Privatising general practice in Mongolia: A trial of needs-adjusted capitation

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Abstract

Mongolia's family doctors have long been salaried government employees. The crisis caused by the break-up of the Soviet Bloc required the government to seek a balance between command and market economies, and this influenced the decision to introduce capitated private practice for family doctor services on a trial basis.

This article explains why and how a risk-adjusted capitation model was developed by a blend of empirical analysis and expert judgement, which comprises ten classes of clients defined by age–sex and poverty groupings. Payment relativities across the classes were set in proportion to a desirable (or target) number of contacts per year. Separate processes were used to set the targets for patient-initiated and active (health promotion and illness prevention) contacts.

The model is intended to lead to greater equity of service access and provision. It should also encourage a greater concern for health outcomes, sensitivity to clients' views, and operational efficiency.

Background: Payment options for family doctors

There are three common approaches to the payment of family doctors (family physicians, primary care physicians, general practitioners). They may be salaried employees, capitated private practitioners (being paid a predetermined annual fee for each enrolled patient or client), or private practitioners being paid for each occasion

of service (on a fee-for-service or FFS basis). Mixed approaches are common. For example, general practitioners in the Netherlands have been paid by capitation for publicly insured patients and by FFS for privately insured patients.

Consumers tend to favour capitation, but few have strong views. Social democratic political parties lean towards salary or capitation, whereas the conservative parties prefer FFS. Family doctors themselves have tended to favour the model with which they are most familiar (or to which they are attracted at the time they make career choices). For example, privatisation has typically been regarded with suspicion by government-salaried doctors in countries with centrally planned economies (including most of the former Soviet Union and Mongolia).

In countries with FFS private practice, family doctors have tended to oppose capitation and to reject salaried practice with vigour. The predominantly negative view of capitated private practice in Australia has been summarised by Brand (1998). The similar attitudes in New Zealand have been described by Baker (1998), where the government is attempting to replace FFS with age-adjusted capitation payments.

The loudest opposition to change away from FFS has come from the United States (of America). For example, Murray (1988) found that family physicians were strongly opposed to capitation because it was seen to reduce autonomy, diminish intellectual stimulation, and increase their workload. Capitation was rated favourably only with respect to relationships between doctors and patients. Similar results are reported by Ellsbury and Schneeweiss (1988), Cykert et al. (1997), and Kerr et al. (1997).

However, attitudes are changing, mainly as a consequence of personal experiences. For example, Ellsbury and Montano (1990) surveyed the views of Washington State primary care physicians toward capitation-based insurance plans. There was a strong negative attitude among physicians with no experience, but those participating in capitation-based plans had a nearly neutral attitude. Opposition was much stronger among solo practitioners and physicians with more years in practice.

The debate has been relatively mild in most European countries with a long history of partial or comprehensive capitation. The main reason may be that the arguments in favour of capitation are conceptually very strong. Most general practitioners (GPs) have been dissatisfied with aspects of detail about payment rates, but the spasmodic push for more FFS has usually been driven by specialists (Birch 1988).

There is an extensive amount of literature describing the differences in objective terms. Common findings are that FFS is associated with higher rates of consultation, higher intervention rates, less attention to health promotion and illness prevention, greater disparities of access between rich and poor, and larger disparities in family doctors' incomes. For example, Donaldson and Gerard (1989) reviewed research on the effects of different methods of GP payment in the United Kingdom. Inter alia, they concluded that FFS '...tends to lead to unnecessary demands for fee-yielding services by patients on the recommendation of their doctors'.

Birch (1988) analysed experiences with FFS dentistry in the United Kingdom for the purpose of appraising the 1988 proposal of the British Medical Association that there should be an extension of FFS general practice. He found strong evidence of supplier-induced demand and concluded that, although FFS provides a financial incentive to increase service volume, it offers no incentive to allocate services in a cost-effective and equitable way. Any extension of FFS in general medical practice would '...be inconsistent with an objective of allocating scarce primary care resources in accordance with patient need'.

Mellor et al. (1997) evaluated the change from FFS to capitation for dental services in the United Kingdom between 1987 and 1993. They found that capitation was associated with fewer examinations, fillings, extractions, and radiographs. However, there was an increase in preventive care and advice. Similar results were obtained by Blinkhorn et al. (1996).

Kangarloo et al. (1996) studied the effects of a change from FFS to capitation on an outpatient radiology practice in the United States. They concluded that, under certain conditions, conversion to capitation can lead to improved quality of care and decreased overall health care costs. Leider, Solberg, and Nesbitt (1997) showed how a change from FFS to capitation for primary care physicians in the United States led to a decline in the number of sigmoidoscopy, colposcopy, and vasectomy procedures.

The higher intervention rates under FFS may be desirable in some circumstances. For example, Krasnik et al. (1990) studied the effects of changing GP payment from capitation to a mixed FFS and capitation formula in Denmark. They found that the partial FFS system increased the provision of services by GPs and reduced referral rates to specialists (which was considered to be beneficial in many respects). Similar patterns have been reported by Calnan, Groenewegen and Hutten (1992) in a comparative study of partial capitation in the United Kingdom and the Netherlands.

Background: The Mongolian health sector

Until 1990 Mongolia avoided the worst effects of its weak economy because of continuing financial assistance from the Soviet Union. When the support ended, gross domestic product fell by 25% in two years and government expenditure on health care fell by almost half.

Mongolia turned elsewhere for support, and was sometimes advised (and occasionally required) to change to a market economy. Much of the advice was sensible. Services were nearly always inefficient under the Soviet-style centrally planned economy, too many people were guaranteed a steady income without the need actually to contribute, consumers' views were ignored, and there were few rewards for innovation.

The government accepted the advice only in part. It has reduced its involvement in some sectors but not others. In this respect, it has been more sensible than many of the former members of the Soviet Bloc – including Russia, which accepted too much economic rationalism without question, and provided perhaps the best example to date of why unthinking economic rationalism is as dangerous as unthinking Marxism.

Difficult balances must be struck in all sectors, including health. With respect to family doctor services, everyone agreed there had to be change. Family doctors were salaried employees of the government, and they worked in government-owned premises whose costs were met through global budgets based on historical costs. They had few incentives to be outcome-oriented (in terms of health improvement or customer satisfaction) or to use resources efficiently (since any savings in one year would result in a reduced budget in the next).

The economic rationalists advocated virtually complete privatisation of health financing and delivery: doctors should be dropped from the government payroll and allowed to set up their own practices to be operated on a fee-for-service basis. The wealthier patients would pay in full, or take out private insurance. The poor would receive free services (but with a co-payment where possible) from a remnant of the government primary care sector.

The government rejected this model, for two main reasons. First, there is no evidence that it works. Countries with a high level of privately financed and delivered health care tend to perform badly in terms of health status measures. Second, there was concern over equity. As soon as two tiers are established, the gap tends to widen, if only because the lower tier lacks outspoken and powerful advocates.

A middle path was chosen whereby services will continue to be largely government-financed, but family doctors will change from salaried employees to private practitioners contracted on a capitation basis. They will be expected to work in family group practices (FGPs), in much the same way that GPs are required to belong to primary care groups in the United Kingdom, if they wish to obtain government contracts. Sixty-one FGPs, each comprising around four family doctors, are to participate in a two-year trial in four regions starting in July 1999.

The capitation fee will cover all costs, and FGPs will have to make their own arrangements for acquiring premises and associated facilities. Unlike models in most other countries, there will be no non-capitated payments for patient care. However, small incentive grants will be provided for meeting various health status targets.

Finally, the government decided that the capitation rates must be risk-adjusted: that is, different capitation rates must be paid for each of several categories of clients (people who choose to enrol with FGPs) to reflect presenting attributes which indicate different needs for care in the coming period.

There are two main reasons for risk adjustment. First, it is fairer to providers: an FGP that provides care for people with higher than average needs will incur higher costs, and deserves higher revenues. Second, it is fairer to clients. If there were no rewards for dealing with people with greater needs, FGPs would have perverse incentives to avoid enrolling them – or at least to avoid giving them additional care.

There are few reasonable options to risk adjustment, and none are sufficient by themselves. For example, it is possible to regulate to reduce adverse effects – such as requiring care providers to accept any client regardless of risk status – but this tends to be expensive and intrusive, and may divert attention from care provision to gaming.

Method of design of the payment model

The general problem is simply explained. Clients must be assigned to classes which are different in terms of needs for care – and consequently the costs of appropriate care. Payment rates should then be set to reflect those costs.

The normal approach to this kind of classification problem involves empirical analysis. Data are obtained which show the patterns of service provision and consequent costs for individual clients (the dependent variable), together with attributes of clients which might explain variations in their treatment costs (the predictor or explanatory variables). Multivariate analyses are conducted to determine the combination of client attributes which best explains observed variations in costs of care. The results can be used to help select the most efficient classification of clients (the number of classes and their definitions), and to determine the average costs of clients in each class (and consequently the most appropriate capitation payment rates).

The Mongolian design team could not use this approach for two reasons (although it will be applied to refine the model at a later date). First, hardly any suitable client-level data were available. Second, there are risks associated with construction of a payment model on the basis of current practice, no matter how accurate the data. One factor is that people who are most at risk (including the poor) are being under-serviced at present.

The chosen method involved four main steps. First, client attributes believed to be correlates of the need for FGP care were selected by expert judgement, and used to define ten needs classes.

Second, the level of service need for each class was estimated in terms of appropriate (or target) numbers of contacts per year, making use of both clinical judgements and the limited data on current practice. Third, the relative costs of care for each class were calculated in proportion to the target number of contacts.

Finally, payment rates were set in proportion to estimated costs and taking account of the total available budget and the expected total number of clients. In other words, a budget-share model is being used, along the lines of the casemix funding models used by public purchasers for acute hospital services around Australia.

Selecting the basis for risk adjustment

Five types of variables have been widely used in risk adjustment. First, there are basic demographic attributes (and particularly age and sex). An example is the United Kingdom categorisation of clients according to three age groups (0–64, 65–74 and 75+) for which capitation fees have been paid in the ratio 3:4:5. Second, risk can be estimated by health status (and particularly functional health) involving instruments like the SF-36 and IADL. Third, account can be taken of service utilisation history, such as number of previous hospitalisations.

Fourth, risk can be estimated from diagnostic information. This has become increasingly popular of late, especially in the United States where several complicated models have emerged recently. This may be a consequence of the need to reduce the fear of change, or the greater degree of sensitivity of FFS doctors to any kind of change. Diagnosis-based instruments include the Disability Payment System (Kronick et al. 1986), Hierarchical Coexisting Conditions (Blis et al. 1995), and ambulatory care groups (Weinar et al. 1996). Anderson and Bilenker (1998) have discussed these and similar instruments in the context of ambulatory paediatrics.

Finally, it has sometimes been proposed that there should be adjustments for degree of poverty, and several indicators have been considered, such as social class. However, there are few practical examples.

The optional predictor variables were assessed against five criteria: predictive power, administrative convenience (and particularly whether data would be available as byproducts of care provision), susceptibility to gaming, auditability, and degree of intrusiveness from the point of view of both care providers and clients.

This led to the selection of two sets of variables: age–sex and poverty. Five age–sex groups were chosen after considerable debate, as listed in Table 1. There was unanimity with respect to definition of an older age group, but less agreement about the need for separate groups for young children and females of reproductive age.

This was partly because of the results of studies in developed countries. For example, Fleming (1988) found that the United Kingdom's GP model of three age groups (0–64, 65–74 and 75+) appropriately reflected differential needs (although payments at that time understated the differences). However, he found no evidence for differential capitation fees by sex or for the age group 0–4 years.

In the event, it was decided that there were important social and demographic differences that justified the inclusion of maternal and early childhood classes. Birth rates are much higher in Mongolia, as are maternal, perinatal and infant mortality rates. A further factor was the policy commitment of the Ministry of Health to improving the health of mothers and young children.

The Mongolian Government has been using definitions of poverty classes for several purposes for some time. They include the solitary elderly, the solitary handicapped or disabled, orphans, and families with incomes below a poverty threshold that varies according to family size. It was decided that a two-part aggregation (low-income and other income) would be sufficient for the initial trials, and they could be split in subsequent periods if there proved to be good reason for the additional complexity.

The evidence of the effects of poverty on the need for care is inconclusive, especially in research undertaken in wealthy countries (Donner Banzhoff et al. 1998). However, the relationship may be stronger in poor countries. The design team concluded that it was important for social reasons to include this variable.

Age–sex groups and poverty groups are not independent predictors, but studies elsewhere show they are better than either alone where there are significant differences in wealth. It will be possible to test their validity, and to make continual improvements by the analysis of data routinely provided by the FGPs for payment purposes.

Determination of target contacts for each needs class

The level of service need for each class was estimated in terms of target number of contacts between clients and the FGP per year. Two types of contacts were defined for clinical and analytical reasons. *Client-initiated contacts* are those occasioned by current health problems (such as accidents and infections) for which diagnosis and treatment activities (including counseling) are justified. *Active contacts* relate to expected health problems for which health monitoring, screening and other health promotion and illness prevention activities are justified. The primary determinant of frequency is therefore the behaviour of family doctors rather than clients.

A survey of a stratified random sample of FGPs was conducted during March 1999. Staff were asked to estimate normal costs of operation. They were also asked to compile a prospective record of number of client contacts by type over a two-week period.

The survey provided useful estimates of client-initiated contacts by age–sex classes, and these were used without modification when setting the targets. However, as expected, the low-income groups had lower numbers of contacts in every age–sex class. If targets had been based exclusively on the survey data, the payment model would have perpetuated the inequities. We therefore determined that the targets for the low-income and other income classes would be based on expert judgements about differences in

morbidity according to degree of poverty. The judgements took account of a variety of data from around the world reporting differential rates of illness. This led to the setting of targets for client-initiated contacts at higher rates for low-income clients in every age–sex class.

There was even greater risk associated with the setting of targets for active contacts in accordance with the survey data because there has been a general reluctance for family doctors to take the initiative. Indeed, the survey data showed that active contacts were below reasonable targets in almost every age–sex group. The design team chose instead to rely almost exclusively on standards for active contacts regulated by the Ministry of Health in 1993. There was no good reason to modify the standards. However, it was necessary to extend them because they did not cover the needs of older clients, and to translate them into annual rates for capitation purposes. For example, Ministry standards specified eight contacts in the first two months of life and one per month between two months and one year. This was translated into 18 per year for the first age class (0–1 years).

Table 1: Target contacts by needs class and contact type, total population

Needs class	Client-initiated		Active		All contacts		Population
	Contacts per year	Total contacts	Contacts per year	Total contacts	Contacts per year	Total contacts	
Age 0–1	9.2	384 523	18.0	752 328	27.2	1 136 851	41 796
1 Low income	12.7	130 683	18.0	185 220	30.7	315 903	10 290
2 Other income	8.0	252 048	18.0	567 108	26.0	819 156	31 506
Age 1–15	1.2	1 002 222	2.7	2 255 000	3.9	3 257 222	835 185
3 Low income	1.8	370 120	2.7	555 179	4.5	925 299	205 622
4 Other income	1.0	629 563	2.7	1 699 820	3.7	2 329 383	629 563
Female age 16–49	2.0	1 181 152	4.9	2 893 822	6.9	4 074 974	590 576
5 Low income	2.3	334 420	4.9	712 460	7.2	1 046 880	145 400
6 Other income	1.9	845 834	4.9	2 181 362	6.8	3 027 197	445 176
Age 60 +	7.2	882 994	5.4	662 245	12.6	1 545 239	122 638
7 Low income	8.7	262 679	5.4	163 042	14.1	425 721	30 193
8 Other income	6.7	619 382	5.4	499 203	12.1	1 118 585	92 445
Other age–sex groups	1.2	840 773	0.3	210 193	1.5	1 050 966	700 644
9 Low income	1.8	310 500	0.3	51 750	2.1	362 250	172 500
10 Other income	1.0	528 144	0.3	158 443	1.3	686 587	528 144
All	1.9	4 291 664	3.0	6 773 588	4.8	11 065 252	2 290 839

It was decided that the targets for *active* contacts should be the same for both income groups. There was an argument for setting them at higher levels for the low-income groups on the grounds that their generally lower health status should lead to increased emphasis on health promotion and illness prevention. However, there was the critical opposing argument that all people should have equal access.

The target contact numbers are shown in Table 1. Also shown are estimates of numbers in the total population, using 1998 census data. The census data were needed for the purpose estimating the proportions of people in each of the age–sex classes. Splits on poverty were available only for the total population, and not for each age–sex group. It was therefore assumed that the proportions were the same in each age–sex class.

Estimation of fixed and volume-dependent annual costs for a typical FGP

Cost data by type of input were obtained from the FGP sample survey described above. They were then adjusted to represent the expected cost structure of a typical FGP comprising 4 doctors and with an enrolled population of 4800 as shown in the second column of Table 2.

Costs of the FGP will increase as the number of contacts increases, but the relationship is non-linear. There are fixed costs – those that vary hardly at all as number of contacts changes, such as the cost of rental of premises. There are also contact-variable costs, such as doctor time and medical consumables. Some types of costs are neither wholly fixed nor wholly variable, but rather are fixed within limits and then become variable.

The cost elements were separated into fixed and volume-dependent costs using normal methods for this type of problem. This is never an easy task, but there were particular uncertainties in the current context because there was little relevant retrospective information. Indeed, we were estimating cost structures for a system yet to be established.

The results, as shown in Table 2, may overestimate the fixed cost components. However, the design team took account of the fact that FGPs were to be given only limited flexibility of operation during the trials, and this would not normally extend to the recruitment or dismissal of staff at short notice.

Estimating annual costs for each needs class

Several optional models were examined for plausibility of the resultant cost relativities. For example, we considered one model which included a large fixed cost plus a cost per contact, and another which gave different cost relativities to each of the client-initiated and active contacts.

We rejected the idea of a fixed payment regardless of number of clients mainly because any type of 'facility fee' presents risks in terms of discouragement of flexibility and

Table 2: Estimates of fixed and volume-dependent costs per year for a typical FGP

Cost element		Annual cost*	% fixed	% variable	Fixed cost*	Variable cost*
1	Doctor remuneration	1 920 000	50	50	960 000	960 000
2	Nurse remuneration	1 152 000	50	50	576 000	576 000
3	Other staff remuneration	180 000	50	50	90 000	90 000
4	Staff oncosts (insurance, etc)	617 880	50	50	308 940	308 940
5	Building rental	2 448 000	100	0	2 448 000	0
6	Water	3 600	100	0	3 600	0
7	Drugs and medical supplies	300 800	20	80	60 160	240 640
8	Office services and supplies	108 000	60	40	64 800	43 200
9	Transport	108 000	90	10	97 200	10 800
10	Telephone	120 000	80	20	96 000	24 000
11	Linen and laundry	150 000	50	50	75 000	75 000
12	Depreciation	62 243	95	5	59 131	3 112
13	Maintenance	60 000	95	5	57 000	3 000
All		7 230 523			4 895 831	2 334 692

*In Tugregs. 630 Tugregs = $1 Australian

innovation, and assumes facilities of a standard size are likely to be practical (or even optimal). However, this is not a crucial decision for the trial period because enrolment levels are to be set at about 4800 for all 61 FGPs. A more critical matter initially will be the way that payment rates vary by needs class.

The team decided that the most plausible model was one in which there was no fixed cost, but rather a standard cost per client-year plus a class-dependent cost per client based on target number of contacts. Thus the fixed-cost components shown in Table 2 were distributed as fixed fees per client (and payments are therefore volume-dependent but not affected by needs class). The variable cost components were then distributed in proportion to the target numbers of contacts for each of the 10 needs classes. Thus we have:

$$N_i = (FC / 4800) + (t_i * VC / S(n_i * t_i))$$

where N_i total cost per client, class i
FC total fixed costs
VC total variable costs
n_i number of clients, class i
t_i target contacts per client, class i

The team rejected the idea of giving different cost weights to contacts by type. The costs associated with (say) active contacts by home visit to a newborn child would tend to be higher than client-initiated contacts in the office involving a minor respiratory infection. However, the available data showed no strong patterns, and we therefore decided to avoid the additional complexity at this stage.

The results are shown in Table 3. The three columns headed 'Cost per client' do no more than suggest the general order of magnitude and relativities of costs across needs classes. The critical results are the relative costs in the last column, which are to be used to set the payment rates.

The range from the least-cost to the highest-cost class is 3.79. There would be a plausible argument for increasing this range, if the only important consideration were equity of payments relative to target contacts. However, other factors need to be taken into account in the early stages of use of this model, including the lack of flexibility for FGPs to adjust their service patterns.

For example, an FGP may service an area containing few high-payment classes (such as populations that are largely middle-aged with mid-range incomes). In principle, this kind of FGP could survive by increasing its total enrolment, but there may be strong competition from other FGPs (and an overcapacity of doctors) which cannot be managed in the short term. The FGP could respond by reducing its operating costs, but we have already noted that there will be significant constraints on key matters (such as number of doctors in the FGP) in the short term.

Table 3: Estimates of the relative annual costs of each needs class

Needs class		Target contacts per Client-year	Cost per client in Tugregs Standard cost	Contact-based cost	Total cost	Relative costs
1	Age 0–1, poor	30.7	1 020	3 111	4 131	3.79
2	Age 0–1, other	26.0	1 020	2 635	3 655	3.35
3	Age 1–15, poor	4.6	1 020	466	1 486	1.36
4	Age 1–15, other	3.7	1 020	372	1 392	1.28
5	Female 16–49, poor	7.1	1 020	719	1 739	1.59
6	Female 16–49, other	6.8	1 020	692	1 712	1.57
7	Age 60+, poor	14.2	1 020	1 439	2 459	2.25
8	Age 60+, other	12.0	1 020	1 216	2 236	2.05
9	Other, poor	1.7	1 020	172	1 192	1.09
10	Other	0.7	1 020	71	1 091	1.00

(630 Tugregs = $1 Australian)

Setting differential payment relativities by region

Some regions have less effective health care than others, and this is reflected in differences in morbidity and mortality rates. It was decided that the imbalance should be redressed by paying higher capitation payment rates in those regions with the poorest health status.

The most convenient indicator of health status differences was the mortality statistic termed possible years of life lost (PYLL). The PYLL in any age group i is given by:

$$PYLL_i = D_i * (ALE - A_i)$$

where A_i mean age of group i
D_i deaths in group i
ALE average life expectancy

and the per capita rate for an entire region is simply the sum across all age groups divided by total population. The data are routinely available, and avoidance of premature death is clearly a key purpose to be served by FGPs. PYLL index numbers are shown in Table 5 for each region in the trial. They are simply the PYLL rates per capita as a proportion of the national rate.

It is not easy to demonstrate that a higher PYLL rate of (say) 10% is fairly compensated by a 10% increase in payment rates. One would need to have many more data in order to make a valid association between mortality rates and funding levels. Another factor is that any kind of redistribution of services depends on the government's views on a broad set of social policies. Other things being equal, it is sensible to transfer health resources from regions with good health status to those with poorer health status. However, the government must take account of other issues, including matters of service efficiency and aspects of social policy outside the health sector. At the time of writing, it seems likely that the differential rates by region will be implemented progressively over a three-year period.

Estimation of capitation payment rates for each needs class

The relative costs shown in Table 3 were used to calculate payment rates, which also depend on the total budget available for capitation payments and the estimated numbers of clients in each class. The method comprises only two steps. The first involves calculating the standard capitation rate, as follows:

$$\text{Standard rate} = \text{budget} / [(n_1 * rc_1) + (n_2 * rc_2) + ... + (n_{10})]$$

where n_i number of clients in class i = 1 to 10
rc_i relative cost for clients in class i = 1 to 10

The standard capitation rate is that which applies to the class with the lowest relative cost. In the second stage, we obtained the payment rates for each needs class simply by multiplying its relative cost by the standard rate. These calculations are summarised in Table 4.

Table 4: Calculation of payment rates for each needs class

Needs class	Population data: All Mongolia	Population data: % Mongolian population	Population data: Estimated clients in 61 FGPs	Relative costs (from Figure 3)	Cost-weighted clients (col 4*col 5)	Payment* (SR*col 5)
Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7
1 Age 0–1, poor	10 290	0.45	1 315	3.79	4 985	5 733
2 Age 0–1, other	31 506	1.38	4 027	3.35	13 490	5 067
3 Age 1–15, poor	205 622	8.98	26 281	1.36	35 743	2 057
4 Age 1–15, other	629 563	27.48	80 467	1.28	102 997	1 936
5 Female age 16–49, poor	145 400	6.35	18 584	1.59	29 549	2 405
6 Female age 16–49, other	445 176	19.43	56 899	1.57	89 332	2 375
7 Age 60+, poor	30 193	1.32	3 859	2.25	8 683	3 403
8 Age 60+, other	92 445	4.04	11 816	2.05	24 222	3 101
9 Other, poor	172 500	7.53	22 048	1.09	24 032	1 649
10 Other	528 144	23.05	67 504	1.00	67 504	1 513
All classes	2 290 839	100.00	292 800		400 536	
Total budget*		605 872 000				
Total cost-weighted clients		400 536				
Standard rate (SR)*		1 513				

* In Tugregs (630 Tugregs = $1 Australian)

Table 5 repeats the national rates in the last column of Table 4, together with the rates for each region which were computed by multiplying by the PYLL index values.

Table 5: Preliminary estimates of payment rates by needs class and region in Tugregs*

Region	National	Ulaanbaatar	Khovd	Khuvsgul	Dornogobi
PYLL index	1.0000	0.8896	1.0545	1.0611	0.8080
Needs class					
1 Age 0–1, poor	5 733	5 100	6 045	6 083	4 632
2 Age 0–1, other	5 067	4 508	5 344	5 377	4 094
3 Age 1–15, poor	2 057	1 830	2 169	2 183	1 662
4 Age 1–15, other	1 936	1 722	2 042	2 054	1 564
5 Female age 16–49, poor	2 405	2 140	2 536	2 552	1 943
6 Female age 16–49, other	2 375	2 113	2 504	2 520	1 919
7 Age 60+, poor	3 403	3 028	3 589	3 611	2 750
8 Age 60+, other	3 101	2 759	3 270	3 290	2 506
9 Other age-sex group, poor	1 649	1 467	1 739	1 750	1 332
10 Other age-sex group	1 513	1 346	1 595	1 605	1 222
All classes	2 069	1 841	2 182	2 195	1 672

* 630 Tugregs = $1 Australian

The rates might need to be revised as a consequence of several factors. For example, there could be a change in the total number of clients. All the analyses were based on a design decision that each of the 61 pilot FGPs will have around 4800 clients, but it is possible that more will actually enrol during the initial registration. Another possibility is that the proportion of clients in each needs class might change. Age–sex and poverty distributions are based on the national proportions, and the pilot FGPs may have more or fewer high-risk clients.

Implementation of the new model will be carefully evaluated, and changes in its structure may be anticipated. However, the key concern is whether it creates the right incentives. It follows that, in the long run, the most cost-effective method of evaluation is by way of consumers – if they have adequate opportunity to understand their entitlements, they will give the right messages about performance by the way they move their business over time.

Conclusions

The Mongolian Government has chosen to follow the practice of Australia and most European countries with regard to financing. Unlike the United States, they prefer the greater equity which is possible when funding is from income-based government insurance rather than from (say) risk-based private insurance or user-pays.

Mongolia has sided with most European countries (rather than with Australia and the United States) with respect to resource allocation among family doctors (and hence service allocation among patients). Systems using FFS must spend much time and money to maintain the payment schedules through what are usually called 'relative value' studies. The term is somewhat misleading, in that the value being rated is typically a judgement of the worth of the family doctor's skills, rather than the value of the service to the community. Indeed, the focus is on estimation of the labour and other resource inputs for each item of service – and the degree of skill and knowledge required to handle the service. In the end, there is an updated schedule of payments which better reflects relative costs of items of service, but little is likely to have been achieved in terms of encouraging services to be provided at the right time for the right clients.

In the study described here, it was considered important not only to ensure equity of payments across doctors but also to encourage equity of service provision among different types of clients. In this respect, the Mongolian study – with all its data weaknesses – is more closely related to health system objectives than any of the RVU studies in Australia or the United States, regardless of the size and cost of the research. Precision of results is always less important than validity. Funding models have no inherent value, and they are good or bad to the extent that they promote the objectives of the health system.

There are reasons to expect huge difficulties, if only because of Mongolia's poverty. The average capitation rate will be only about $3 per person per year – but then the current annual salary of family doctors is little more than $700 per year. There are other obstacles, including poor training and unfamiliarity of most family doctors with operating in the private sector.

However, risk-adjusted capitation is surely a step forward, especially for the many Mongolians who are desperately poor. If nothing else, FGPs will now have a financial incentive to attract and retain clients from disadvantaged groups, and will be evaluated by both the payer and the consumers with respect to the adequacy of the services they provide.

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