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A Few Practical Considerations of the Proposed NHI

This note discusses some of the practical issues around the latest ANC National Health Insurance (NHI) proposal (September 2010). The aim is to facilitate debate around some of the very real practical issues that will have to be fleshed out before implementation of any NHI system. In this note we touch specifically on issues of payment and contracting models, referral systems and human resource needs.

1 Introduction

Although there have not been any official policies or discussion documents from the government at the time of writing, the ANC NHI proposal[1] of September 2010, as well as previous proposals, give some indication of the nature and extent of the planned health reforms. In this note we will take a closer look at what these reforms may entail in practice.

While the latest ANC NHI discussion document contains the first cost estimates from the ANC, practical details are lacking. The lack of clarity applies specifically to some of the most important aspects of the envisaged health reforms. Of specific concern is the interaction at the first level of care between primary healthcare (PHC) teams, private multi-disciplinary practices and community health centres (CHCs) or clinics. In order to contribute to the debate, we consider in this note practical aspects of issues such as contracting and payment, referral, use of human resources, etc

While most of these issues were addressed at a higher and more theoretical level in the previous five Health Reform Notes, the current note analyses the practical constraints of implementing some of the proposed models.

2 Service Delivery and Payment Models

The ANC NHI proposal suggests a mixture of various service delivery and payment models. It appears that the most successful aspects from a host of international examples were put together in an attempt to achieve the best possible outcomes. However, one cannot use just any service delivery

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. *ANC National General Council 2010, Additional Discussion Documents. Released September 2010. Available at: http://www.anc.org.za/docs/discus/2010/aditionalo.pdf*

model with any payment model. For example, a capitation-based payment model cannot be used together with a free choice of provider service delivery model, since a patient would be able to go to a different provider every time and it would be impossible for the capitation payment to 'follow' the patient. The practicalities of integrating different models are not addressed in the proposal and there are a number of questions left unanswered.

For instance, it is not entirely clear what the first point of service delivery will be and where exactly NHI beneficiaries – the entire population – have to register. Also, the ANC discussion document states that the PHC teams will have a number of tasks, including visiting the homes of the 10,000 people each team will be responsible for. "They are therefore the primary proponents of the primary health care approach as envisaged in the Alma Ata Declaration[2] and will ensure that upstream factors (social determinants of health) are responded to. These teams will be supported by health professionals operating in fixed health facilities (clinics, CHCs and district hospitals) as well as a network of group practices contracted into the NHI system over time to provide essential primary care services on a capitation basis." [3]

According to this statement, it appears that the PHC teams will be the first point of contact with the health system and that each person will have to register with such a team. What is more likely however, since these teams will be moving around, is that one may have to register with a specific clinic or CHC. But group practices, which presumably are private multi-disciplinary general practitioners (GP) practices, are also mentioned, even though these are completely different types of health facilities. While all the facilities mentioned here technically form part of the first level of service delivery or patient contact with the system, they all provide different combinations of services and the referral hierarchy between the various facilities are not addressed. It also would not make sense to contract private practices on a capitation basis, especially if they are only used on a referral or support basis from the PHC teams or clinics, since a lot of resources would be wasted.

In that type of model the private GPs would act as insurers by absorbing financial risk in having to manage patients' clinical risks. Taking financial risk is not part of a physician's training and has not been very successful internationally. Determining a risk-adjusted capitation rate based on the underlying demographic and other characteristics of a specific catchment population (that may or may not be referred to them from the PHC team or public clinic) is extremely resource intensive and highly inefficient in this specific case.

On the other hand it would be unaffordable and impractical to have private GP practices as the first point of service delivery in the system (they are too expensive and unequally distributed across the country). Given SA's limited resources because of a very narrow tax base amongst other reasons, it would be too expensive to contract with private GPs on capitation basis and it is not clear how the PHC approach will be integrated with such a model – especially also in the light of the current and expected shortage of GPs.[4]

2. *"The Alma-Ata Declaration of 1978 emerged as a major milestone of the twentieth century in the field of public health, and it identified primary health care as the key to the attainment of the goal of Health for All." Available at: http://www.who.int/social_determinants/tools/multimedia/alma_ata/en/index.html*
3. *See footnote 1. (p.33)*
4. *See Econex Health Reform Note 8. Available at: www.econex.co.za*

2.1 Resource constraints

Before considering in more detail the various uncertainties highlighted, we do some 'back of the envelope' calculations to obtain a high level indication of the costs associated with PHC teams and what this might imply in practice.

2.1.1 General practitioners

As mentioned above, the ANC proposal suggests that each PHC team will be responsible for a group of 10,000 people. They also point out that given SA's population of about 50 million people, this means that 5,000 teams would have to be established – requiring 5,000 GPs if each team had one GP (according to the current proposal).

At a first glance, this does not warrant a cause for concern. There are 17,801 GPs in the country,[5] of which 11,026 are in the public sector. However, previous research showed high levels of pent-up (unmet) demand for especially GP services.[6] Note further that GPs fulfil a multitude of tasks in the healthcare sector and the actual consultation is but one aspect of a GPs typical function. Simplistic interpretation of these numbers might lead to incorrect deductions.

It is also not possible to re-assign 5,000 public sector GPs to PHC teams without filling the gaps in the hospitals and clinics. While the demand for GP services at the clinics may decline as a result of the introduction of the PHC teams, overall expected increases in demand as a result of implementing the NHI, could be much greater. Already the weighted average vacancy rate for GPs in South Africa's public sector was 49% in 2010.[7] Although some of these vacancies represent frozen posts, one would assume that all posts will be made available again once the NHI is implemented, in order to cope with the expected increases in utilisation. Since most of the public sector GPs provide secondary/tertiary care, as opposed to primary care alone, the majority of these posts will have to be filled (i.e. at least another 11,000 public sector GPs are required), as well as adding another 5,000 GPs to work in the PHC teams. Finding a further 16,000 GPs effectively means a doubling of the existing stock – in line with previous estimates made by Econex.

It may be the case that some GPs currently working in the private sector will have spare capacity, as the demand for private out-of-hospital medical cover could reduce. These GPs would be able to fill some of the posts in the public sector or PHC teams. However, it is not only medical scheme beneficiaries who use private GPs and some people may therefore continue to pay out of pocket to see private sector GPs, if the quality differences between the two sectors persist. This will depend largely on the type of service delivery model finally im-

5. *See Econex Health Reform Note 7. Available at: www.econex.co.za*
6. *See Econex NHI Note 3. Available at: www.econex.co.za*
7. *The government's public sector Personnel and Salary Administration System (PERSAL), 2010.*

plemented. If a PHC team visits each household every so often, it may reduce the demand for private sector GPs, freeing up more of these resources. Still, with an expected increase in demand for healthcare service of 70%-80%,[8] the spare capacity in the private sector may not be sufficient.

2.1.2 Team and population size

The introduction of PHC teams is largely based on the Brazilian model and the success they've had with this approach.[9] While the Family Health Teams (FHTs) in Brazil (consisting of at least one physician, one nurse, one assistant nurse, and four to six community health workers) are larger and better staffed than that envisioned for SA, each FHT is responsible for only 1,000 families or between 3,000 and 4,500 individuals.[10] Allocating 10,000 people to a PHC team with only a GP, a nurse and 3-4 community health workers as the ANC proposes, may be somewhat ambitious. Better resourced teams, or fewer people allocated to each team, should produce better results in terms of the care provided and outcomes achieved. If we were to implement a model more similar to that of Brazil, with about 4,000 people allocated to each team, the need increases from 5,000 PHC teams to 12,500 teams – further impacting on the human and financial resources which are already in short supply. (Brazil has 185 doctors per 100,000 population, compared to South Africa's 55 per 100,000.)[11] However, keeping the team structure and population allocation as the NHI proposal suggests, will adversely impact on expected health outcomes. One cannot in that case anticipate the same successes and increases in health outcomes that the Brazilian model achieved – this trade-off should be noted.

3 Core Principles

The concerns highlighted in the first part of section 2 above have to be further analysed within the framework of the underlying principles of the NHI, such as free choice, no co-payments, etc. Of even greater importance to our discussion here are the practicalities around foundational factors common to the design of any health system (referral, payment mechanisms, human resources for health (HRH) issues, and so on). In this section we address these matters by looking at the ANC proposals, international best practice and the ensuing practical questions/gaps in the proposed NHI plan.

3.1 Provider choice and referral

Complete freedom of choice of health provider seemed to be one of the cornerstones of the NHI. In some of the earlier proposals from the ANC, patient choice was promised. However, the latest proposal now suggests some restrictions to the choice of provider. In line with international best practice, limited choice will be offered within geographical areas alone, and members will only be allowed to choose a new PHC provider[12] once a year, given that there is more than one accredited provider within their area of choice. Since referral by a PHC provider to hospitals or specialists will be needed to access higher levels of care, this initial choice, albeit limited, will be the only measure of choice one has. While a person may be able

8. *See footnote 1. (p.30)*
9. *See Econex Occasional Note – October 2010. Available at: www.econex.co.za*
10. *Giugliani, C. & Nascimento, D., 2007. "Brazil: Achievements and Challenges to the Health System," IPHU Short Course, Savar, November.*
11. *See Econex Health Reform Note 8. Available at: www.econex.co.za*
12. *In light of the contradictions pointed out in section 2, the term "PHC provider" will be used to refer to the first point of service delivery in the health system (i.e. a PHC team, public clinic, CHC or private multi-disciplinary practice).*

to choose the PHC provider he/she registers at, no further choice will be offered along the service hierarchy; therefore severely limiting choice in most instances.

Nevertheless, in order to attain allocative efficiency[13] in the face of unconstrained demand, choice has to be limited. Previous research showed that rationing is an inevitable part of any healthcare system. In most countries across the world we see a move to more limited choice of provider as part of an effort to manage and contain costs.

We saw that while healthcare and choice in South Africa is already rationed (implicitly) in the public and (explicitly) in the private sectors, these are not effectively implemented in the public sector specifically. Geographical disparities also impact on referral and choice, through the limited number of doctors, facilities and other resources in certain areas.

One of the first practical concerns with regards to provider choice (even if limited) is that of registration. Except for the nationally integrated information technology (IT) system that will have to be designed and implemented at each practice, it would also be extremely difficult and administratively burdensome to ensure that the entire population is registered at a specific PHC provider within their respective geographical areas.

One would imagine that each PHC provider would be limited to a certain number of registered beneficiaries, but it is unclear how these spaces will be filled or whether it will be on a first-come-first-serve basis. This is quite a serious concern if one takes into account that the shortage of GPs may imply that there will be only a limited number of PHC providers in each area, especially in rural areas.

The choice and referral process within and between each level of care, is another matter for consideration. The planned implementation of task-shifting means that a person would most probably see a nurse, before being referred to a GP or any other healthcare professional, if necessary.

Details about provider choice at the secondary level (i.e. specialist or in-hospital services) are not available. Demand for these services will however be managed and we can be certain that direct access to specialists will only be available in exceptional circumstances, while in all likelihood referral from a GP will be required in most instances.

3.2 Payment mechanisms

Foundational to the successful operation of the NHI, is the underlying payment systems. A number of reimbursement models are used internationally, but the most common of these are budgets, fee-for-service (FFS) and capitation.

Global and line-item budgets are most often used in public hospitals (secondary and tertiary care settings) in SA, as well as internationally. Budgets do not provide any incentives for increasing quality and can be associated with inefficiency and unnecessary rationing, if not monitored carefully. This is however a rather simple or uncomplicated way of paying providers, and, although not the most effective way of managing resources, probably the only practical starting point for reimbursing public providers at this level of care under the proposed NHI.

Doctors in PHC or other out-of-hospital settings are usually paid on a capitation basis or FFS, depending on the structure of the health system. FFS models are often associated with overutilization or supplier-induced demand as providers get paid for every procedure or group of services they provide. This is the most common payment mechanism for GPs

13. *Allocative efficiency is defined as the point where the marginal cost of producing a good is equal to its marginal price, i.e. where scarce resources are allocated according to the maximum utility derived from their use.*

and specialists working in the private sector in SA. Costs can be managed reasonably well though, since prices are usually set in advance as per an agreed fee schedule. Capitation payments are not widely used in SA – firstly because of its complexities and detailed data requirements, but also because of the incentive to under-provide services and unnecessarily referring patients to higher levels of care.

In terms of planned health reforms regarding the payment structures at various levels of healthcare delivery, the latest NHI discussion document from the ANC clearly states that at the primary care level, existing private GPs can be accredited if they work in multi-disciplinary practices which include primary health care nurses and a range of allied health professions."[14] In other words, apart from a few exceptions, to provide services under the NHI (and hence receive payment from the NHI Authority (NHIA)) GPs will have to work in multi-disciplinary teams/ practices together with many other types of health workers – a major change from the current model with one or two GPs working together in most instances.

The ANC document points out that the structuring of reimbursement models will be used as part of the overall cost-containment effort. Furthermore, "The provider payment arrangements that the NHI Fund will use to reimburse all accredited providers will be risk-adjusted per capita payments (i.e. capitation) and global budgeting. ... This applies to public and private providers in each category of service provision. ... At a district level, the capitation payment could be shared between health centres and district hospitals, with a defined allocation for referrals to tertiary care providers. This would be determined by the supply and level of providers in each district and province." [15]

Global budgets for hospitals imply that the hospital must take the risk on all in-hospital costs of the patient visit, as well as all referrals into the hospital. Thus, the hospital firstly takes risk on what services the specialist performs in the hospital, although the specialist is not employed, and then takes risk on the number of patients sent through. A GP under capitation has an incentive to refer patients up the service hierarchy (discussed below) which normally means more hospital visits. For a hospital to take on this risk, requires the hospital to have substantial data on demographics, referral patterns, etc. – data which are not readily available in South Africa.

Capitation appears to be the payment mechanism of choice at the district/first level of care. The proposal goes on to explain that aside from the level of service delivery, providers in the public and private sectors will receive the same amount. This does not seem fair, nor follows logically, since unlike public sector providers, private providers have to pay

14. *See footnote 1. (p.24)*
15. *See footnote 1. (p.26)*

value-added tax (VAT) of 14% on all their expenses and also do not have access to cheaper pharmaceuticals as the state has through government procurement on preferential contracts. Naturally, private providers should also be compensated for capital outlays and investors' expected return on capital. A homogenous reimbursement rate would not take into account these factors, nor assure a level playing field.

While capitation does have its advantages, it is often associated with longer waiting times (since doctors do not have an incentive to see more patients quicker) and higher referral rates (as it is more cost effective for the doctor to refer the patient than treat him/her and so increasing expenses). The most common adverse incentive associated with capitation is under-servicing and in order to address this issue there will be specific protocols for treating various diseases, as well as mathematical formula to control expenditure. It is also mentioned that even in the transition phase, capitation fees and budgets will be calculated by taking into account demographic characteristics of that specific district or area, such as population age, gender and disease profile.

There is not supposed to be any co-payments throughout the service hierarchy. In other words, no money is supposed to flow from NHI patients to healthcare providers, but all providers will receive payment directly from the NHIA. Some of the earlier proposals indicate that the system could be designed to cater for about 3 visits per person per annum. Should the number of visits be more than this, rationing mechanisms such as waiting lines or queues will have to be employed. While there are already opportunities for bribery in a system such as that described above (people might be willing to pay to be registered at a specific PHC provider or in order to be referred to a preferred specialist or hospital), this situation will be further exacerbated by people willing to pay to skip long queues or move their names up on a list.

As we have seen in the ANC discussion document, the multi-disciplinary practices will be paid on a risk-adjusted capitation basis. Calculating such a capitation rate is not a simple exercise. One requires detailed demographic and burden of disease data of the registered population at each PHC provider or within defined geographical areas. This is not available at present and will entail a massive effort from government in order to collect and process these types of data. Furthermore, one ideally needs this data as a time series to capture trends so as to allow for future planning and budgeting. Capitation payments are also supposed to "follow" each individual, should he/she choose a different provider when allowed to do so (once a year) or if that person were to relocate. Thus, each PHC provider's patient records must be linked with the central payment system, in order to facilitate the correct payment to each facility and for each period.

The reimbursement system will get even more complicated because of capitation payments that have to be shared between health centres, district hospitals and referral to tertiary settings. Managing the flow of money between these different points of service delivery will not only require state of the art IT systems, but also well-trained and equipped staff members with the necessary capacity to administer it on a daily basis.

On a more positive note, many of these problems have been overcome internationally. The technical issues are therefore something that could be addressed over the long run, but using capitation as the chosen reimbursement model within the specific South African context, may still not be appropriate.

3.3 Human Resources for Health

At the moment there are a total of 27,431 doctors actively working in SA – 17,801 GPs and 9,630 specialists. More than 60% of

the GPs work in the public sector, while 56.2% of all specialists work in the private sector.[16] Evidence of pent-up demand for high quality services delivered by GPs and specialists specifically, indicate an existing shortage of these professionals. As discussed previously, this is confirmed by a weighted average vacancy rate of 49% for GPs and 44% for specialists in the public sector. We find that this shortage will only get worse over the next 10 years, if current trends were to continue. The total number of doctors could potentially decline to 23,849 in 2020.[17]

The situation with nursing looks somewhat more positive, but the internal mix of different categories of nurses will be problematic. Our estimates indicate that 189,718 nurses are actively working in the country at the moment. 111,180 of these nurses work in the public sector, with the remainder delivering care in various settings in the private sector. Should current trends continue over the next decade, the stock of nurses would increase to 291,942 by 2020. We found however that the supply of higher qualified nurses as a percentage of the total will decline over time.[18] This is particularly concerning for the delivery of high quality services in the long term. Since nurses will form the backbone of healthcare service delivery in the future, and also if the current PHC service delivery model were to change to the planned team-based approach, we would need many more nurses (at all levels of qualification) than what the model predicted there would be.

As indicated before, the planned PHC approach requires teams of health professionals to be set up all over the country. The proposal also describes a central role for task shifting "where tasks are delegated to workers with lower qualifications or from trained professionals to lay health workers."[19] This will impact significantly on the service delivery model and hence the required number of doctors, nurses and other health workers.

Since the PHC teams will employ many of the available HRH in the country, one cannot help but wonder where the additional resources will originate from if all GPs are now required to form multi-disciplinary practices. There simply is not enough HRH – especially nurses, who will be key to delivering care under the new model – to staff the PHC teams, the GP practices, clinics, CHCs and all the hospitals in both sectors.

This situation requires substantial investment in training opportunities and capacity, as well as a renewed focus on retention policies, improved work environment and methods of compensation. As we have mentioned in previous research, the majority of doctors will only contract with the NHIA if it is beneficial to them. It is perhaps useful to mention that these problems are not necessarily insurmountable, but given the long lead times in training HRH it might imply a slower implementation than is currently proposed. Again this is in line with the realities faced by other countries where universal coverage was implemented where full coverage often took decades to achieve.

4 Conclusion

The aim of this note was to highlight some of the practical issues concerning the proposed NHI plan. While the idea was not to provide any concrete solutions at this stage, we hope that these initial discussions will foster debate

16. *See Econex Health Reform Note 7. Available at: www.econex.co.za*
17. *See Econex Health Reform Note 8. Available at: www.econex.co.za*
18. *See Econex Health Reform Note 9. Available at: www.econex.co.za*
19. *See footnote 1. (p.37)*

and encourage proper consideration of the mentioned issues before such a system is implemented.

The discussion showed that it is essential to have the appropriate payment mechanisms in place at each level of the service hierarchy, for the system to work effectively and to limit unnecessary costs. The associated incentives of each type of payment and service delivery model should be considered carefully before a final decision is made. The need for substantial information, further research and analysis is clear. Very little of the required data is available at present; hampering the ability to make informed choices about contracting, payment, referral and HRH. While a universal healthcare system is urgently needed in SA, one should not assume certain models without doing the necessary analyses as to what will be best for the South African people.

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