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Asia Pac J Public Health 2009; 21; 399 originally published online Aug 31, 2009;

DOI: 10.1177/1010539509344996

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Health Promotion Financing With Mongolia's Social Health Insurance

Dorjsuren Bayarsaikhan, MPH, and Keiko Nakamura, PhD

Health promotion is receiving more attention in Mongolia. A survey is undertaken to examine health promotion in terms of health-related information, education, counseling, screening, and preventive and medical checkups. Almost all (97.5%) the participants feel that access to reliable and systematically organized health-related information is important. About 60% of the participants said that the amount of currently available information is inadequate. There are several factors that limit the implementation of public health programs. These include inadequate focus on promoting health at the individual level, lack of funds, and limited incentives to promote health. This article examines social health insurance as an option to address these issues. Three hypothetical benefits package options expanded to health promotion were developed and simulated by a computerized tool. The simulations show that all 3 options are financially sustainable at the existing level of contribution if Mongolia will gain near universal health insurance coverage and improve revenue collection practices.

Keywords: health promotion; Mongolia; social health insurance

Introduction

Noncommunicable diseases (NCDs) pose increasing threats to the population health in developing countries. WHO estimates that 35 million people die each year from NCDs, and 80% of deaths occur in low- and middle-income countries.¹ Health promotion is a cost-effective intervention to deal with NCD.²

Health promotion aims to reduce major risks of diseases at the population level and support healthy lifestyles for individual people. Health and health-related information, education, and counseling are important features of health promotion. As public good, health promotion interventions have unrivaled and nonexcludable characteristics, which are beneficial to a large number of people once produced.³ Currently, many developing countries exert efforts to improve health promotion interventions that suit their needs. Experts agree that the economic and social benefits of health promotion largely exceed the investment.^{4,5} However, ensuring secure and sustainable funds for health promotion is an important task.

From the WHO Regional Office for the Western Pacific, Manila, Philippines (DB); Tokyo Medical and Dental University Graduate School, Tokyo, Japan (KN).

Address correspondence to: Dorjsuren Bayarsaikhan, World Health Organization, Western Pacific Regional Office, PO Box 2932, United Nations Ave. 1000, Manila, Philippines Email: bayarsaikhand@wpro.who.int.

Available data suggest that health promotion in most developing countries lacks adequate funding support even from public sources.^{6,7}

Health insurance is one of the principle sources of public finance. A general perception exists that health promotion is public good and, therefore, insurance agencies have limitations to invest in health promotion, and insured members are reluctant to pay contributions for health promotion benefits. Recently, there are increasing discussions on strengthening health promotion and disease prevention in social health insurance systems and shifting the focus from illness to health.^{8,9}

This article examines the feasibility of health promotion financing with social health insurance in Mongolia, which is chosen because of the increasing burden of NCD and high insurance coverage among the population.

Overview of the Setting

Mongolia has a population of 2.5 million scattered across a large area of 1.565 million square kilometers. It is a developing country with a per capita income of less than US \$875.¹⁰ Administratively, Mongolia is divided into 21 provinces and 4 geographical regions. Nearly half of the population lives in the capital city and the other half in provinces. The country has a 97.6 % literacy rate, and 60% of the total population lives in urban settlements.¹¹⁽⁶¹⁻⁸⁶⁾

Communicable diseases and NCDs are a major concern in Mongolia. In 2004, a total of 31 324 cases of 25 different communicable diseases were reported. The increase was 15.4% compared to 2003. Cardiovascular diseases, cancer, and injuries have become the leading causes of mortality since 1995.¹² The reported prevalence rates of cardiovascular diseases, cancer, and injuries per 100 000 people were 5018.4, 261.1, and 3655.6 in 2006.¹³ Tobacco and alcohol consumption, physical inactivity, unhealthy diet, and unsafe sex are common risk factors for NCDs.

Mongolia spends 6.7% of its GDP on health. As regards financing, 45% of total health expenditures are funded directly from the government budget, 25% from health insurance, 14% out of pocket, 12% from external sources, and 4% from other sources. The share of the total health expenditure that targeted disease prevention and health promotion is as low as 4.7%.¹⁴

Mongolia introduced national social health insurance in 1993 and achieved more than 80% population coverage. Currently, it provides only hospital-based curative care benefits. Health insurance contribution is set at 6% of the salary in the formal sector, which is shared equally between employees and employers. Flat contribution rates apply for the self-employed and low-income section of the population. These rates are defined on the basis of minimum wage and contribution levels.

Methods

Survey questionnaires and the health insurance simulation tool SimIns Plus were used to examine people's need, opinion, and preference to health promotion and develop hypothetical benefit package options. SimIns is a health insurance simulation tool developed by WHO and a German International Cooperation Enterprise (GTZ) that helps project health insurance incomes and expenditures.¹⁵ Health promotion is examined in terms of health-related information, education, counseling, screening, and preventive and medical check ups. The questionnaire contained multiple choice items, but the participants were given

choices of tradeoffs if they did not want to choose any of the multiple choice items. The survey protocol with pretested results was approved by the Ethical Committee of Medical Professionals of Mongolia. Altogether, 5 sites that consist of the 4 provincial centers and the capital city Ulaanbaatar were chosen for this study. One provincial center each out of 3 provinces in eastern, 5 in western, 6 in mountainous, and 7 in central geographical regions were drawn at random. One half of the questionnaire was preset for the capital city and the other half evenly distributed across 4 provincial centers.

The survey was undertaken in all sites from August, 2005, to February, 2006. The sampling was purposefully limited to specific socioeconomic groups to obtain fair responses and judgments on health promotion and health insurance. The survey intended to cover at least 1% of the target population that excludes the rural population. A total of 4000 participants received questionnaires, and 3702 were considered valid. The questionnaire was administered by contracted agents following a predefined list of major organizations and business entities, including market places in each site.

The survey results are used to expand the current insurance benefits to selected health promotion and disease prevention interventions as preferred by the participants. Additional costs of expansion of health insurance benefits were estimated and incorporated in the hypothetical health insurance expenditure projections.

The computerized SimIns Plus tool was used for estimating and projecting hypothetical health insurance revenues with inputs such as health insurance coverage and projections for different population categories, contribution rates, and average salary and income levels.

Health insurance coverage is estimated on the basis of the total population divided into 3 major categories with coverage targets. The total population for 2005 was taken as baseline year input, and then, the total population (TPOP) is forecast as follows:

$$TPOP_t = TPOP_{t-1} \times (1 + \Delta TPOP_t), \tag{1}$$

where t refers to the forecasting period ($t = 1, \dots, 10$), and $\Delta TPOP_t$ is the population growth rate. The total population is divided into 3 population categories (POP):

$$POP_{t,k} = P_{t,k} \times TPOP_t, \tag{2}$$

where $k = 1$ refers to salaried employees in the public and private sectors, $k = 2$ refers to the self-employed including nomads, $k = 3$ refers to children and the low-income population, and $P_{t,k}$ refers to the shares of the different population categories in the total population.

The membership percentage for each of the population categories ($k = 1, k = 2, k = 3$) in the health insurance scheme is defined throughout the 10-year projection period. The membership rates are denoted as $m_{t,k}$. Then, health insurance coverage is calculated on the basis of the number of insured members per population group and the total population forecast.

$$HIC_t = \sum_{k=3} [(POP_{t,k} \times m_{t,k}) / TPOP_t] \times 100\%, \tag{3}$$

where HIC_t refers to health insurance coverage as a percentage of the total population insured. The total health insurance revenue (TR) is expressed as follows:

$$TR_t = \sum_{k=3} [(cont_{t,k} \times W_{t,k} \times POP_{t,k} \times m_{t,k})], \tag{4}$$

where k refers to the population categories, $cont_{t,k}$ refers to health insurance contributions as a percentage of the average wage and income, $W_{t,k}$ refers to the average wage and

Table 1. Opinions on Health-Related Information (N = 3702)

Statement	Percentage of Participants Agreeing With the Statement
It is important that people have access to systematically organized health-related information and advices.	97.5
Some of the available health related information and advices confuses people and difficulty to understand what will lead to better health.	60.5
The current amount of health related information and advices available to people is inadequate.	59.9

income, and $POP_{i,k}$ refers to the total number of people in these population categories. By default, the contribution amounts are adjusted for inflation.

Results

Survey Results

Among 3702 participants, 51.9% were male and 48.1% were female. Regarding age distribution, 42.2% of the participants were from 26 to 40 years old and 30.0% from 41 to 55. Among the participants, 46.4% represented the capital city and 53.6% the provincial centers. By occupation, 44.2% of the participants were civil servants, 21.3% employed at businesses, and the remaining 34.5% a mixture of self-employed people, students, pensioners, and unemployed people. The employment distribution adequately represents the general population of Mongolia. In terms of education, 46.8% of the participants had completed university or had some type of higher education diploma. Of the total, 74.7% had recently been concerned by at least 1 health problem of their own. Regarding service provider preference, 24% of the participants visited a family physician and 49.2% a pharmacy at least once a month. The level of participants enrolled in social health insurance was high at 91.4%. The participants also reported that public health organizations (90.7%), health insurance organizations (84.0%), and the central government (74.0%) are important in relation to population health.

Table 1 shows the participants' opinions regarding health-related information, including health education and advice. Almost all (97.5%) the participants feel that access to reliable and systematically organized health-related information is important. However, about 60% of the participants said that the amount of currently available information is inadequate and some of the information confuses people.

This indicates that there is increasing need and unmet demand for health-related information because people have become more concerned about their health. A self-rating of current health conditions among the participants showed that the average perception is moderate for most participants (57%). About 75% of the participants were concerned at least with 1 health problem of their own. Similar findings were observed in the 2006 Steps survey on the prevalence of NCD risk factors in Mongolia. It estimated that 9 out of every 10 people (90.6% of the surveyed population) had at least 1 risk factor, and 1 out of every 5 (20.7%) had 3 or more risk factors for developing a disease. One in every 2 men aged 45 years and above was at high risk.¹⁶

Health insurance is well accepted and practiced in Mongolia. Out of 3539 participants, 3028 or 85.6% noted the importance of health insurance in accessing needed health care. The survey showed that 97.7% of all 3702 participants supported the expansion of the

Table 2. Services to Be Included in the Insurance Benefit Package (N = 3456)

Services	Number of Participants Agreeing That the Service Should Be Included	Percentage of Participants Agreeing That the Service Should Be Included
Regular advice on prevention and medical health checkups	3065	88.7
Immunization for children	2965	85.8
Reliable health education materials and health advice	2772	80.2
Noncommunicable disease prevention	2150	62.2
Nutritional supplements and dietary guidelines	2129	61.6
Program to help people reduce alcohol consumption	2074	60.0
Program to help people quit smoking	1966	56.9
Program to help people lose weight	1819	52.5

current health insurance benefits to health promotion, and a total of 2887 or 78% of the participants would be willing to increase their contribution for additional benefits.

Table 2 shows the preference of interventions that the participants would like to include in the insurance benefit package. The interventions preferred by them emphasized both health promotion and disease prevention. We have chosen health information, education, counseling, and child immunization as additional benefits to include in the current health insurance benefit package. Costs of the additional benefits were estimated based on specific activities identified under each intervention. Then, hypothetical benefit package expansion options were developed and simulated. In these options, expansion of benefits to health promotion included health information, education, and counseling. Publication and dissemination of periodical newsletters, leaflets, and posters are proposed under health information. They will aim to provide systematic, reliable health information and messages to raise overall awareness about health and health-related issues, including lifestyle and behavior. Informative newsletters, innovative posters, and leaflets will be developed and distributed free to all households with an assumption that there will be at least 1 insured member in each household.

Under health education, a series of brochures will be prepared and disseminated to those who are insured through family doctors, pharmacies, school clinics, health centers, hospitals, and health insurance offices twice a year. The brochures will contain systematic health-related and disease-specific educational materials targeted at different population groups to provide them appropriate knowledge, health advice, and practical help to facilitate the development of personal skills, healthy habits, and lifestyles.

Health counseling will be offered to those insured members who seek face-to-face individual sessions to obtain professional advice, guidance, and assistance in support of addressing their health problems or maintaining good health. It includes risks assessment and case management counseling to manage health problems and support healthy actions.

The participants preferred to receive health examination, advice, and counseling primarily from the public sector. In view of this, family physicians and medical doctors working in public health clinics and hospitals will be encouraged to provide effective health promotion benefits through appropriate training and financial motivations.

Expansion of benefits to disease prevention refers to child immunization only. Mongolia achieved almost 100% coverage for all vaccines thanks to external funds. It projects that 80% of the vaccine supply and logistics costs will still be funded externally by the year

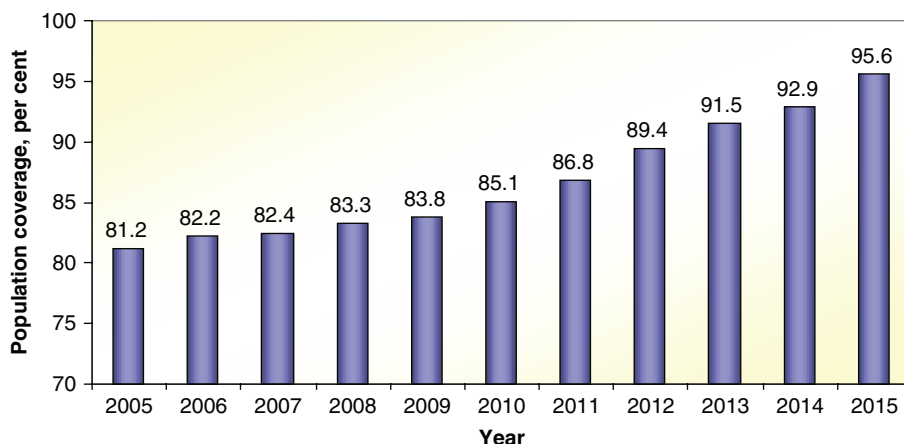


Figure 1. Health insurance coverage (%).

2010.¹⁷ The proposed option aims to reduce external funding dependency and achieve self-sufficiency by 2015.

Simulation Results

Insurance coverage is an important variable because all insured members are expected to have access to hypothetical benefits. It will affect health insurance expenditures and incomes. Mongolia targets to regain near universal coverage by 2015. The projections to increase the coverage from 81.2% in 2005 to 95.6% by 2015 were made in collaboration with national experts as shown in Figure 1.

Following the target, health insurance expenditures were estimated across 2005-2015 for each of the 4 hypothetical benefit package options developed for simulation. Option 1 represents the existing benefit package without change. In option 2, the benefit package is expanded to health promotion that offers health information, education, and counseling. Options 3 and 4 represent the benefit package, which is expanded to disease prevention in addition to health promotion. The only difference is health insurance will fund 50% of fully immunized child cost in option 3 and 100% in option 4. Simulation showed that the current benefit expenditures (option 1) will increase from 24.6 billion Mongolian tugriks (MTs) in 2005 to 42.97 billion in 2015. Table 3 presents hypothetical benefit expenditure estimates for all 4 options and the expenditure difference between the newly proposed options (2 to 4) and the current option (1).

As shown in Table 3, the expansion of insurance benefits to health promotion (option 2) requires additional 1.48 billion MTs in 2005 and 2.48 billion MTs in 2015 compared with option 1. The expansion of benefits to disease prevention (options 3 and 4) will result in expenditure increases of 2.86 and 4.24 billion MTs in 2005 and 3.76 and 5.05 billion MTs in 2015.

Table 4 shows health insurance revenue estimates for the benefits package options and their financial sustainability. The SimIns tool helped produce hypothetical revenue estimates and simulate the financial sustainability of each hypothetical option. Table 4 shows that the hypothetical revenues can fund all hypothetical benefit package options. Minor deficits are observed in 2008 and 2009 because of the benefit expansion to child immunization. But

Table 3. Hypothetical Health Insurance Expenditures (billion Mongolian tugriks [MTs])^a

Hypothetical Health Insurance Benefit Package ^b	Year										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Option 1	24.60	26.86	30.76	33.78	36.07	36.07	36.16	37.65	38.61	39.99	42.97
Option 2	26.08	28.43	32.33	35.47	38.07	38.19	38.32	39.93	40.90	42.46	45.45
Differences	1.48	1.57	1.57	1.69	2.0	2.12	2.16	2.28	2.29	2.47	2.48
Option 3	27.46	29.81	33.7	36.82	39.47	39.57	39.71	41.21	42.26	43.78	46.73
Differences	2.86	2.95	2.94	3.04	3.4	3.5	3.55	3.56	4.65	3.79	3.76
Option 4	28.84	31.19	35.06	38.17	40.86	40.95	41.11	42.63	43.62	45.1	48.02
Differences	4.24	4.33	4.3	4.39	4.79	4.88	4.95	4.98	5.01	5.11	5.05

^a1000 MT = US \$1 (2005).

^bOption 1, no change to the existing benefits package; option 2, expand to include health promotion (offer health information, education, and counseling); option 3, expand to include health promotion (offer health information, education, and counseling); option 4, expand to include disease prevention.

Table 4. Financial Sustainability of the Expanded Benefit Package Options (billion Mongolian tugriks [MTs])^a

Hypothetical Health Insurance Benefit Package	Year										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Simulated revenue	34.61	35.62	35.87	36.81	40.08	42.03	43.83	47.68	50.80	53.10	57.57
Estimated surplus/(deficit)											
Option 1	10.01	8.76	5.11	3.03	4.01	5.96	7.67	10.03	12.19	13.11	14.60
Option 2	8.53	7.19	3.54	1.34	2.01	3.84	5.51	7.75	9.90	10.64	12.12
Option 3	7.15	5.81	2.17	(0.01)	0.61	2.46	4.12	6.40	8.54	9.32	10.84
Option 4	5.77	4.43	0.81	(1.36)	(0.78)	1.08	2.72	5.05	7.18	8.00	9.55

^a1000 MT = US \$1 (2005).

they will not affect the overall financial status of the scheme because of adequate reserve funds and because the total number of immunized children will reduce beyond 2010.

Table 5 shows the changes in financing of public health programs as a result of the proposed hypothetical options. The estimates are compared with the base year only. As shown in Table 5, the percentage of the total health expenditures allocated to public health programs is estimated to increase from 4.7% to 9.0%. The health insurance benefit spending as a percentage of total health expenditure will increase from 25.0% to 34.0%. Mongolia can achieve self-sufficiency in immunization financing because positive changes are expected to occur in sources of financing of public health programs.

The simulations show that social health insurance is a feasible option for Mongolia to fund health promotion and increase resources for public health programs. This is in line with government efforts to shift resources from the curative arena to one of promotion and prevention. Traditionally, Mongolia had an extensive hospital network with an average number of 120 hospital beds per 10 000 people. In 2004, the average bed occupancy rate was reported as 95.6%, and the average length of stay was 14.3 days. In this regard, the proposed hypothetical options encourage discussions on additional investments in health

Table 5. Changes in Financing Public Health Programs, 2005^a

	Hypothetical Health Insurance Benefit Package			
	Option 1	Option 2	Option 3	Option 4
1. Health insurance funding as percentage of THE	25.0	31.1	33.0	34.0
2. Public health expenditure as percentage of THE	4.7	6.0	8.0	9.0
3. Total spending on public health programs (billion MT)	3.93	5.12	6.5	7.88
(1) Child immunization	2.80	2.80	2.80	2.80
(2) Planning and capacity building	1.13	1.13	1.13	1.13
(3) Health promotion programs funded by health insurance	0.00	1.19	1.85	2.50
4. Funding sources of public health expenditure, total (%)	100.0	100.0	100.0	100.0
(1) Government	22.0	23.1	35.0	44.0
(2) External sources	77.0	53.9	25.0	5.0
(3) Private	1.0	0.0	0.0	0.0
(4) Health insurance	0.0	23.0	40.0	51.0

NOTE: THE = total health expenditure.

^a1000 MT = US \$1 (2005).

promotion and disease prevention by deemphasizing hospital services. Financing child immunization from own resources is an internationally desirable effort to reduce external funding dependence for immunization programs in developing countries.

The simulation estimates that the expansion of social health insurance benefit to the health promotion program would cost 850 MTs (US \$0.85) per person. The expansion of the health insurance benefit to cover the full cost of child immunization would cost an additional 880 MTs (US \$0.88) per person. These costs are affordable at the current premium levels, on the condition that near-universal coverage is obtained and revenue collection practices are improved.

Discussion

Health promotion is advocated to address the risks of major diseases. Although health promotion is a multisector activity, its success will depend on changes in people's knowledge, attitude, behavior, and practices leading to healthy actions, the environment, and lifestyle. Therefore, one of the strategic aims of health promotion is to improve health knowledge and literacy of individuals and support them to live healthy lives or manage the risks well and prevent avoidable illnesses.^{18,19}

The survey undertaken in Mongolia revealed that the participants' lack adequate health information, education, and personal knowledge to act competently to monitor their own health and health-related problems. We observed that there are several factors that limit the implementation of the effects of health promotion activities in Mongolia. First, all public health programs address the general public, and they are expected to be implemented at the population level. There is no particular focus on individual people. Second, the public health programs seriously lack funding resources. In Mongolia, the central and local government budgets have been referred as funding sources for public health programs. However, no specific budgeting tools and guides are practiced to ensure adequate funds for these

programs. Recent National Health Accounts data revealed that the public health expenditure allocated to public health services increased by 0.4% during 2000-2005. Third, people highly regard medical professionals as an important source for obtaining health-related information. In practice, medical professionals do not always possess necessary knowledge in health promotion. In addition, medical professionals in Mongolia do not have financial incentives to work on health promotion. Sometimes, health-promoting messages are disseminated through public media in public places. Usually, these are regarded as part of externally funded project activities, and therefore, they appear in ad hoc and unsystematic fashions. In recent years, commercial newspapers and magazines began to publish health and lifestyle-related information, and many of them translated from foreign sources. Most of them have commercial purposes, and sometimes their message is confusing because of inaccurate translation and interpretation. In our opinion, Mongolia should exert increasing efforts in health promotion and increase health literacy and education among the population. Their effects also need to be monitored regularly with relevant indicators targeted at specific risks such as obesity prevalence, physical activity, alcohol use, and smoking rates.

Public financing sources need careful examination to increase fiscal spaces for health promotion. It is advisable to explore social health insurance as one of the options to fund health promotion by adopting the social security approach to health care financing.²⁰

The survey results suggest that the insured members firmly support the expansion of health insurance benefits to health promotion. One good reason for this is that the current health insurance benefit package is heavily skewed toward hospital-based curative care. As a result, the actively contributing members receive benefits only when they became sick or are hospitalized.²¹

Special relationships of insurance with insured people, a single national scheme, and high population coverage would be regarded as advantages for promoting health among insured people in Mongolia. Another advantage of health insurance is the potential to monitor provider behavior and create financial incentives to deliver health promotion benefits to the insured. Mongolia's health insurance is open to adopt successful business and consumer-oriented strategies such as social marketing that can complement the newly proposed insurance benefits. The effectiveness of the benefit package options can be further analyzed with the generalized cost-effectiveness analytical tool.²² These and other issues need to be further examined and discussed in the Mongolia-specific situation.

There has already been a positive move, with the government deciding to review the current health care financing arrangements to strategize funding support for national health policies and obtain better health outcomes with available resources. The review is expected to be undertaken during 2008-2009 by focusing on the 2 main sources of public finance, which are taxation and social health insurance. Eventually, the better health outcomes could be achieved through taxation and social health insurance because both financing mechanisms increase equitable access to needed health care by all and, thus, contribute to universal coverage. Based on social health insurance experiences, a single purchaser scheme is becoming an attractive option in Mongolia. The potential exists to enhance the efficiency and effectiveness of public health financing through a single purchaser, which can provide the most needed and cost-effective interventions such as health promotion.

Conclusion

In Mongolia, health promotion is receiving more attention because of increasing incidences of both communicable diseases and NCDs among the population. The government is committed to health promotion by approving a number of public health programs with health

promotion effects. These efforts need further improvements to support individual people to make healthy decisions, take healthy actions, and practice a healthy lifestyle. Currently, most people likely lack adequate health information, education, and personal knowledge to act competently to monitor their own health and health-related problems.

There are several factors that limit the implementation of public health programs in Mongolia despite increasing health concerns, need, and demand for health promotion. These include inadequate focus of public health programs on promoting health at the individual level, lack of funding resources, and limited opportunities and incentives for medical professionals to provide health promotion services to the population.

People generally, including those who are insured, are concerned about health, and they need reliable and effective health information, education, and counseling services. This article examined social health insurance as an option to fill the gap. The simulation results suggest that health insurance is a feasible option to fund health promotion services at the individual level because of its special relationships with the insured and with service providers.

Acknowledgments

We thank Dr Kainyam Tungalag, Dr Rentsen Dulamsuren, Dr Sambar Bayarjargal, Ms Tsegmid Munguntsetseg, Dr Gendenjav Ekhtsetseg, Dr Damia Nyamkhorloo, and Dr Chantsal Byambadash for their assistance in conducting the survey. We are also grateful to Dr Dondog Jargalsaikhan, Dr Derem Erdenesuvd, and Mr Batbayar Chuluunzagd for providing useful data and information.

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