



MYANMAR STRATEGIC PURCHASING BRIEF SERIES – No. 2

# Calculating a Capitation Payment

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## INTRODUCTION – THE STRATEGIC PURCHASING BRIEF SERIES

This is the second in a series of briefs examining practical considerations in the design and implementation of a strategic purchasing pilot project among private general practitioners (GPs) in Myanmar. This pilot will start developing the important functions of, and provide valuable lessons around, contracting of health providers and purchasing that will contribute to the broader health financing agenda. More specifically, it is introducing a blended payment system that mixes capitation payments and performance based incentives to reduce households' out-of-pocket spending and to incentivize providers to deliver an essential package of primary care services.

## CONTEXT

Many people in Myanmar access most of their health care through the formal and informal private sector and payment for this care comes mostly out of the patient's pocket. This can cause a significant financial burden to poor and vulnerable populations and lead to a chronic under-use of basic health services.

In response to this challenge, and in support of the Government of Myanmar's long term universal health coverage goal, Population Services International (PSI)/Myanmar has established a pilot project to demonstrate the capacity of private GPs in its Sun Quality Health (SQH) network to offer a basic package of primary care services to poor and vulnerable households. In this pilot, PSI is 'simulating' the role of a purchaser, but expects this role to be taken over at some point by a national purchaser, as outlined in the National Health Plan (2017-2021), and in the long run the role of PSI is likely to evolve into that of an intermediary organization (for more information on this, see "*Intermediaries: The Missing Link in Improving Mixed Market Health Systems? Results for Development Institute, July 2016*"), supporting the formation of networks of providers that are easier to integrate into payment systems, and by helping these providers meet minimum requirements through quality improvement and management capacity development.

### What is strategic purchasing?

Strategic purchasing aims to increase health system performance through the effective allocation of financial resources to providers. This process involves three sets of explicit decisions:

- Which interventions should be purchased in response to population needs and wishes, taking into account national health priorities and evidence on cost-effectiveness
- How they should be purchased, including contractual mechanisms and payment systems
- From whom they ought to be purchased in light of providers' relative levels of quality and efficiency

Strategic purchasing can be seen in contrast to more passive purchasing approaches – for example when a predetermined budget is followed or bills are simply reimbursed retrospectively.



Under the pilot, a total of 2,506 low income households in two townships in Yangon region have been registered, and are being screened and issued with health cards which entitle them to a defined benefit package (see Issue Brief #1), provided by five selected members of the SQH network. The pilot specifically aims to demonstrate an increase in the range of services offered by private providers, a decrease in out-of-pocket payment by the registered households, and a decrease in the time to seek treatment from the start of signs and symptoms.

## OBJECTIVE

This brief aims to describe the process that the project went through to determine the initial capitation amount that was offered to providers at the start of the project, in a context of asymmetrical information between PSI and providers around costs and revenues. The method used to calculate the capitation amount, and related aspects of the payment mechanism, is expected to evolve over time as the project generates new data, and as feedback is received from providers, beneficiaries and other stakeholders.

## THE BLENDED PAYMENT APPROACH

For registered households, the project aims to replace the existing 'fee-for-service' system, under which a client currently has to pay the full cost of care out-of-pocket each time he or she visits a provider, with a 'blended' payment system where a provider is paid through a combination of capitation payments and performance-based incentives by the project, and a small out-of-pocket co-payment by the client.

- A **capitation payment** is a fixed sum of money pre-paid by the project to the provider to manage the health care needs for all individuals registered with that provider within the scope of an agreed package of services and over an agreed period of time.
- Recognizing that each provider payment mechanism, including capitation, has its own strengths and limitations, capitation payments in this pilot are being combined with **performance-based incentives** intended to counter-balance the perverse incentives that capitation may introduce. This component is covered in detail in Issue Brief #3.
- By combining these with a small **out-of-pocket** co-payment, which, when added up over all patients, could end up representing around 15%20% of the provider's total earnings, providers retain an incentive to remain client focused and offer quality services, and clients are discouraged from overconsuming the care they are offered. Recognising that even a nominal fee may deter care-seeking, especially among the poor and vulnerable, the project intends to closely monitor the effect of the co-payment on service utilisation.

### What is being purchased under this programme? The basic package of health services

The core package of services (see Issue Brief #1): family planning, primary care for children under five including nutrition interventions, ante-natal and post-natal care, malaria, tuberculosis detection and treatment, sexually transmitted infection and HIV testing and treatment, detection and treatment of pre-cancerous cervical lesions, and management of diabetes and hypertension. The client pays a co-payment of around \$0.40, approximately 20% of the average cost that might otherwise be incurred at a private sector provider.

An additional list of common 'general illnesses' are covered under the basic package. These include minor injuries, flu, abdominal pain, fatigue and conjunctivitis. These general illnesses incur a higher co-payment of around \$0.80 per visit.

The package also covers facility-based delivery, both normal and obstructed labour, though these are not provided directly by the GP, but through a local maternity unit. These services have been chosen to mirror, to the extent possible, the primary care elements of the Essential Package of Health Services that is currently being developed at the national level.

This approach leads to a 'dual' payment system in which the out-of-pocket, fee-for-service charges remain in place for those not covered by the project.

## KEY CONSIDERATIONS DURING THE DETERMINATION OF THE INITIAL CAPITATION PAYMENT

As a capitation-based system is introduced for low income clients, payment to the provider is now no longer solely based on the volume of services provided, and some considerable financial risk is taken on by the provider. If the provider achieves efficiency gains and incurs costs that are lower than the capitation amount, he or she can retain and possibly reinvest this surplus. However, if the provider incurs costs that are greater than the capitation amount, he or she is liable for the difference. The provider may therefore need to be compensated for taking on this risk and uncertainty.

The project aimed to determine a capitation amount that would be justifiable (based on the contents of the package of services and available data) and affordable (within available budget), while being sufficiently motivating to encourage the provider to join the scheme and stay engaged over time in the face of significant initial uncertainties, not only in terms of costs and demand for services, but also in terms of the longer-term impact of the project on their business.

Information around costs and demand is inherently asymmetrical, as despite having a long-term relationship with the providers, PSI has little information about their overall costs and revenues since they are at heart independent private businesses that do not have an interest in sharing their finances publicly. At the same time, many of the providers do not keep detailed financial records themselves, and may have only a hazy notion of whether they are making a surplus or loss at the end of each month. As a result, the project needed to determine an opening 'offer' to the providers, i.e., an initial negotiation point in the absence of full information. Over time, more and better data will become available.

Providers will need to report on the numbers of services provided (through the project's monitoring system), while the baseline health assessments and demographic profile will provide a more comprehensive understanding of the health status of the selected beneficiaries. In addition to this objective information, providers' decisions to continue to engage with the project over time (or not) will give a strong indication of their satisfaction with the payment amount (i.e., of whether it generates sufficient profit), especially in the absence of an 'audit' of provider finances.

Examples of other uncertainties expressed by providers included: fears of an 'avalanche' of visits due to a backlog of long term, unresolved health issues within the target population; unnecessary use of services that are so cheap at point-of-use (including 'lonely people who just want to talk'); wealthier fee-paying clients put off by the presence in the clinic of the large numbers of poor clients covered under the project. Providers were also worried about the potential impact on client expectations once the project ends.

Some additional concerns were raised by the project team, that the providers might favour fee-paying clients above project beneficiaries: for example, that providers would ration care – by providing limited opening hours for project beneficiaries; that they would provide poor quality medicines; or simply treat them less respectfully. All these issues will be monitored separately by the project.

#### Who are the providers the project is purchasing services from?

Dr. Mg Mg is a typical Sun Quality Health provider. He graduated from the University of Medicine II in Yangon in 1982, worked for many years in the public sector before retiring to become a local GP in 2008 in the outskirts of Yangon. His practice is small. Working on his own, he sees around 80 primary care patients a day – all out-patient, and mostly between 7am and 10am, and between 6pm and 9pm, up to seven days a week. Before joining the Sun Quality Health network, he received almost no continuing medical education.

He typically charges patients around 3,000 Kyat (and occasionally up to 5,000 Kyat per visit) including medication from his small medicine store. He keeps limited financial or client records, the latter comprising of a simple notebook that lists the patients he receives in a day.

#### CALCULATING THE INITIAL CAPITATION PAYMENT

This involved a simple formula, the number of visits expected per client insured x the client expenditure per visit (including an acceptable profit margin for the provider). The project used two distinct methods: (i) a more simple 'intuitive' approach to give a ballpark figure, and (ii) a more rigorous approach using all available data on disease burden and target group demographics, to give a more detailed figure that could be cross referenced against the first approach.

##### 1. The intuitive approach

The project looked globally, and determined that the most likely comparable programme might be Thailand's Universal Coverage Scheme, which reported annual outpatient visits per year varying between 2.4 and 3.2 between 2003-2010<sup>1</sup>. The equivalent numbers in the Myanmar pilot would potentially be higher due to a higher burden of both communicable diseases (likely related to poverty), as well as higher reported levels of hypertension and diabetes (a strong driver of patient visits). By comparison OECD countries report around seven visits per capita per year for all medical visits, including inpatient and outpatient<sup>2</sup>, though these countries tend to have older populations and offer a more generous benefit package.

On the expenditure side, PSI's team has a lot of experience working with GPs. Many of the team's members are medically trained and have either been GPs at some stage, or have family and/or friends working

<sup>1</sup> Thailand's Universal Coverage Scheme: Achievements and Challenges. An independent assessment of the first 10 years (2001-2010). -- Nonthaburi, Thailand: Health Insurance System Research Office, 2012. <sup>2</sup> <https://data.oecd.org/healthcare/doctors-consultations.htm>



in that field. It is generally accepted that a consultation in the private sector for the kind of services being offered in the general package (excluding delivery) will be charged between 2,000 (\$1.54) and 5,000 Kyat (\$3.85), depending on the service and the medications prescribed. An average of 3,000 Kyat (\$2.31) was often quoted.

Assuming a co-payment of 500 Kyat (\$0.38), the model hypothesized a 2,500 Kyat (\$1.92) net expenditure per visit multiplied by 4 visits per year and arrived at an expected amount in the region of 10,000 Kyat (around \$7.70) per person per annum.

## 2. The more rigorous approach

The project developed a detailed spreadsheet model that estimated the population breakdown of a typical group of 1,000 households – a group potentially large enough to have risks spread reasonably evenly across it. This drew upon 2014 census data for urban Yangon to determine population characteristics (with a mean household size 4.4), and then sub groups including the number of children under five, women of reproductive age, women currently pregnant, adults aged 40 plus (and thus targeted by diabetes and hypertension screening programmes).

Disease incidence/prevalence and caseload data was primarily derived from the 2015-16 Myanmar Demographic and Health Survey (MDHS) (for contraception, by method, pregnancies, live births, pneumonia, fever, diarrhoea) and from other sources published by UN agencies or the Government of Myanmar (for HIV, tuberculosis, diabetes, hypertension, smoking, cervical cancer). Selecting the relevant population groups, estimates of the absolute number of expected cases (including for screening, where relevant) were derived for each service included in the basic package. Data from the Institute for Health Metrics and Evaluation (IHME) was used to estimate STI burden and the WHO STEPwise approach to non-communicable disease (NCD) risk factor surveillance (STEPS survey) data was used to estimate NCD burden. For family planning, an adjustment was made for the likelihood that some women currently using short term methods would adopt long term methods such as IUDs, which would be made more easily available through the pilot than they have been otherwise, but which would require fewer visits.

These numbers were then multiplied by the expected number of visits each case is expected to generate under ideal (as opposed to current) treatment practices. For example, a pregnancy should generate four ante-natal visits; an injectable contraceptive user will come four times a year to the clinic; an individual episode of diarrhoea or fever episode in a child under five should generate two visits, for diagnosis and follow up; an episode of tuberculosis around eight visits. Hypertension and diabetes were more challenging, but the model estimated around nine visits in the first year for a case to be treated correctly, since at the beginning of treatment the patient should come multiple times so that the doctor can ensure they are on the correct drug dosage.

Combining the expected number of visits per person per year across all services generated an estimate of 3.4, to which was added an extra visit (based on judgement since there is little available data) for 'general illnesses' and the model arrived at 4.4 visits per person per year. This figure represents an idealized or maximum number of visits, assuming all cases are treated correctly.

Next an estimate of the cost of consultation and the medications involved was calculated for each service – for example diabetes and hypertension medication costs significantly more than an episode of diarrhoea. (note that for the purposes of this exercise, the cost of drugs for tuberculosis and HIV treatment were not factored in, since these are currently available free through the government's national programmes). Adjusting for the co-payment, and finally reducing the estimate of costs for both diabetes and hypertension (the highest driver of visits and the highest cost of medication) by limiting the drugs that would be covered by the scheme to a basic minimum that should be enough for most (though not all) cases, a total of 10,500 Kyat (\$8.08) per person per year was arrived at for the core package of services that all providers would deliver (described in Issue Brief #1), a figure within 10% of the initial 'intuitive' estimate. A further Kyat 1,800 (\$1.38) was estimated for the enhanced services that only some providers would be trained to deliver, including TB treatment, HIV testing and treatment, cervical cancer screening and treatment, long term family planning.

## 3. Costing out labour/obstetric care

The analysis above only covers outpatient care delivered directly by the GPs. The next cost component is for facility-based delivery, which is not directly provided by the GPs, and which costs significantly more (by a factor up to 100 in some cases) than most of the other services. Managing the cost of delivery is complicated by the fact that, while public services are supposed to be nominally free, families usually end up paying for supplies, transportation, in-patient expenses such as food and beds, as well as informal user fees.

Such costs cannot be contracted directly with the facility involved. The project therefore decided to use a demand-side financing approach in the form of a conditional cash transfer, by paying the amount directly to the pregnant woman following confirmation of the pregnancy by the provider, and conditional on attendance of four ante-natal care visits.

While these costs are not technically part of the capitation payment to the provider, an equivalent cost on a per capita basis (i.e., spread over the entire population) was calculated for comparison purposes. Based on an estimated cost to the patient of 50,000 Kyat (\$38.46) for a normal delivery and 200,000 Kyat (\$153.84) for obstructed labour delivery, and considering the relative prevalence of these events, the amount corresponding to the conditional cash transfers would have added an equivalent of 1,000 Kyat (\$0.77) to the capitation amount.

Similarly, the project has contracted directly with specialist obstetrician/gynaecologists to provide ultrasound services for pregnant women, and cryogenic treatment for pre-cancerous lesions, as per current Ministry of Health and Sports protocol.

### IMPLICATIONS FOR PROJECT PLANNING

Following the introduction of the capitation fee as part of a blended payment system, the overall costs of implementation during this pilot are expected to be as follows:

Component	Amount (USD) per person per year
A. Capitation fee paid to provider – core services	\$8.08
B. Capitation fee paid to provider – advanced services	\$1.38
C. Pay-for-performance bonus (estimated at 10% of capitation fee) – see Issue Brief #3	\$0.95
D. Out-of-pocket co-payment to provider by patient	\$1.73
E. Demand side finance for labour/obstetric care	\$0.77
F. Other directly contracted services (ultrasound and cryogenic treatment)	\$0.38
Total amount received by provider (A+B+C+D)	\$12.14
Total cost to strategic purchasing body (A+B+C+E+F)	\$11.56

The models used to make these calculations will need to be updated periodically, as project data improves, and potentially before more providers are contracted into the strategic purchasing scheme. In addition, the model may need to be updated to reflect differing epidemiology across the country, and more than one model may eventually result. For the sake of ease of scalability, the number of different models should be minimised, and this might ideally be limited to an urban and a rural version.

Even though these numbers are likely to be on the high side, since they assume ‘perfect’ or maximal conditions (e.g. all pregnant women attend all four antenatal care visits), one doctor still pulled out of the project during early negotiations, and had to be replaced. The project has determined that while there are likely over- and underestimates inherent in the calculations, it is better to err on the side of over-compensation rather than under-compensation of the providers early on since it is preferable that they remain engaged long enough for true data to be revealed, rather than drop out early.

It is also acknowledged that providers may face perverse incentives to over-report client volumes (since this may boost the capitation payments) rather than the typical incentive to under-report (due to the burden of data collection), the incentives to influence the providers will be covered in more depth in Issue Brief #3 on pay-for-performance schemes.

#### **Myanmar Strategic Purchasing Brief Series:**

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