

Provider Payment Systems

Health Reform Note 4 pointed out that payment mechanisms under a proposed National Health Insurance (NHI) system will have to be adapted from those currently used in both the private and public sectors. Several expected difficulties with integrating these two sectors and implementing new payment systems were briefly discussed. This note continues that discussion by detailing the various payment options and associated incentives. We consider international best practice and also the practicalities around implementing certain payment mechanisms in the South African context specifically

1 Introduction

Central to the proposed health reforms in South Africa (SA) is a single-payer system. This means that one entity (usually the government or a quasi-government institution) collects all contributions and is responsible for reimbursement of all providers in the health system.¹ There are certain advantages and disadvantages to single-payer systems, but these are not universal as a country's unique circumstances may greatly influence the

perceived pros and cons. Usually, however, in a single-payer model, the responsible entity can determine how providers are paid at various levels – as will be explained in this note. We consider the theoretical options for payment mechanisms in such a model, while keeping in mind current reimbursement models in SA and highlighting some international examples. The note concludes with a short discussion on why the situation might be somewhat different in SA than what the theory predicts.

2 Rationale for Single-Payer Systems

Theoretically single-payer systems offer a number of advantages in terms of revenue collection (efficiency, cost control, subsidisation of healthcare costs for low-income individuals), risk pooling, purchasing and social solidarity. Our current focus is on purchasing issues specifically. In any system, "[t]he fundamental goal of purchasing is to achieve the optimum balance between effective provider incentives

This research note forms part of a series of notes dealing with issues of health reform in South Africa. In the interest of constructively contributing to the NHI debate, the Hospital Association of South Africa (HASA) has commissioned this series of research notes which can be accessed on the Econex website: www.econex.co.za.

1. Although by far the largest portion of healthcare spending will be collected and distributed by one entity, South African will not have a pure single-payer system in the true sense of the word, since private medical schemes will still be allowed to provide voluntary supplementary/duplicative insurance.

and an acceptable level of risk held by the provider.”²

In a single-payer system the paying entity (insurer) is usually in a strong bargaining position because of its monopoly³ power. Such a market is often associated with imperfect competition and very low prices, since healthcare providers compete to sell their services to the insurer. This is of course one of the greatest benefits of a single-payer model, although savings are often accrued at the expense of providers. This model is also better suited to global budgets, case-based payments and capitation rates.⁴ These types of contracts are effective in decreasing the price of healthcare, but it is problematic when the prices or rates are set too low. In that case some services may not be available or a secondary service delivery model may develop. For instance, doctors may start splitting their hours between public and private patients, most likely giving more time, attention and better care to private patients paying higher prices. (There is already evidence of such a system in SA

where doctors employed by the public sector also increasingly see private patients as well.) Alternatively, an informal market (out-of-pocket expenses) may develop where bribery is rife (in order to skip queues or obtain higher quality services). These kinds of scenarios will undermine the advantages and effectiveness of the public/national health system.⁵

Thus, the challenge is for the insurer to “selectively encourage the provision of appropriate, cost-effective treatments and discourage inappropriate or non-cost-effective care,”⁶ and finding the equilibrium price that is not so low as to incentivise the under-provision of healthcare. The next section discusses the theoretical reimbursement options available to achieve this goal before looking at the use of these mechanisms in other countries.

3 Economic Theory and Current Application in SA

In both single- and multi-payer systems provider payment mechanisms accomplish more than just the transfer of funds

and can be powerful tools to help achieve health policy objectives. The incentives created by specific payment methods, their supporting information systems and the accountability mechanisms established, can have a profound impact on the allocation of healthcare resources and the delivery of healthcare services. As argued above, payment systems should promote access to high quality healthcare services and improved equity, while simultaneously encouraging effective and efficient resource use and cost containment.

Specifically in single-payer systems where there are no direct payments from patients, the incentives created by the payment system have a major impact in shaping the behavioural environment for providers. Payment mechanisms are therefore especially important in these circumstances and offer an opportunity to influence provider and patient behaviour through incentives. Budgets, fee-for-service (FFS), per case/visit fees and capitation are the four main payment categories in healthcare

2. Hussey, P. & Anderson, G.F., 2003. “A comparison of single- and multi-payer health insurance systems and options for reform,” *Health Policy*, Vol.66, pp.215-28 (p.219)

3. A market where there is only one buyer and many sellers (the opposite of a monopoly).

4. See footnote 2.

5. See footnote 2.

6. See footnote 2. (p.221)

Table 1: Types of Primary Healthcare and Outpatient Payment Methods, Characteristics and Incentives

Payment Method	Payment rate determined prospectively or retrospectively?	Payment to providers made prospectively or retrospectively?	Payment based on inputs or outputs?	Incentives for providers
1. FFS (fee schedule)	Prospectively	Retrospectively	Outputs	Increase the number of services including above the necessary level; reduce inputs per service.
2. FFS (no fee schedule)⁸	Retrospectively	Retrospectively	Inputs	Increase number of services; increase inputs.
3. Capitation	Prospectively	Prospectively	Outputs	Improve efficiency of input mix; attract additional enrollees; decrease inputs; under-provide services; refer to other providers; focus on less expensive health promotion and prevention; attempt to select healthier enrollees.
4. Salary	Prospectively	Retrospectively	Inputs	No incentive to induce demand; No incentive to see patients quickly, longer waiting lists.

Source: Langenbrunner (2010)

systems across the world. In this section we investigate the different categories of payment for doctors and hospitals, as well as their accompanying incentives and trade-offs.

3.1 Doctor Payment Methods (Primary Healthcare (PHC) and Outpatient)

Ideally financial incentives of doctors should point in the same direction as the interests of the patient. Otherwise the

only thing that prevents inappropriately motivated decisions is the doctor's sense of altruism and professionalism, which is generally disregarded in policy circles, despite the fact that they entrust their own healthcare to the same doctors. The main doctor payment methods that shape these financial incentives are FFS, capitation and salaries.⁷ These different remuneration packages encompass a wide

range of incentives and trade-offs, which are summarised in Table 1.

3.1.1 Fee-for-service (FFS)

In a FFS system the provider is reimbursed for each individual procedure performed. The system is input-based when services are not bundled and fee schedules are not set in advance (see no.2 in Table 1). In such a retrospective cost-based system providers are permitted

7. Langenbrunner, J. C., 2010. "Provider Payment Methods and Systems - A Short Overview," The World Bank and USAID. Available at: www.rbhealth.org

8. Where there is no agreed fee schedule between the provider and the insurer or payer, it means that the provider can charge any price for each individual input he uses to perform the required service(s). In a true FFS environment, one would assume that the aim is always to move towards an agreed fee schedule where payment rates are determined prospectively and the provider has to charge the agreed price for each service or group of services he/she performs.

to bill for all costs incurred to provide each service, i.e. they can charge for each individual input and not only for groups of services where they have the incentive to reduce inputs per service.

The system can also be output-based if services are bundled to some degree and fees are set in advance, in which case providers are paid a predetermined rate for a pre-defined service regardless of the actual costs incurred (see no.1 in Table 1). For example, a fixed fee per visit (or agreed fee schedule) provides the incentive to the doctor to reduce the services per visit, but the less controllable visit rate remains the risk of the funder.

This system is extremely data intensive, while the main criticism of FFS has been the incentive for overutilization and supplier-induced demand, since the more services provided the higher the revenue stream. The core of the problem is that FFS rewards volume and intensity

rather than value. Insured patients (whether in a single- or multi-payer system) are generally not price sensitive; therefore they will demand these extra services associated with defensive medicine. Consequently, FFS has been found to be inflationary and ineffective in containing costs. This is one of the most oft-cited reasons for the cost increases in the South African private healthcare sector over the past couple of years. Doctors are predominantly paid on a FFS basis by private insurers (medical schemes) at the moment. This implies that the local system is subject to all the mentioned pitfalls, as we have seen in practice: private healthcare costs experienced much larger increases than general inflation over the past 20 years.

3.1.2 Capitation

Capitation involves a predetermined payment in advance to provide a defined set of services for each individual enrolled with the provider for a fixed period of time. Capitated budgets

are usually awarded to primary care facilities that serve formally registered enrollees or residents in their geographical area. These facilities usually fulfil a gatekeeper function in the healthcare system. It is relatively data-intensive to calculate the capitation rate that these facilities receive.

Capitation payments are output-based because the payment is not linked to the inputs used or the volume of services provided. Most of the risk is therefore shifted from the purchaser to the provider, since the provider is liable for costs that are greater than the per capita budget. When efficiency gains are achieved and costs are lower than the capitation fee, the provider can keep and reinvest the surplus. Capitation therefore aims to increase coordination and decrease inefficiency in provision.

The risk-sharing arrangement may help to control costs, since providers become concerned with the coordination

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of medical services, providing care in the least costly manner, increasing doctor productivity, prescribing less costly drugs and being innovative in service delivery. In practice however, capitation alone does not cause doctors to better coordinate care. They will only do this if explicitly incentivised to do so. For example, a portion of the capitation fee can be held back and paid only once certain downstream referral rules have been adhered to.

Unlike in a FFS model, preventative care is encouraged in capitation models to the extent that it can reduce future medical costs and there is a strong incentive to innovate to reduce costs, improve outcomes and increase patient satisfaction.⁹ This is an important point since patients can usually move to, or register with, another doctor if they are unhappy – in such a case the capitation fee follows them by being allocated to the new doctor.

Conversely, there is a financial incentive to decrease patient access and to reduce the use of services or refer the patient to a specialist, since spending

fewer resources means higher profits. Once a patient is registered at a facility, the marginal revenue for an additional service is zero, while marginal resource costs are positive.

Although capitation is one of the favoured future health reforms for SA at the PHC level, it is not widely used at present. (A few examples were mentioned in Health Reform Note 5.) Such a model requires tight administrative control and in-depth data on patients' health profiles, as well as other demographic information. The administration of such a system could be overly burdensome for both the doctors and funders. Changes in choice of doctor, for instance, have to be carefully monitored and efficiently administered since each doctor should receive the exact amount related to the number of patients registered with him/her in advance of such treatment. Capitation arrangements can also be especially problematic for one man doctor practices by introducing major variability. For instance, a number of high risk patients could visit the doctor so often that the capitation fee is not sufficient. Capitation payments also need

to be risk-adjusted for different patient profiles (such as for older patients or those with chronic diseases who visit a doctor more often and need more medication – including monthly chronic medication) and geographical factors (such as for patients living in areas where specific diseases, deficiencies and other known factors are more prevalent than elsewhere).

3.1.3 Salaries

Salaried doctors receive a lump-sum payment, usually on a monthly basis, for a specified number of hours of work. These contractual income arrangements are common in more restrictive environments such as academic medical centres and public hospitals. The incentives created are thought to be somewhere between FFS and capitation. While salaried doctors have no incentive to induce demand, there is less incentive to see patients quickly, since they lack incentive payments. The rules and protocols of the employer could also stifle innovation. Although salaries offer security, doctors are not directly responsible for any risk-sharing and are not encouraged to manage costs. Thus salaries are not

9. Gosden, T., Pedersen, L. And Torgerson, D., 1999. "How Should We Pay Doctors? A Systematic Review Of Salary Payments And Their Effect On Doctor Behaviour," *Quarterly Journal Of Medicine*, Vol. 92, pp.47-55

the conflict-free cure that they are made out to be.¹⁰ Salary payment systems have been associated with fewer test and referrals than FFS and capitation, and fewer procedures per patient, lower throughput of patients per doctor, longer consultations and more preventive care compared to FFS.

Doctors and specialists working in the South African public sector are usually paid by monthly salaries. Also nurses in both the public and private sectors receive monthly salaries. The risk with salaried personnel in the public healthcare sector in SA specifically, is the threat of strikes. Even though it is illegal for medical professionals to strike, 2007 saw the longest strike of public servants (including doctors and

nurses) to date.¹¹ And in the same breath, we are still to see the results of the current public sector strike (Aug/Sept 2010) although it has already come at the cost of patient lives. These costs have to be weighed against the perceived benefits of a salary-based system in SA.

3.1.4 Mixed payment systems

Although the problems with the current payment systems are obvious, it is much less clear what feasible approach would yield a better balance between cost containment and stimulation of productivity. Some countries have introduced mixed or blended payment systems in order to produce a more attractive mix of incentives. These payment methods combine a fixed component, either through salaries or capi-

tation, with a variable component through FFS. In Denmark for example, PHC doctors moved from a fully capitated to a mixed payment system based on capitation and FFS. This resulted in an increase in services that provided extra fees, such as consultations and diagnostic and curative services, and a decrease in rates of referral and prescriptions.¹²

Discovery Health, the largest South African medical scheme, uses blended payments for reimbursing PHC and specialist providers on their low-income plans. The KeyCare Primary Care Network “uses a hybrid reimbursement model that combines capitation fees and a fee-for-service model, along with medication formularies, to provide afford-

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As a result of our work in competition analysis we also have invaluable experience in some of the sectors of the South African economy where regulation continues to play a role, e.g. the telecommunications, health and energy sectors. We use economic knowledge of these sectors to analyse specific problems for some of the larger telecommunications, health and energy companies.

10. *The Notwithstanding Blog*, 2010. “Are there Financial Conflicts of Interest with Salary-based Physician Payment?” Available at: <http://notwithstandingblog.wordpress.com/2010/04/16/are-there-financial-conflicts-of-interest-with-salary-based-physician-payment/>

11. “Groundbreaking pay rise for SA’s nurses,” in *South Africa the Good News*, 16 July 2007. Available at: http://www.sagoodnews.co.za/health_and_hiv_aids/groundbreaking_pay_rise_for_sas_nurses_5.html

12. Simoens, S. And Hurst, J., 2006. “The Supply Of Physician Services In OECD Countries,” *OECD Health Working Papers* No. 21.

able primary care with no limits.”¹³ This approach has been very successful in containing costs and aligning incentives.

3.1.5 Pay-for-performance

Earlier this decade, pay-for-performance (P4P) came to the fore as a method for rewarding the quality of care directly. P4P schemes offer financial incentives or specific target payments to providers in exchange for achieving agreed quality or efficiency targets, usually pertaining to preventative care. The aim is to promote the provision of cost-effective services such as immunisations, vaccinations and the management of chronic diseases. In the UK for example, since 2004 around 20% of doctors' income has been based on 146 quality indicators, including smoking status. However, experiences during this period, as well as several major studies, clarified the limitations of this approach, which was characterized by some as putting lipstick on a pig.¹⁴ Many doctors found P4P confusing as payers used different metrics as incentives, which also made the schemes com-

plex and costly to administer. These performance incentives were often not as meaningful as intended and doctors complained that some guidelines felt like 'cook book' medicine.

There is the concern that P4P may divert attention away from areas where quality cannot be measured. Record-keeping may be distorted, which means that schemes require careful monitoring and regulation. If targets are set unreasonably high, target payments may become a disincentive to increasing doctor activity. Moreover, once the highest target is reached, there is no additional financial reward to cover the remaining population.¹⁵ For example, if the target is to vaccinate 60% of the population or a defined group of people, the doctor has no incentive to vaccinate any more than the 60%, because the financial reward will be given as soon as the target is reached. It may thus be better to use the percentage change in a specific measure as the basis for reward, rather than an absolute measure as the example suggests. In reality, P4P may not be an

appropriate option for SA. Such a system assumes that providers have sufficient resources at their disposal to deliver better quality care and improve health outcomes. This may not be the case in many areas and/or facilities in SA, meaning that existing inequalities could be further exacerbated through poorer areas/facilities losing revenue to their resource-rich counterparts. Although P4P has been used in developing countries, this type of payment mechanism is most often used in evolved health systems capable of collecting and processing detailed data.

3.2 Hospital (inpatient) payment systems

The hospital inpatient sector usually consumes the greatest share of resources in a national healthcare system, which means that hospital payment systems can have a particularly strong influence on the performance of the healthcare system overall. The rationale behind changes in hospital payment methods is to influence behaviour and thereby improve performance through higher quality services and

13. *Discovery Health Annual Report 2008*. (p.13) Available at: http://www.discovery.co.za/investor_relations/2008_annual/pdfs/discovery2008AR.pdf

14. Rosenthal, M. B., 2008. "Beyond Pay for Performance - Emerging Models of Provider-Payment Reform," *New England Journal of Medicine*, Vol. 359, No. 12, pp.1197-1200.

15. Lischko, A. M., 2010. "Physician Payment Reform: A Review and Update of the Models," *Massachusetts Medical Society*.

Table 2: Types of Hospital Payment Methods, Characteristics and Incentives

Payment Method	Payment rate determined prospectively or retrospectively?	Payment to providers made prospectively or retrospectively?	Payment based on inputs or outputs?	Incentives for providers
1. Line-item budget	Prospectively	Prospectively	Inputs	Under-provide services; refer to other providers; increase inputs; no incentive or mechanism to improve the efficiency of the input mix; incentive to spend all remaining funds by the end of fiscal year.
2. Global budget	Prospectively	Prospectively	Inputs or Outputs	Under-provide services; refer to other providers; increase inputs; mechanism to improve efficiency of the input mix.
3. Per diem	Prospectively	Retrospectively	Outputs	Increase number of days (admissions and length of stay); reduce inputs per hospital day; increase bed capacity.
4. Case-based	Prospectively	Retrospectively	Outputs	Increase number of cases, including unnecessary hospitalisations; reduce inputs per case; incentive to improve the efficiency of the input mix; reduce length of stay; shift rehabilitation care to the outpatient setting; cherry-pick low-acuity cases.

Source: Adapted from Langerbrunner (2010)

lower costs. Table 2 summarises the characteristics of four main types of hospital payment methods. FFS can be applied to inpatient services in addition to these four methods.

3.2.1 Line-item budgets

A line-item budget allocates a fixed amount to providers to cover specific input costs or line items, such as personnel, medicines, supplies and utilities. The amounts may be based on historic costs or expected volumes and are usually prospective. Line-

item budgets are predictable and offer strong administrative controls which are often valued by government-run systems, since budget lines can be manipulated to increase service delivery over time. However, this assumes that public facilities will be empowered to follow the right combinations to achieve efficient outcomes, whereas in practice they usually lack the necessary monitoring information. Line-item budgets are inflexible and do not favour an efficient reallocation of resources between different

inputs, discouraging cutbacks and providing no incentives for efficiency or quality.

3.2.2 Global budgets

A global budget is a fixed prospective payment to cover aggregate expenditures for providing an agreed set of services over a given period. At the end of the period the hospital covers any shortfalls and keeps any surpluses. While global budgets are relatively flexible and encourage efficiency when strictly enforced, monitoring is needed

to prevent quality reductions and unwanted rationing. Both line-item and global budgets involve an incentive to under-produce services and long waiting lists may occur if the supply of services is insufficient to meet demand. Budgets may be based on inputs, outputs or a combination of the two. Historical costs and capitation have been used as a basis for budgets. If capitation is used it is important that all parties involved are completely clear about the population and services covered. Complex adjustments and calculations are frequently involved when parties have to agree on total expenditures in advance, requiring comprehensive data for every hospital. Hospitals often find this form of capitated budgets the most risky and difficult to manage.

South African public hospitals use a combination of line-item and global budgets. These hospitals receive prospective global budget allocations from provincial government, but line-item allocations exist at administrative level within each facility. Strict control to ensure that facilities keep within their budget or that line-item budg-

ets are adhered to is lacking. With little coordination between strategic services, financial and staff planning, costs associated with the latter often crowd out other expenses.¹⁶ This impacts negatively on efficiency and quality, as well as service provision and waiting lines, as was described above. With this type of budgeting system, the public healthcare sector has limited experience with purchaser-provider splits or the type of contracting that this entails – a potential concern for the future implementation of such a system on a grand scale.

3.2.3 *Per Diem* payments

In its purest form *Per Diem* payments involve a fixed daily amount that does not vary with the level of services provided, but are specific to the type of care, i.e. ICU vs general ward vs maternity care, etc. The dominant incentive is to increase the number of hospital-days, which can be accomplished by increasing hospital admissions and the average length of stay, leading to higher bed occupancy rates. There is also an incentive to reduce the intensity of services provided during each bed-day. The former incentive

is likely to be stronger than the latter because hospital days later in the stay tend to be less expensive. This is however only the case if hospitals can control admissions, which in SA is not possible. Doctors are independent and are the ones who admit patients. According to the Health Professions Council of South Africa (HPCSA) rules doctors cannot be employed by hospitals, nor are hospitals allowed to provide financial incentives for doctors to contain costs.¹⁷ In the private sector the patient's medical scheme will also authorise the admission and, together with the doctor, will decide on the length of stay (LOS). Since private hospitals cannot determine the LOS, and only carries the risk for the price and quantity of drugs and surgicals, they only have an incentive to reduce the intensity of a limited number of services, as described above.

In some settings, the average *Per Diem* rate is straightforward to calculate and implement since it may be based on the total historical costs divided by the total number of bed-days for a specific group of services, like maternity care, for instance.

16. Correspondence with industry expert (29/07/2010).

17. See the HPCSA's ethical rules, regulations and policy guidelines at: http://www.hpcsa.co.za/conduct_generic_ethical_rules.php

The average *Per Diem* rate may also be adjusted to reflect patient and case-mix characteristics, which may serve as a useful transition mechanism to a case-based payment system, since *Per Diem* systems are administratively simple to implement and can be used as a starting point for the data collection necessary in case-based systems. Given the lack of data in the South African public hospital sector, *Per Diems* could potentially be a useful point of departure toward reimbursement models that transfer more risk to hospitals. *Per Diems* are already extensively used in the local private sector and is adapted for the unique regulatory environment – for example, it allows for certain risks that are outside the hospitals' control (e.g. age of the patient).

3.2.4 Case-based systems

In case-based systems a standard payment is made per case or discharge unit, regardless of the actual cost of care. This basic model encourages more admissions of less severe cases (although this is only true for countries where hospitals can

control admissions), but payments are usually standardised for variations in the case-mix. The major incentives are to increase the number of cases and to minimise the inputs used in each case, the latter of which is typically stronger since providers have more control over resource use per case than the total number of cases treated, as is the case in SA. Thus the system is seen as a way to introduce efficiency incentives and competition into the hospital sector.¹⁸

The most widely used approach to case-based payments internationally is the **diagnosis-related group (DRG) system**. In a DRG system hospital cases are classified into groups, where patients in each category are clinically similar and expected to use a similar level of resources. DRGs are assigned based on diagnoses, procedures, age, sex, discharge status and the incidence of complications or co-morbidities. Thus revenue is related to the number and type of patients treated, with the price per patient fixed in advance and independent of the costs of the individual hospital.

DRG systems are administratively and operationally complex and require consistent and comprehensive data on activity and costs, including a computerised information system that records and groups cases into payment categories.¹⁹ Also, the use of DRGs could impact negatively on stand-alone hospitals (as opposed to groups) since they lack the volume required to ensure a small number of outliers can be absorbed by a large number of "normal" cases. For instance, in the case of an 80-bed standalone hospital, one polytrauma case with a very long LOS can have a significant and detrimental impact on the hospital's bottom line.

Although a fully fledged DRG system may take some time to implement, it is likely to be the reimbursement model of choice for the proposed health reforms in the hospital sector in SA. At the moment "[s]ome managed care companies and hospitals in SA are using DRGs for their own analyses and, from time to time, for reimbursement. There is also a process under way to develop a national standard DRG for SA

18. Imai, Y., Jacobzone, S. and Lenain, P., 2000. "The Changing Health System in France," OECD Economics Department: Working Papers No. 269.

19. Langenbrunner, J. C. And Wiley, M. M., 2002. "Hospital Payment Mechanisms: Theory and Practice in Transition Countries," European Observatory on Health Care Systems Series: Hospitals in a Changing Europe

through the Private Healthcare Information Standards Committee.”²⁰ A national system of this kind will contribute greatly to the integration of the public and private hospitals which use very different payment mechanisms currently. However, the transition to DRGs can be a complex process. One needs a couple of years’ worth of good, accurate data to develop and monitor such a system – this kind of detailed electronic data are not available in the public sector. Internationally, it has been accomplished by an incremental inclusion of hospitals, types of cases, costs, and an incremental movement from hospital-specific to system-wide base rates.²¹ Such an incremental process will also be necessary in SA, especially given the lack of adequate data and information systems in the public sector. These systems also work best where doctors are either employed or allowed to jointly negotiate with hospitals. As was mentioned, this is not the case in SA and may therefore limit the potential use of DRGs or present another hurdle to overcome in its implementation.

4 Alternative Considerations

As is clear from the theoretical discussion above, integrating the payment systems in the South African public and private sectors is not a straightforward task. There are many options and even more hurdles to overcome when trying to establish a uniform reimbursement system. In addition to determining the most appropriate payment mechanism at each level of the healthcare system, the level of reimbursement and overall design of the system should also be considered.

4.1.1 Reimbursement levels

Private and public hospitals are reimbursed at different levels in many countries, the justification being that they may face unavoidable differences in operating costs. This implies that providers will incur different costs in providing the same services, even when they are equally efficient. Another justification arises if providers treat different types of patients and the classification system is not sufficiently refined to identify these differences. Yet problems only arise

if the differences across providers are systematic, with one type of provider more likely to treat low-cost patients and another to treat high-cost patients.

This may explain part of the present cost difference between the private and public hospitals in SA, but is also a concern for the planned integration of these two sectors. It is not possible to reimburse public and private hospitals at the same level, since the input costs and other associated service delivery costs are much higher in the private sector. Amongst others, cost differences also arise from the cost of medicines and surgicals which are cheaper for the public sector obtaining these through preferential government procurement contracts. In a single payer model, the private sector will at least in the beginning have to be reimbursed for higher previous capital outlays and better service quality. Over time, as the quality of services and facilities in the public sector increases, this may be phased out, or a standard ‘factor’ may apply with which payments differ between the public and

20. Childs, B., 2009. “Diagnoses Related Groups: Understanding Hospital Admissions,” *Health Annals 2009*, Hospital Association of South Africa. Available at: http://www.hasa.co.za/media/uploads/about/publications/files/2010-06-22/HASA_Annals_1_56.pdf

21. Cashin, C., 2005. “Case-Based Hospital Payment Systems: Key Aspects of Design and Implementation,” USAID ZdravPlus Project.

private sector – as is the case in some European countries. In the UK for example, the National Health System (i.e. public) and Independent Sector (i.e. private) providers are reimbursed at different levels. Public hospital payments are adjusted through a Market Forces Factor (MFF), which takes account of geographical differences in the cost of capital and labour. Hospitals with higher MFF scores receive a higher tariff for every patient, since public hospitals cannot choose their location and are constrained to pay local factor prices. Thus MFF payments compensate for unavoidable cost differences in different parts of the country. Private providers may also be eligible for MFF payments because of constraints on location, since new entry is based on a capacity mapping exercise that establishes local need.²² Such a geographical cost adjustment alone will however not be sufficient in the South African case. A similar factor adjustment would have to allow for VAT, differences in drug prices, training costs and return on investment (ROI),

as well as the other factors mentioned above, and more. Other countries allowed for a transitional period after which prices are harmonised for all providers. In France the case-based portion of the payment to the public sector has been increasing gradually each year, from 10% in 2004 to 35% in 2006, with the objective of 100% in 2012. In contrast, private hospitals have been paid entirely by the case-based system since 2005. In the transition period national prices were adjusted by taking account of private sector prices and calculating a transition coefficient for each provider based on historical costs. The ultimate objective is to harmonise prices for all providers by 2012 and thereby increase competition between public and private providers.²³

4.1.2 System design

The optimal design of hospital payment systems has been widely discussed in the literature. In general the main trade-off is between providing incentives for efficiency and avoiding adverse patient

selection. Prospective payment systems are generally believed to increase efficiency because hospital revenue is independent of historical costs and the hospital can reap the gains from cost-reducing efforts. An incentive for undertaking these efforts is therefore created.²⁴

Under retrospective systems (i.e. where payment is made retrospectively) hospitals have a lesser incentive to reduce costs because they are covered irrespective of their magnitude in a given year. However, affordability pressures on funders do translate into cost management focus by hospitals. The literature suggests that retrospective payment systems address issues of access, acceptable levels of provider risk, adequate revenues, patient selection, and quality enhancement, whereas prospective payment systems do better on optimal levels of services, efficiency, and cost containment. It is often effective to combine different elements of these approaches. Most OECD countries use a mix of payment arrangements

22. Mason, A., Street, A., Miraldo, M. & Siciliani, L., 2009. "Should Prospective Payments be differentiated for Public and Private Healthcare Providers," *Health Economics, Policy and Law*: Cambridge University Press. 23. Or, Z., 2007. "Hospital 2007," *Health Policy Monitor*, 10/04/2007.

23. Or, Z., 2007. "Hospital 2007," *Health Policy Monitor*, 10/04/2007.

24. Biørn, E., Hagen, T. P., Iversen, T. And Magnussen, J., 2002. "The Effect Of Activity-Based Financing On Hospital Efficiency: A Panel Data Analysis Of Dea Efficiency Scores 1992-2000," *University Of Oslo Health Economics Research Programme: Working Paper 2002:8*.

to finance hospital care, each of which provide specific incentives for the quantity, quality and productive efficiency of hospital services²⁵ - see Table 3 in the following section.

In SA also, the optimal payment system will depend on policy priorities and the ability of the healthcare systems to manage the chosen system effectively and affordably. No single payment model is visibly superior, and particular methods should be considered in the context of objectives such as quality, efficiency, cost, and access.

5 International Experience

The previous two sections explained the economic theory and associated incentives of payment mechanisms in general, as well as briefly describing the current use of these mechanisms in the South African context. For comparative purposes, Table 3 provides examples of payment mechanisms in a number of countries for

different levels of service delivery in public and private facilities. Based on Table 3, international best practice seems to indicate that the use of DRGs in both public and private hospitals is most common. Many different payment mechanisms are used for primary care doctors and outpatient/ambulatory care, while most doctors in the public sectors are paid by salary, compared to FFS payments to doctors in the private sectors.

6 Unique South African Context

SA is unique in the sense that the rationale for single-payer models which was described earlier, may not hold in all instances and hence the described incentives of specific payment models may play out a bit different in practice. The public insurer may not have the expected strong bargaining position and monopsony power because of private healthcare providers' own bargaining power. The large quality differ-

ences between the public and private providers in SA, means that private providers will have some bargaining power of their own. These providers are not likely to provide their services at much lower costs than what they currently receive (as was explained in Health Reform Note 4). Also the shortage of doctors in SA will limit the extent to which this group can be "forced" into any specific reimbursement model that might reduce their current income. Therefore one would expect the equilibrium price to converge on the current private sector price, as opposed to the current public sector price or any other lower price.

Another important consideration in the South African context specifically is the HPCSA rules that was mentioned earlier. Since hospitals cannot employ doctors or provide financial incentives for them to manage costs, any changes to the reimbursement model are severely limited. If doctors are not on board with hospitals,

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25. Paris, V., Devaux, M. And Wei, L., 2010. "Health Systems Institutional Characteristics: A Survey Of 29 OECD Countries," *OECD Health Working Papers No. 50*.

Table 3: International Payment Mechanisms

Country	Primary care doctors	Ambulatory care specialists	Doctors in public hospitals	Doctors in private hospitals	Public hospitals	Private hospitals
England	86% by blended payment (capitation, practice allowance, fee-for-service for selected services, target payments for immunisation), 14% by fee-for-service for private work	100% by salary for public patients, fee-for-service for private patients	100% by salary for public patients, fee-for-service for private patients	100% by fee-for-service	Payment-by-Results: Prospective payment system according to DRGs, with a Market Forces Factor adjustment to take differing costs into account	Prospective payment system according to DRGs
France	Fee-for-service, capitation for registered patients	Fee-for-service	Salary	Fee-for-service	Activity-based payment: Prospective payment system according to DRGs with transition coefficient based on historical costs	Prospective payment system according to DRGs
Mexico	Salary in public sector, fee-for-service in private sector	Salary in public sector, fee-for-service in private sector	Salary	Fee-for-service		
Thailand	Capitation		Salary	Professional fees for services rendered, such as outpatient consultations, inpatient visits and surgical fees	Capitation (OP) and Global budget and DRG (IP)	Capitation (OP) and Global budget and DRG (IP)
Brazil	Professional fees for services rendered to patients, such as outpatient consultations, inpatient visits and surgical fees. Hospitals deduct part of the doctors' fees (10-20%) to be remitted to the hospital	Fee-for-service	Salary	Fee-for-service	Mix of decentralised budget, prospective global budget, prospective fee-for-service and prospective case-based payments	Prospective fee-for-service
Chile	Capitation	Capitation	Salary	Payment by medical service	Primary care facilities: per capita payments, High level facilities: diagnosis-based payments for the most frequent pathologies and prospective-payment-for-service for other diagnoses	
Colombia	Capitation or pre-payment	Capitation	Salary	Payment by medical service	Capitation is supplemented with fee-for-service charges billed to institutional purchasers of care and/or patients	Capitation is supplemented with fee-for-service charges billed to institutional purchasers of care and/or patients
Lombardy province (Italy)	Capitation ('Doctors') and fee-for-service for 'additional services'		Salary plus allowance for specific duties requested		per case using DRGs (hospital care) and fee-for-service (outpatient care)	per case using DRGs (hospital care) and fee-for-service (outpatient care)

26. For a complete list of references, please contact Econex.

the management of utilisation and standardisation on drugs and surgicals are restricted. Therefore, hospitals cannot accept the same level of risk as funders, since they cannot manage that risk. Further also, strictly speaking, the public insurer will not be the only buyer in the system since the medical aid schemes will still be allowed to provide duplicative and/or supplementary insurance. And should the quality differences not be addressed, many people will still buy comprehensive private health insurance in addition to their NHI tax. This would create a situation where there are multiple payers, also putting providers in a stronger bargaining position.

These issues are important to keep in mind when advocating for the benefits of a single-payer system in SA. It will also affect the specific payment mechanisms chosen at the various levels. Thus, in addition to the theoretical incentives described above, there are many practical

considerations in this country that may alter the textbook-based expectations. For instance, applying a DRG-based system in the public and private sectors right away is not an easy task. The data requirements are overwhelming and both sectors will have great difficulty changing current systems accordingly. Using global budgets for all hospitals will require significant changes to the current private sector model, which means that a uniform system is not easily implementable at the moment – not in primary, secondary or tertiary care settings. The use of an interim, transitional payment system is paramount to the practical implementation of suggested health reforms and requires much thought.

The final choice of payment mechanism will depend specifically on the chosen service delivery and referral model (see Health Reform Note 5). For example, if there is free choice of provider at the PHC level one would usually use a capitation

model rather than FFS. Since the final service delivery model has not yet been decided, it is impossible to know what payment mechanisms will be the most appropriate within the specific South African context.

7 Conclusion

This note discussed the various contracting options and associated economic incentives for different payment mechanisms in the health sector. It was also pointed out that the specific South African circumstances might change the expected incentives – which mean that any suggested payment model should be carefully considered before being implemented. While this note provided a more theoretical description of the details of payment mechanisms in universal health insurance systems, the following note will take a more in-depth look into the human resources for health (i.e. specialists, GPs and nurses) situation in South Africa.