# Attributes Evaluation for Micro Health Insurance in Cambodia: Discrete Choice Modeling Analysis[1)]

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福井清一・若松宏樹・高篠仁奈・三輪加奈：小口医療保険の潜在的需要者による属性評価の離散選択モデル分析―カンボジア農村の事例

途上国における貧困緩和政策の一環として、貧困層向け小口医療保険の普及が試みられているが、参加率は依然として低いままである。本稿は、カンボジア農村における貧困層向け小口医療保険制度へ参加を促進するためには、どのように現行保険制度を改善すればいいのかを考察しようとしたものである。そのために、本稿では、農村住民を対象にした選択的実験を行うことにより収集したデータをコンジョイント法により分析し、設定した保険属性（保険料水準、診療を担当する医療機関の種類、医療サービスの水準、保険運営機関によるマネージメントの水準）の水準ごとの支払い意思額を推計した。分析の結果は、民間クリニックでの診療、歯科・眼科の外科的治療、慢性的疾病の長期的治療、国立病院での診療に対する需要が高いことが明らかになった。これらの分析結果は、小口医療保険に対する潜在的需要は高く、スキーム改善の方向次第では参加率が高まる可能性があることを示唆している。ただし、国立病院での診療を除くと、行政費用や医療技術上の問題があり、現実的な処方箋であるかに関してはさらなる研究が必要である。

## 1. Introduction

Poor rural households in developing countries are more likely to face and more vulnerable to being affected by unexpected shocks to household welfare. While some may use informal risk-pooling mechanisms, including informal insurance systems, these are insufficient to fully cope with risks and exogenous shocks.

In the case of rural Cambodia, poor households often suffer from ill health and injuries, which can cause them considerable economic damage (Yagura 2005). To alleviate the impact of such shocks and complement existing informal risk-coping mechanisms, NGOs and the Ministry of Health have introduced various types of community-based health insurance (micro health insurance; MHI) programs among Cambodia's rural poor. However, take-up rates of these MHI programs have been low and not sustainable (Cambodian Ministry of Health 2016, p.23).

Many studies have investigated the factors that affect the decision of take-up, given the existing MHI scheme. Following Schneider (2004), we can classify those factors into three broad categories: characteristics of potential insurance purchaser, design of insurance scheme, and characteristics of service providers and insurance agency. The characteristics of potential insurance purchaser have included health condition (Ataguba et al. 2008b; Donfouet et al. 2011; Dror et al. 2007), experiences of health shocks (Dong et al. 2009; Fukui and Miwa 2016), risk aversion (Ito and Kono 2010), hyperbolic time preferences (Ito and Kono 2010),the other household characteristics (e.g., income and assets, age, education, gender, and household size; De Allegri et al. 2006; Ataguba et al. 2008a; Chankova et al. 2008; Donfouet et al. 2011; Donfouet et al. 2013; Dong et al. 2009; Dror et al. 2007; Onwujekwe et al. 2010; Bendig and Arun 2016; Macha et al. 2014; Shafle and Hassail 2013; Khan 2013). The poor characteristics of insurance agency, and medical service providers cause distrust in the insurance agency, and providers of medical services (Ataguba et al. 2008b; Dong et al. 2009; Ozawa and Walker 2010; Basaza et al. 2008; Schneider 2005).

As above, for characteristics of potential beneficiary and quality of service providers and insurance agency, a large number of studies have been conducted. However, the studies of insurance scheme design have been rarely conducted.

In order to consider the measures for increasing the number of customers of MHI, we need to examine how the changes of insurance design and service providers' characteristics can induce potential customers to purchase the insurance. Regarding this, some studies have already investigated the impacts of insurance design change on the possibility of taking up insurance. Dror et al. (2007) and Bonan et al. (2014) examine the impacts by measuring willingness-to-pay (WTP), given an insurance scheme for the potential clients. By using questionnaire survey data, Onwujwkwe et al. (2014) examine the preferences of various benefit packages for MHI to ensure the relevance of the packages to potential clients. Harms (2011) conducted a field experiment to study the preferences of potential clients for microinsurance products with deductibles and rebates. However, the MHI scheme consists of a range of attributes including benefit packages, contract medical service providers, management system, deductible condition, period and timing of contract, and premium. Further, the premium levels are largely affected by the combination of these attributes. However, to our knowledge, no study simultaneously considers the impacts of multiple insurance attributes on the uptake of microinsurance. While Mulupi et al. (2013) examine the preferred design features of insurance with multiple attributes to ensure acceptability and sustainability, their study is not analytical. Abiiro et al. (2016) investigate the heterogeneity of socio-demographic characteristics that determine the preferences for two types of MHI, by using discrete choice experi-

ment and qualitative dependent choice models. However, this study does not aim to examine how insurance design and service provider's characteristics should be changed to facilitate the potential insurance purchasers to take-up MHI.

In order to examine what is the most acceptable insurance scheme, this study uses a discrete choice experiment approach to evaluate the demand of potential clients for different attributes of microinsurance and to determine the more acceptable insurance scheme including premium in rural Cambodia, where the take-up rate of MHI has been declining despite an increase in the number of MHI initiatives.

In Cambodia, the existing micro health schemes such as Health Equity Fund and MHI did not cover the services for chronic disease and dental care, though the demand for these medical treatments is very strong (Bigdeli et al. 2016).

Moreover, the existing microinsurance schemes exclude private medical service providers, though the private providers are trusted by the villagers more than the public providers (Ozawa and Walker 2011).

In addition, in our study area, the public providers do not have good reputation among villagers, due to unfair treatments of insurance purchasers. To monitor the unfair treatments, management of MHI must be improved.

Taking account coverage of benefit package, service providers, and management system, we consider the attributes of MHI and design alternative health insurance schemes.

To evaluate the willingness-to-pay (WTP) for each attribute of the insurance scheme, we employed a conjoint modeling analysis that measures the differential WTP by attribute (marginal willingness-to-pay, MWTP).

This study makes two significant contributions. First, this is the first study to measure WTP taking into consideration the preferences of potential clients for different attributes of the MHI scheme. Second, this is also the first study to use a conjoint modeling analysis for examining the more acceptable MHI scheme, using discrete choice experiments (hereafter DCE) in Cambodia.

The rest of this article is organized as follows. Section 2 describes the current situation of MHI program in our study area. Section 3 describes the methods of choice experiments. Section 4 explains econometric framework of conjoint analysis and presents the results of estimation. The final section discusses about the policy implications to increase the take-up rate of MHI in Cambodia.

## 2. Micro health insurance in study area

SKY (“Sopapheap Krousat Yeugn” in Khmer or “Health for Our Families”) is a MHI program for the rural poor in Cambodia that was created by a French NGO, Groupe de Recherche et d'Echanges Technologiques (GRET), in 1998. SKY seeks to improve the health of Cambodians by providing affordable and accessible health insurance and quality care. Initially, SKY was a pilot project implemented only in Takeo and Kandal provinces, but by January 2011, 70,500 households in three provinces and Phnom Penh had joined the SKY program (GRET 2011).[2)] In 2007, the Ministry of Planning (MoP) implemented the Identification of Poor Households Programme (ID Poor), through which households identified as poor have been able to obtain free treatment from public healthcare facilities by presenting their ID Poor card.[3)]

In 2012, the SKY program was taken over by a local NGO, “Buddhism for Health,” (BfH), with support from the MoP and the Ministry of Health (MoH); the name of the insurance and some of its schemes were changed. Under the new scheme, two programs, ID Poor (offering free health insurance for the rural poor, originally known as the “Health Equity Fund”) and the reformulation of the former SKY program (i.e., voluntary health insurance for the non-poor), have been combined.[4)]

If a household joins SKY (i.e., purchases health insurance), its members must pay a monthly premium but can receive free and unlimited primary and emergency care at local health centers and/or public hospitals that have contracts with SKY. After purchasing MHI, people can receive services[5)] from different public healthcare facilities: a health center located in each commune, a district hospital, or a provincial hospital. However, SKY cannot be used for long-term hospitalization or specialty treatments. A household member must produce a medical referral letter from a health center in order to receive free medical care at district or provincial hospitals. To expand the program, sales staffs from the NGO visit each household, explain the details of the health insurance, and encourage the household to purchase it. Households are able to renew their contract every six months or every year.

According to the Cambodia Socio-Economic Survey of 2009, a rural household seeks treatment for illness and/or injury on an average of 0.3 times per month. Among the households receiving treatment, treatment costs per household averaged at about 67,619 riels ($17USD) per time. The monthly SKY premium per household is 4,000 riels for a one-member household, 7,500 riels for 2-4 members, 9,500 riels for 5-7 members, and 11,000 riels for a household with eight or more members. In the first type of contract, the fees are almost half those of the second one. In addition to free and unlimited primary and emergency

care at local public health centers, SKY also offers financial support for the costs of funerals and emergency transport. Thus, considering all these, there is an economic incentive for a household to buy the MHI. It is of note, however, that Buddhism for Health is planning to cease activities after April 2018 because of low take-up rates.

## 3. Survey methods and overview of sample households

### (1) Survey methods

We selected Tram Kak District of Takeo Province as the study area because the province was the main target area of the SKY project and the district had the highest take-up rate in the province(Fig.1). From February to June 2017, within this district, we conducted a field survey in 16 villages from five communes. We selected the communes using stratified random sampling among those in which the SKY program was operating, and within these, 16 villages were randomly selected. Next, considering the sample-to-population ratio used in the Cambodia Socio-Economic Survey (0.38% of households), the statistical theory on appropriate sample size, and cost constraints, we determined the number of sample households

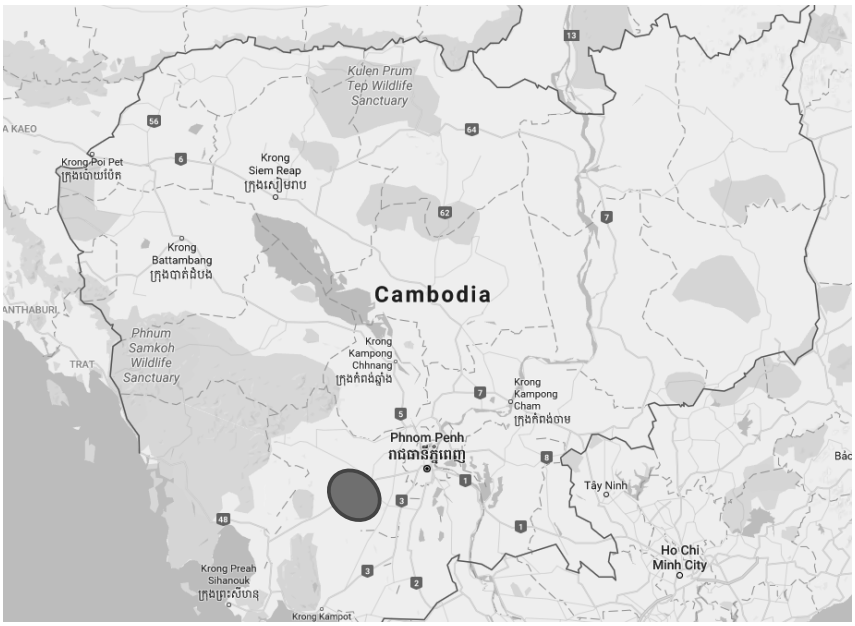


Fig. 1 Location of Study Area

Source: Google map.
Note: The study area is enclosed by circle.

in each village, which was nearly proportional to the total number of households across villages. Then, we randomly selected 404 sample households from village chiefs' census information. We invited major decision-makers for the households to participate (e.g., the household head, spouse of the household head, or an adult responsible for managing household income).

In our analysis, we use data from the 392 households that supplied complete information.

**(2) Overview of sample households**

The households in the study are located in the "plain region," where rain-fed rice is the predominant agriculture (see Fig. 1). Under rain-fed conditions, rice yield is low and farm size is small. Therefore, many households that largely depended on agriculture experienced poverty until recently because non-agricultural job opportunities were limited. However, due to rapid economic development, non-agricultural job opportunities have quickly increased and living conditions have improved.[6)] Currently, family members other than the family heads are usually engaged in off-farm jobs, whereas older family heads are still engaged in rice farming (see Table 1).

Table 2 shows the characteristics of the sample households. As indicated in the table, the average household head age is 50, and educational level is 5.5 years. This implies that household heads are aging and have little education. Owned land area is less than one ha. Yield

Table 1. Main Occupation of Household Head

| hhjob | Freq. | Percent | Cum. |
|---|---|---|---|
| Farmer | 303 | 77.49 | 77.49 |
| Construction | 5 | 1.28 | 78.77 |
| NonAg | 2 | 0.51 | 79.28 |
| Tradin | 18 | 4.6 | 83.89 |
| Artisan | 3 | 0.77 | 84.65 |
| Driver | 6 | 1.53 | 86.19 |
| HHInd | 5 | 1.28 | 87.47 |
| Gov | 6 | 1.53 | 89 |
| Factory | 10 | 2.56 | 91.56 |
| Private | 1 | 0.26 | 91.82 |
| Domestic | 2 | 0.51 | 92.33 |
| Stay at home | 21 | 5.37 | 97.7 |
| Others | 9 | 2.3 | 100 |
| Total | 391 | 100 | |

Source: The authors' socio-demographic survey.

Table 2. Household and Individual Characteristics of Respondents

| Charcteristics | Obs | Mean | Std.Dev. |
|---|---|---|---|
| Sex of Interviewee(=1,if male) | 391 | 0.53 | 0.5 |
| Age of Household Head(years) | 390 | 50.24 | 12.81 |
| Educational Years of Household Head(years) | 387 | 5.54 | 3.63 |
| Remittance (USD) | 392 | 680.73 | 1353.45 |
| Number of Family Members (persons) | 392 | 4.39 | 1.67 |
| Number of Family Laborers (persons) | 370 | 2.59 | 1.08 |
| Number of Family Members over 60(persons) | 392 | 0.52 | 0.74 |
| Number of Family Members under 5(persons) | 392 | 0.49 | 0.68 |
| Owned Land Area($m^2$) | 392 | 8704.17 | 12146.42 |
| Estimated Value of total asset excluding land(USD) | 392 | 17403.75 | |
| Outstanding loan(USD) | 392 | 574.28 | 1219.22 |
| Experience of Insurance Purchase(=1, if purchased) | 392 | 0.32 | 0.47 |
| ID Poor or not(=1, if ID poor) | 392 | 0.15 | 0.36 |

Source: The authors' socio-demographic survey.

of rice is 2~3 tons per ha. This farm size is not enough to sustain an average living standard solely through rain-fed rice production.

Dependency ratio(the number of dependents to family size) is around 25%, which is lower than in previous years. This can contribute to poverty alleviation. However, there are more aged family members than small children. This suggests that aging has been accompanied by a lower birth rate.

In this area, the number of migrants among family members has increased in the past decade. The increase of migration also helps to improve living conditions in households.

Respondents who have previously purchased MHI account for one-third of sample households. This is higher than the provincial average (Cambodian Ministry of Health 2016). Of the respondents, 15% are registered as “poor” (IDPoor). This closely mirrors the country average (National Institute of Statistics; NIS 2016).

In Cambodia, microfinance institutions are greatly increasing in number (Cambodia Microfinance Association) and people can more easily obtain microloans as a result. However, the average amount of outstanding loans in our study area is much lower than the average in rural Cambodia (NIS 2016).

## 4. Methodology

### (1) Survey design

To evaluate the preferences of different insurance scenarios, we apply DCE, which uses questionnaire surveys with hypothetical choice situations. Four different insurance contract scenarios were presented and respondents were asked to indicate their preference. In DCE studies, attributes and levels are selected to create hypothetical scenarios with different combinations of these attributes. Based on the information derived from the literature (including Yagura 2014), we selected the following four attributes: per capita premium, medical service providers, benefit package, and management system. Three attributes have four levels whereas the premium has five. The definitions are detailed in Table 3.

In the questionnaire, we presented the respondents with a choice set (profile) of four scenarios and asked them to indicate the one they most prefer. Using random number table selection and omitting unrealistic scenarios, the four scenarios were chosen from 24 profiles including the current insurance profile. Thus, we created six profiles per respondent and randomly presented these to the respondents.[7)] Respondents who did not have a preferred choice set could opt out of a selection.

Table 3. Alternative Microinsurance Schemes

| Attribute | Level | Definition |
|---|---|---|
| Premium | 1 | 1-person family: 2,000 riels/family/month |
| | 2 | 1-person family: 3,000 riels/family/month |
| | 3 | 1-person family: 4,000 riels/family/month |
| | 4 | 1-person family: 5,000 riels/family/month |
| | 5 | 1-person family: 6,000 riels/family/month |
| Providers | 1 | RH (District Hospital) and PH (Provincial Hospital) |
| | 2 | RH, PH, and HC (Health Center) |
| | 3 | RH, PH, and NH (National Hospital in Phnom Penh) |
| | 4 | RH, PH, and PC (Local Private Clinic) |
| Benefit Package | 1 | Current benefit package |
| | 2 | Current benefit package and OPD (Out-patient services) |
| | 3 | Current benefit package, dental surgery, and glasses |
| | 4 | Current benefit package + long-term treatment of chronic disease |
| Management | 1 | Current system |
| | 2 | Current system + doctors and nurses join the meeting to explain MHI scheme |
| | 3 | Current system + monitoring medical service providers |
| | 4 | Current system + participant can make a contract anytime |

### (2) Analytical framework

We constructed a conditional logit model based on the random utility maximization model to maximize *i*"s utility choosing alternative j with attributes $\mathbf{x}_i$ (McFadden 1980).

$$f_i(j \mid \beta) = \frac{exp(x_{ij}\beta)}{\sum_{k \in C} exp(x_{ik}\beta)} \tag{1}$$

where $\mathbf{x}_i$ is the vector of participant $i$"s alternatives $j$ among a choice set $C$ with the following attributes: premium, provider, benefit packages, and management. $\beta$ is a vector of preference parameters for the corresponding variable of vector $\mathbf{x}_i$. To address the independence of irrelevant alternatives (IIA) problem in a conditional logit, we employed a mixed logit model in which the probability function is expressed as

$$f_i(j \mid \beta) = \int \frac{exp(x_{ij}\beta)}{\sum_{k \in C} exp(x_{ik}\beta)} g(\beta \mid \theta) d\beta \tag{2}$$

where $g$ is a normal density function of $\beta$ with its parameter vector $\theta$ (Train 2003). Density function $g$ addresses the heterogeneity of individual preferences coming from the IIA problem if heterogeneity exists. The log-likelihood form of this function is regressed with necessary variables.

## 5. Estimation results and discussion

We present MWTP calculated from the parameters estimation results. Table 4 shows the attribute evaluations calculated from the parameters obtained by the conditional logit model and the right side shows those of the mixed logit model for the robustness check. The estimation results of the two models are very similar, indicating robustness.

According to the estimation results of the two models, all the parameters are significantly positive. This implies the potential insurance purchasers positively evaluate the attributes that are assumed to be important, which in combination with the significance of the log-likelihood statistic implies the appropriateness of our scheme designs.

Among the four attributes, the respondents most highly evaluate the inclusion of a private clinic as a medical service provider. The respondents place the next highest evaluations on the inclusion of surgical treatment by a dentist, long-term treatment of chronic illness as a benefit package, and inclusion of a national hospital as a medical service provider. These results imply that the respondents are willing to pay approximately one dollar per person per month more if one of these services is added. On the other hand, the respondents do not highly value outpatient, health center, and management measures.

From the above-mentioned estimation results of the conditional logit model, we can expect

Table 4. Estimation Results of MWTP

| | Conditional Logit | Mixed Logit |
|---|---|---|
| Providers | | |
| Health Center | 1,959*** | 1,979*** |
| National Hospital | 3,816*** | 3,780*** |
| Private Clinic | 4,747*** | 4,738*** |
| Benefit Packages | | |
| Chronic Ill | 3,710*** | 3,662*** |
| Dentist | 3,858*** | 3,796*** |
| Outpatient | 1,391*** | 1,220*** |
| Management | | |
| Meeting | 1,183*** | 1,187*** |
| Monitoring | 1,870*** | 1,849*** |
| Insurance agent | 1,181*** | 1,155*** |
| Constant | 51,405 | 57,739 |
| Observation | 12,150 | 12,150 |
| Log Likelihood | -2,945 | -2,937 |
| Pr>Chi2 | 0 | 0.07. |
| Pseud R2 | 0.25 | — |

Source:Authors' calculation.

that the respondents are willing to pay 13,400 riels (≒$3.3 USD) per four family members per month if the cheapest current micro health insurance scheme (default) is upgraded to "Product 3," which includes outpatient treatment in hospitals and medical service by a health center. If "Product 3" is upgraded to "Product HCs," in which medical treatment in a national hospital is added to "Product 3," respondents are willing to pay 15,264 riels (≒$4 USD) per four family members per month more. These WTPs were nearly equal to the BfH's planned markup rates in November 2016.

These members most highly evaluate the contracts with medical service providers such as local private clinics. This suggests that potential clients have a strong demand for medical services with private service providers, which is consistent with the findings of Ozawa and Walker (2011).

They also highly evaluate widening coverage of medical services, such as medical treatment of chronic disease, dental surgical treatment, and glasses, which is consistent with the findings on coverage of chronic diseases, basic dental care, etc., by Bigdeli et al. (2016).

Regarding insurance management systems, respondents positively evaluate the introduction of a monitoring system for mitigating service provider distrust and a system that pro-

vides clearer explanations of insurance terms to potential clients. This suggests that potential clients are willing to pay a higher premium if insurance systems are more carefully and plainly explained and a medical institution monitoring system is introduced.

## 6. Conclusion

This is the first study to estimate potential clients' WTP for different attributions of micro health insurance. Our MWTP estimation results show that if the current cheapest MHI scheme (default scheme) is upgraded by one or two levels, potential insurance purchasers are willing to pay an additional $3.3 USD or $4 USD per four family members per month, respectively. However, these WTPs were nearly the same as BfH's planned mark-up rates. This implies that if the premiums of current micro health insurance schemes increase, some respondents may withdraw from the microinsurance program.

In addition, the findings imply that, in Cambodia, potential clients most highly evaluate the inclusion of treatment by private clinics, followed by the inclusion of long-term chronic illness treatment, dental surgical treatment, and glasses. These attributes are not included in the current schemes. Therefore, if these are included, it may be possible to increase the number of clients.

However, it is not easy for management organizations to ensure private clinics follow administrative regulations for health insurance, and administration is expected to be costly. In addition, systems of medical services for the treatment of long-term chronic illness, dental surgical treatment, and glasses have not yet been established in Cambodia.

Thus, our estimation results on attribute evaluations suggest that supportive organizations such as the Ministry of Health and NGOs have an opportunity to increase their take-up rates by developing medical service systems under which management organizations can control private clinics, and medical service providers can provide higher quality services such as the treatment of long-term chronic illness, dental surgical treatment, and glasses for patients.

This study, however, does not examine the extent to which the cost might increase if insurance schemes include private clinic treatment, long-term treatment of chronic illness, dental surgical treatment, and glasses. If those costs exceed the revenue from an improved insurance contract, the improved insurance would not be sustainable. This topic is reserved for future study.

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This work was supported by the Japan Society of Promotion of Science under Grant-in-aid for Scientific Research (No.16H05703). There are no conflicts of interest to declare. We obtained ethical approval for this study from the Cambodia National Ethics Committee for Health Research. In addition, we obtained permission from the provincial department of health (local authorities) at Takeo and the chiefs of the 16 villages where we conducted the village surveys. We also obtained informed consent from all the respondents of our study.

## Note

1） The first and second authors' contributions are equal.

2） This program's revenue is mainly derived from members' premiums.

3） Even though ID Poor households can get free treatment at healthcare facilities, some ID Poor households still choose to join the SKY program.

4） Under the voluntary health insurance scheme, the non-poor could choose one of two kinds of insurance: (1) receiving care only from public hospitals with a low premium or (2) receiving care from any public healthcare facility, as in the earlier program, with the same premium.

5） For the current schemes, see the Appendix.

6） For household characteristics in the study area from previous reports, see Miwa et al. (2010) and Fukui and Miwa (2016).

7） Profile examples are shown in the Appendix Table.

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## Appendix: Current Benefit Package and Premiums

### A. Product IPD (In-patient department)

Benefit Package and Service Providers:

- All IPD services including paraclinical services at district, Angroka Referral hospital and Takeo Provincial hospital.
- Emergency transport costs.
- Non-essential drugs at contracted pharmacies at the provincial hospital.
- Insured members will receive death benefit of 300,000 riels in the event of death in a contracted health facility, and 60,000 riels in the event of death at home.

Premium Price:

| Families Size | Monthly Premium Collection | Dicount | Premiums for 6 months | Premiums for 12 months |
|---|---|---|---|---|
| 1 | 2,000.00R | NO | 12,000.00R | 24,000.00R |
| 2 | 4,000.00R | NO | 24,000.00R | 48,000.00R |
| 3 | 6,000.00R | NO | 36,000.00R | 72,000.00R |
| 4 | 8,000.00R | NO | 48,000.00R | 96,000.00R |
| 5 | 10,000.00R | NO | 60,000.00R | 120,000.00R |
| 6 | 10,000.00R | Free1 | 60,000.00R | 120,000.00R |
| 7 | 12,000.00R | Free1 | 72,000.00R | 144,000.00R |
| 8 | 14,000.00R | Free1 | 84,000.00R | 168,000.00R |
| 9 | 16,000.00R | Free1 | 96,000.00R | 192,000.00R |
| 10 | 18,000.00R | Free1 | 108,000.00R | 216,000.00R |

Management:

- Insurance contract validity period is six months minimum, with automatic roll-over. Registration period open throughout the year.
- Four full-time insurance agents, one hostess at municipal hospital, partnering NGO for promotion and accounting.

Conditions and Limitations:

- All cases of cosmetic surgery, blood purchasing, abortions, and gender identification for pregnant women.
- Hepatitis (BC), diabetes, acid, and cholesterol tests without illness.
- Chronic diseases (nerve diseases, diabetes, hypertension, and cancers).
- Dental surgical treatment, glasses, and prosthetics.

B. Product 3

Benefit Package and Service Providers:

- Product 1 plus all services at 11 HCs level (MPA).
- Product 1 plus all services at Angroka Referral hospital and Takeo Provincial hospital including OPD.

Premium Price:

| Families Size | Monthly Premium Collection | Dicount | Premiums for 6 months | Premiums for 12 months |
|---|---|---|---|---|
| 1 | 2,667.00R | NO | 16,000.00R | 32,000.00R |
| 2 | 5,333.00R | NO | 32,000.00R | 64,000.00R |
| 3 | 8,000.00R | NO | 48,000.00R | 96,000.00R |
| 4 | 10,667.00R | NO | 64,000.00R | 128,000.00R |
| 5 | 13,333.00R | NO | 80,000.00R | 160,000.00R |
| 6 | 16000.00R | Free1 | 80,000.00R | 160,000.00R |
| 7 | 18,667.00R | Free1 | 96,000.00R | 192,000.00R |
| 8 | 21,333.00R | Free1 | 112,000.00R | 224,000.00R |
| 9 | 24,000.00R | Free1 | 128,000.00R | 256,000.00R |
| 10 | 26670.00R | Free1 | 144,000.00R | 288,000.00R |

C. Product HCs

Benefit Package and Service Providers:

- Product 3 plus all services at Angroka Referral hospital, Takeo Provincial hospital, and National Hospitals including OPD, IPD, and paraclinic.

Premium Price:

| Families Size | Monthly Premium Collection | Dicount | Premiums for 6 months | Premiums for 12 months |
|---|---|---|---|---|
| 1 | 3,000.00R | NO | 18,000.00R | 36,000.00R |
| 2 | 6,000.00R | NO | 36,000.00R | 72,000.00R |
| 3 | 9,000.00R | NO | 54,000.00R | 108,000.00R |
| 4 | 12,000.00R | NO | 72,000.00R | 144,000.00R |
| 5 | 15,000.00R | NO | 90,000.00R | 180,000.00R |
| 6 | 15000.00R | Free1 | 90,000.00R | 180,000.00R |
| 7 | 18,000.00R | Free1 | 108,000.00R | 216,000.00R |
| 8 | 21,000.00R | Free1 | 126,000.00R | 252,000.00R |
| 9 | 24,000.00R | Free1 | 144,000.00R | 288,000.00R |
| 10 | 27,000.00R | Free1 | 162,000.00R | 324,000.00R |

Appendix Table　Example of Questionnaire

Type of Micro Health Insurance Scheme

| Attribute | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Premium(2000~6000) | 2000 | 4000 | 3000 | 4000 | Not Buy |
| Providers(1~4) | NH | NH | HC | Default | |
| Benefit Packages(1~4) | Chronic | Default | Dentist | Dentist | |
| Management(1~4) | Monitoring | Meeting | Monitoring | Insurance agent | |

Type of Micro Health Insurance Scheme

| Attribute | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Premium(2000~6000) | 1000 | 2000 | 5000 | 4000 | Not Buy |
| Providers(1~4) | HC | HC | NH | PC | |
| Benefit Packages(1~4) | Default | Chronic | Default | Default | |
| Management(1~4) | Monitoring | Meeting | Insurance agent | Monitoring | |

Type of Micro Health Insurance Scheme

| Attribute | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Premium(2000~6000) | 4000 | 1000 | 1000 | 4000 | Not Buy |
| Providers(1~4) | HC | NH | PC | PC | |
| Benefit Packages(1~4) | Dentist | Dentist | OPD | Chronic | |
| Management(1~4) | Default | Meeting | Insurance agent | Monitoring | |

Type of Micro Health Insurance Scheme

| Attribute | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Premium(2000~6000) | 1000 | 2000 | 2000 | 2000 | Not Buy |
| Providers(1~4) | Default | Default | HC | NH | |
| Benefit Packages(1~4) | Chronic | Default | Default | OPD | |
| Management(1~4) | Default | Monitoring | Insurance agent | Default | |

Type of Micro Health Insurance Scheme

| Attribute | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Premium(2000~6000) | 3000 | 5000 | 2000 | 5000 | Not Buy |
| Providers(1~4) | NH | Default | PC | HC | |
| Benefit Packages(1~4) | Chronic | Dentist | Dentist | Chronic | |
| Management(1~4) | Insurance agent | Monitoring | Default | Default | |

Type of Micro Health Insurance Scheme

| Attribute | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Premium(2000~6000) | 3000 | 5000 | 5000 | 3000 | Not Buy |
| Providers(1~4) | Default | NH | PC | PC | |
| Benefit Packages(1~4) | OPD | OPD | Chronic | Default | |
| Management(1~4) | Meeting | Monitoring | Meeting | Default | |