, and from 87% to 82% in 2048. The long-term impact of VHIS is thus around 5 percentage points.

- Since the public sector is the major provider of inpatient care and handles a large volume of day case procedures, a modest outflow of service demand relative to the public capacity could become a marked inflow of service demand relative to the private capacity. In this case, the volume of the roughly 5 percentage points of change in public-private split is equivalent to 35% of the projected private inpatient discharge (including hospital day case procedure discharges) under Baseline Scenario which is a substantial amount of activities in terms of scale.

Figure 1.5 Projected split between public and private sectors measured by total number of inpatient discharges in 2048



Note: The figures presented above include inpatient and hospital day case procedures, and exclude outpatient procedures or diagnostic tests due to data limitation. Hence, the impact on Prescribed Diagnostic Imaging Tests is not included.



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