

# Making health insurance work for the low-income market in South Africa

## Cost drivers and strategies



This study identifies the main cost drivers in the South African health insurance system, and how this system can be made more affordable and accessible to low-income earners.

**This report presents the findings and conclusions of a study that identifies the main drivers of health insurance costs in South Africa, as well as strategies that can be used to reduce these costs, to support the inclusion of low-income earners.**

The study was funded by the South African-based **FinMark Trust**<sup>1</sup> ([www.finmarktrust.org.za](http://www.finmarktrust.org.za)) and project-managed by the Centre for Financial Regulation and Inclusion (**Cenfri**: [www.cenfri.org](http://www.cenfri.org)).

**FinMark Trust** is an independent trust governed by five trustees appointed from countries in Southern Africa. The trust was created with initial funding from the United Kingdom's department for international development. Its mission is captured by its slogan: "Making financial markets work for the poor". In pursuit of this objective, the trust supports and promotes institutional and organisational development, with the aim of increasing access to financial services among Africa's unserved and under-served people.

**Cenfri** is a non-profit research centre established in March 2008 with the support of the FinMark Trust. Cenfri's mission is to support financial sector development and financial inclusion by facilitating better regulation and market provision of financial services. This is done by conducting research, providing advice and developing capacity-building programmes for regulators, market players and other parties operating in the low-income market.

The study was conducted by Elixir Business Consulting (Pty) Ltd and Fifth Quadrant Actuaries and Consultants (Pty) Ltd.

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## Abbreviations

BHF – Board of Healthcare Funders  
CDL – Chronic disease list  
CIF – Cape Clothing Industry Healthcare Fund  
CPIX – Consumer price index, minus mortgages  
DTP – Diagnosis treatment pair  
GCI – Gross contribution income  
HPCSA – Health Professions Council of South Africa  
LIMS – (The Consultative Investigation into) Low-Income Medical Schemes  
NAP – Net acquisition price  
NHI – National health insurance  
NHRPL – National Health Reference Price List  
Polmed – Police Services Medical Scheme  
Pbpa: Per medical scheme beneficiary per annum  
Pabpa: Per average beneficiary per month  
PHMS – Platinum Health Medical Scheme  
PMB – Prescribed minimum benefit  
RAMS – Representative Association of Medical Schemes  
REF – Risk equalisation fund  
RPL – Reference Price List  
SEP – Single exit price  
SHI – Social health insurance  
WHO – World Health Organisation

## Foreword

During the past ten years, South Africa has made remarkable progress in the area of financial inclusion for lower-income households in the banking and, to a lesser extent, insurance markets. Little progress, however, has been made in expanding access to medical schemes. While the higher-income market for medical schemes may well be saturated, middle-income and lower-income groups remain excluded.

In an effort to make financial markets work for the poor, FinMark Trust constantly seeks to gain a better understanding of the barriers that prevent low-income people from accessing financial markets. Health financing is a particularly important market which, if it is functioning properly, supports access to health services by attracting service providers and ensuring that they are remunerated for their services. Without appropriate health financing mechanisms, access to private healthcare is not an option for most low-income South Africans.

There is widespread international agreement on the need for universal health coverage and that, where possible, governments should play a role in providing it. What is less clear is the ideal balance between the private and public sectors in achieving universal coverage. Different countries have followed different approaches and there are different roads to universal coverage, each with its own complications.

In the context of South Africa's own debate on approaches to universal coverage, this study investigates the increasing costs of private health cover as a significant barrier to access, and the drivers of these costs. The findings are used as basis for potential strategies for achieving a more inclusive health financing market.

Cost-drivers are considered from three perspectives:

- *Industry perspective.* Industry-level cost-drivers are analysed to understand cost increases;
- *Individual scheme perspective.* Scheme-level data is examined to provide a more detailed understanding of the interaction between funders, health service providers and clients, and of how this leads to cost increases; and
- *International perspective:* Evidence from other countries is also considered, as well as international cases of where health financing costs have been kept low and health financing systems expanded to include more low-income earners.

While the report does not propose a particular design for the proposed National Health Insurance (NHI) system, it does, by implication, comment on the potential role that private health insurance could play in such a system. More importantly, the analysis of the challenges of cost containment in the private health insurance environment holds valuable lessons for insurance-funded health systems, whether it is provided by the private or public sector.

As a non-aligned participant in this debate, we hope that the FinMark Trust's input may help provide an objective perspective and a platform for debate among stakeholders. The study also explores the potential role that an entity such as the FinMark Trust can play in supporting the development of a more inclusive health financing market. We would welcome comments and further engagement.

We commend this report to all those interested in giving South Africans expanded access to health services.

**Anja Smith, Health financing project manager - FinMark Trust and Cenfri**

## Executive Summary

This study was commissioned by the Finmark Trust, which contributes to the growing body of knowledge on how to “make financial markets work for the poor”. In pursuit of this objective, the trust supports and promotes institutional and organisational development with the aim of increasing access to financial services by the unserved and under-served people of Africa.

### Terms of reference

The study’s terms of reference are to understand the main drivers of medical scheme and related health service costs, and to identify strategies that can be used to contain these costs and support the greater inclusion of low-income families.

### Why this study is important

As South African policy-makers look for ways to use insurance to pursue the internationally accepted goal of universal access to prioritised health care services, they could learn from the experience gained from South Africa’s medical scheme industry and health insurance systems elsewhere in the world. In line with the objectives of the Finmark Trust, which funded this study, this research offers insights into cost-drivers in insurance systems and ways in which insured healthcare services can be made more affordable and accessible to low-income earners.

### Approach

This report takes the following approach to the terms of reference:

- It examines the merits of using an insurance system to achieve greater inclusivity in South Africa. This is done by understanding the need for including low earners; the policy and regulatory reforms aimed at improving inclusivity; and the challenges of using medical schemes in ushering in mandatory cover and good practice, as advocated by the World Health Organisation.
- The report identifies systemic challenges facing all health insurance systems, to highlight some of the fundamental challenges that policy-makers are likely to face in crafting the South African system.
- The report then presents the findings of two analyses, at scheme and industry levels. The first identifies key cost-drivers, while the second identifies strategies that have helped to address the impact of cost-drivers, with an eye to making benefits more affordable.
- The report then includes a section setting out key strategies used by insurance systems elsewhere in the world to address some of the important cost-drivers identified in the analysis of South Africa’s medical schemes.
- A final section offers conclusions based on the research findings and sets out implications for consideration in South Africa’s debate on health insurance policy.

## Important findings

### Context

- a. There is widespread international agreement that providing universal health care cover is one of the core obligations that any legitimate government must fulfil.
- b. The same principles of universal cover are embodied in the provisions of the National Health Act of 2004 and the policy that underpins it.
- c. If the medical scheme industry is to play a meaningful role in the future financing of health care, it must address cost levels and increases.
- d. Analysis has shown that the vast majority of the 8.2-million South African households that lack medical scheme cover incur out-of-pocket medical expenditure, and that affordability is a major reason for not belonging to a medical scheme.
- e. There are compelling international examples to show that if the state sponsors low income earners in the same way that employers do for formal sector based medical scheme members, then health insurance can be significantly extended in South Africa to include low earners, including those that are not in formal employment.

### Cost-drivers: the international experience

- f. International evidence shows that health insurance markets facilitate the introduction of beneficial, but costly, new technology. Because the reimbursement of providers on a fee-for-service basis fuels *supply-driven* demand for new technology, the benefit package and provider reimbursement system should be structured to ensure cost-effective and clinically appropriate access to innovations.
- g. International experience in health insurance systems also shows that regulation is needed to address market failures caused by factors such as provider billing arrangements, risk selection, trust-based relationships between providers and patients, and licensing and educational standards.

### Cost-drivers: the South African experience

- h. An analysis of industry-level expenditure by South African medical schemes over the period 1997-2007 revealed the following important factors that drove costs higher or lower:
  - **Number and cost of in-patient days.** In recent years, patient days, case mix and new technology have continued to drive fee-for-service costs per claim upwards. Furthermore, claims involving procedures, with higher average costs, have grown faster than claims without procedures. New technologies such as intervention radiology, endovascular surgery, computerised simulation scanning, prostheses (joint replacements) and non-invasive endoscopic surgery (for heart and abdominal conditions) have contributed to cost escalation. The growth in claims revenue was offset by higher staff costs and lower profit margins on medicines and consumables caused by alternative pricing structures, preventing hospitals from increasing their profit margins.

- **Private hospital billing arrangements.** To maintain profit margins and in response to higher staff costs, price regulation (medicines) and price restructuring (consumables), private hospitals negotiated increased ward and theatre fees and renewed the move to “managed care arrangements”, mainly incorporating “per diem” and “fixed fee” billing.
- **Specialist billing arrangements.** There has been a significant increase in fees billed to medical scheme beneficiaries in excess of benefits – excess billing – linked to the health department’s Reference Price List. This has had an adverse impact on the cost of Prescribed Minimum Benefits, because schemes are obliged to pay for these services at “cost”, and on out-of-pocket expenditure, particularly for non-PMB claims.
- **Regulation of medicine prices and dispensing practices.** After a period of rapid medicine cost escalation, between 1997 and 2001, the per capita real costs of medical schemes fell substantially after the implementation of generic substitution by pharmacists in the late 1990s and the introduction of medicine price regulation in 2004. However, there are strong indications that as a result, the number and mix of items per script and the number of scripts claimed per beneficiary are increasing.
- **Medicine pricing relative to state tender pricing.** There is a substantial difference between state tender prices for medicines and prices charged in the medical scheme market.
- **Impact of new legislation on non-healthcare costs.** Non-healthcare costs increased rapidly between 1997 and 2001, mainly because of the growth in managed care, broker activity and reinsurance arrangements. However, regulatory intervention has eliminated the abuse of reinsurance; tackled the transparency and level of intermediary costs; and restrained cost escalation related to managed care.
- **Impact of membership changes on non-healthcare costs.** Between 2002 to 2007, the consolidation of medical scheme administrations has served to raise the average per capita costs of open schemes, because of distribution and product innovation. At the same time, the costs of restricted schemes fell because of volume discounts.
- **High prevalence of lifestyle diseases.** There is a high frequency of claims for conditions that could be avoided by lifestyle modifications, such as giving up smoking, losing weight loss and increased physical activity.
- **Impact of Prescribed Minimum Benefits (PMBs).** The growing awareness of PMBs among beneficiaries and providers, coupled with the absence of a recognised PMB fee structure and the absence of measures to control utilisation and lifestyle-related illnesses, has driven PMB claims upwards at a faster rate than non-PMB claims.
- **Anti-selection.** There is a tendency for older, higher-claiming beneficiaries and lower-claiming, middle-income beneficiaries to “buy down” to lower cost options, making these options less affordable. There is also a correlation between members’ propensity to claim – health-seeking behaviour – and the richness of benefits.
- **Income level.** In general, members in higher income categories tend to claim more than those in lower income categories within a given plan.

### **Strategies for improving affordability: international experience**

- i. The research conducted for this report included a range of international sources and, while there are no simple remedies, some useful ideas on how to improve the efficiency and relevance of health insurance systems. For example:
- Innovative approaches in India show that entrepreneurs can devise product and delivery solutions for elective procedures – that fit budgets that are a fraction of what might be expected. The secret lies in coordinating patient demand, training and managing specialised care-giver teams, procuring at bulk discounts, and eliminating spare capacity by means of efficient scheduling.
  - Insurance systems that prioritise benefit packages based on proven medical efficacy, population needs and available delivery capacity, such as those in Chile and Mexico, allocate resources more effectively at a macro- and micro-levels.
  - Poor communities in China suffered from the inefficiencies and inequities of a health financing and services sector that was largely driven by perverse financial incentives and commercial opportunism. The massive rollout of state-sponsored insurance has corrected this.
  - In the United States, switching away from fee-for-service to prospective methods of reimbursing providers has, in some areas, reduced wastage in hospital and ambulatory services.

### **Strategies for improving affordability: the South African experience**

- j. Our research also showed that there have been experiments with cost-effective solutions in South Africa, mainly in the restricted medical scheme sector. Some of these arrangements enjoy exemptions from rules and regulations that apply to the health care professionals, on the one hand, and to medical schemes, on the other.
- Some mining employers have developed and applied solutions for employees that optimise the use of clinical skills, consumables and facilities within tightly managed budgets. Measures used to control the cost of curative care include the use of GPs employed by the medical scheme, who manage referrals to specialists; ownership and management of facilities; and formulary-based procurement of medicines. Significant savings have been achieved by using such measures, compared to the fee-for-service system generally favoured by medical schemes. The mining industry has also leveraged the advantages of health promotion and preventative care by coordinating workplace health initiatives and curative health delivery.
  - Through a health fund, employers and employees in the Western Cape clothing industry have prioritised a set of insured benefits that are provided within a tight monthly budget of less than R60 per beneficiary (in 2009). The industry has chosen to fund primary healthcare, and to partner the public sector in supplying chronic medicines. For historic reasons, the fund is exempt from paying for the costly prescribed minimum benefit package imposed by law on medical schemes, and this has allowed it to offer a more limited but affordable set of benefits to members.

## Implications for discussion

The findings of this report suggest that a health insurance system can play a useful role in moving South Africa towards universal healthcare. In line with best international practice, the breadth of coverage offered by employer sponsored medical schemes could be expanded to incorporate a state sponsored component. This broader based pre-payment system can then be progressively coordinated with other sources of public and private funding in a coherent whole that ensures cover for all population groups. In this way, the valuable institutional capacity and healthcare services developed under the medical scheme and public sector systems can be used as building-blocks in meeting national objectives.

If the above approach is adopted, the following regulatory refinements and interventions could be considered as a way of preparing the medical scheme industry for greater inclusion of low earners through expanded employer sponsorship and a new system of state sponsorship:

- The current scope and application of PMBs as well as the associated fee structures and reimbursement models could be revisited to provide entry-level benefit options that lower income populations can afford. Using evidence-based review as a guide PMBs could be chosen with an eye to cost-effectiveness, ethical considerations and social acceptability. They could be refined to:
  - address priority needs;
  - specify what should be provided at the different levels of care and what conditions must exist for access to higher care levels;
  - emphasise primary care; and to
  - incorporate promotional and preventative care to reduce the impact of lifestyle diseases.
- Regulations restricting contractual arrangements between medical schemes and professional practitioners, such as those related to fee structures, alternative reimbursement models and employment, could be revisited to facilitate a more efficient use of resources than in the current fee-for-service system.
- Regulations could be reviewed to the extent that they hamper the structuring and deployment of health care worker teams to use skills more efficiently through specialisation and the leverage of talent. For example, the establishment of inter-disciplinary group practices and centres of excellence could be considered. Also, the role of the private sector in training certain categories of health care workers could be reviewed.
- Mechanisms could be created to facilitate the development of billing and health care delivery relationships between medical schemes and public sector institutions and facilities.
- The regulatory environment could be refined to enable medical schemes (whether employer or state sponsored) to implement low-cost options for low-income earners, in a way that anti-selection by people on higher incomes is prevented.
- The new regulatory framework introduced during the past decade with favourable impact on medicine prices and non-healthcare costs could be further refined to address cost levels and cost increases in an expanded health insurance sector.
- A regulatory framework could be implemented to facilitate the development and negotiation of hospital and specialist billing arrangements that do not rely on balance billing to bridge

the gap between fees charged and insured benefits. This is particularly important in the case of the minimum benefits prescribed by legislation and the development of solutions for the low income sector.

- The trend towards risk-sharing alternative reimbursement for hospital services could be encouraged, to provide incentives for efficiency and the adoption of new technology. Similarly, this trend could also be encouraged for other service provider types where appropriate.

## 1. Introduction

This study was commissioned by the Finmark Trust, which seeks to contribute to the growing body of knowledge on **how to make financial markets work for the poor**. In pursuit of this objective, the trust supports and promotes institutional and organisational development, with the aim of increasing access to financial services among Africa's unserved and under-served people.

The **terms of reference of this study** are to understand the main drivers of medical scheme and related health service costs, and to identify strategies that can be used to reduce costs to promote greater inclusion of low-income families.

**The findings of this study can be used** to inform any initiative that aims to use insurance, whether through pre-payment or risk-pooling, as a mechanism for expanding access to health services. The study investigates the cost-drivers and solutions of the medical scheme industry in South Africa, but also draws on the experience of other voluntary and compulsory health insurance systems.

**This report takes the following approach to the terms of reference:**

- Section 2 examines the merits of using an insurance system to achieve greater inclusivity in South Africa. This is done by analysing why low earners need to be included; the policy and regulatory reforms aimed at improving inclusivity; and the challenges of using medical schemes to introduce mandatory cover and good practice, as advocated by the World Health Organisation.
- Section 3 identifies systemic challenges facing all health insurance systems, to highlight some of the fundamental challenges that policy-makers are likely to face in crafting the system in South Africa;
- Section 4 then presents findings drawn from the medical scheme industry and an analysis of medical schemes designed to identify key cost-drivers;
- Section 5 presents findings from a limited analysis of the medical scheme industry, and selected schemes, to identify strategies that have helped to address the impact of cost-drivers in order to make benefits more affordable;
- Section 6 identifies key strategies used by insurance systems in other countries to address some of the important cost-drivers identified from the research of South African medical schemes;
- Section 7 offers conclusions based on findings presented in the earlier sections that are designed to contribute to the debate on health insurance inclusivity in South Africa. It also provides a list of implications for the debate.

**The sources** of information used in this study include various sources of secondary data, including local and international research papers, articles, reports and data from the Council for Medical Schemes. The study also undertakes primary data analysis, using data provided by The South African Police Services Medical Scheme (Polmed), the Clothing Industry Health Fund and the Platinum Health Fund.

**In line with the mission and objectives of the Finmark Trust, the findings and conclusions of this report will be made available to stakeholders as an input into ongoing deliberations aimed at increasing the inclusion of poorer communities in South Africa's health insurance system.**

## 2. The merits of expanding health insurance in South Africa

This section starts by providing a brief overview of health financing and delivery systems in South Africa. It then describes the policy and regulatory context, and examines the need for expanding medical insurance to make it more inclusive of low-income earners in South Africa. It also summarises the recent policy debate on health insurance in South Africa, and the challenges facing those who advocate the use of medical schemes to implement mandatory cover. It documents recent initiatives to enhance the ability of medical schemes to serve as the backbone for mandatory cover that includes low-income earners. The section concludes by summarising the World Health Organisation's perspectives on the use of insurance as a way of moving towards the goal of universal cover and providing two recent international examples of how state-sponsored insurance has been used to expand cover to low income populations.

### 2.1 Financial structure of the health care system in South Africa

Healthcare expenditure in South Africa stood at about R108-billion in 2005, or 7.7% of GDP in that year. About 14.8% of South Africans were covered by medical schemes in 2005 and used the private sector for most of their health services. A further 21% of the population are not medical scheme beneficiaries, but use the private sector on an out-of-pocket basis, mainly for primary care. They are likely to be entirely dependent on the public sector for hospital, and particularly in-patient, care. The remaining 64.2% of the population can be said to depend entirely on the public sector for all healthcare services<sup>2</sup>.

Medical schemes are the largest financing intermediaries, accounting for nearly 46% of healthcare expenditure. About 40% of total healthcare funds flow through public sector financing intermediaries, mainly the national, provincial and local departments of health. Out-of-pocket payments are estimated to total nearly 14% of all healthcare expenditure<sup>3</sup>.

### 2.2 The need to expand medical insurance to be more inclusive of low-income earners

Recent research in South Africa into potential demand for medical insurance among low-earning people yields the following key findings:

- While people without medical scheme cover have access to free public sector primary care, they still purchase private primary care, mostly in the form of non-prescription pharmaceuticals and the services of general practitioners<sup>4</sup>. Furthermore, low-income people may find user fees at public hospitals too onerous to pay out of pocket. The Low-Income

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<sup>2</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castillo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand: 19, 30-31.

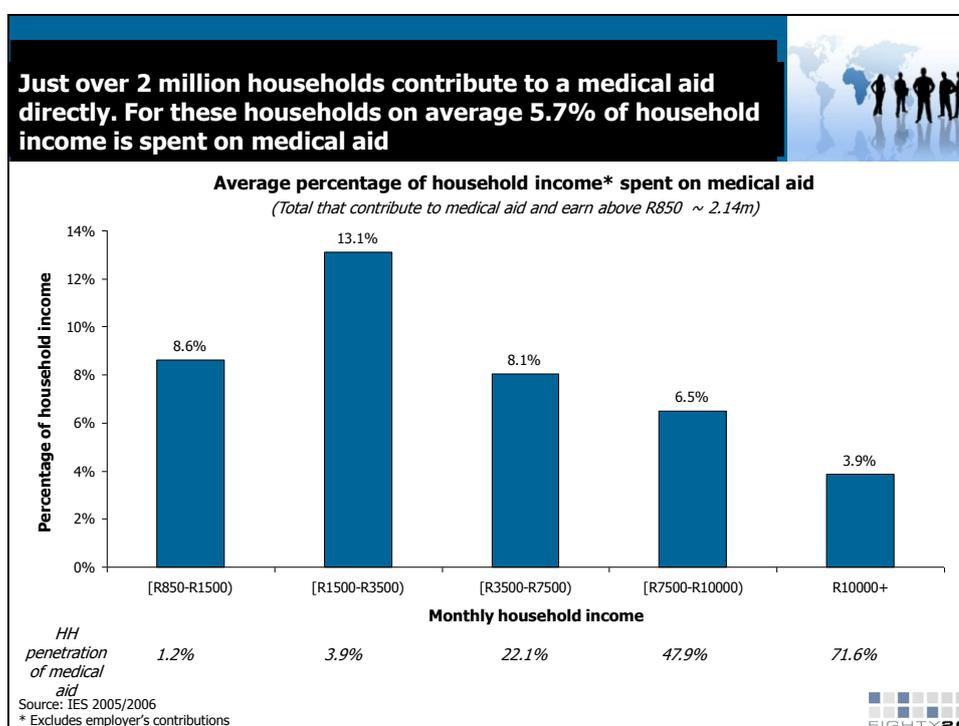
<sup>3</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castillo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand. 19-20.

<sup>4</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castillo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand.

Medical Scheme (LIMS) household survey supports these observations, showing that public hospital user fees in 2005 could amount to R998<sup>5</sup> for a single admission. The Eighty20 Analysis<sup>6</sup> shows that 8.2-million households that do not have medical schemes incur out-of-pocket medical expenditure.

- The LIMS household survey<sup>7</sup> found that some 72% of respondents in the low-income group (earning less than R2 500 a month) and 82% of respondents in the higher-income group (earning between R2 500 and R6 000 a month) agreed or strongly agreed with the statement: “I would be willing to pay a small amount each month for free medical care even if I am not sick now.”
- There is a strong correlation between income levels and medical scheme penetration, as shown in Figure 1. This suggests that the uptake of medical schemes is related to disposable income and would be higher if medical scheme benefits cost less.

**Figure 1 : Penetration and financial impact of medical schemes on households**



- Table 1 below shows that in 2007, 7,9-million South Africans were employed, and that about 3.6-million of them had no medical scheme cover. For 1.7-million people, a monthly contribution of R100 per capita (2006 prices) would not exceed 10% of income. Furthermore,

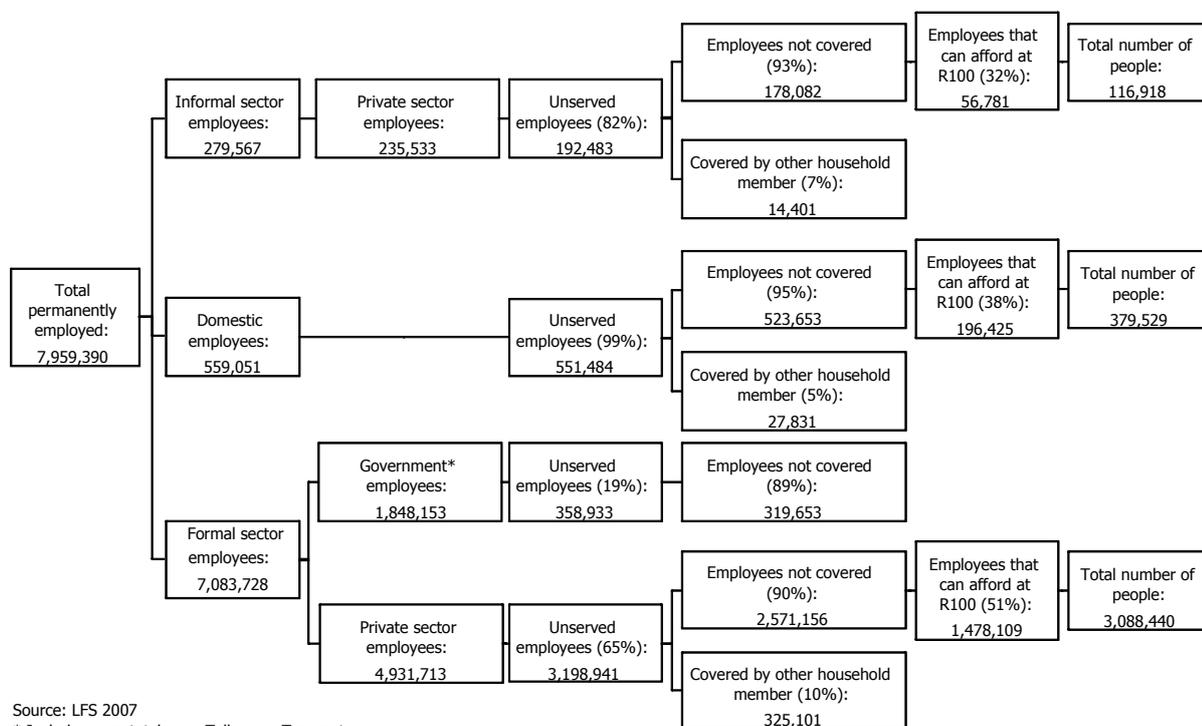
<sup>5</sup> Broomberg, J. 2007. *Consultative Investigation into Low Income Medical Schemes – Final Report*. South African department of health: 48-60

<sup>6</sup> Analysis done by Eighty20. 2009. *Demand-side analysis of medical scheme coverage and access*. Commissioned by the Centre for Financial Regulation and Inclusion (Cenfri) on behalf of the FinMark Trust. Available at: [http://www.finmark.org.za/documents/DSA\\_medicalschemes.pdf](http://www.finmark.org.za/documents/DSA_medicalschemes.pdf) (accessed July 2009). Based on data from the *Income and Expenditure Survey (IES) 2005/6*. Sample size: 21 144 households.

<sup>7</sup> Broomberg, J. (2006). *Investigation into Low Income Medical Schemes*. Department of Health: 30.

these employees could introduce a further 1.9-million dependants at R100 each without total contributions exceeding 10%<sup>8</sup> of their household income. This would provide cover for a total of 3.6-million people, which is similar to the LIMS estimate of 3.2-million, based on its household survey<sup>9</sup>. A 50% employer contribution could halve the impact to 5% of income, or increase the total contribution to R200 per capita.

**Table 1 : Analysis of employees and their dependants without medical scheme cover<sup>10</sup>**



Source: LFS 2007

\* Includes parastatals e.g. Telkom or Transnet

## 2.3 National policy relating to medical insurance in South Africa

The broad policy framework and key policy issues were first spelt out in South Africa in the White Paper for the Transformation of the Health System (1997),<sup>11</sup> whose proposals include the following<sup>12</sup>:

<sup>8</sup> In the analysis that Eighty20 prepared for the Centre for Financial Regulation and Inclusion (Cenfri) and FinMark Trust, aimed at assessing whether a household can afford medical scheme cover, the average contribution per beneficiary per month is multiplied by the number of people in the household. If this amounts to 10% or less of household income (the affordability threshold), the assumption is that the relevant household (or the individuals who make up the household) can afford medical scheme cover.

<sup>9</sup> Broomberg, J. (2006). *Investigation into Low Income Medical Schemes*. Department of health: 64.

<sup>10</sup> Eighty20. July 2009. *Demand-side analysis of medical scheme coverage and access in South Africa*. Published by Cenfri and Finmark Trust on [www.finmarktrust.org.za](http://www.finmarktrust.org.za).

<sup>11</sup> Department of health (1997) *White Paper for the Transformation of the Health System in South Africa*. Pretoria: Government Printer.

<sup>12</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castilo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand. 16-17.

- Comprehensive primary care should be the “strategic approach” that guides transformation of the health system.
- Equity should be promoted, particularly in redressing the historical inequities which resulted from apartheid policies. Vulnerable groups – women, children, the elderly, the disabled and the poor – should receive priority.
- Health care financing should play a role in redistributing resources.
- Health care financing policies should promote greater equity between people living in rural and urban areas, and between people served by the public and private health sectors.
- The public and private sectors should be brought together to promote a common goal in a way that makes optimal use of all available health care resources. The public-private mix of health care should promote equity in service provision.
- Social health insurance – mandatory insurance – is an important aspect of promoting equity in health care financing.

Many of the principles of the White Paper are reflected in the National Health Act:<sup>13</sup>

- The object of the Act, set out in section 2, refers to:
  - The establishment of a national health system that encompasses public and private providers of health services;
  - A progressive realisation of the constitutional right of access to healthcare services;
  - Protecting, promoting and respecting the rights of vulnerable groups such as women, children, older persons and persons with disabilities.
- Section 45 (1) of the Act gives the minister of health the responsibility to “prescribe mechanisms to enable a co-ordinated relationship between private and public health establishments in the delivery of health services”.

The National Health Act does not refer to mandatory insurance, which would require separate legislation.<sup>14</sup> There have been discussions about the possible introduction of some form of mandatory health insurance system since the early 1990s, but little progress in achieving this.

One important set of recommendations by the health sub-committee of the Committee of Inquiry into a Comprehensive System of Social Security of 2002<sup>15</sup> – known as the Taylor Committee – related to a phased roll-out of reforms towards a national health insurance system (NHI). The sub-committee defines NHI as a “universal contributory environment”. The main purpose of the second phase is to enhance the “voluntary contributory environment in order to facilitate the establishment of a mandatory environment”.

Shortly after the Taylor Committee reported<sup>16</sup>, the national department of health set up a ministerial task team in 2004 to decide on which of the committee’s proposals to take forward, and how. The task team decided that it was not feasible to pursue NHI in the short term, and recommended that the focus should be on implementing a social health insurance system (SHI) and that the medical

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<sup>13</sup> No 61 of 2003. National Health Act, 2004.

<sup>14</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castilo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand. 17

<sup>15</sup> Department of health (14 May 2002). *Inquiry into the Various Social Security Aspects of the South African Health System*.

<sup>16</sup> Department of Social Development. 2002. *Transforming the Present – Protecting the Future: Consolidated Report of the Committee of Inquiry into a Comprehensive System of Social Security for South Africa*. Pretoria: Department of social development.

scheme industry should be transformed for this purpose. Key elements of this transformation were seen as:

- Introducing a risk equalisation fund (REF), and a risk-adjusted subsidy for medical aids, to ensure that all schemes confront the average demographic and health risk structure of the market as a whole<sup>17</sup>;
- Removing tax concessions on medical scheme contributions<sup>18</sup>;
- Charging fees at public sector hospitals only to those who can afford medical scheme cover;
- Introducing an income-based cross-subsidy through an earmarked or dedicated SHI tax for medical scheme cover, to be collected by the South African Revenue Service and channeled via the REF, together with a direct government subsidy funded from general taxes<sup>19</sup>;
- Introducing a standardised basic benefit package that all schemes will be required to offer, that would include the existing prescribed minimum benefits and primary care services; and
- Introducing measures to control increases in the cost of private health care.

The Draft Medical Schemes Bill<sup>20</sup> provides a framework for the implementation of the task team's proposals, particularly those that relate to the risk equalisation fund and basic benefit package. The Bill was published in September 2008 and submitted to Parliament, but was held back because of the 2009 elections, which placed NHI back on the policy reform agenda<sup>21</sup>.

## 2.4 Challenges to the extension of mandatory medical scheme cover

The challenges facing those wishing to advocate the use of medical schemes to extend mandatory insurance cover to all income earners are as follows:

- The SHIELD Report<sup>22</sup>, which focuses on equity in the health system, underscores the concerns of medical schemes, particularly in relation to the perceived need to improve services provided by public hospitals and growing worries about the affordability of medical scheme contributions. As mentioned earlier, medical schemes are the largest financing intermediaries, accounting for nearly 46% of total health care expenditure in South Africa. Despite this, by December 2007 medical schemes covered only 7.5-million<sup>23</sup> beneficiaries (7.8-million by September 2008), representing about 15.9%<sup>24</sup> of the total population at that time.

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<sup>17</sup> Definition provided in: Department of Health (14 May 2002). *Inquiry into the Various Social Security Aspects of the South African Health System*.

<sup>18</sup> In 2009, the first R625 per month payable to a medical scheme for the first two beneficiaries, plus R380 for each additional dependant, may be deducted for tax purposes. A further deduction is permitted if qualifying medical expenses – including medical scheme contributions – exceed 7.5% of a taxpayer's taxable income.

<sup>19</sup> Ultimately the SHI tax would be incorporated into a composite Social Security Tax.

<sup>20</sup> Government Gazette No 31114. June 2 2008. Draft Medical Schemes Bill.

<sup>21</sup> As articulated in the ANC's 2009 election manifesto.

<sup>22</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castilo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand. 10-50. The SHIELD Report focuses on alternative approaches to health insurance to address health system equity challenges. It is mainly concerned with mandatory insurance and insurance mechanisms for covering those outside formal employment

<sup>23</sup> Council for Medical Schemes. February 2009. Quarterly Reports.

<sup>24</sup> Van den Heever. 31 October 2008. Presentation: National Health Insurance – what is this all about?

- The SHIELD Report goes further to show that over time, a maldistribution of healthcare service capacity has arisen. More than twice as many private hospital beds are available per medical scheme beneficiary as there are for those who depend on the public sector. Also, each public sector pharmacist serves 12 to 30 times as many patients, and each general practitioner seven to 17 times as many patients, as their counterparts in the private sector. For nurses the figures are 6:1, and for specialist doctors 23:1.
- The longer-term sustainability of medical schemes has been called into question by the fact that their expenditure grew at an average rate of 11.7%<sup>25</sup> per annum between 1997 and 2007, while the consumer inflation rate (CPIX) grew by 6.4%<sup>26</sup>. Despite this, the SHIELD Report reveals that medical scheme beneficiaries still incur out-of-pocket payments, mainly for medicines and medical practitioners, due to co-payments, billings in excess of benefits and benefit limits.

## 2.5 Recent initiatives to position medical schemes for mandatory cover that includes low earners

Since 2006 two important initiatives have set out to refine the regulatory environment for medical schemes, in order to position the industry to play a more effective role in extending mandatory cover. Firstly, the LIMS initiative aimed to create a dispensation in which medical schemes could implement low-cost packages for low earners. Secondly, there has been an ongoing review of prescribed minimum benefits aimed at optimising risk pooling in the industry through appropriate benefit design.

### 2.5.1 The Low-Income Medical Scheme initiative (LIMS)

The ministerial task team on social health insurance launched the LIMS consultative process in 2005 to gain insights from a range of stakeholders on ways of extending medical scheme coverage to lower-income formal sector workers. At the time, the Council for Medical Schemes faced a growing number of ad hoc applications for the approval of proposed new schemes and for the exemption of new benefit options from some of the provisions of the Medical Schemes Act and associated regulations. These applications focused on the prescribed minimum benefits (PMBs), as it was perceived that low-income workers could not afford the full PMB.

The key recommendations of the LIMS consultative process were as follows:

- LIMS should be open to any formal sector employee or self-employed person who earns less than R6 500 per month, in 2005 terms, and their dependents.
- New schemes and new benefit options within existing schemes should provide LIMS.
- The report suggested that employers and employees should each make a 50% contribution to the premium, and that the employee's share should not exceed 5% to 8% of household income.
- It was recommended that government should directly subsidise LIMS membership contributions.

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<sup>25</sup> Computed from the Council for Medical Schemes Annual Reports: 1998 to 2007-8

<sup>26</sup> Computed using data published by Statistics South Africa (StatsSA)

- The proposed LIMS minimum benefit package relates to acute and some chronic outpatient or ambulatory care, and LIMS members would be expected to obtain in-patient care from a public hospital at no cost.
- LIMS schemes should be kept entirely separate, or ring-fenced, from other medical schemes and no cross-subsidies with other schemes would be allowed or facilitated through a risk equalisation fund.

While the LIMS proposals offer an important mechanism for extending risk-pooling to a larger section of the South African population, particularly those who bear the major burden of out-of-pocket payments, the SHIELD Report<sup>27</sup> makes the following criticisms<sup>28</sup>:

- To address the high cost of medical scheme cover, the main obstacle to membership for low-income South Africans, LIMS proposes limiting the benefit package, and suggests that mechanisms are found to reduce private sector service costs. In this regard, several private sector health care providers volunteered to charge lower rates for LIMS beneficiaries provided that existing medical scheme members are prevented from “buying down” to LIMS. However, there had been no attempt to explore ways of reversing the dramatic increases in private providers’ fees to deal with problems of supplier-induced demand.
- No consideration had been given to the possibility of extending medical scheme membership to low-income earners *within existing scheme structures*. Arguably, some element of income cross-subsidy and government subsidy, combined with serious attempts to improve efficiency, could provide an alternative mechanism for extending medical scheme cover to low-income households.
- The creation of LIMS schemes could compound inequities and entrench further fragmentation in South Africa’s healthcare financing. There would essentially be a three-tier health system, comprising:
  - Full medical scheme beneficiaries, who would receive almost all their healthcare from private providers;
  - LIMS scheme beneficiaries, who would receive some ambulatory care in the private sector and some chronic care and all specialist and in-patient care in the public sector without cost-recovery; and
  - Other South Africans who are not covered by any form of medical scheme, who might pay for some ambulatory care in the private sector on an out-of-pocket basis but would be almost entirely dependent on the public sector for most healthcare services.

To date, the LIMS proposals have not been implemented as part of an initiative to extend medical scheme cover to low earners. Enabling legislation has not been put in place, as the department of health is awaiting final policy direction from the government elected in 2009.

### 2.5.2 Review of prescribed minimum benefits (PMBs)

The PMB review consultation document of 2009<sup>29</sup> was developed in the context of other reforms proposed in the draft Medical Schemes Amendment Bill, which aims to introduce a risk equalisation

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<sup>27</sup> The SHIELD Report focuses on alternative approaches to health insurance to address health system equity challenges. It and is mainly concerned with mandatory insurance and insurance mechanisms for covering those outside formal employment

<sup>28</sup> McIntyre D., Thiede, M., Nkosi M., Mutyambizi V., Castilo-Riquelme M., Gilson L., Erasmus E., Goudge J. 2007. *A Critical Analysis of the Current South African Health System*. Health Economics Unit, University of Cape Town and Centre for Health Policy, University of the Witwatersrand: v.

fund and provides for a revised benefit structure and medical scheme products for low-income people.

To protect risk pools by removing the effects of risk rating<sup>30</sup> through benefit design, and to implement community rating effectively, the review document recommends the broadening of PMB benefits to increase the range of benefits that will participate in the REF. Recognising that this will have a further negative impact on affordability for low earners, it recommends:

- Exemptions to PMB provisions for low-income options that are still to be developed. These must include provisions to prevent anti-selection and risk pool splitting through “buy-down” to low-income options.
- The introduction of mechanisms whereby PMB remuneration is based on a negotiated fee that does not result in any balance billing for patients.

## 2.6 Policy perspectives of the World Health Organisation

In considering the role of medical insurance in South Africa, the World Health Organisation’s (WHO)<sup>31</sup> review of healthcare systems elsewhere in the world offers useful insights. Some of these are presented below in an effort to show that expanding medical insurance in the context of a policy aimed at achieving universal cover – even if this is initially done on a voluntary basis through such mechanisms as South Africa’s voluntary medical scheme system – conforms with best international practice.

### a. Pre-payment systems are useful in mobilising and allocating resources

Commenting on “low-expenditure, low-growth” health economies, such as South Africa’s, the WHO recommends refinancing and revitalising resource-starved health systems through primary healthcare reforms. It recommends the nurturing of pre-payment systems, to discourage direct levies on the sick and encourage the pooling of resources. Such a policy instrument makes it possible to allocate limited resources more intelligently and explicitly than when health services are paid for out of pocket. While it does not prescribe the type of pooling mechanism, the WHO suggests that larger pools are more efficient and that, in future, gradual merging or federation of pre-payment schemes could progressively strengthen regulatory capacity and mechanisms of accountability.

### b. The aim should be universal coverage

According to the WHO, there is now a widespread consensus that providing universal coverage is one of any legitimate government’s core obligations to citizens. It defines universal coverage as “universal access to the full range of personal and non-personal health services they need, with social health protection”<sup>32</sup>. The WHO points to a wealth of evidence that financial protection is better, and catastrophic expenditure less frequent, in countries where there is more pre-payment for healthcare and less out-of-pocket payment.

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<sup>29</sup> Council for Medical Schemes. 25 March 2009. *PMB review consultation document*. Third Draft.

<sup>30</sup> Risk rating refers to measures implemented by insurers to protect their risk pools against high claimers.

<sup>31</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*.

<sup>32</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 25.

### c. Insurance coverage can be expanded gradually

Expanding insurance over time, in the context of a national strategy, can assist in moving towards universal coverage. The WHO's view is that whether the arrangements for universal coverage are tax-based, organised through social health insurance, or a mixture of both, the principles are the same: the pooling of pre-paid contributions collected on the basis of ability to pay, and their use to ensure that services are available, accessible and provide quality care for those who need them, without exposing them to the risk of catastrophic expenditure<sup>33</sup>. The WHO defines catastrophic expenditure as "out-of-pocket expenditure that causes poverty".

The development of universal coverage takes time. According to Kutzin (1996)<sup>34</sup>, in most countries that have achieved it, such as the Czech Republic, Germany, and Japan, the transition from partial to full coverage took between 40 and 100 years. The fastest transition was in Korea, which did it in 12 years. This occurred in the context of:

- A clear government commitment to universal coverage;
- A strong local government system able to implement regular means tests to identify those who need subsidies; and
- A per capita economic growth rate that averaged more than 10 percent a year in real terms over the relevant period.

### d. There is an opportunity for low- to middle-income countries to implement universal coverage

The WHO explains that industrialised countries, particularly in Europe, began to put social health protection schemes in place in the late 19<sup>th</sup> century, and moved towards universalism in the second half of the 20<sup>th</sup> century. The opportunity now exists for low- and middle-income countries to move in a similar direction. Costa Rica and Turkey are among the countries that have already introduced ambitious universal coverage schemes, moving significantly faster than industrialised countries did in the past. Other countries are weighing similar options. The technical challenge of moving towards universal coverage is to expand coverage in three ways:

- i. *Depth of coverage.* The range of essential services required to address people's health needs effectively must be expanded, taking into account demand and expectations and the resources society is willing and able to allocate to health.
- ii. *Height of coverage.* The proportion of healthcare costs converted through pooling and pre-payment mechanisms must also rise, reducing reliance on out-of-pocket co-payments at the point of delivery.
- iii. *Breadth of coverage.* The proportion of the population that enjoys social health protection must expand progressively to encompass the uninsured. The WHO lists best practices in this regard, which are reproduced in Table 2.

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<sup>33</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 25.

<sup>34</sup> Kutzin, J. 1996. *Health Insurance for the Formal Sector in Africa: Yes, But ...* World Health Organisation: Analysis, Research and Assessment Division: Chapter 5: 69.

**Table 2 : Best practices for expanding breadth of cover<sup>35</sup>**

<p><b>Emphasise pre-payment from the start.</b> It may take many years before access to health services and financial protection against the costs involved are available to all. It took Japan and the United Kingdom 36 years. The road may seem discouragingly long, particularly for the poorest countries, where healthcare networks are sparsely developed; financial protection schemes are embryonic; and the health sector is highly dependent on external funds. Particularly in these countries, however, it is crucial to move towards pre-payment systems at a very early stage and resist the temptation to rely on user fees. Setting up and maintaining appropriate mechanisms for pre-payment builds the institutional capacity to manage the financing of the system, together with the extension of services that is usually lacking in such contexts.</p>
<p><b>Coordinate funding sources.</b> To organise universal cover, it is necessary to consider all sources of funding in a country – public, private, external and domestic. In low-income countries, it is particularly important to channel international funding through nascent and established pooling schemes and institutions, rather than through project or programme funding. Routing funds in this way has two purposes: it makes external funding more stable and predictable, and it helps build the institutional capacity to develop and extend supply, access and financial protection in a balanced way.</p>
<p><b>Combine schemes to build towards full coverage.</b> Many countries with limited resources and administrative capacity have experimented with a multitude of voluntary insurance schemes – including community, cooperative, employer-based and other private schemes – as a way of fostering pre-payment and pooling in preparation for the move to more comprehensive national systems. Such schemes are no substitute for universal coverage, although they can become building-blocks of the universal system. Achieving universal coverage means coordinating or combining these schemes progressively into a coherent whole that ensures coverage to all population groups and builds bridges with broader social protection programmes.</p>

## 2.7 International initiatives using insurance to expand cover to low-income populations

In Mexico and China state sponsored insurance has been launched on a large scale this decade to address the needs of low income households. The *Seguro Popular* in Mexico and the *New Cooperative Medical System* (NCMS) scheme in China which are both voluntary contributory schemes were both launched this decade to fund impoverishing and catastrophic health expenditure for large communities of low earners that were not covered under existing employer based schemes<sup>36,37</sup>.

In the case of Mexico, the *Seguro Popular* was launched to cater for families who were not covered by the existing social health insurance scheme. In three years, the scheme grew to cover 5.1 million families.

<sup>35</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 25-26.

<sup>36</sup> Frenk, J., Gonzalez-Pier, E., Gomez-Dantes, O., Lezana, M., Knaul, F. 2006. Health System Reform in Mexico 1: Comprehensive reform to improve health system performance in Mexico. *The Lancet* [www.thelancet.com](http://www.thelancet.com), 368: 1524-1534.

<sup>37</sup> Yip, W., Hsiao W., 2009. Non-evidence-based policy: How effective is China's new cooperative medical scheme in reducing medical impoverishment. *Social Science & Medicine*, 69: 201-209

In the case of China, the NCMS was launched to address the needs of the massive rural (including farming) communities that were not covered under the Basic Medical Insurance Scheme or the Urban-resident Scheme. By 2007, the NCMS had grown to cover 720-million beneficiaries including 85.9% of the farming community.

Both these schemes draw heavily on government subsidy funding as opposed to employer funding, and require beneficiaries to make a defined monthly contribution. They also drew from existing service delivery infrastructure in both the public and private sectors.

## 2.8 Summary

The merit of expanding health insurance cover in South Africa is indicated by the following:

- Medical schemes have low penetration in the lower-income segment of the population, indicating that there is a significant opportunity to increase cover if premiums can be made affordable.
- Government policy and initiatives since 1994 have recognised the benefits of focusing on comprehensive primary care as a way of transforming the health system. The government has also reformed the medical scheme industry to structure it more appropriately for the implementation of mandatory insurance. This provides a useful platform for making the medical scheme system more inclusive.
- The growth in real expenditure and the concentration of healthcare resources in the privately funded sector have been identified as challenges facing the medical scheme system in South Africa.
- There have been useful initiatives aimed at making medical schemes more inclusive in South Africa. LIMS, which focuses on primary care, can be implemented with refinements if Parliament approves draft legislation.
- The WHO encourages the use of health insurance to mobilise and allocate resources towards the objective of achieving universal coverage. The WHO believes that there is an opportunity for low- to middle-income countries to do so significantly more quickly than industrialised countries did in the past.
- With financial assistance from the state, health insurance can be extended beyond those in formal employment to households that are in a position to make some contribution. The Mexican *Seguro Popular* and Chinese *Cooperative Medical System* are compelling examples of how this can be done.

### 3. Systemic challenges facing healthcare insurance systems

In this section we draw on selected literature to identify macro-economic cost-drivers of general importance to the performance of health insurance systems, and particularly systems that service the price-sensitive low-income sector. The intention is to highlight some of the fundamental challenges that policy-makers are likely to face in extending the South African health insurance system.

#### 3.1 The reciprocal relationship between medical insurance and new technology

*Technology is a key driver of increases in health expenditure.* Weisbrod (1991)<sup>38</sup> argues that much of the growth in healthcare expenditure in the United States since World War 2 has come not from the rising price of existing technologies, but from the price paid for new technologies. Newly developed technologies have driven up the cost of care, while expanding the range of services for which consumers demand insurance. For example, Koenig et al. (2003)<sup>39</sup> found that between 1990 and 2000, technology and treatment patterns accounted for 11% of the growth in costs associated with physicians' services in the US. Similarly, Goetghebeur et al. (2003)<sup>40</sup> found that new technology – in the form of devices, pharmaceuticals, surgical procedures, organisational tools and informatics – accounted for 22% of the increase in in-patient healthcare spending between 2001 and 2002.

Preker et al. (2007)<sup>41</sup> point out that a characteristic of voluntary insurance markets is that they facilitate the introduction of beneficial, though costly, new technology. As long as competitive insurers are free to refuse to cover new technology, and the market for medical services remains competitive, they will add coverage that makes consumers better off. In this sense, the so-called "failure" of cost containment in insurance markets relates more to the willingness of consumers to pay higher prices for less restrictive supply-side rationing than typically occurs in public sector systems.

Furthermore, research by the McKinsey Global Institute (2008)<sup>42</sup> showed that where new, expensive technologies, from imaging to surgical equipment, bring higher returns to providers, this fuels *supply-driven* demand for such innovation. So what emerges is a constant cycle of cost inflation along the healthcare value chain — from the manufacturers of health products, to equipment manufacturers, to providers of healthcare, to those that pay, and, ultimately, to employers and patients.

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<sup>38</sup> Weisbrod, B., A. June 1991. "The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment", *Journal of Economic Literature*. XXIX: 523-552.

<sup>39</sup> Koenig L., Siegel J.M., Dobson A., Hearle K., Silver H., Rudowitz R. 2003. "Drivers of Healthcare Expenditures Associated With Physician Services." *The American Journal of Managed Care*, 9 (Special Issue).

<sup>40</sup> Goetghebeur M., Forrest S., Hay J. 2003. "Understanding the Underlying Drivers of Inpatient Cost Growth: A Literature Review." *The American Journal of Managed Care*, 9 (Special Issue 1).

<sup>41</sup> Preker, A.S., Scheffler, R.M., Bassett, M.C. 2007. "Private Voluntary Health Insurance in Development – Friend or Foe?" *The World Bank*: 44.

<sup>42</sup> McKinsey&Company. December 2008. "Why Americans pay more for health care." *The McKinsey Quarterly*.

*Alternative systems of reimbursement may help control the impact of technology on costs.* However, Weisbrod (1991)<sup>43</sup> argues that research and development can effectively be influenced in the long term by fundamentally shifting healthcare systems away from retrospective, cost-based insurance coverage, such as fee for service, to prospective, exogenously determined pricing, such as capitation<sup>44</sup>.

### 3.2 The performance of unregulated healthcare insurance markets

Healthcare insurance markets are unique in the way that they allocate resources and the resulting impact on costs and affordability. If left exclusively to normal market forces, this allocation may have undesirable cost-related and quality outcomes. The WHO<sup>45</sup> warns against the adverse cost and quality effects of what it calls “unregulated commercialisation” – the unregulated fee-for-service sale of healthcare that typically emerges in environments where the public health sector is chronically under-funded. Outcomes in these systems tend to gravitate towards the sale of what is most profitable – which is not necessarily in the best interests of patients. In these systems, those who cannot afford care are excluded, while those who can afford it may not get the treatment they need, often receive treatment they do not need, and invariably pay too much.

Arrow (1963)<sup>46</sup> lists some of the characteristics of the medical care market that distinguish it from standard commodity markets. He shows that the unique interplay between factors such as the nature of demand, the expected behaviour of the doctor, “product” uncertainty, supply conditions and pricing practices combine to create a market that differs significantly from the normal “competitive model”, defined as one in which people receive and pay for services at market prices linked to overall demand and supply. In this model, the individual consumer has little or no impact on the transaction price. More specifically, Arrow identifies the following cost-related problems of insurance in the healthcare market:

- *Moral hazard.* The cost of medical care is not completely determined by people’s illnesses. It also depends on choice of doctor and the extent of the services the doctor chooses to provide. As frequently observed, widespread medical insurance raises the demand for medical care. To some extent, the professional relationship between the doctor and patient limits the moral hazard. In a way, the doctor acts as a controlling agent on behalf of the insurer. But this function cannot be relied on to provide perfect control. The doctors themselves may not be under effective control, and it may be convenient for them or pleasing to their patients to prescribe more expensive medication and more frequent treatments and other marginal variations of care than necessary.
- *The use of alternative methods of payment.* Insurers can pay for services in different ways, and because of the impact on the relationship between the doctor and patient and on the decisions taken by doctors, these can have different cost outcomes. For example, pre-payment systems create an economic incentive for the doctor to limit the unnecessary use of

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<sup>43</sup> Weisbrod, B., A. June 1991. “The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment.” *Journal of Economic Literature*. XXIX: 523-552.

<sup>44</sup> Capitation is typically structured as an amount payable in a period to healthcare service providers for each covered beneficiary whether or not that beneficiary utilizes services during that period.

<sup>45</sup> World Health Organisation. 2008. *Primary Health Care - Now More Than Ever. The World Development Report: 13.*

<sup>46</sup> Arrow, K.J. December 1963. “Uncertainty and the Welfare Economics of Medical Care”, *The American Economic Review*, L111 (5): 141-149.

resources. In contrast, indemnity systems that may or may not use fixed tariff schedules tend to create an economic incentive that raises service levels above what is needed to treat patients cost-effectively.

- *Pooling of unequal risks.* Healthcare insurance systems tend to equalise, rather than differentiate, premiums across different categories of medical risk, expressing social solidarity. In effect, this redistributes income from those with a low propensity to illness to those who are more prone. Such equalisation would not occur if the market was genuinely competitive. In those circumstances, insurance plans could arise which charged lower premiums to preferred risks in order to draw them off, leaving the plan which does not discriminate among risks with only an adverse selection of risks.
- *The concepts of trust and delegation.* Patients know less than their doctors, and, therefore, find it difficult to enforce standards of care. In part, they replace direct observation with a generalised belief that the doctor has the required ability. One consequence of such a relationship of trust is that the doctor cannot act, or appear to act, as if he or she is constantly maximising income. From these special relationships flow various forms of ethical behaviour. Price discrimination and its extreme, free treatment for the indigent, also follow. Also, because of knowledge asymmetry, the patient delegates freedom of choice to the doctor, who decides on treatment, referral or hospitalisation, for example. This delegated responsibility restricts the doctor somewhat, as it would any agent in similar circumstances, and the safest course of action is to provide the socially prescribed “best” treatment of the day. Even if an alternative course of action would save the patient or the insurer money, the doctor risks being seen as compromising service quality if he or she fails to live up to this social standard.
- *Licensing and educational standards:* Society deals with the general uncertainty about the prospects of medical treatment by imposing rigid entry requirements on the medical profession. As far as possible, these are designed to reduce uncertainty in the mind of the consumer about the quality of services. However, the “all or nothing” approach to licensing may be excessive in relation to minor medical skills and may translate into unnecessarily high treatment costs for minor conditions. This is inevitable where patients are not in a position to assess the quality of care and where inappropriate treatment may have dire consequences.

### 3.3 Summary

The following cost-related systemic challenges face healthcare insurance systems:

- The price of new technologies is a key driver of growing expenditure. This is because insurance and the associated prospective payment mechanisms help to facilitate the introduction of beneficial but costly new technology that consumers are willing, if not eager, to pay for.
- If left to normal market forces, health insurance systems may allocate resources in a way that has an undesirable effect on cost and quality.
- Factors that affect the health insurance industry’s efficiency and cost include the relationship between patients and service providers; incentives created by provider reimbursement systems; the extent to which pricing is allowed to reflect health risk in risk-pooling arrangements; and the extent to which licensing and educational standards create scarcity.

## 4. Medical scheme cost-drivers

This section uses industry and medical scheme data to identify the important cost-drivers that have affected the medical scheme industry's ability to offer benefits at more affordable levels.

Two sets of analysis have been used to identify the cost-drivers: an analysis of industry-level data and an analysis of data from selected medical schemes. The findings are presented below.

### 4.1 Analysis of industry-level data

#### 4.1.1 Overview of industry cost trends

Figure 2 provides a summary of medical scheme benefit expenditure and contributions at constant 2007 CPIX prices for the decade ending 2007. It shows that until 2003, total contributions paid increased annually at rates above consumer inflation; thereafter, they were more in line with inflation. However, the underlying benefit expenditure patterns were more varied. From 2002 onwards *in real terms* expenditure on medicines went against the general trend by declining; the aggressive growth in non-healthcare costs levelled off; and private hospital and specialist costs continued to grow rapidly. General practitioner and "other" benefits grew modestly, compared to CPIX, until 2005.

**Figure 2: Medical scheme contribution and expenditure trends (2007 prices)**

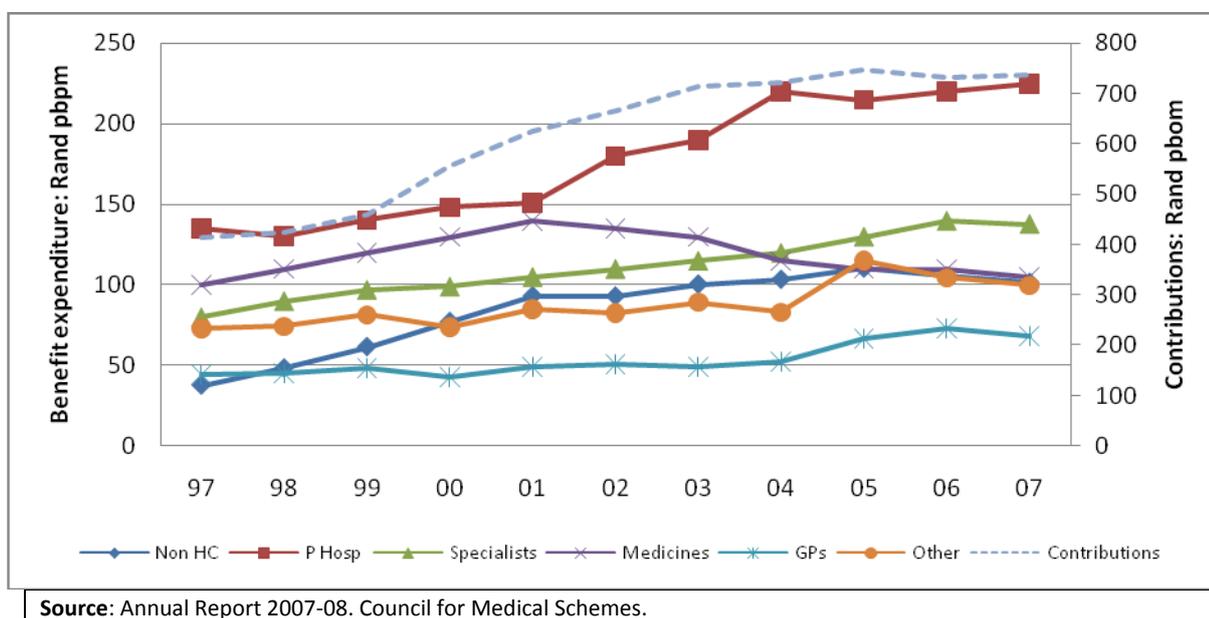


Table 3 below provides additional perspectives on the benefit expenditure and contribution trends over the period 1997-2007. The figures presented in this table show the extent to which annual growth in contributions and expenditure exceeded both consumer and medical price inflation. Over this period, medical inflation was generally higher than consumer inflation in all categories of benefit expenditure except for medicines. The table also shows that in all categories of benefit expenditure, costs grew at above consumer and/or medical inflation rates. Growth in excess of price inflation arises from factors such as utilisation, the mix of medical services provided and the introduction of

new technology. Utilisation and mix of services are affected, among other things, by changes in the demographics of medical scheme beneficiaries and in medical practice.

**Table 3: Trends in benefits and contributions per beneficiary per month (pbpm) 1997 to 2007**

	<b>% of total benefit spend over the period 1997 to 2007</b>	<b>% annual growth in excess of CPIX</b>	<b>% annual growth in excess of medical price inflation (rather than CPIX). This is a measure of the portion of growth attributable to factors other than price (for example, utilisation, mix, new technology)</b>
<b>Benefit category</b>			
Private hospital	28.4	6.6	5.2
Medicine	18.4	0.5	2.6
Medical specialists	17.5	5.4	4.9
Other benefits	13.8	3.2	2.4
Non-healthcare	13.4	11.7	11.7
GP & GP-coordinated care	8.6	4.3	1.7
<b>Total benefit expenditure</b>	<b>100.0</b>	<b>5.0</b>	<b>3.1</b>
<b>Total contributions</b>	<b>99.2</b>	<b>5.9</b>	<b>4.0</b>
<b>Terms used:</b>			
<ul style="list-style-type: none"> <li>• <b>CPIX:</b> consumer inflation published by Statistics South Africa</li> <li>• <b>Medical inflation:</b> estimated growth in prices of medical products and services. Medical inflation has been estimated for each benefit category (see sources below), and the weighted average has been applied to total benefit expenditure and contributions. At best, these estimates are indicative rather than absolute.</li> </ul>			
<b>Sources:</b>			
<ul style="list-style-type: none"> <li>• <b>% of total spend</b> was computed over the 10-year period from claims information aggregated from the relevant annual reports of the Council for Medical Schemes.<sup>47</sup></li> <li>• <b>CPIX</b> is as reported by Statistics South Africa<sup>48</sup>.</li> <li>• <b>Medical inflation:</b> Tariff and price indices for medical specialists, GPs and other benefits were computed based on the BHF scales of benefit and Council for Medical Schemes RPL.<sup>49 50</sup> The price index for hospitals was obtained from the Hospital Association of South Africa<sup>51</sup>. The medicine price index: CPIX was used for the period 1997 to 2004 and thereafter the index was based on the single exit price (SEP).<sup>52</sup> CPIX was used for non-healthcare expenditure.</li> </ul>			

<sup>47</sup> Council for Medical Schemes Annual Reports: 1998/9-2007/8

<sup>48</sup> CPIX: Statistics South Africa. Consumer Price Index – October 2008 (excluding bond interest rates – CPIX).

<sup>49</sup> 1998-2005 computed by Elize Kruger for the South African Medical Association.

<sup>50</sup> 2006 -2007 computed by Fifth Quadrant

<sup>51</sup> Hospital Association of South Africa. 2008. "Examination of factors impacting on private hospitals." *Private Hospital Review*: 20. The annual price index was computed for the Hospital Association of South Africa by taking into account the relative weightings of each category of hospital expenditure.

<sup>52</sup> CPIX: Statistics South Africa. Consumer Price Index – October 2008 (excluding bond interest rates – CPIX). The SEP-based index was computed by Mediscor using a basket of medicines: Mediscor, 2007. *Medicines Review* 2007: 5

### 4.1.2 Cost-drivers identified from industry data

As seen in Section 2 of this report, the medical scheme industry has not succeeded in penetrating low-income households, and the main reasons for this relate to affordability<sup>53</sup>.

Figure 2 and Table 3 show that medical scheme benefit expenditure and contributions over the decade ending 2007 have grown at rates in excess of consumer inflation, as measured by CPIX. In general, this has had an adverse impact on the affordability of medical schemes. The main contributors to this trend have been **private hospital services, specialist care and non-healthcare services**. Medicines, general practitioner services and “other” benefits, including optical and dental benefits, have had less impact in real (inflation-adjusted) terms. It should, however, be noted that the latter benefit categories are more likely to be affected by interventions through benefit design, such as the placing of limitations on the annual available benefits. Furthermore, prescribed minimum benefit legislation has had a greater impact on the former benefit categories.

A more detailed analysis of medical scheme expenditure information over the period 1997-2007 reveals important **cost-drivers**. Each of these is discussed below.

#### a. Number and cost of in-patient days

As seen earlier, private hospital benefits are the single largest area of medical scheme expenditure, and, with the exception of non-healthcare costs, grew at the fastest rate in real terms over the period 1997-2007. Figure 3 below provides an overview of key performance indicators in two of the three listed private hospital groups. It shows that increased billings to medical schemes were mainly driven by increases in patient days (the product of admissions and duration of stay) and an increase in cost per patient day (a function of mix, efficiency and the price of technology and resources used). Interestingly, these two primary cost-drivers generated an increase in total hospital earnings, but did not translate into higher profit margins. In this regard, it is pertinent to note that staff costs, which comprise about two thirds of non-medicine expenditure, have increased in real terms on a cost per patient day basis since 2003<sup>54</sup>. The real growth in staff costs – in excess of CPIX – is consistent with trends in the production price index compiled by Statistics South Africa. Furthermore, during this period – from 2004 – single exit pricing<sup>55</sup> regulations were implemented in a way that would have substantially reduced hospital earnings per patient day. The industry could not absorb this outcome without severely affecting shareholders’ interests.

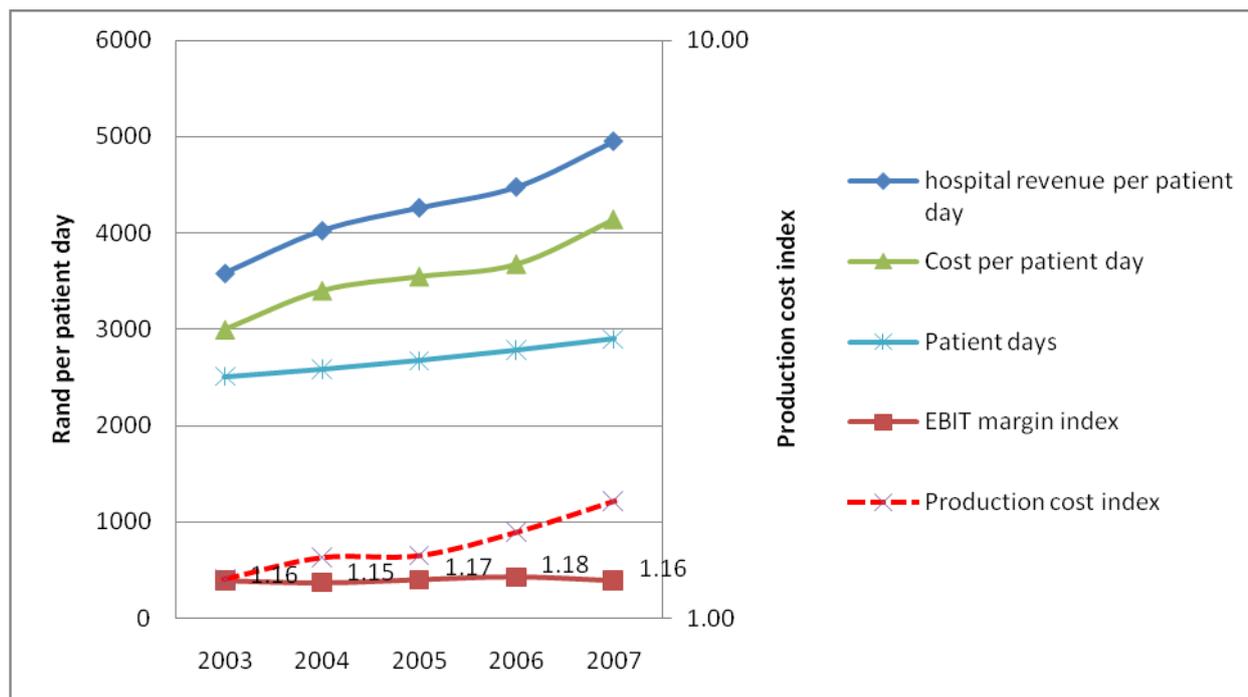
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<sup>53</sup> FinScope Survey carried out by the Finmark Trust. 2008. The survey asked respondents if they currently have or have ever had medical aid or medical scheme coverage. The sample was 3 900 adults (16+).

<sup>54</sup> Hospital Association of South Africa. 2008. “Examination of factors impacting on private hospitals.” *Private Hospital Review*: 50

<sup>55</sup> Single exit pricing (SEP) is a pricing system administered in terms of the Medicines and Related Substances Control Act by the department of health. It applies to all medicines, except for those in schedule 0, which incorporates a single published price ex-wholesaler irrespective of volume acquired, where upward price adjustments are also governed by regulations.

**Figure 3: Hospital performance indicators (MediClinic and Netcare combined)**



**Sources:**

The above chart was compiled by the authors from a variety of sources. Hospital revenue per patient, cost per patient day, patient days and EBIT margin index were compiled from a data analysis by Wadley (2008)<sup>56</sup>. The production cost index was extracted from information published in Health Annals (2008),<sup>57</sup> generated from PPI data supplied by Statistics South Africa.

**b. Private hospital billing arrangements**

Figure 4, compiled by the authors from data contained in the Council for Medical Scheme's annual reports, shows trends in the cost to medical schemes of items billed by private hospitals, which are reflected in hospital revenues. A number of events would largely explain the trends evident in Figure 4, namely:

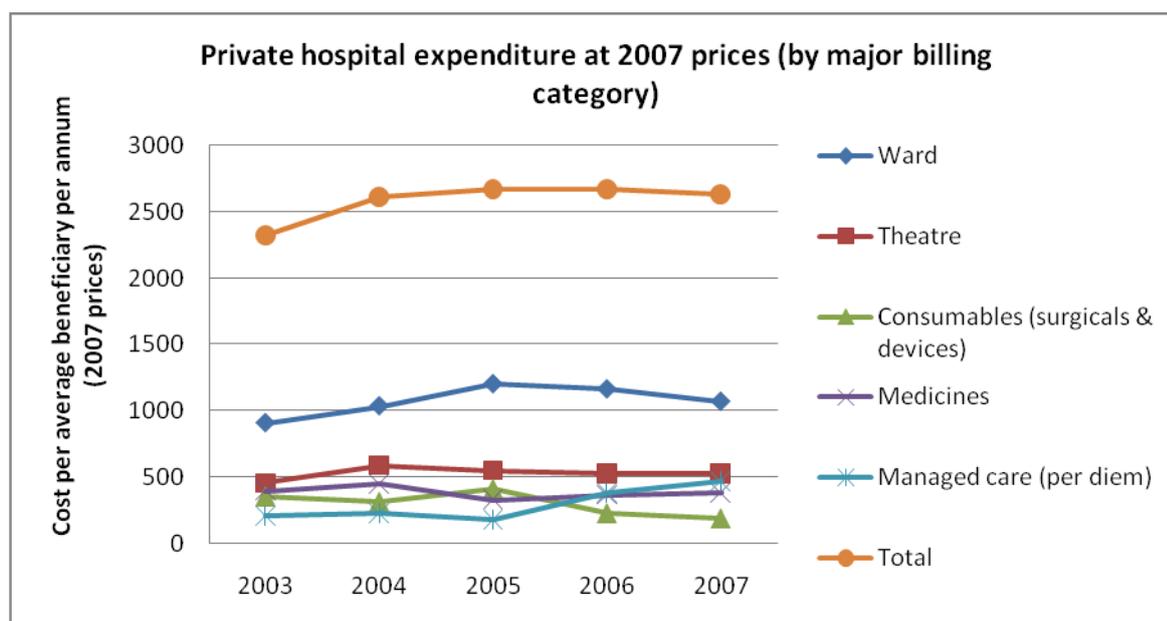
- The full effect of the introduction of SEP was felt 2005, with a resultant downward trend in the cost of medicines.
- Consumables (surgical and other supplies) were not subject to SEP legislation, and it is interesting to note that expenditure on consumables increased slightly during the same period.
- By 2004 one of the hospital groups had already changed its pricing policy relating to consumables. However, in 2006 rising costs came under scrutiny and following the intervention of the health minister, Manto Tshabalala-Msimang, all remaining hospital groups agreed that billing for consumables would take place in terms of a net acquisition price (NAP) arrangement. This precipitated a downward trend in the cost of consumables;
- The introduction of the SEP, and later the NAP, effectively removed cross-subsidisation between the margins made on medicines and consumables and ward fees. This meant that, from a business perspective, an increase in ward fees was required to maintain earnings margins. This is evident from the increases in the ward fees in 2004 and 2005.

<sup>56</sup> Wadley, M., February 2008. Hospital Groups- a Painful Injection of Growth. *Credit Suisse Standard Securities*: 23-37 and 67-80

<sup>57</sup> Schussler, M. (2008). Inflation, Costs and Comparisons of Hospital Services in South Africa. *Health Annals* 2008: 23-24.

- The move to a more transparent pricing regime for medicines and consumables, and the larger exposure to tariffs, were an inducement for hospitals to renew their interest in “managed care arrangements” – mainly incorporating “per diem” and “fixed fee” billing – to create earnings potential by means of improved efficiencies. For example, under a price-regulated, fee-for-service dispensation, efficiencies in the use of medicines and consumables do not enhance hospital earnings, while under a fixed-fee or per diem system they have this effect. Certain medical schemes were willing to support the trend towards risk-sharing arrangements – fixed-fee and per diem structures – because they saw that in the longer term, improved hospital efficiencies would have a favourable impact on costs. Hence the growth in these arrangements from 2006 onwards, as indicated in Figure 4.

**Figure 4: Private hospital expenditure at 2007 prices**



Source: Council for Medical Schemes<sup>58</sup>

### c. Specialist billing practices

The Council for Medical Scheme’s Research Brief 1 (CMS: 2008)<sup>59</sup> shows that since a Competition Commission ruling in 2004, specialist costs have risen sharply. The commission declared that the centralised reference tariff schedules produced by the Board of Health Funders and the South African Medical Association were a restrictive practice, as they were set in a collusive manner. The historical context is as follows:

- In terms of former medical schemes Acts, in effect until 1998, a representative organisation known as the Representative Association of Medical Schemes (RAMS) set a scale of benefits after consulting healthcare service providers. When RAMS was a statutory organisation, before 1993, the scale of benefits was published in the Government Gazette; after 1993, RAMS published the scales of benefits. Although the healthcare service providers were free to charge more than the scales of benefits, this seldom occurred because the schemes would reimburse the members rather than the providers directly. This, in turn, had significant cash-

<sup>58</sup> Council for Medical Schemes. Annual Reports 2004 to 2007/8.

<sup>59</sup> Council for Medical Scheme. 2008. Evaluation of Medical Scheme Cost Increases; Findings and Recommendations. Research Brief 1: 18,19.

flow implications for the providers. RAMS was dissolved in 1999, to be replaced by the Board of Healthcare Funders (BHF), which took over the role of determining and publishing scales of benefit.

- The Competition Commission was established in terms of the Competition Act<sup>60</sup> of 1998. Toward the end of 2003 the commission ruled that the scales of benefit published by BHF after consultation and negotiation with providers constituted a restrictive practice and was stopped. Attempts by bodies representing the professions and the hospital industry to publish recommended tariffs were also stopped.
- The Council for Medical Schemes believed that the removal of the recommended scales of benefit could destabilize the industry. In terms of powers granted under the new Medical Schemes Act (1998), it introduced what became known as the National Health Reference Price List (NHRPL). Importantly, the list was determined and published after detailed cost analyses and extensive communication – as opposed to negotiation – with the healthcare service provider industry. The result was a continued high level of adherence to the NHRPL by both medical schemes and healthcare service providers.
- Toward the end of 2006, under powers conferred on it by the National Health Act,<sup>61</sup> the national department of health took over the determination and publication of the NHRPL, renaming and publishing it as the Reference Price List (RPL). This prompted rising dissent among healthcare service providers, and they initiated legal challenges, some of which are still under way. Service providers increasingly considered the RPL irrelevant and started determining their own fees, which were increasingly unrelated to the benefit levels that schemes were offering.
- In this environment, the only benchmark that remained was the “maximum ethical fees” published by the Health Professions Council of South Africa (HPCSA). In the absence of an industry-wide relationship between the funding industry and healthcare service providers, professional fees started to rise towards the maximum ethical rate, which was – and in many instances, still is – up to 300% of the RPL rates.

Medical schemes have, to an extent, been forced to condone the balance-billing<sup>62</sup> practices of specialists, as not to do so would leave many beneficiaries without adequate cover. In addition, the Medical Schemes Act requires schemes to fund prescribed minimum benefits fully, and the specialists’ billing practices have had an adverse impact on costs in this area. Furthermore, certain schemes began to incorporate “excess billing” into their benefits, resulting in the widespread practice of billing in excess of RPL and up to the HPCSA ceiling.

#### **d. Regulation of medicine prices and dispensing practices**

Table 4 shows that medicine costs per beneficiary declined steadily and significantly in real terms in 2002-2007. Pharmacists began implementing generic substitution in the late 1990s following amendments to the Medicines and Related Substances Act in 1997, while the requirement that manufacturers publish and implement a single exit price was effectively implemented from May 2004.

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<sup>60</sup> The Competition Act, No 89 of 1998 in terms of which the Competition Commission was established.

<sup>61</sup> National Health Act No 61 2003.

<sup>62</sup> “Balance billing” is a practice by doctors to bill the patient for the portion of their fee in excess of the benefit paid by medical schemes.

In 2004 the net price reduction to medical schemes, after including dispensing fees, was estimated at 6.13%<sup>63</sup>. The department of health retained the SEP at 2003 levels<sup>64</sup> until January 2007<sup>65</sup>, when the next price increase was granted.

Mediscor<sup>66</sup> demonstrated the impact of generic substitution and the SEP in 2005-2007 using a sample of about 700,000 beneficiaries<sup>67</sup>. It found that the use of generics increased from 43% to 47% over the period. Because the average cost of generics was about 40% of the cost of original products in the sample, generic substitution generated significant savings. The effect of the SEP on the same sample shows that while price had a favourable impact on affordability, utilisation offset some of these gains.

Table 4 shows that SEP-related increases accounted for only 9% of the total cost increase, while “utilisation” – incorporating product mix, units dispensed per item, prevalence and intensity – accounted for the balance. The growth in cost per beneficiary of R350 in Table 4 represents an increase of 9.22% per annum compared to CPIX, which increased by 5.55% over that period.

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63 Estimated using the results of cost modelling done by Mediscor: Mediscor Medicine Review 2004.

64 Gray A, Pillay, K. (2006). “Health Legislation and Policy”. *South African Health Review* 2006. Health Systems Trust: 12

65 Mediscor, 2007. Medicines Review 2007. Mediscor: [www.mediscor.net](http://www.mediscor.net): 5.

66 Mediscor, 2007. Medicines Review 2007. Mediscor: [www.mediscor.net](http://www.mediscor.net). Mediscor is a pharmaceutical benefit management house, which contracts with medical schemes to process and adjudicate medicine claims.

67 Mediscor, 2007. Medicines Review 2007. Mediscor: [www.mediscor.net](http://www.mediscor.net).

**Table 4: Analysis of the growth in medicine expenditure, per beneficiary: 2005 to 2007**

	<b>Rand pbpa</b>	<b>%</b>
<b>Expenditure per beneficiary: 2005</b>	<b>1815</b>	
<b>Drivers of "cost per item":</b>	<b>211</b>	<b>60</b>
Attributable to SEP	33	9
Attributable to units dispensed per item and change in mix	136	39
Attributable to new entities	41	12
<b>Drivers of "numbers of items per beneficiary"</b>	<b>140</b>	<b>40</b>
Existing medicines: prevalence	18	5
Existing medicines: intensity	97	28
New chemical entities	25	7
<b>Expenditure per beneficiary: 2007</b>	<b>2165</b>	<b>100</b>
<b>Growth in expenditure per beneficiary (2007/2005)</b>	<b>350</b>	
<b>Growth in expenditure per beneficiary per annum compared to CPIX of 5.55%:</b>	<b>9.22%</b>	
<p><b>Source: Mediscor (2008)<sup>68</sup></b>  <b>Sample details:</b> 700 000 beneficiaries, contracted to Mediscor for the full period 2005-2007, not on capitated options, with average age fluctuating annually between 35 and 36; between 11% and 12% pensioners; between 53% and 55% female.  <b>Comparison with the national average:</b> Annual expenditure on medicines per average beneficiary in the medical scheme industry in 2007 as a whole was R1 283. The Mediscor sample average is significantly higher, at R2 166. This reflects demographic differences, including the average age of beneficiaries and the pensioner ratio. The average age of beneficiaries in the industry was 31.4 and the pensioner ratio was 6.2% in 2007.  <b>Terms used:</b>  <b>Pbpa:</b> Per medical scheme beneficiary per annum  <b>Beneficiary:</b> The person under whose name all contributions are made to the medical scheme plus their dependants.  <b>Existing medicines:</b> Medicines registered before 2004.  <b>New chemical entities:</b> Novel or innovator medicines launched in the South African healthcare market between 2004 and 2007.  <b>Mix:</b> "Mix changes" refers to the change in percentage of original, "off-patent" and generic medicines used.  <b>Prevalence:</b> "The portion of beneficiaries that claimed or the number of utilising beneficiaries expressed as a percentage of the total number of beneficiaries in the population.  <b>Intensity:</b> The number of items claimed per patient or utilising beneficiary.</p>		

It follows from the above table that although the introduction of SEP had a favourable impact on the cost per item of medicines, the prescribing behaviour of doctors, as reflected by number of items (scripts) and number of units dispensed per item (utilisation), had a negative compensating effect. The implication is that the latter has become the key driver of medicine costs.

#### **e. Medicine pricing relative to state tender pricing**

There is a significant difference between pharmaceutical prices paid by medical schemes and those paid by the state for medicines that it uses. To illustrate this, the authors have developed the hypothetical calculation in Table 5 below. The table applies the average differential between SEP prices and 2007/8 state tender prices (based on the RT 289 Oral Solid Tender, one of the largest of the ten annual tenders) to the average annual expenditure per beneficiary of R2 165 (the average

<sup>68</sup> Mediscor, 2007. Medicines Review 2007. Mediscor

cost in 2007 for the Mediscor sample analysed in Figure 2 above). The analysis shows that if VAT and private sector distribution costs are added to SEP prices adjusted downwards by the differential between SEP and state tender prices, medical schemes in the Mediscor 2007 sample may, on average, have paid three times more for medicines than if the same mix of generic and original medicines had been sourced at a discount equivalent to the difference between SEP and state tender prices.

**Table 5: Hypothetical restatement of medical scheme costs by applying the average differential between SEP and comparable state tender prices**

Comparison with state tender prices	Medical scheme average cost per benefit	State average cost per benefit	Utilising benefit as % of total benefit	Medical scheme average cost per utilising benefit	State average cost per utilising benefit	Medical scheme average cost per item	State average cost per item (N1)	Average items per utilising benefit
Original products	1 142	282	0.79	1 453	356	165	40.48	8.81
Original products (patent expired)	405	137	0.62	649	221	119	40.48	5.45
Generic equivalents	618	112	0.81	759	138	67	12.16	11.33
Total (which cannot be compared)	<b>2 165</b>	<b>530</b>						
Adjustment for private sector distribution costs and VAT (not paid by the state):		<b>239</b>						
<b>Comparable total:</b>	<b>2165</b>	<b>769</b>						
Percentage of medical scheme cost per beneficiary:	<b>100</b>	<b>35.5</b>						
<b>Note 1:</b> Based on state tender RT 289 (Oral Solid Tender), 2007/2008 prices <sup>69</sup>								
<b>Note 2:</b> Assuming an average of 6% for distribution charges, 20% for dispensing charges and 14% VAT.								
<b>Source of medical scheme data:</b> Mediscor <sup>70</sup>								

#### f. Changes in general practitioner (GP) billing arrangements

Figure 5 shows that the GPs' reference price list (RPL), which has been widely used by medical schemes to pay for GPs' services, rose substantially above CPIX in 2005 and 2006. This was because the Council for Medical Schemes recognised that medical scheme payouts for GPs had fallen relative to other benefit categories and agreed that some intervention was required to enable GPs to retain viable practices. This was in line with the premise that primary care should form the basis of a successful healthcare system. However, the downside of these large adjustments was that they potentially reduced the relative affordability of GPs' services and/or served only to reinforce the negative outcomes associated with the fee-for-service system.

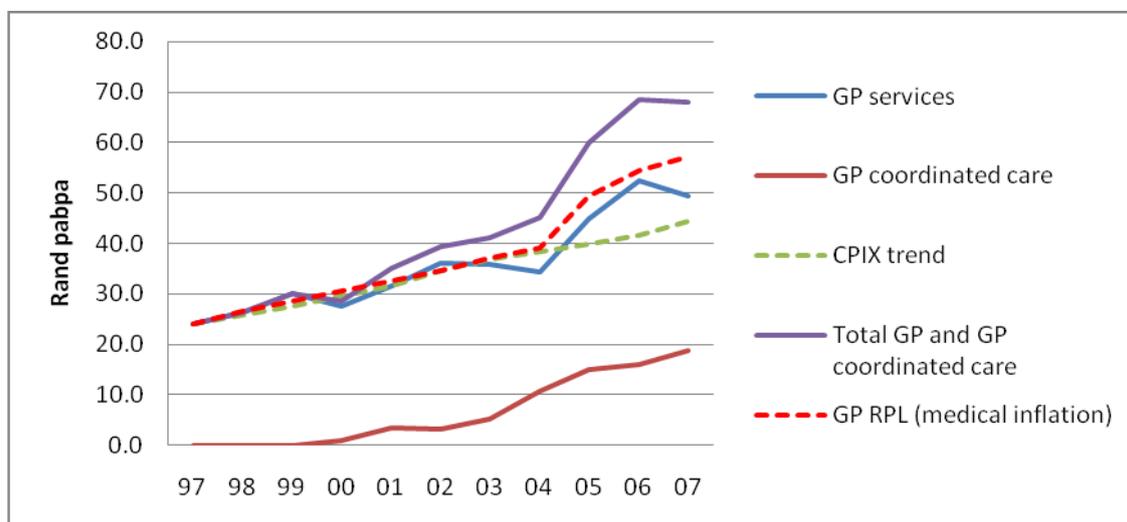
Because most GPs' services are subject to the availability of annual benefits – because most benefit designs cap the payment of out-of-hospital benefits on annual basis – the trends do not reflect the full effect of these increases. However, Figure 5 also shows that the increase in GPs' *coordinated*

<sup>69</sup> The average cost per item was computed by Stavros Nichalou, Aspen Pharmicare based on RT 289 (Oral Solid Tender) prices, and presented at a seminar hosted by The Institute for Health Risk Management, February 27 2009.

<sup>70</sup> Mediscor Medicines Review – 2007. [www.mediscor.net](http://www.mediscor.net): 7.

care arrangements – typically capitation<sup>71</sup> arrangements, involving more comprehensive benefits – account for most of the increase in total GP-related service costs. This is a welcome trend, to the extent that it represents improved capacity at primary care level to manage access to medicines and specialist care more effectively. Such capacity could prove very valuable in future in designing and implementing cost-effective solutions for low earners.

**Figure 5: Trends in GP billing arrangements**



**Source:** Compiled by the authors from annual reports of the Council for Medical Schemes and using the CPIX published by Statistics South Africa.

#### g. Impact of new legislation on non-healthcare costs

Non-healthcare costs comprise administration, managed care, broker and reinsurance costs, of which administration made up 71% in 2007<sup>72</sup>. In non-healthcare costs, administration costs grew between 1997 to 2007 at an average rate of 10.9% per annum above CPIX, while the balance – mainly managed care, net reinsurance and broker costs – grew at 13.8% per annum above CPIX. As can be seen in Figure 6, in 1997-2001 there was a substantial growth in managed care and administration, including broker costs and net reinsurance costs<sup>73</sup>. Given additional powers by governance, accreditation and fee-related legislation in the Medical Schemes Act of 1998, and its subsequent amendments in 2000 and 2002<sup>74</sup>, the Council for Medical Schemes has, where necessary, intervened in all areas of non-healthcare costs<sup>75</sup>. Since the introduction of the new legislation, reinsurance has been eliminated, except in two schemes, while administration and managed care costs have been contained to 12% of gross contribution income (GCI). This is despite increased requirements imposed by regulations and the regulation and containment of broker/distribution fees to 2.1% of GCI<sup>76</sup>. The

<sup>71</sup> Capitation: a method used by medical schemes to pay certain doctors for beneficiaries the doctors have contracted to service. Typically, “capitated” doctors receive a prospective fee per beneficiary per month regardless of whether beneficiaries receive services in that month.

<sup>72</sup> Computed from information in the Council for Medical Scheme annual report 2007-8

<sup>73</sup> As shown in the Council for Medical Scheme annual reports for 2006-7 and 2007-8.

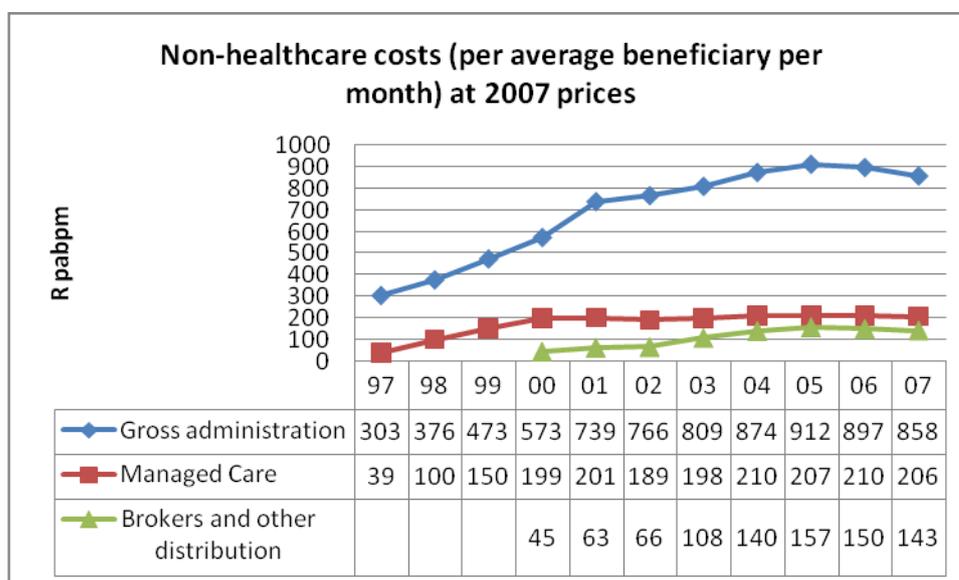
<sup>74</sup> Medical Schemes Act 131 of 1998, as amended in 2000 and 2002, and related regulations published in 1999, as amended in 2000, 2002 and 2003.

<sup>75</sup> Evident from commentaries in Council for Medical Scheme annual reports over the period.

<sup>76</sup> Evident from commentaries in Council for Medical Scheme annual reports over the period: 70-76.

effect of curtailing managed care on other medical expenditure has not been determined, and may in some cases be counter-productive.

**Figure 6: Non-healthcare costs: trends at 2007 prices**



#### **h. Impact of membership changes on non-healthcare costs**

By 2007, administration made up 70% of non-healthcare costs. In more recent years price, beneficiary increases and movements between administrators have become important medical scheme cost-drivers. Table 6 shows how these factors have had a different effect on the open and restricted markets. Restricted schemes,<sup>77</sup> such as the Government Employees Medical Scheme (GEMS) and Polmed, have grown, moved members between administrators and negotiated favourable administration fees based on volumes<sup>78</sup>.

Similarly, there has been a move in the open market towards more expensive administrators. We ascribe this to:

- Innovative marketing, which became increasingly necessary because of the competitive nature of the market;
- Market perceptions about service levels; and
- The skills required to administer a greater range of benefit options.

In the case of open market schemes – typically in contrast with restricted schemes – administrators are able to grow scheme membership through marketing and distribution arrangements. The more members join an open scheme, the higher the administrator's overall earnings from that scheme. Therefore, marketing and distribution practices are underlying cost-drivers in the open market.

<sup>77</sup> Restricted schemes are those registered for defined communities which may only take on members that fall into the definition of those communities. GEMS and Polmed are restricted schemes for government employees and the police, respectively.

<sup>78</sup> Council for Medical Schemes reports 2006-7 and 2007-8.

**Table 6: Analysis of growth in gross administration costs: 2002 to 2007**

	Open schemes	Restricted schemes	Total
	%	%	%
Annual compound growth in average gross administration cost per beneficiary	7.8	5.7	7.1
Cost growth attributable to growth in beneficiaries	9.4	32.6	14.8
Cost growth attributable to increases in average price per beneficiary	79.8	82.0	80.3
Attributable to movements between administrators	10.8	-14.6	4.9
	100.0	100.0	100.0
Average medical scheme cost (2007) per average beneficiary per month:	R81.50	R50.20	
<b>Source:</b> Compiled by the authors from annual reports of the Council for Medical Schemes			

## 4.2 Review of medical scheme data

### 4.2.1 Introduction

This section presents the results of an analysis of medical schemes at **benefit option level**, designed to identify key cost-drivers that are not fully shown by an analysis of the industry. The section also demonstrates how costs can be cut by implementing designated provider relationships and restricting benefits.

The South African Police Services Medical Scheme (Polmed) was the main source of data for this analysis. It is an example of a scheme that offers comprehensive benefits in an exclusively fee-for-service environment, with no restrictions on members' choice of service providers. The scheme offers two benefit options, and this provides an opportunity to study cost dynamics arising from the relationship between a higher and lower benefit option in the same scheme.

To show how costs can be reduced by implementing designated service provider arrangements and reducing benefits, we compared the Polmed benefit options with the following schemes:

- *The Platinum Health Medical Scheme*. This is an example of a medical scheme that provides comprehensive benefits in an environment where there is some vertical integration between the scheme and the healthcare service providers, with attendant restrictions on the members' choice of service providers. The arrangement whereby the scheme's medical centre employs certain healthcare professionals existed in the 1940s and was allowed to be retained even when the practice was prohibited in the private sector.
- *The Clothing Industry Health Fund*.<sup>79</sup> This is a single-option medical scheme that provides limited benefits and where the members' choice of service providers is restricted to those that have a contractual relationship with the fund. The benefits offered by this scheme,

<sup>79</sup> The Cape Clothing Medical Fund is not registered in terms of the Medical Schemes Act and is, therefore, not legally obliged to provide cover for all the prescribed minimum benefits set out in the Act.

which was formerly a collective bargaining scheme, do not meet PMB requirements. Exemption has been granted in this regard to ensure that it remains affordable for its low-income members.

#### 4.2.2 Industry context

Table 7 shows that the general trend and level of Polmed benefits and non-healthcare expenditure is similar to those of the industry, and that any differences can be explained. Substantial unexplained differences would raise the concern that the results of the analysis cannot be used to gain more general insights into the industry. An analysis of data from Polmed, a single-employer scheme, will not highlight certain cost-drivers that apply to open market medical schemes, such as the effect of marketing and distribution activity

**Table 7: Polmed benefit and non-healthcare costs compared to industry: 2006-2008**

	Gross medical benefit expenditure			Gross Non-healthcare expenditure		
	Polmed	Restricted schemes	Open schemes	Polmed	Restricted schemes	Open schemes
	pabpa	pabpa	pabpa	pabpa	pabpa	pabpa
2005	549	577	559	53	69	111
2006	591	627	603	40	65	113
2007	611	642	641	44	65	119
<b>Cumulative growth (%)</b>	<b>11.2</b>	<b>11.3</b>	<b>14.8</b>	<b>-17.9</b>	<b>-5.8</b>	<b>7.2</b>
<b>Annual growth (%)</b>	<b>5.5</b>	<b>5.5</b>	<b>7.2</b>	<b>-9.4</b>	<b>-3.0</b>	<b>3.5</b>

**Source:**  
Compiled by the authors from Council for Medical Schemes annual reports<sup>80</sup>

**Commentary:**

Table 7 shows that between 2005 and 2007, Polmed's healthcare expenditure grew at an average annual rate of 5.47%, which is in line with the restricted scheme average of 5.49% and better than the open scheme rate of 7.16%. It is interesting to note that Polmed healthcare expenditure is, on average, lower than that of restricted schemes, mainly because of the significant growth that the scheme experienced during this period. Polmed renegotiated its non-healthcare expenditure in 2006 and was able to extract significant savings. The restricted scheme industry average has been positively affected by the rapid growth of GEMS since 2006, which has secured non-health service costs of R41.80 (2007) per average beneficiary per month. This is well below the market average. Open scheme non-healthcare costs are almost double those of restricted schemes, in part because the latter do not incur marketing expenses.

**Terms used:**  
**Pabpa:** per average beneficiary per month. "Average beneficiaries" refers to the average number of beneficiaries in a medical scheme in a year. This allows for more meaningful comparisons between schemes when the membership of a scheme has changed significantly during the year.

Table 8 shows that the levels and growth trends of the different Polmed benefit expenditure categories are similar to those of the industry as a whole.

**Table 8: Polmed benefit expenditure compared to industry**

	Industry	Polmed
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<sup>80</sup> Council for Medical Schemes. Annual Reports 2006-7 and 2007-8.

	2006	2007	growth: 2007/2006	2006	2007	growth: 2007/2006
Benefit expenditure categories	R pbpm	R pbpm	%	R pbpm	R pbpm	%
Hospitals	211	227	7.4	202	212	5.2
Specialists	131	139	6.0	108	111	3.0
Medicines	104	107	3.3	134	138	2.8
General medical practitioners	68	68	-0.6	87	85	-1.9
Other (including dental, optical and allied professions)	98	100	1.5	65	66	2.2
<b>Total benefits paid</b>	<b>612</b>	<b>640</b>	<b>4.6</b>	<b>595</b>	<b>613</b>	<b>2.9</b>

Source: Council for Medical Schemes Annual Report 2007-8 and Polmed claims data

### 4.2.3 Cost-drivers identified from Polmed data

Cost-drivers were identified using three years of detailed Polmed claims and demographic data (2006-2008). The analysis considered the impact of the following factors on costs:

- Membership and demographic changes;
- Member income levels;
- Disease categories and profiles;
- Types of procedure;
- Prescribed minimum benefits;
- Healthcare service provider billing arrangements; and
- Benefit design.

The most important *cost-drivers* identified by the analysis are listed and discussed in this section.

#### a. Benefit utilisation, price and mix

As illustrated in Table 9, Polmed experienced an average benefit expenditure growth of 4.3% per annum, while the CPIX was at 9.9%. This was driven by a combination of claim volumes (an indicator of utilisation), and cost per claim (an indicator of price and the mix of services used). Hospital expenses and non-consulting specialists, such as radiologists and pathologists, accounted for 74% of the growth in beneficiary expenditure over this period.

*Volumes of claims* played an important role in driving up hospital, specialist (non-consulting) and medicine (non-chronic) benefit expenditure. The reduction in chronic disease list (CDL)<sup>81</sup> volumes and the number of treatments by GPs and consulting specialists accounted for most of the reduction in volumes in those benefit categories.

*Price and mix of services* played an important role in raising costs across the board, particularly in regard to GPs' and consulting specialists' procedures. Table 10 presents the results of a study of Polmed claims at the private hospital group, MediClinic, between 2006 and 2008 for a selection of hospitals experiencing relatively stable demand by Polmed members. The study is useful because it focused less on explaining changes in admission rates and more on showing the impact of factors affecting the cost of admissions. The analysis shows that price accounted for 16.5% of the 19.4%

<sup>81</sup> The CDL is published by the Council for Medical Schemes in terms of regulations pertaining to the definition of prescribed minimum benefits.

increase in the cost of admissions. This represents 85% of the increase in the cost of these claims. Similarly, case mix and age accounted for 9.8% of the increase in the cost of admissions, while other factors, including technology, accounted for the remaining 5.2%.

**Table 9 : Growth in Polmed benefit expenditure: 2006 to 2008**

<b>Growth in Polmed benefit expenditure for the period 2006 to 2008</b>				
<b>Major benefit categories</b>	<b>Contribution to growth in cost per beneficiary: 2008 compared to 2006</b>	<b>Annual compound growth in benefit expenditure per beneficiary</b>	<b>Annual compound growth in claim lines per beneficiary</b>	<b>Annual compound growth in cost per claim line</b>
	%	%	%	%
Hospitals	56.8	7.1	1.7	5.2
Specialists				
Consulting specialists	5.5	2.9	-2.8	5.9
Non-consulting specialists	16.9	7.2	2.2	4.9
Medicines				
Non-chronic	10.7	2.9	2.7	0.2
Chronic	3.8	2.5	-3.7	6.5
General medical practitioners	-5.2	-1.6	-12.0	11.9
Other (including dental, optical and allied professions)	11.5	4.5	0.6	3.8
<b>Total benefits paid</b>	<b>100.0</b>	<b>4.3</b>	<b>-0.6</b>	<b>4.9</b>
<b>CPIX</b>		<b>9.9</b>		

Sources: Polmed claims data. CPIX was computed from data supplied by Statistics South Africa

**Table 10 : Analysis of Polmed claims submitted by MediClinic: 2006 to 2008**

	<b>2006 index</b>	<b>2008 index</b>	<b>Annualised %</b>	<b>Two-year period %</b>
<b>Total Billed</b>	100	119	9.3	<b>19.4</b>
Volume (number of admissions)	100	100	0.0	0.0
Billed/case	100	119	9.3	<b>19.4</b>
Price	100	117	7.9	16.5
Case mix and age	100	102	0.9	1.9
Residual related to technology (Note 1)				1.0
<b>Total</b>				<b>19.4</b>
CPIX (average for a given calendar year)	100	121	9.9	<b>20.8</b>

**Note 1:** Once the impact of price, case mix and age have been computed, the remaining (residual) unexplained increase in costs is ascribed to changes in technology (medicines, surgical and procedures).

**b. High prevalence of lifestyle diseases**

The analysis of claims by diagnosis category<sup>82</sup> presented in

Table 11 below show that a significant component of Polmed's expenditure relates to *lifestyle-related claims of high frequency and low average cost*. Lifestyle diseases are those that can be positively influenced or controlled by lifestyle modifications such as giving up smoking, losing weight and taking more exercise, and translate into a high proportion of claims in diagnosis categories pertaining to the respiratory, digestive and circulatory systems. While preventive interventions could have an impact on the cost of schemes, it is unlikely that benefit design alone will achieve such an objective. Interventions will also require mechanisms to encourage or coerce medical scheme beneficiaries into taking some responsibility for their own health.

**Table 11 : Polmed claims analysis: top 20 diagnoses<sup>83</sup>**

Diagnosis categories	% of total insured benefits: 2008	Volume of claim lines: 2008	Growth in insured benefits: 2008 compared to 2006
	%	%	%
ICD-10 Group			
Z-coding	23.9	30.6	2.0
Disease - respiratory system	13.0	18.6	5.9
Disease - digestive system	8.3	8.0	8.3
Disease – musculoskeletal system	7.0	6.6	10.5
Other	6.2	4.2	7.6
Disease - circulatory system	6.0	5.3	10.3
Disease – genitourinary system	5.1	4.2	1.3
Neoplasms	4.4	2.2	14.9
Behavioral disorders	4.2	4.1	4.6
Injury	3.5	2.2	1.4
Disease - ear	3.2	1.2	9.7
Disease – endocrine system	2.7	1.4	19.2
Infections	2.6	3.0	5.5
Symptoms	2.4	1.5	-8.5
Child birth	2.2	2.7	3.7
Disease - eye	1.9	1.5	6.7
Disease - skin	1.7	1.6	42.7
Disease - nervous system	1.0	0.8	-3.4
Disease - metabolic	0.6	0.5	2.6
Healthy	0.1	0.0	0.0
Total	100.0	100.0	6.6
Total value of insured benefits paid in 2008 for the top 20 Diagnosis categories:	<b>R3,47bn</b>		

### c. High growth in claims that include charges for procedures

<sup>82</sup> For the purposes of this analysis the diagnosis codes (ICD-10) in the claims data were categorised into the anatomical regions that were most relevant to the diagnosis code in question.

<sup>83</sup> The mandatory inclusion of diagnostic (ICD-10) codes on claims submitted to medical schemes was introduced about five years ago, and problems are still being experienced at many levels with the quality of the coding and the data submitted. The issue of patient confidentiality is a central difficulty, and in many instances this is circumvented by submitting non-specific, or "Z" codes. In many other countries it has taken up to ten years before the quality of diagnostic coding was sufficiently mature to allow for detailed epidemiological analyses and the like.

Table 12 below gives the results of an analysis of the top 20 *procedures*<sup>84</sup> by total insured benefit value. The table illustrates the following important cost-drivers:

- *The cost of claims for procedures is rising faster than the cost of claims where procedures are not involved (medical claims).* Several factors underpin this trend, including the availability of new technologies, the growing number of admissions at an inappropriate level of care, and rising admissions for lifestyle diseases, as discussed below. The total claims value for the top 20 procedures rose by 6.8% a year between 2006 and 2007. Medical claims, which accounted for 56% of the cost of the top 20 procedure categories in 2008, grew at only 5.3% a year, while claims involving procedures grew at 8.7% a year.
- *High growth in the cost of “general” procedures.* Non-medical claims that are not anatomically classified – which accounted for 19% of the cost of the top 20 procedure categories in 2008 – grew by 10.4% a year, compared with the average of 5.3%. Many of these procedures could and should be handled at a lower cost by generalists at secondary hospital care level.
- *High cost growth in categories of procedure where new technologies have been introduced.* There have been important technological developments in procedure categories which have experienced relatively high annual cost growth. These developments include:
  - Radiology: the proliferation of interventional radiology, endovascular surgery and computerised simulation scanning.
  - Hips and kidneys: significant developments have taken place in terms of the quality and price of prostheses and non-invasive endoscopic surgery. Heart and abdominal surgery, which includes the peritoneal cavity, colon, stomach and gastrointestinal categories, has also seen the introduction of similar technologies, although benefit expenditure growth in these areas was more modest between 2006 and 2008.
- *Cost impact of diseases of lifestyle:* Many of the anatomical regions in which the ICD-10 groups in
- Table 11 would occur also occur in Table 12, including the heart, diseases of the circulatory system, the peritoneal cavity, stomach, colon, gastro-intestinal, diseases of the digestive system, kidney, bladder, diseases of the genito-urinary system, the lung and diseases of the respiratory system. This indicates that at least some of the procedures performed also relate to preventable diseases – underscoring the merits of effective preventive care interventions, which do not currently take place in Polmed.

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<sup>84</sup> The procedure (NRPL) codes were also classified into the anatomical region on which the procedure will have been performed. This enabled a comparison between the anatomical regions in which the diagnosis occurred against the anatomical regions on which procedures were performed.

Table 12 : Polmed claims analysis: Top 20 Procedures

Top 20 Procedures	% of total insured benefits: 2008	Insured benefit per claim line as % of the weighted average: 2008	Growth in insured benefits: 2008 compared to 2006	Volume of claim lines: 2008
	%	%	%	
<b>Anatomical region</b>				
Claims with no procedures (medical claims)	56.0	100	5.3	74.8
General	19.1	86	10.4	12.8
Obstetrics	3.0	192	8.0	0.9
Heart	3.0	156	4.3	1.1
Radiology	2.9	84	9.1	2.0
Spine	2.0	156	6.9	0.7
Peritoneal cavity	1.5	97	4.4	0.9
Ankle	1.4	116	0.0	0.7
Hips	1.3	180	15.9	0.4
Colon	1.3	86	6.5	0.9
Kidney	1.2	119	29.1	0.6
Stomach	1.2	75	15.5	0.9
Eye	1.0	163	14.4	0.4
Uterus	1.0	85	1.6	0.7
Gastro-intestinal	0.9	122	0.0	0.4
Skin	0.6	83	5.1	0.4
Bladder	0.6	78	5.1	0.5
Shoulder	0.6	123	2.6	0.3
Lung	0.6	99	8.5	0.4
Oral Cavity	0.6	90	0.0	0.4
<b>Total: top twenty</b>	<b>100.0</b>	<b>100</b>	<b>6.8</b>	<b>100.0</b>
<b>Total value of insured benefits paid in 2008 for the top 20 procedures (R million):</b>	<b>3,266</b>			
<b>Weighted average cost per claim line (2008): rand per claim line:</b>				
<b>Claims with no procedures</b>		<b>R 110</b>		
<b>Claims with procedures:</b>		<b>R 257</b>		
<b>Notes about this analysis: a.</b> Procedures are performed mostly in-hospital; <b>b.</b> The procedures performed were grouped into the anatomical regions on which they were performed. As a result, it is not possible to make a direct comparison between the frequencies of procedures and the frequencies of occurrence of diagnosis categories presented in Table 11 .				

#### d. Impact of prescribed minimum benefits (PMBs)

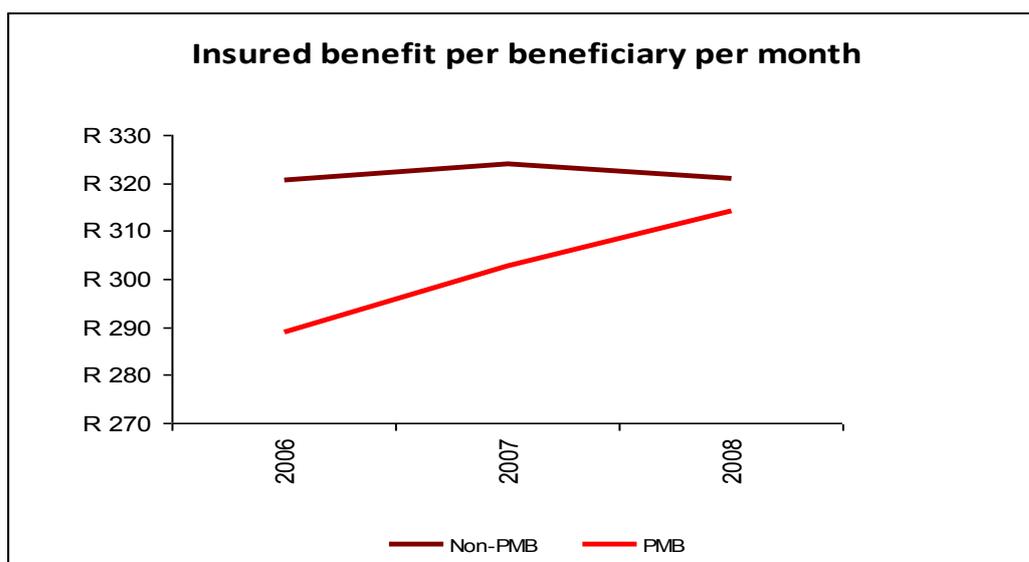
The Medical Schemes Act requires medical schemes to provide full cover for a range of prescribed minimum benefits (PMBs). As the focus is on chronic conditions, benefits typically revolve around hospitalisation and chronic medication rather than on conditions treated at primary healthcare level. These PMBs fall into two high-level categories:

- Diagnosis treatment pairs (DTPs). This comprises a list of 270 conditions, defined by diagnosis, for which cover must be provided in full. Cover is in respect of consultations, special investigations and hospital treatment, both in-hospital and out-of-hospital; and
- The chronic disease List (CDL). This comprises a list of 27 chronic conditions for which full cover must be provided.

The analysis of Polmed data identified the following PMB-related cost driver:

*Growth in PMB expenditure has been more rapid than for non-PMBs.* This trend is reflected in Figure 7, which shows that the cost of insured non-PMB benefits remained almost constant, while PMB benefits rose steadily over the same period.

**Figure 7 : Polmed PMB versus non-PMB cost trends (2006 to 2008)**



Based on a review of claims, managed care and financial trend information, the authors found that the PMB cost trend flows, among other things, from the following factors:

- Awareness of PMBs among medical scheme beneficiaries and healthcare service providers continues to grow, and this translates into a growing number of claims in this area.
- The absence of a recognised PMB fee structure has had a negative impact on PMB claims, as the legislation requires that PMBs must be covered at “cost”, rather than the schemes’ benefit rates. Schemes are particularly exposed to fee escalation if they lack an adequate network of contracted designated service providers that agree to bill according to the scheme’s benefit rates.

It is clear that the costs of medical schemes have risen in the PMB, rather than non-PMB, area. While this trend is not necessarily unwarranted, and is certainly in line with the notion of effective risk-

pooling, it may be a key factor to consider in developing a benefit design policy that affects the overall affordability of medical schemes.

The accelerating trend from 2006 to 2008 also highlights the risks associated with providing legislatively guaranteed benefits without balancing measures that promote appropriate utilisation, the management of lifestyle illnesses and effective billing practices.

#### **e. Healthcare service provider billing arrangements**

The Polmed analysis identified two cost-drivers related to provider billing:

- i. Provider billing in excess of benefits.* As shown in Figure 8, except for in-hospital services, a substantial variance arose in 2008, compared to earlier years, between the fees charged by healthcare service providers and the benefits paid by Polmed. This was the consequence of the lack of communication and agreement between the department of health and the professions. Figure 9 shows that while certain disciplines are more inclined to charge higher fees, the practice is widespread, as it affects most categories of diagnosis. The variance is more pronounced in the case of out-of-hospital claims, where member portions are smaller and easier for healthcare providers to collect. This is in line with the findings of the industry-level analysis, which showed that it has become a widespread practice for medical practitioners to charge fees in excess of the reference price list (RPL), historically used as a guide by medical schemes in setting benefit levels.
- ii. Tendency for providers to “up-code” towards PMBs.* Figure 8 shows a significant difference between the value of medical scheme claims coded as PMBs and benefits paid against these claims in 2008. Medical schemes are obliged to pay claims that qualify as PMBs in full. When Polmed’s administrators applied assessment rules and protocols to these claims, they were reclassified as non-PMB claims, and payment was made based on Polmed’s benefit rates, rather than on “cost”, as legislation requires for PMBs. The PMB review consultation document of 2009<sup>85</sup> acknowledges that a poor definition of “at cost” in the legislation may lead some healthcare providers to adopt a “blank cheque” approach, by charging excessively high fees for PMB conditions.

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<sup>85</sup> Department of health and Council for Medical Schemes. 25 March 2009. PMB review consultation document Third Draft: 10.

Figure 8 : Polmed benefits paid compared to fees billed

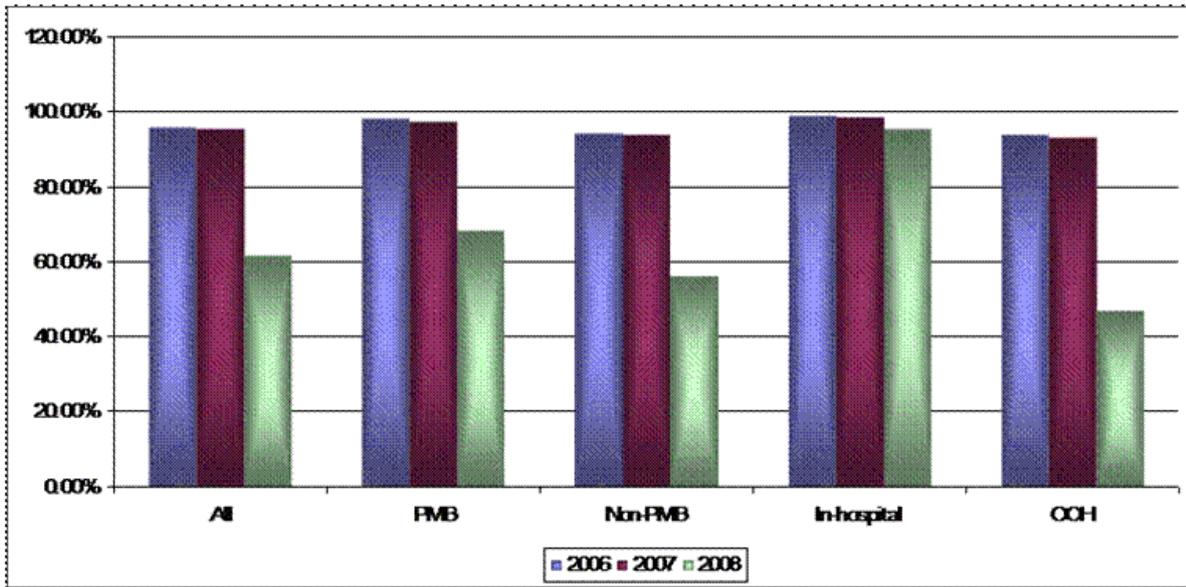
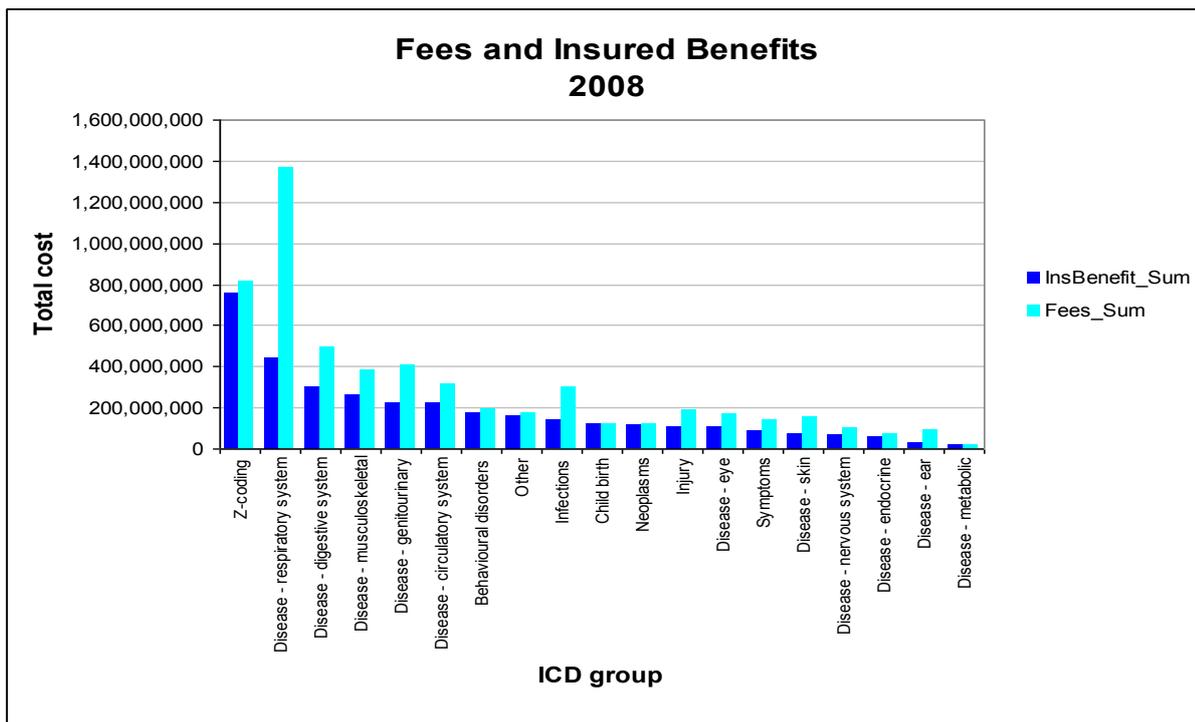


Figure 9 : Polmed diagnosis categories where provider billing exceeds benefits



The effects of the above emerging trends could include:

- Increases in out-of-pocket expenditure by members, putting further pressure on the affordability and accessibility of healthcare services;
- Increases in non-healthcare costs, in that claims must be processed more vigilantly; and
- A “shift” toward hospitalisation, as beneficiaries avoid out-of-hospital services that attract higher member portions.

#### **f. Anti-selection**

Polmed has a higher and a lower plan option. The main difference between them is the level of the sub-limits that apply to certain in-hospital benefits, such as prostheses, and the level of out-of-hospital benefits that they provide. Other than the hospital sub-limits, both options provide unlimited hospital cover.

The analysis of Polmed claims data for the years 2006 and 2007 shows that various categories of anti-selection have affected the cost of Polmed options, namely:

- *“Buy-downs” from the higher to the lower plan by older members.* This category of anti-selection is illustrated in Figure 10, which shows that the number of members in age categories from 35 upwards remained constant or declined in the higher plan, while growing in the lower plan. Figure 10 also shows that the level of hospital costs per beneficiary increases markedly with age. This trend is apparent in all other benefit categories. Therefore, the increase in higher age categories in the lower plan had an adverse impact on its cost.
- *“Buy-downs” from the higher to lower plan by middle-income (low-claiming) members.* This category of anti-selection is illustrated in Figure 11, which shows that the higher plan has seen a decline in low-claiming member income categories F, G and H. These categories are the lowest claimers in all benefit expenditure areas. Conversely, membership in these categories increased in the lower plan. While this form of anti-selection has a favourable impact on the low-cost plan, it removes cross-subsidies in the higher plan and has an adverse effect on its cost.
- *Higher-claiming members select plans with richer benefits.* Figure 10 and Figure 11 show that, in general, members in the same income category claim more when they are on a plan with more generous benefits.

The 2006 Consultative Investigation into Low Income Medical Schemes (LIMS)<sup>86</sup> addresses the problem of anti-selection by recommending that an income threshold should be legislated to create a demarcation between higher- and lower-cost (LIMS) options, and that there should be a material differentiation of benefits between them. Central to the LIMS proposals is that low-cost LIMS options should provide no cover for hospital care. This, it is argued, will almost completely mitigate the risk of buy-downs. However, a counter-argument is that such an approach would merely shift the financial responsibility to a non-claiming provider, that is, the state. While it might be more difficult to implement and manage, an alternative approach would be to make the options that are specifically designed for lower earners inaccessible to higher-income earners. LIMS suggests income-based contribution tables as a mechanism that could be used for this purpose.

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<sup>86</sup> Department of health. 2006. Consultative Investigation into Low Cost Medical Schemes (LIMS): 113.

Figure 10: The impact of age related anti-selection in Polmed

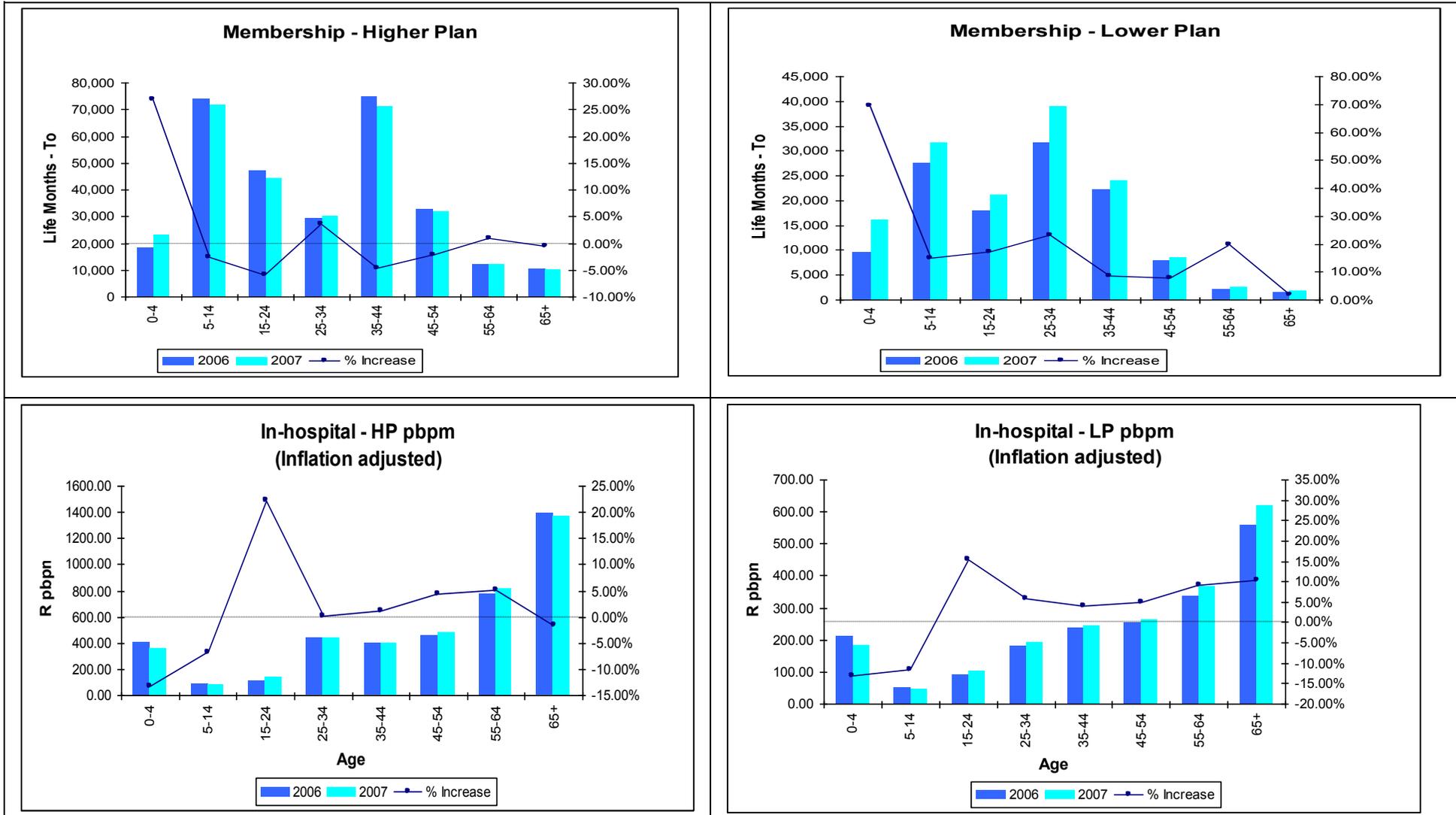
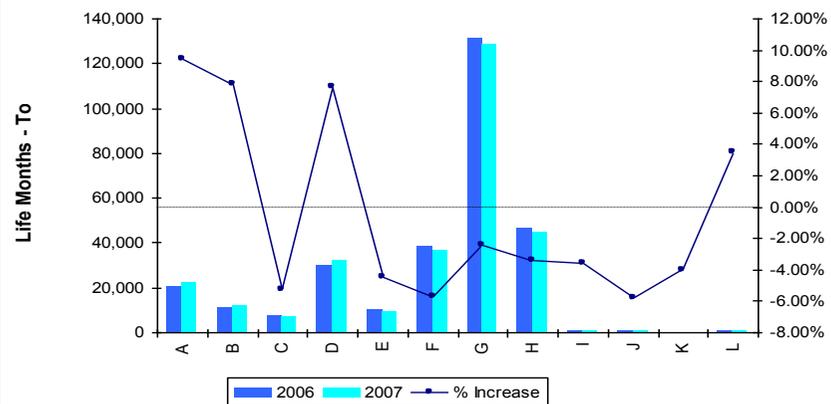
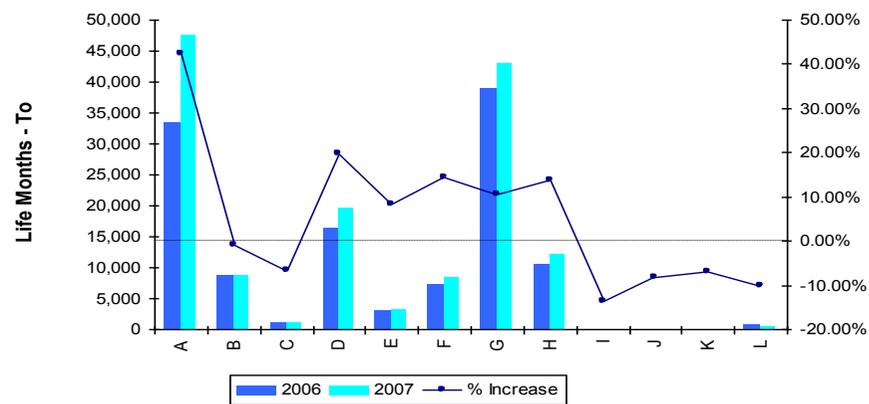


Figure 11: The impact of income related anti-selection in Polmed

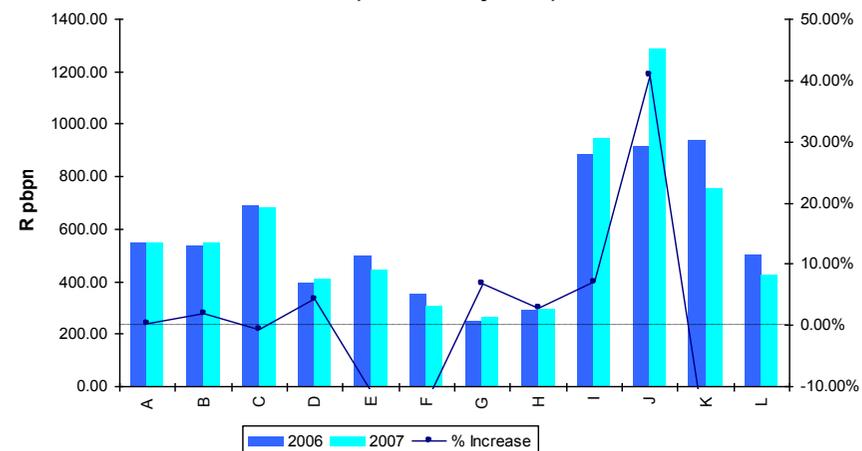
**Membership - Higher Plan**



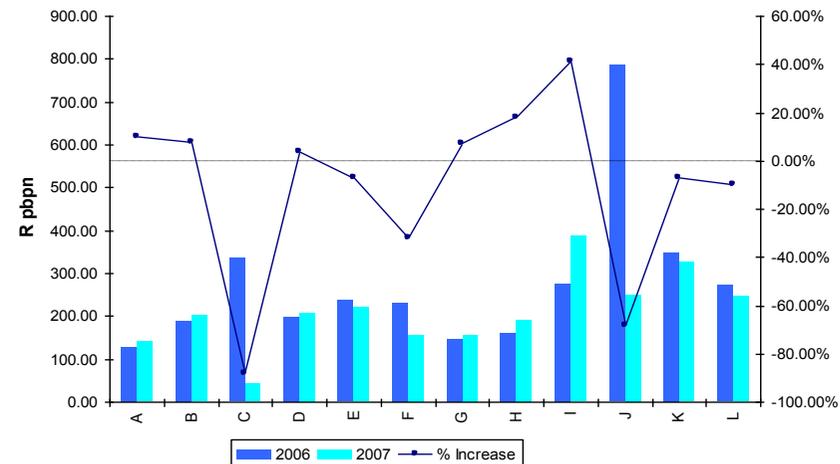
**Membership - Lower Plan**



**In-hospital - HP pbpm (Inflation adjusted)**



**In-hospital - LP pbpm (Inflation adjusted)**



### g. Member income level

Medical scheme members in higher income categories tend to claim more, irrespective of the benefit option that they belong to. The Polmed analysis in Figure 11 shows that higher-income members on the higher and the lower plans claimed more than the lower-income members on the same plans.

## 4.3 Summary

The annual per capita cost of the health insurance offered by South Africa's medical schemes has grown more rapidly than consumer inflation. This is because on average, sector prices have been higher than CPIX over time and changes in the volume and mix of services have been inflationary. In the decade ending 2007, the growth in medical scheme costs has been highest in the categories of private hospitals, medical specialists and non-healthcare benefits.

The following important factors, identified from industry and medical scheme data, have had an impact on costs:

- The number and cost of in-patient days, and private hospital billing arrangements, are key cost-drivers. These respond to underlying trends in staff remuneration and the need to maintain the earnings margins of hospitals. They also respond to the cost of new technologies, as shown by the recent trend towards non-invasive surgical procedures for the treatment of hip, kidney, heart and the gastro-intestinal conditions. Case mix and age also play an important role in cost per in-patient.
- The regulatory requirement that medical schemes cover prescribed minimum benefits (PMBs) at "cost" has stimulated a trend toward given healthcare service providers raising their fees for these services and to classify a growing proportion of claims as PMB claims.
- The lack of a credible process for setting health insurance tariffs has facilitated a sudden, significant rise in the fees of specialist practitioners, as well as fostering an acceptance among medical schemes of the practice of "balance-billing", which shifts cost onto insured beneficiaries.
- Lifestyle-related claims make up a large portion of medical scheme expenditure. These claims relate to conditions that can be positively influenced or controlled by lifestyle modifications such as giving up smoking, losing weight and taking more exercise.
- Regulatory intervention has caused a significant downward trend in medicine prices, although there are strong trends towards increased utilisation in such areas as number of scripts and number of items per script.
- There is a significant difference between prices paid in the medical scheme sector and those paid under the state tender system.
- The medical schemes regulator recently intervened to increase GPs' tariffs. In a move to re-engage with primary care-givers and manage access to higher, more costly, levels of care, the market has encouraged GP-coordinated care arrangements.
- Regulatory intervention has reduced the growth of non-healthcare costs in recent years. However, the effects of constraining managed care expenditure may still be counter-productive.
- The market's demand for innovation and marketing has raised the costs of open schemes in real terms.
- Large employer-based schemes have wielded their economic power to secure substantial price advantages in the non-healthcare area.
- Various forms of anti-selection have undermined the medical scheme industry's attempts to provide lower-cost options.

## 5. Medical scheme cost strategies

### 5.1 Introduction

Using various data analysis exercises, this section identifies certain strategies implemented by medical schemes to address cost-drivers. We present the findings of these analyses within the following framework:

i. Review of industry-level data:

This comprises a review of industry data supplied by the Council for Medical Schemes for the years 2005-2007.

ii. Review of medical scheme data:

This comprises two data reviews, one focusing on the role of provider arrangements, and the other considering the possibilities associated with restricting benefit scope. The medical schemes that supplied data for these reviews are Polmed, the Platinum Health Medical Scheme, and the Clothing Industry Health Fund

This review also cites the recommendations of the Consultative Investigation into Low-Income Medical Schemes (LIMS).

### 5.2 Review of industry-level data

#### 5.2.1 Approach

In this section we present the findings of our analysis of data supplied by the Council for Medical Schemes.

#### 5.2.2 Key findings

**a. Four basic categories of benefit design option are offered by medical schemes**

Medical schemes offer four broad categories of benefit options, which we have defined as follows:

- *Basic options* cover the minimum benefits prescribed in the Medical Schemes Act. The key differences between these and the capitated options are that the members that belong to them retain a large measure of freedom in choosing healthcare service providers, and that the benefits may be less comprehensive.
- *Capitated options* cover a range of benefits that are more comprehensive than the basic options. What mainly distinguishes them is a prospective (capitation) reimbursement arrangement with contracted healthcare service providers. In most cases, this comprises a fixed monthly payment in advance for each beneficiary who has chosen the contracted service provider. The payment is independent of the level of utilisation of available services.

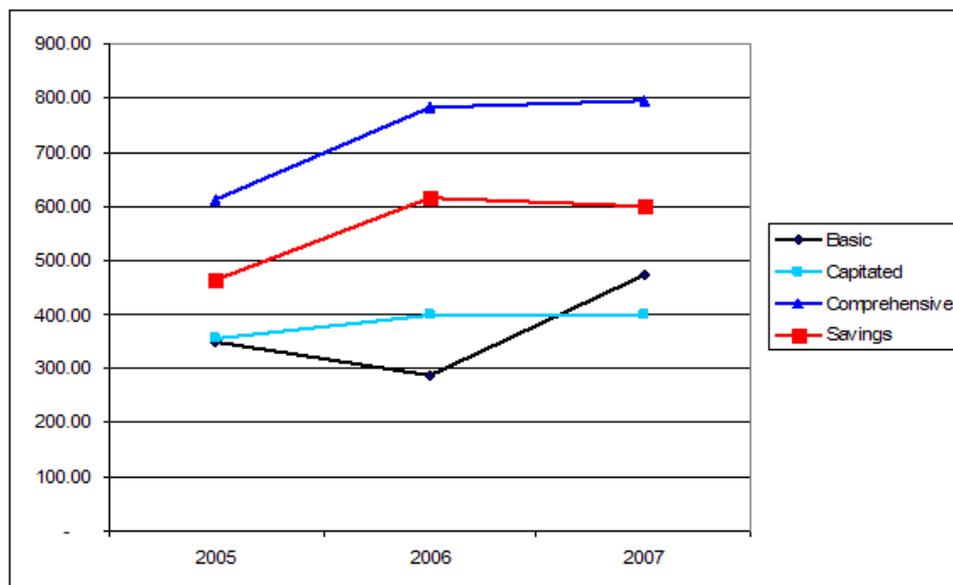
It follows that the beneficiaries that belong to these options have largely forfeited their freedom to choose healthcare service providers.

- *Comprehensive options* are those that offer benefits above the legislated minimum, both with respect to the level of in- and out of hospital benefits. In these options, the annual in-hospital benefits are high or unlimited, although they are sometimes subject to annual limits in certain sub-categories, such as prostheses and out of hospital benefits are also higher.
- *Savings options* offer similar benefits to those offered by the basic or comprehensive options, but also have a personal savings account used to cover certain out-of-hospital and other benefits. The money held in these savings accounts belongs to the relevant member and does not accrue to the scheme's overall funding pool. If a member leaves a scheme and has a credit balance in his or her personal savings account, this is either paid out to the member or transferred to the new medical scheme.

**b. The costs of the four categories of benefit design options vary considerably**

The healthcare costs associated with the different benefit options vary considerably, as shown in Figure 12. The data used in this figure was adjusted across options and age to minimise differences arising from demographic factors. The figure shows that option categories differ according to the freedom to choose providers, provider reimbursement arrangements and the scope of benefits. This suggests that benefit design and provider relationships have an affect on the relative cost of different options.

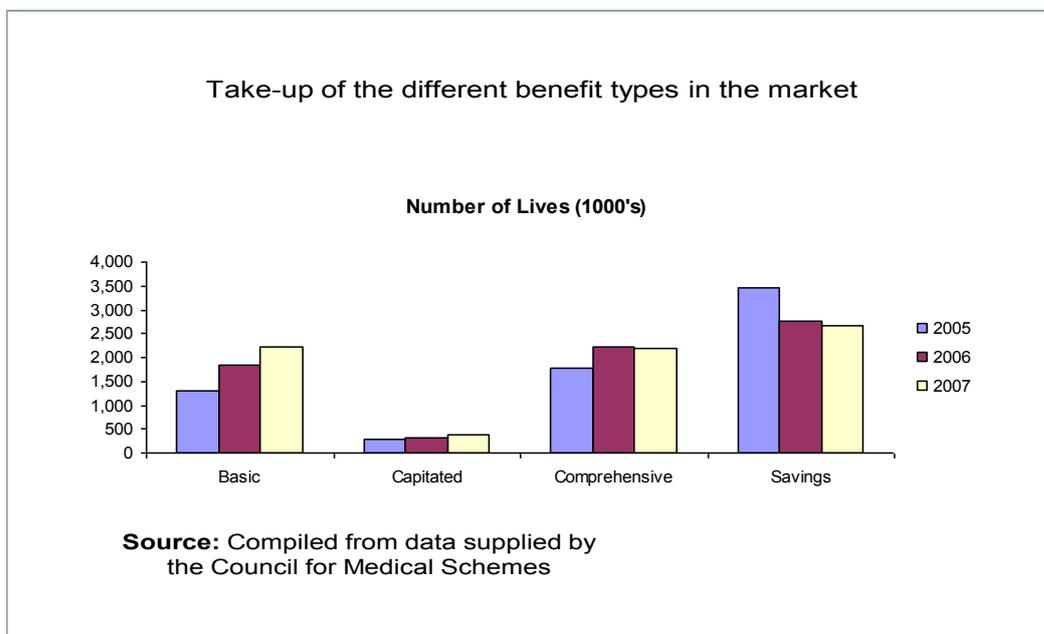
**Figure 12 : Cost of different benefit categories**



**c. The level of demand for the different benefit design categories varies significantly**

The extent to which the market has accepted each benefit design category is indicated by the beneficiary uptake, as presented in Figure 13. This chart also highlights a more recent trend away from savings options – and to a lesser extent comprehensive options – towards basic and capitation options.

**Figure 13 : Uptake of different benefit categories**



There may be many reasons for this trend, including:

- A decline in the affordability of comprehensive and savings-type options because of above-inflation increases in contribution levels; and
- The fact that the Medical Schemes Act requires basic and capitation options to provide at least the legislated PMBs and are, therefore, reasonably comprehensive.

The move away from the comprehensive and savings-type options to basic and capitation options, which were mainly implemented for the benefit of low-income earners, could make these lower-cost options less affordable in future.

### 5.3 Review of medical scheme data

This section presents findings from two analyses of medical scheme data. The first considers the role of benefit scope in addressing costs; the second the role of provider arrangements in addressing cost-drivers.

The aim of these analyses is to identify ways of making medical scheme benefits more affordable.

### 5.3.1 Reducing costs by limiting the scope of benefits

This section presents findings drawn from a comparison of the benefits and costs of Polmed, the Platinum Health Medical Scheme (PHMS), the Cape Clothing Industry Healthcare Fund (CIF) and the benefits and pricing proposed by the Consultative Investigation into Low-Income Medical Schemes (LIMS) of 2006<sup>87</sup> for a low-income medical scheme solution.

It must be emphasised that although the comparisons show that the cost of medical schemes per beneficiary could be meaningfully reduced by prioritising and limiting the scope of benefits, such a reduction could have a significant impact on the quality and effectiveness of healthcare interventions. Furthermore, when benefits do not meet essential requirements, utilisation may not be recorded because it occurs at state facilities or other service providers at cost to the beneficiary.

#### a. Costs can be significantly reduced by restricting benefits

The total costs of the benefits offered by Polmed, the PHMS, the CIF and LIMS vary significantly, as shown in Table 13. Risk factors such as age, gender and chronic disease load have not been adjusted because of insufficient data, but the results make it clear that restricting benefits can bring major cost-saving to members.

While Polmed and PHMS offer comprehensive benefits, the CIF is a good example of how an industry, through collective bargaining between employers and employee representatives, has been able to attend to employees' priority healthcare needs despite the severe financial constraints imposed by tough international competition. If the industry had not committed funds, employees would have been wholly dependent on the state healthcare system. LIMS is a benefit concept that excludes hospital and specialist cover in order to prioritise primary care.

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Broomberg, J. 2007. Consultative Investigation into Low Income Medical Schemes – Final Report. *Department of Health South Africa*.

**Table 13 : Cost comparison between Polmed, the PHMS, the CIF and LIMS**

EXPENDITURE	2008	2008	2008	2008	2008
	Polmed	PHMS	Polmed	CIF	LIMS
	Scheme Total	Scheme Total	Low Plan		
	Rand per beneficiary per month				
Hospitals	225	179	185		
Specialists	60	58	49		
General practitioners (GPs)/primary healthcare	88	45	68	31	41
<i>Network GPs (capitated and fee-for-service)</i>				14	
<i>Health centres</i>				17	
Medicines	138	80	59	2	36
Dental	30	20	22	5	7
Optometry	20	8	12	1	12
Radiology	28	25	15	0	1
Pathology	35	25	18	0	2
Maternity benefit (supplement to wages)	0	0	0	2	0
HIV/Aids/health promotion	0	0	0	1	4
Emergency transport	0	0	0	0	5
Administration	29	46	29	12	12
<b>Total costs before build up of reserves and marketing/distribution costs</b>	<b>587</b>	<b>453</b>	<b>480</b>	<b>53</b>	<b>120</b>
<b>Sources:</b> Police Services Medical Scheme <sup>88</sup> ; Platinum Health Medical Scheme <sup>89</sup> ; Cape Clothing Industry Healthcare Fund <sup>90</sup> ; Consultative Investigation into Low Income Medical Schemes – Final Report <sup>91</sup> <b>Benefit designs: CIF:</b> Table 14; LIMS: Table 15					

**b. Benefit design must reflect priorities and conditions for access**

The key benefit design features of the CIF and LIMS solutions are reproduced in Table 14 and Table 15 to show how they reflect priorities and restrict access to designated providers.

<sup>88</sup> Computed from 2008 Polmed claims and beneficiary data.

<sup>89</sup> Computed from expenditure and claims data supplied by the Platinum Health Medical Scheme.

<sup>90</sup> Computed from data supplied by the Cape Clothing Industry Health Care Fund.

<sup>91</sup> Broomberg, J. 2007. *Consultative Investigation into Low Income Medical Schemes - Final Report*. Department of Health South Africa: 135-7. Note: the benefit package costing (2006 prices) was extracted from the report and adjusted using CPIX for the years 2007 and 2008. CPIX was obtained from reports published by Statistics South Africa.

**Table 14 : Clothing Industry Health Fund benefit design**

SERVICE	HEALTH CENTRE (HC) OWNED BY THE FUND	PANEL DOCTOR	COMMENT
<b>Acute Care</b>	Includes minor trauma	Limited to main member.	HCs limited to some extent by drug formulary. Panel doctors limited by need to provide services within limited budget. Both parties limited by restricted access to special investigations.
<b>Chronic Care</b>	Excellent access to medicines via agreement with public sector.	Panel doctors probably have less of a role in this area given the nature of the medicines delivery model.	Probably the strongest element of the benefit package in terms of cost effectiveness. Not much evidence of disease management programmes.
<b>Antenatal Care</b>	Unlimited visits.	One visit.	Disadvantaged by some fragmentation of care.
<b>Counselling</b>	These are all regarded as being HC deliverables.	Questionable whether panel doctors are expected or able to deliver meaningfully in these areas.	Likely that delivery within various HCs will differ in terms of quality.
<b>Women's Health</b>			
<b>Occupational Health</b>			
<b>Outreach programmes</b>			
<b>Optical and Dental</b>	Not available at all HCs.	Not provided.	Questionable whether services are accessible to all beneficiaries.

The findings of an evaluation of the CIF<sup>92</sup> benefit package are presented here to illustrate how benefit scope has been prioritised and built around available healthcare services, to the satisfaction of the stakeholders – employers and unions – in the clothing industry. At the time, the industry was under heavy pressure from cheap imports. Some compromises are due to affordability constraints, notably in regard to hospital and specialist services, but others flow from the availability and location of services. It is also important to note that benefits such as maternity and optical benefits were given priority in the CIF package, because most clothing and textile workers are women and the work requires good eyesight.

- The CIF's benefits are more limited in scope than the range of minimum benefits (PMBs) prescribed by the Medical Schemes Act, and reflect employer and union priorities.
- The benefit package does not cover the following benefits which are normally partly or fully covered by medical scheme benefit packages:
  - Hospitalisation;
  - Special investigations;
  - Referral to specialists;
  - Specialised dentistry;
  - Rehabilitative services;
  - HIV/Aids treatment, other than aspects that might be covered by the drug formulary (for example, antibiotics for opportunistic infections);
  - Emergency transportation; and
  - Immunisations.
- On the other hand, the CIF benefit package can be regarded as "rich" in the following respects:
  - Unlimited access to the health centres;
  - Main members' access to network doctors;

<sup>92</sup> Magennis R., Rothberg A. 2004. Clothing Industry Health Care Fund Review, as reviewed in April 2008 by Dr S Van Der Berg the Principal Officer.

- Access to chronic medicines through an arrangement with the public sector; and
- Provision of a maternity benefit equivalent to three months' wages.
- CIF benefits may also be regarded as relatively “rich” in terms of access to dental and optical benefits, albeit with co-payments for services that go beyond the most basic level.
- Benefits offered by funds of this nature focus mainly on primary and/or out-of-hospital cover, and beneficiaries continue to depend on state facilities for higher levels of care.

**Table 15 : LIMS: recommended benefit design**

<b>LIMS package of essential services (stated as requiring refinement)</b>	
<b>SERVICE</b>	<b>BENEFIT ENTITLEMENT</b>
GP consultations	<ul style="list-style-type: none"> <li>• Consultations, a minimum of: three GP visits for M + 0.<sup>93</sup> six GP visits for M + 1. eight GP visits for M + 2. ten GP visits for M + 3. 12 GP visits for M + 4.</li> <li>• A maximum of 12 GP visits per family per annum.</li> <li>• A formulary comprising a limited set of procedures to be performed in GPs rooms.</li> <li>• An additional minimum of three GP visits per annum per beneficiary who has one or more LIMS PMB conditions.</li> <li>• It is assumed that most LIMS options will contract with DSP GP networks, and are likely to offer unlimited GP consultation benefits.</li> <li>• GP networks may utilise nurses and other service providers, but the package must provide access to GPs where this is required.</li> </ul>
Pathology and radiology investigations	Ordered by GP, subject to a defined formulary.
Dental consultations	<p>A minimum of:</p> <ul style="list-style-type: none"> <li>• two dental visits per beneficiary per annum for basic conservative and restorative dentistry.</li> <li>• No cover mandated for advanced dentistry or dentures, with some upper limit on number of visits, as for GPs.</li> </ul>
Optometry	<p>A minimum of:</p> <ul style="list-style-type: none"> <li>• One eye test per 24 months.</li> <li>• One pair of spectacles every 24 months, subject to clinical criteria and a formulary.</li> <li>• LIMS schemes may elect to impose reasonable financial limits, as well as protocols related to lens prescriptions.</li> <li>• A basic frame should, however, be covered in full.</li> </ul>
Medicines	<p>A minimum of:</p> <ul style="list-style-type: none"> <li>• A defined formulary (LMP) for acute and chronic medications, based on the health department's essential drug List, with suitable modification where this list is considered to have gaps.</li> <li>• Unless otherwise specified or defined as chronic medication, reimbursement of individual medicines may be limited to four courses per annum.</li> <li>• Medicines which would typically require a specialist diagnosis prior to prescription are not included in the LMP formulary (but may be covered).</li> </ul>
Emergency transport to a public hospital (or private hospital in cases of a life-threatening emergency)	
Maternity care services	a. Not mandated as part of minimum package.
Specialist benefits	b. Not mandated as part of minimum package.
Hospitalisation	c. Not mandated as part of minimum package.

<sup>93</sup> “M” refers to the main member; the number that follows refers to the number of dependants.

### c. Benefit restrictions can have important quality implications

A *quality* evaluation exercise on the CIF<sup>94</sup> found that the design of its benefits leads to cases where certain types of care are delivered in a fragmented way. An example is in an area of great importance to this woman-centred fund – pregnancy care:

- Antenatal visits may be to the health centres, with limited access to a network doctor.
- Any other antenatal monitoring and special investigations must be obtained from public or private sector providers, at own cost.
- Delivery most likely takes place in the public sector.

### d. Certain benefit restrictions require concessions to PMB regulations

The CIF offers benefits that are more limited in scope than the range of minimum benefits (PMBs) prescribed by the Medical Schemes Act. For example, the package does not incorporate specialist and hospital benefits. The CIF is exempt from certain provisions of the Act because of its history as a collective bargaining scheme.

Similarly, the benefit package recommended for LIMS would not comply with current PMB provisions. The LIMS report recommends that “LIMS schemes should be restricted from providing any form of cover for any private hospital care. This exclusion would also apply to emergency stabilisation in private hospitals”<sup>95</sup>. Such restrictions could result in the denial of essential services, or the shifting of costs to the state or beneficiaries who can incur out-of-pocket expenditure.

## 5.3.2 Reducing costs through service provider arrangements

This section presents the findings of a comparison between the costs of services covered by Polmed with those covered by the PHMS. These findings were derived from a high-level claims and cost analysis, which was limited in its effectiveness by differences in the granularity of data. Findings were also informed by a study of the differences between the schemes’ benefit rules and provider arrangements.

### a. Service provider arrangements restrict choice, access and procurement practices

An important difference between Polmed and the PHMS at the time of the study is that Polmed beneficiaries had complete freedom of choice of healthcare service providers, while the PHMS relied on its own facilities and contracted provider arrangements.

PHMS benefits were mainly accessible at the PHMS-owned medical centre or from contracted healthcare service providers, hospitals and other facilities. Primary care, including GPs’ services, optometry and dentistry, was mainly provided through the PHMS-owned medical centre, and secondary care mainly through contractual relationships between the PHMS and specific hospitals and specialists. In cases where required services were not covered by the contractual relationships, they were procured on a fee-for-service basis. Such procurement was, however, on a case-by-case basis subject to prior authorisation and negotiation by the PHMS. In all instances, access to specialist

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<sup>94</sup> Magennis R., Rothberg A. 2004. Clothing Industry Health Care Fund Review, conducted in April 2008 by Dr S van Der Berg, the principal officer.

<sup>95</sup> Broomberg, J. 2007. Consultative Investigation into Low Income Medical Schemes – Final Report. Department of Health South Africa: 136.

and hospital care was subject to referral by the Platinum Health Medical Centre. Beneficiaries that could not access the medical centre – for example, because of where they lived – accessed their benefits through fee-for-service arrangements. However, access to specialist and hospital care was subject to prior authorisation by the PHMS, which included prior negotiation with the relevant service providers.

**b. Service provider arrangements can generate significant cost savings**

Figure 14 shows, among other things, that the PHMS provides benefits at roughly the same cost as the Polmed lower plan. In interpreting the cost similarities between the two plans, it should be noted that the PHMS provides comprehensive benefits, provided that they are accessed via PHMS-designated providers, while the Polmed lower plan has various benefit restrictions.

**Figure 14 : Insured benefits: a comparison between Polmed and the PHMS**

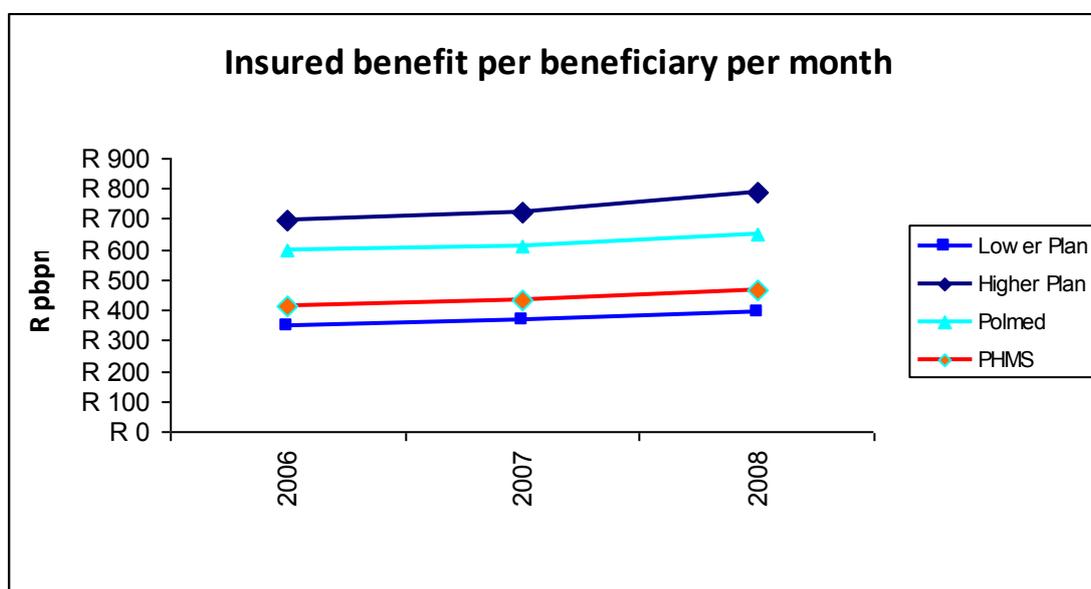
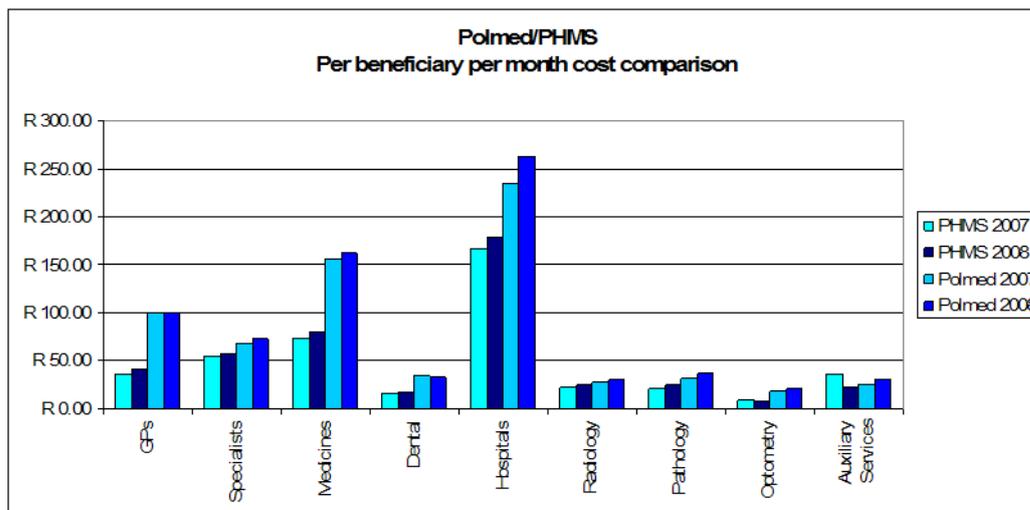


Figure 15 compares the benefit expenditure between Polmed and the PHMS. Expenditure data has been adjusted for age to minimise differences that arise from demographic factors. Other risk factors such as gender and chronic disease profiles have not been adjusted because of the paucity of data.

Figure 15 provides good indication of the benefit expenditure areas where the PHMS achieves cost savings relative to Polmed, mainly because of the alternative delivery system arrangements, rather than factors such as risk profile and benefit design. In all benefit categories, Polmed is noticeably more costly than the PHMS, particularly in respect of hospitals, medicines and GPs. However, this is not the case with specialist and auxiliary benefits. There are particular reasons for the higher costs in these two areas:

- Contractual arrangements are only in place with a minority of the specialists that render services to PHMS beneficiaries, while the rest are reimbursed through fee-for-service arrangements; and
- The PHMS makes extensive use of primary healthcare nurse practitioners in delivering primary healthcare, and the cost of these has been categorised under auxiliary services.

**Figure 15 : Benefit expenditure: comparison between Polmed and the PHMS**



**c. Certain provider compensation arrangements improve cost-efficiency**

The cost savings achieved by the PHMS, as reflected in Figure 15 were achieved with the following provider compensation arrangements in place:

- The PHMS employs its own GPs, dental practitioners and optometrists on a full-time or part-time basis, which eliminates the cost-driving incentives associated with fee-for-service.
- The specialists that provide services to PHMS beneficiaries are, in most instances, reimbursed on fee-for-service basis. It is interesting to note that this is the only cost category that has a similar level to that of Polmed.

The PHMS has long-term contracts in place with hospitals, and these came under review in 2007 and 2008.

- Figure 15 illustrates that hospital costs came under pressure during these years, despite a decline from 695 to 596 patient days per 1 000 beneficiaries. This is mainly because the capacity of hospitals has come under pressure as a result of increased demand from other schemes in the geographical areas where most PHMS members live, and contracted hospitals have substantially increased their prices.

**d. Cost savings are achieved by controlling procurement of medical supplies and diagnostic services**

- PHMS beneficiaries are required to obtain their medicines from facilities owned by Anglo-Platinum. This enables the PHMS to manage the selection of medicines, the number of items prescribed per script and the number of scripts.
- Radiology and pathology services are procured through the PHMS medical centre or from the hospitals with which the PHMS has contracts. Combined with strict clinical management protocols applied through the PHMS's general practitioners, this relationship gives less scope for unnecessary services. The contractual relationships between the PHMS and these service providers also provide a greater degree of certainty in the cost of services.

**e. The structuring of certain provider arrangements will require regulatory reform**

The PHMS has a number of relatively unique provider arrangements, in that it owns the Platinum Health Medical Centre and, as a not-for-profit entity, employs GPs, dentists and optometrists. Such arrangements eliminate the perverse supply-side incentives associated with fee-for-service reimbursement.

However, arrangements of this kind are generally not allowed in the private healthcare sector. In terms of the current ethical rules, as they are published and from time to time amended by the Health Professions Council of South Africa, medical professionals cannot be employed by entities that are not wholly owned by the participating professional practitioners themselves.

**f. Low-income solutions cannot currently obtain preferential medicine prices**

PHMS beneficiaries are required to obtain their medicines from facilities owned by Anglo-Platinum, which were formerly able to negotiate preferential medicine prices or rebates. However, under single exit price and related regulations, this is no longer possible. In general, these regulations have had a favourable impact on medicine prices in the medical scheme sector, but a less favourable impact on employer-based organisations such as the PHMS.

However, these facilities can still select the cheapest or most cost-effective drug in a particular class, meaning that only that drug will be available for prescription. This differs from the situation where medical schemes that do not own their own facilities make use of formularies and/or reference prices as a way of managing the cost of medicines in the different drug classes. Clearly, as illustrated in Figure 16 above, the selective purchasing arrangement implemented by the PHMS generates significant cost advantages when compared to Polmed.

**g. Co-ordination between workplace health and medical services offers scope for reducing costs**

The PHMS employs nurses for certain primary and preventative healthcare services (auxiliary service costs), resulting in a higher auxiliary benefit cost than Polmed. This reduces the reliance on GPs to provide such services, reducing cost of GPs' services. This approach, which is typical of health maintenance organisation delivery systems, has the added advantage over Polmed that it allows for issues of preventative care, absenteeism and referrals to higher levels of care (for example, hospitalisation) to be addressed more effectively.

**h. Out-of-pocket expenditure can be avoided with contracted provider arrangements**

An important feature of a delivery system such as the PHMS health maintenance organisation and contracted network is that beneficiaries are less likely to incur out-of-pocket costs when caregivers and service providers raise fees substantially, as happened between 2007 and 2008. In 2008, on average, the PHMS paid 98% of the amounts claimed, which compares very favourably with the 61% of claims paid during the same period in the Polmed environment (see 4.3.3 e).

## 5.4 Summary

Medical scheme strategies that have had a favourable impact on costs include the following:

- Benefit options have been offered at different prices by adjusting the richness of benefits and structuring arrangements with healthcare service providers that, in some cases, limit choice.
- Low -cost entry level options have been based on prescribed minimum benefits (PMBs). For this reason, the scope and price of PMBs play a central role in determining the extent to which health insurance includes low earners in South Africa.
- Certain medical schemes have achieved significant cost savings by obtaining permission to offer fewer benefits than prescribed by legislation, and to enter employment relationships with professional practitioners. Such permission is not generally available in the market.
- Where employers and low-income employees have received permission to define benefits that are less extensive than the minimum benefits prescribed by regulation, they have tended to favour primary care. The LIMS project has also recommended this approach for low-income populations.
- In some cases, costs have been saved by accepting some fragmentation in the delivery of services, which may have an adverse impact on quality.
- Costs have been reduced by restricting the choice of healthcare service providers and/or by structuring arrangements for formal reimbursement and cost-containment with providers.
- Healthcare insurers have reduced costs by owning their own facilities and employing primary health practitioners to manage referrals to higher levels of care.
- Medical schemes have cut costs by co-ordinating primary care services with occupational health services in the workplace.
- Medical schemes have improved their cost-efficiency by introducing controls over the procurement and distribution of medicines, radiology and pathology.

## 6. Strategies implemented in other countries to address affordability in health insurance systems

Section 5 identified ideas from some promising medical scheme initiatives in South Africa that address cost-drivers by using benefit design and designated provider strategies.

This section sets out to enrich certain of the findings of Section 5 with ideas gleaned from insurance systems in other countries. However, ideas from systems elsewhere are only helpful if they are adjusted to take account of differences in factors such as income distribution, supply constraints and economic circumstances. The findings in this section were derived from a limited review of literature on benefit design and provider relationships as instruments for prioritising and using healthcare resources more efficiently. Findings have been presented under the following headings:

- i. Prioritising and limiting the scope of benefits; and
- ii. Structuring arrangements with service providers.

### 6.1 Prioritising and limiting the scope of benefits

#### 6.1.1 Approach

We chose the primary literature sources cited in this section because they are based on recent and authoritative research. While the references focus mainly on state-sponsored initiatives aimed at universal coverage, they are relevant to this report because they study initiatives that try to define essential benefits within resource constraints. In addition:

- They offer ideas that are likely to be useful to South African stakeholders who are considering the role of medical schemes in extending essential cover to low-income communities;
- They all advocate the use of pre-payment systems to eliminate the need for out-of-pocket expenditure, prioritise the use of resources and build healthcare delivery capacity;
- They all comment on pre-payment initiatives that co-exist with other sources of state and private health funding; and
- The insurance initiatives referred in the literature relate to large populations and are particularly relevant to low-income people.

#### 6.1.2 Findings

##### a. Defining benefit packages can improve effectiveness and resource utilisation

According to the WHO (2008),<sup>96</sup> in recent years many low-income and middle-income countries have undertaken exercises aimed at defining the package of benefits they feel should be available to all their citizens. Indeed, no less than 55 of a sample of 69 countries reviewed in 2007 had embarked on such an exercise. This has been a key strategy in improving the effectiveness of health systems, the equitable distribution of resources and the overall health of populations. It is intended to make

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<sup>96</sup> World Health Organisation: World Development Report 2008. Primary Health Care: Now More Than Ever: 27.

explicit the setting of priorities, the rationing of care and trade-offs between breadth and depth of coverage.

**b. In defining essential packages, attention should be paid to population needs and demand**

According to the WHO (2008),<sup>97</sup> attempts to rationalise service delivery by defining essential packages have not, for the most part, been particularly successful. In most cases, their scope has been limited to maternal and child healthcare, as well as to health problems considered global health priorities. The lack of attention, for example, to chronic and preventable diseases confirms the under-estimation of the impact of transitions in the population and the disease-related transitions. It also confirms the lack of consideration of perceived needs and demand. Also, packages rarely give guidance on the division of tasks and responsibilities, or on defining features such as comprehensiveness, continuity and person-centeredness.

According to Yip and Hsiao (2009),<sup>98</sup> the benefit package model of the Chinese New Cooperative Medical System combines medical savings accounts with high-deductible catastrophic hospital insurance (MSA/Catastrophic). The effectiveness of this model in reducing medical impoverishment was assessed by comparing it to an alternative model based on the community's health profile and preferences regarding benefit packages. The alternative package covered primary and out-patient care fully with no deductibles (first dollar coverage), although hospital benefits were subject to a lower limit (maximum cover) and higher coinsurance rates. The researchers found that the alternative package encouraged the use of basic care rather than expensive hospital services, and concluded that an insurance scheme that ignores the population's disease profile and health expenditure pattern has limited effect in protecting it from medical impoverishment.

**c. Principles of good practice should be followed in defining essential packages**

A more sophisticated approach is required to define benefit packages in a more relevant way. According to the WHO (2008),<sup>99</sup> Chile has provided a detailed specification of the health rights of its citizens, suggesting a number of principles of good practice:

- The exercise should not be limited to a set of pre-defined priorities: It should look at demand and the full range of health needs.
- It should specify what should be provided at primary and secondary levels.
- The incremental implementation of the package should be costed, so that political decision-makers know what will not be included if healthcare remains under-funded.
- There must be institutionalised mechanisms for evidence-based review of the package of benefits.
- People must be informed about the benefits they can claim, with mechanisms for mediation when claims are denied. Chile went to great lengths to ensure that the package of benefits corresponds with people's expectations, with studies, surveys and systems to capture the complaints and misgivings of users.

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<sup>97</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 27.

<sup>98</sup> Yip, W., Hsiao W., 2009. Non-evidence-based policy: "How effective is China's new cooperative medical scheme in reducing medical impoverishment?" *Social Science & Medicine*, 69: 209.

<sup>99</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 27.

#### **d. Developing countries should focus more on primary healthcare**

According to the WHO (2008)<sup>100</sup>, since the 1980s, most OECD countries have tried to decrease reliance on hospitals, specialists and technologies, and keep costs under control. To achieve this they have introduced supply-side measures, including reducing hospital beds, replacing hospitalisation with home care, rationing medical equipment, and offering a host of financial incentives and disincentives to promote micro-level efficiency. The results have been mixed, but evolving technology is accelerating the shift from specialised hospitals to primary care. In many, but not all, high-income countries the primary healthcare efforts of the 1980s and 1990s have achieved a better balance between specialised curative care, first-contact care and health promotion. Over the past 30 years, this has contributed to significant improvements in health outcomes.

More recently, middle-income countries – including Chile, with its *Atencion Primaria de Salud* (primary healthcare); Brazil, with its family care initiative; and Thailand, with its universal coverage scheme – have shifted the balance away from specialised hospital care towards primary care. The initial results are encouraging, with improved outcome indicators and a marked improvement in patient satisfaction. In each of these cases, the shift took place as part of a move towards universal coverage, entailing expanded citizen's rights to access and social protection. These processes are very similar to what occurred in Malaysia and Portugal: right to access, social protection and a better balance between reliance on hospitals and generalist primary care, including prevention and health promotion (WHO, 2008)<sup>101</sup>.

#### **e. A defined package of benefits can assist in matching healthcare needs and resources**

According to Frenk et al. (2006),<sup>102</sup> the essential package of services is seen as a key tool of Mexico's *Seguro Popular* voluntary contributory scheme, which aims to link incentives on the supply and demand sides. The process of defining the package in this scheme is dynamic. The law stipulates that the package must be progressively expanded and updated annually on the strength of changes in the disease profile, technological developments and the availability of resources. This means that benefit coverage expands over time, not only as new technologies and money become available, but also as new diseases are identified. The covered services are analysed and chosen on the basis of evidence drawn from analyses of cost-effectiveness, as well as ethical deliberations and social acceptability criteria. In addition, essential services have been packaged into three tiers to facilitate the application of supply-side responsibilities – primary, secondary and tertiary – and funding. As regards funding, a key objective is to protect individuals from catastrophic and/or impoverishing medical expenditure.

#### **f. A defined package of benefits can be designed to promote healthy lifestyles**

In Mexico's *Seguro Popular*, families in the lowest two income deciles do not contribute financially, but affiliation is conditional on participating in health-promotion activities. Furthermore, various methods were developed to improve preventative care service delivery, including a set of health cards designed to facilitate early detection and prevention services for specific age groups and genders. Emphasis was placed on interventions related to the Millennium Development Goals, including newborn and child health. Important results were also obtained in the prevention and management of HIV/Aids. The health cards were also useful in dealing with chronic non-

<sup>100</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 12.

<sup>101</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever*: 12.

<sup>102</sup> Frenk, J., Gonzalez-Pier, E., Gomez-Dantes, O., Lezana, M., Knaul, F. 2006. "Health System Reform in Mexico 1: Comprehensive reform to improve health system performance in Mexico." *The Lancet* [www.thelancet.com](http://www.thelancet.com), 368: 1524-1534.

communicable diseases and risk factors, such as obesity, diabetes, hypertension and cancer. Programmes for early detection of cervical and breast cancer also showed encouraging results (Frenk et al.: 2006)<sup>103</sup>.

## 6.2 Structuring arrangements with service providers

### 6.2.1 Approach taken

We chose the primary literature sources cited in this section because they are based on recent and authoritative research. While these references focus on state-sponsored initiatives aimed at universal coverage, they are pertinent to this report because they refer to approaches taken to improve the efficiency with which healthcare service providers allocate and manage resources.

### 6.2.2 Findings

#### a. Service providers can respond innovatively to budgetary constraints without compromising quality

India's healthcare industry has become a breeding-ground for innovation. India has a poor public health system: 80% of the population cannot afford the costs of healthcare; more than 490-million people (about 70% of the population) live in rural and semi-urban areas and often have to travel to urban area for treatment; and there is less than one doctor per 100 000 people and a scarcity of world-class facilities (Pralhad: 2007)<sup>104</sup>. Amid all these constraints, a few healthcare providers are setting new global standards for cost, quality and delivery. Three examples are presented in Table 16.

**Table 16 : Price structure of Three Breakthrough Innovations**

Health delivery system	Scale; Procedures per year	2004 Gross margin	2004 Return on capital employed	Cost of similar procedure in the US
Jaipur Foot (for landmine victims)	16 000	Free: Paid from donations	N/A	300X
Aravind Eye Care	240 000	54%	16.2%	50X
NH Cardiac Care	7 500	19%	19.5%	30X

**Source:** Prahalad C., K. 2007. The Innovation Sandbox<sup>105</sup>

The three systems in Table 16 above achieved cost and quality advantages. They could be made available universally within target communities because they have capitalised on the key strategies listed below. Furthermore, each innovator built the business within an *ecosystem* comprising relations with networks of hospitals, state facilities, universities, banks, low-cost suppliers, research organisations, technology partners, and the like. Cost-containment measures included:

<sup>103</sup> Frenk, J., Gonzalez-Pier, E., Gomez-Dantes, O., Lezana, M., Knaul, F. 2006. "Health System Reform in Mexico 1: Comprehensive reform to improve health system performance in Mexico." *The Lancet* [www.thelancet.com](http://www.thelancet.com), 368: 1524-1534.

<sup>104</sup> Prahalad C., K. 2007. "The Innovation Sandbox: To Create an impossibly low-cost, high-quality new business model, start by cultivating constraints." *Strategy and Business*, special Issue, Autumn 2007.

<sup>105</sup> Prahalad C., K. 2007. "The Innovation Sandbox: To Create an impossibly low-cost, high-quality new business model, start by cultivating constraints." *Strategy and Business*, special Issue, Autumn 2007.

- *Specialisation.* Innovators could make most of their scarce resources: people, training, work process designs, capital equipment, time and skill.
- *Pricing.* Reduced costs per person were achieved by economies of scale, and in one case by a unique risk-sharing community health insurance plan focused on the single product.
- *Capital-intensity.* Specialisation allows a company to buy defined equipment in bulk, and to use its full capacity. This reduces unit costs to the lowest levels.
- *Talent leverage.* Specialisation means that complex tasks can be delegated through focused training. This allows innovators to build less costly teams that do not attract premium costs because of scarcity.
- *Workflow.* Roles and work processes are continually reorganised until each team member's skills and capacity are optimally used.
- *Customer acquisition:* More efficient ways are found to link customers to services. One innovator holds 1 400 one-day "eye-camps" each year in villages across India. Certain patients may require specialist opinion, which is obtained using tele-medical examinations, while a few may need referral to hospital.
- *Values and organisation:* Outcomes are affected by team values. The level of quality, continuous improvement, care of patients, whether rich or poor, must be built into the team culture.

#### **b. Shift away from 'hospital-centrism' to primary healthcare**

The WHO encourages pre-payment systems, including voluntary insurance, to foster the development of pooling, financial management capacity and service supply in preparation for a move towards more comprehensive universal systems.<sup>106</sup> It strongly warns against a disproportionate focus on specialist-based tertiary care, often referred to as "hospital-centrism" (WHO: 2008)<sup>107</sup>. The WHO observes that health systems do not spontaneously adopt primary healthcare values or respond efficiently to evolving health challenges. Health systems are generally subject to powerful forces that often override the rational setting of priorities and policy-making and divert them from their intended directions.

#### **c. Fee-for-service and pricing systems incorporating perverse incentives lead to massive cost increases**

When China reformed its rural economy in 1979, village doctors became private practitioners with little government oversight, earning their income from patients on a fee-for-service basis. To keep healthcare affordable, the government maintained strict price control by setting prices for basic care below cost. At the same time, the government wanted facilities to survive financially, so it set prices for new and high-tech diagnostic services above cost and allowed a 15% profit margin on drugs. This created perverse incentives for providers, who had to generate 90% of their budget from revenue-generating activities, and turned hospitals, township health centres and village doctors into profit-seeking entities. Subsequently, providers over-prescribed drugs and tests and hospitals raced to introduce high-tech services and expensive imported drugs that gave them higher profit margins. To increase their profits, village doctors often bought fake or expired drugs cheaply and sold them to patients at the higher official price. As a result, healthcare expenditure soared, growing at 16% a year – 7% faster than GDP growth – and patients' out-of-pocket health expenditure grew at an average annual rate of 15.7% between 1978 and 2003<sup>108</sup>.

<sup>106</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever:* 25-26.

<sup>107</sup> World Health Organisation: *World Development Report 2008. Primary Health Care: Now More Than Ever:* 11-12.

<sup>108</sup> Yip, W., Hsiao W., 2009. "Non-evidence-based policy: How effective is China's new cooperative medical scheme in reducing medical impoverishment?" *Social Science & Medicine*, 69: 202.

**d. Salary plus performance bonus for doctors is more cost-efficient than fee-for-service**

To address the rapid growth of health expenditure caused by waste and inefficiencies, China's Rural Mutual Healthcare – a community-based pre-payment scheme covering 60 000 people under the New Cooperative Medical System – changed the payment method for village doctors from fee-for-service to salary plus performance-based bonus, while introducing bulk purchasing of drugs. These changes led to efficiency gains of 30% through lower drug prices and more judicious use of drug prescriptions and procedures<sup>109</sup>.

**e. Alternative reimbursement based on risk-sharing creates incentives to use resources more efficiently than fee-for-service**

McKinsey & Company (2008)<sup>110</sup> found that when insurers base their reimbursements for *in-patient* care on episodes or diagnosis-related groups, providers are forced to bear part of the risk of treating patients, creating an incentive to use resources efficiently. However, fee-for-service reimbursement, mainly used for *out-patient* treatment in the US, does not have this effect and in fact gives providers strong financial incentives to provide more (and more costly) care, not more value. The use of these different reimbursement approaches may help to explain why out-patient care costs in the US exceed expected levels to a fairly significant degree.

## 6.3 Summary

The following strategies have been implemented in other countries as a way of making health insurance systems more affordable:

Designing benefits:

- Benefit packages have been designed to ensure improved effectiveness and resource utilisation.
- Essential benefit packages have been designed by taking account of the needs and demand of the insured population.
- Principles of good practice have guided the development of essential benefit packages. In this regard, the WHO has identified principles relating to priorities, the level of care, the timing of implementation, how to assess medical efficacy of services for inclusion in the package, and beneficiary education.
- Emphasis has been placed on primary care, as a way of improving outcome indicators and patient satisfaction.
- Benefit packages have been matched with healthcare needs and resources.
- Benefit packages have been designed to promote healthy lifestyles.

Structuring arrangements with providers:

- Innovation has led to the development of quality healthcare solutions within budgetary constraints.

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<sup>109</sup> Yip, W., Hsiao W., 2009. "Non-evidence-based policy: How effective is China's new cooperative medical scheme in reducing medical impoverishment?" *Social Science & Medicine*, 69: 209.

<sup>110</sup> McKinsey & Company. December 2008. "Why Americans pay more for health care". *The McKinsey Quarterly*

- Health insurance systems have shifted towards primary care and away from a disproportionate emphasis on specialist-based tertiary care.
- Systems that reimburse providers on a fee-for-service basis, or which incorporate perverse incentives, have been avoided.
- Arrangements with healthcare service providers based on risk-sharing have led to the more efficient use of resources. Hospital reimbursement linked to diagnosis-related groups is an example of such an approach.

## 7. Conclusions

The **objective of this study**, as reflected in the terms of reference, was to understand the main drivers of medical scheme and related health service costs, and to identify strategies that can be used to reduce these costs and support the greater inclusion of low-income families.

### 7.1 Background and context

- a. There is a significant need to extend medical insurance to low earners in South Africa. There are about 3.6-million people in households that earn income in the formal economy for whom a monthly payment of R100 (2006 prices) per person would not exceed 10%<sup>111</sup> of per capita earnings. Furthermore, 8.2-million households that do not have medical schemes incur out-of-pocket medical expenditure.
- b. There is widespread international consensus that providing universal coverage<sup>112</sup> is one of the core obligations that any legitimate government must fulfill.
- c. In pursuance of universal coverage, a large body of international thought believes that pre-payment systems should be used to encourage the pooling and explicit allocation of resources. These should be used to provide an expanding range of good-quality, essential services to an increasing proportion of the population, who need them to avoid catastrophic expenditure. Such pre-payment systems must be coordinated, to build the institutional capacity to develop and extend the healthcare service supply, access and financial protection that will ultimately ensure coverage for all population groups.
- d. International experience with health insurance systems shows that regulation is required to address market failure caused by factors such as moral hazard, provider billing arrangements, risk selection, trust-based relationships between providers and patients, and licensing and educational standards. Also, because insurance systems facilitate the introduction of beneficial, but costly, new technology and because fee-for-service provider reimbursement adds impetus to supply-driven demand for such innovation, the benefit package and provider reimbursement system should be appropriately structured and regulated, if necessary, to ensure cost-effective and clinically appropriate access to new innovations, including medicines, procedures and prosthesis.
- e. The policy behind the National Health Act and medical scheme reforms since 1994 aims to redress historical inequities, particularly those affecting vulnerable groups, by using mechanisms such as health financing to coordinate the relationship between private and public health establishments in delivering health services. The possibility of introducing some form of mandatory health insurance system has been under discussion in South Africa since

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<sup>111</sup> In an analysis prepared by Eighty20 for the Centre for Financial Regulation and Inclusion (Cenfri) and FinMark Trust, aimed at assessing whether a household can afford medical scheme cover, the average contribution per beneficiary per month is multiplied by the number of people in the household. If this amounts to 10% or less of household income – the affordability threshold – the assumption is that the household, or the individuals that make up the household, can afford medical scheme cover. The reference to this analysis is provided in the relevant section in the body of the report.

<sup>112</sup> Universal coverage is defined by the WHO as “universal access to the full range of personal and non-personal health services they need, with social health protection”.

the early 1990s, but there has been little progress in achieving it. There is now a renewed debate aimed at using insurance as a mechanism to improve access to healthcare services and make them more equitable.

- f. If the medical scheme industry is to play a meaningful role in the future financing of healthcare, it must:
- Address the argument that the industry helps perpetuate the maldistribution of resources, such as caregivers and facilities;
  - Effectively address the cost spiral; and
  - Show meaningful growth in beneficiaries.
- g. With full or partial financial sponsorship from the state, health insurance can be progressively extended beyond the current households in formal employment that participate in the medical schemes system to include those that are in a position to make some contribution (e.g. the uncovered formally employed, domestic workers and other informally employed). The Mexican *Seguro Popular* and Chinese *Cooperative Medical System* are compelling examples of how this can be done for those that are not sponsored by employers.

## 7.2 Cost-drivers

- h. The *industry-level analysis* presented in Table 1 below shows that the per capita expenditure of medical schemes grew at an average of 5% above CPIX in the period 1997-2007. One third of this excess can be attributed to medical price inflation above CPIX, and two thirds to factors such as service utilisation, mix of services and the introduction of new technology, including medicines, procedures, prosthesis, devices and equipment. The growth in costs is similarly reflected in contribution increases. The *scheme-level analysis* shows that in 2006-2008, hospital, specialist (especially non-consulting) and non-chronic medicine costs continued to be driven by utilisation (patient days), while “cost per claim” (price and mix) continued to drive costs across the board – but more noticeably in the area of procedures by GPs and consulting specialists.

**Table 17: Trends in benefits and contributions (per beneficiary per month): 1997 to 2007**

	% of total benefit spend	% annual growth in excess of CPIX	% annual growth in excess of medical price inflation rather than CPIX
<b>Benefit category</b>			
Private hospital	28.4	6.6	5.2
Medicine	18.4	0.5	2.6
Medical specialists	17.5	5.4	4.9
Other benefits	13.8	3.2	2.4
Non-healthcare	13.4	11.7	11.7
General medical practitioner (GP) and GP-coordinated care	8.6	4.3	1.7
<b>Total benefit expenditure</b>	<b>100.0</b>	<b>5.0</b>	<b>3.1</b>
<b>Total contributions</b>		<b>5.9</b>	<b>4.0</b>

- i. The industry and scheme-level analyses both show that the major medical scheme cost-drivers are:
  - i. *Number and cost of in-patient days.* Our industry-level analysis shows that these drivers did not translate into higher hospital industry earnings margins between 2003 and 2007. This reflects the recent impact of increased staff costs – which comprise two thirds of hospital input costs – and the reduction in profit margins on medicines and consumables caused by alternative pricing structures generated by the regulation of medicines and agreement on consumables. The scheme-level analysis (2006-2008) shows that while average price increases have been slightly below CPIX in recent years, patient days, case mix and new technology drove fee-for-service costs per claim upwards. This is further explained by the fact that claims involving medical procedures, with a higher average cost, have grown faster than claims without procedures. The growth in procedure-related claims arises in cases that are not anatomically classified (general claims) and where new technologies have been introduced, such as intervention radiology, endovascular surgery, computerised simulation scanning, prostheses (joint replacements) and non-invasive endoscopic surgery (heart, abdomen).
  - ii. *Private hospital billing arrangements.* The industry-level analysis shows that between 2003 and 2007, to maintain earnings margins in response to higher staff costs, the regulation of medicine prices and the restructuring of the price of consumables, private hospitals negotiated higher ward and theatre fees. They also renewed the move into “managed care arrangements”, mainly entailing “per diem” and “fixed fee” billing, which gave them greater flexibility to manage costs and improve earnings through greater efficiency. During the period when these billing arrangements were implemented, the per capita growth in medical scheme expenditure growth remained in line with CPIX. In other words, these transfers were cost-neutral to the medical scheme industry.
  - iii. *Specialist billing arrangements.* The industry-level analysis shows that the elimination of industry-level tariff negotiations, which were outlawed by the Competitions Commission in 2003, followed by the implementation of the national reference price published by the health department – which is not based on cost analyses, negotiation or open lines of communication with the profession – has precipitated a significant increase in fees billed to medical scheme beneficiaries. This has had an adverse impact on the cost of prescribed minimum benefits, as schemes are obliged to pay “cost” for these services. The higher fees have also caused schemes to accept “balance billing” practices and to introduce higher benefits to cover the difference between billed amounts and benefit shortfalls. The scheme level analysis confirms that medical specialists’ practice of billing in excess of the reference price list published by the health department is widespread. However, this practice is most common with non-PMB claims, which medical schemes are not obliged to cover, and happens less often with higher-cost in-patient claims, involving larger amounts that may not easily be recovered from patients. There is also a tendency to “up-code” – incorrectly classify – claims as PMB claims. When these medical scheme administrators reclassify such claims, beneficiaries are forced to pay the difference out of pocket. The degree of excess billing also varies between professional disciplines.

- iv. *Changes in general practitioner (GP) billing arrangements.* The industry-level analysis shows that GPs' tariffs in 2005 and 2006 increased by more than medical scheme benefit levels. This contributed to a growing discrepancy between the amounts billed and what medical schemes paid, resulting in growing "out-of-pocket" expenditure. This has been one of the reasons for an increased tendency for medical schemes to enter into non-balance billing capitation arrangements, particularly since 2004.
- v. *Regulation of medicine prices and dispensing practices.* The industry-level analysis shows that after a period of rapid escalation in the cost of medicines, between 1997 and 2001, the implementation of generic substitution by pharmacists in the late 1990s and the implementation of medicine price regulation in 2004 has brought a substantial reduction in the real per capita costs of medical schemes. However, there are strong indications that the number and mix of items per script and the number of scripts claimed per beneficiary are increasing. This may suggest that healthcare service providers are responding to price interventions by increasing levels of utilisation.
- vi. *Medicine pricing relative to state tender pricing.* The industry-level analysis shows that there is a substantial difference between state tender prices for medicines and prices charged in the medical scheme market. If these differences were available as a "discount" across all medicines used in the medical scheme sector – and not just those medicines procured by state tender – total costs per beneficiary, after providing for distribution costs, could be as little as a third of their current levels.
- vii. *Impact of new legislation on non-healthcare costs.* The industry-level analysis shows that after a period of rapid escalation in non-healthcare costs in 1997-2001, due mainly to the growth in managed care, broker activity and reinsurance arrangements, regulatory intervention has eliminated the abuse of reinsurance, addressed the transparency and level of intermediary costs, and restrained cost escalation related to managed care. However, by curtailing the level of managed care expenditure, there is a risk of undermining cost containment interventions, and this could be counter-productive.
- viii. *Impact of membership changes on non-healthcare costs.* The industry-level analysis shows that in recent years (2002-2007) movements of members between medical scheme administrators has caused an increase in average per capita open-market costs, and a decrease in average restricted market costs. Higher open market costs are associated with distribution and product innovation, while lower restricted scheme costs are more closely associated with volume discounts.
- ix. *High prevalence of lifestyle diseases.* The scheme-level analysis shows that there is a high frequency of claims for conditions that could be avoided by lifestyle changes such as giving up smoking, losing weight and more exercise. The cost of these claims is generally lower than average, but they also include high-cost procedures in such areas as heart, gastro-intestinal tract, kidney, lung and bladder.
- x. *Impact of prescribed minimum benefits (PMBs).* The scheme-level analysis shows that growing awareness of PMBs among providers and beneficiaries, the absence of a recognised PMB fee structure, and the absence of measures to control utilisation and lifestyle illnesses, have combined to drive up PMB claims more quickly than non-PMB claims. There is also a strong tendency to "up-code" claims as PMB-related, which translates into out-of-pocket costs for scheme beneficiaries when administrators

apply assessment rules and protocols. This is also causing inappropriate hospitalisation, to avoid out-of-pocket costs. Furthermore, “up-coding” tends to be more widespread in categories of diagnosis where PMB definitions are less comprehensive.

- xi. *Anti-selection.* The scheme-level analysis shows a strong tendency for older, higher-claiming beneficiaries, and middle-income, lower-claiming beneficiaries to “buy down” to lower-cost options. It also shows a strong correlation between members’ propensity to claim and the richness of the benefits offered by the option to which members belong.
- xii. *Income level.* The scheme-level analysis shows that in general, higher-income member categories tend to claim more than lower-income categories within a given plan. This tends to support the idea that low-income initiatives should be ring-fenced and protected from buy-down by higher-income groups, if they are to be kept affordable.

### 7.3 Strategies for addressing cost-drivers

- j. The industry-level analysis, the scheme-level analysis and our review of authoritative international literature show that the following strategies have been effectively used to address health insurance cost-drivers:
  - i. *Restrict and explicitly define benefits.* Medical schemes currently offer basic options – primarily PMB benefits – at substantially lower cost than savings and comprehensive options. Similarly, collective bargaining schemes, such as the Clothing Industry Fund (CIF), hold out an example of where exemption from PMB regulations has been obtained in a bid to address priority needs and limit benefit expenditure to affordable levels for very low-income communities. In some respects, CIF benefits exceed PMB requirements, for example in regard to optical and dental services and access to primary care nurses. But in other areas, for example, hospital and specialist care, the benefits offered fall far short. The LIMS benefit design proposal excludes specialist and hospital benefits in order to prioritise primary care and sufficiently demarcate low-income benefits from current benefits offered by medical schemes, to discourage buy-downs, or anti-selection.
  - ii. International experience has shown that defining an effective and appropriate package of benefits is a key strategy for improving the effectiveness of health systems, distributing resources equitably and improving the overall health of populations. It makes explicit the setting of priorities, the rationing of care, and trade-offs between breadth and depth of coverage. In benefit design it is important to address the real needs of the population, based on disease profile, and perceived needs, based on demand. Recent studies of middle-income countries have shown that if a better balance is struck between reliance on hospitals and generalist primary care, access can be improved by making it more affordable. In addition, the important elements of prevention and health promotion can be incorporated, reducing the impact of lifestyle diseases and promoting improved outcome indicators and patient satisfaction.

The following are regarded as principles of good practice in defining benefits:

- The exercise should not be limited to a set of pre-defined priorities: It should consider demand as well as the full range of health needs.
  - It should specify what should be provided at primary and secondary levels.
  - The package should be costed, to identify what will be left out to remain within budget.
  - Selection of benefits should be guided by evidence-based review, incorporating a review of cost-effectiveness, ethical considerations and social acceptability.
  - Beneficiaries should be informed about the benefits they can claim, with mechanisms of mediation provided for when claims are denied.
- iii. *Benefit structures should reflect conditions of access.* Schemes that have implemented strict referral protocols at primary care level for access to higher levels of care have shown cost advantages. For example, in the PHMS, employed nursing staff manage referrals to GPs, while employed or contracted GPs manage referrals to specialists.
- iv. *Restrict the choice of service providers and implement alternative reimbursement arrangements.* Medical schemes have successfully implemented capitation options, involving restricted provider networks, as a way of offering a more comprehensive range of benefits than basic options at a similar cost structure. Capitation options, therefore, provide an example of how provider choice can be traded off against cost while maintaining more comprehensive benefits. The PHMS shows how significant savings can be achieved by providing access to benefits mainly at its own medical centre, which employs or contracts with nurses, GPs, optometrists and dentists, or from a network of contracted healthcare service providers, hospitals and other facilities. Only when services are not available or accessible from in-house or contracted providers can they be procured on a fee-for-service basis, subject to prior authorisation and negotiation. Similarly, the CIF uses its own primary care clinics, a network of GPs and a formally structured relationship with a state medicine dispensary to deliver services within tight budgetary constraints.
- v. International experience has shown that service providers can respond in an innovative way to budgetary constraints without compromising quality. For example, service providers in India have shown that healthcare delivery systems can deliver world-class services at a fraction of the cost by applying the following principles innovatively:
- *Specialisation* – of products and services;
  - *Pricing* – securing advantages through economies of scale;
  - *Capital-intensity* – buying defined equipment in bulk and using it to full capacity;
  - *Talent leverage* – building less costly teams by delegating complex tasks through focused training;
  - *Workflow* – organising roles and work processes to optimise skills and capacity;
  - *Customer acquisition* – linking customers to services more efficiently; and
  - *Values and organisation* – building and incentivising teams to adopt patient care values based on quality and efficiency.
- vi. International experience has also shown that fee-for-service and pricing systems incorporating perverse incentives lead to massive cost increases and should be avoided. However, remuneration systems, such as salary plus performance bonus for healthcare professionals, can improve cost efficiencies compared to fee-for-service. Similarly, alternative reimbursement based on risk-sharing, such as reimbursement

for in-patient care based on episodes or diagnosis-related groups, creates an incentive to use resources more efficiently than fee-for-service.

- vii. *Share costs and liabilities.* The CIF and the results of the LIMS consultative investigation provide examples of where certain lower levels of care can be provided in an insured environment, while higher levels can be provided by, for example, the state. Such an approach could assist in achieving economies of scale where expensive resources are required, while relieving the state of the burden of high-frequency, low-cost healthcare encounters. Such a co-operative relationship between the public and private sectors would have to be structured to optimise universal access to the country's limited resources, such as doctors and facilities, while minimising discontinuity of care and fragmentation of service delivery.
- viii. *Control procurement of medical supplies and diagnostic services.* The PHMS achieves significant savings in medicine costs by requiring beneficiaries to obtain medicines from its own facilities, where selection and dispensing can be controlled. Similarly, savings are achieved in radiology and particularly pathology services which are procured through the PHMS medical centre or from hospitals with which PHMS has contracts.
- ix. *Amend or grant concessions in regard to ethical rules and other regulations affecting professional practitioners.* It is clear from our analysis of the PHMS and the CIF that employed doctors and other professionals are not exposed to the perverse incentives associated with fee-for-service, and can play a key role under such reimbursement arrangements in optimising the use of scarce resources. Opportunities should be explored where similar arrangements can be structured by medical schemes, or in association with medical schemes, to extract cost advantages while maintaining professional standards.
- x. *Implement a system that provides for exemptions from regulations and arrangements pertaining to the prices of medicines and consumables.* Previously the PHMS was able to obtain preferential prices for medicines for its defined beneficiaries, namely Anglo-Platinum employees. Single exit price regulations have now eliminated this opportunity. The PHMS model highlights the merits of a system in which capitation or similar risk-sharing arrangements for defined populations – and importantly, for low-income groups – can obtain exemption from SEP regulations. Cost benefits could be similarly made available for medical equipment and devices – consumables – governed by NAP arrangements.
- xi. *Coordinate workplace health and medical services.* The PHMS achieves cost savings by employing nurses at the workplace that provide certain primary and preventative healthcare services in a coordinated manner. This approach, which is typical of Health Maintenance Organisation delivery systems, has the added cost advantage over conventional medical schemes such as Polmed that it is well placed to address such issues as preventative care, absenteeism and referrals to higher levels of care, more effectively.
- xii. *Eliminate balance billing and other out-of-pocket expenditure using designated providers.* The PHMS, with its employment and contracted provider relationships, provides an example of how the substantial gap between the reference price list and provider fees that emerged in Polmed in 2008 can be avoided.

## 7.4 Implications

The conclusions reached in this study have the following implications for the design of an insurance-based system in South Africa that maximises the inclusion of low-income earners:

- In line with best international practice for moving towards universal coverage, the breadth of coverage could be expanded in South Africa by fostering pre-payment for health services and progressively coordinating public and private sources of funding into a coherent whole that ensures coverage for all eligible population groups.
- The institutional capacity and supply of health services developed within the medical scheme funded system are valuable building-blocks for moving the health system towards universal coverage. Therefore, in line with best international practice, it may be appropriate to expand the employer sponsored medical scheme system to incorporate a state sponsored component to provide coverage for lower earners who are able to make a monthly financial contribution.
- The current scope and application of PMBs as well as the associated fee structures and reimbursement models could be revisited to provide entry-level benefit options that lower income populations can afford. Using evidence-based review as a guide PMBs could be chosen with an eye to cost-effectiveness, ethical considerations and social acceptability. They could be refined to:
  - address priority needs;
  - specify what should be provided at the different levels of care and what conditions must exist for access to higher care levels;
  - emphasise primary care; and
  - incorporate promotional and preventative care to reduce the impact of lifestyle diseases.
- Regulations restricting contractual arrangements between medical schemes and professional practitioners, such as those related to fee structures, alternative reimbursement models and employment, could be revisited to facilitate a more efficient use of resources than in the current fee-for-service system.
- Regulations could be reviewed to the extent that they hamper the structuring and deployment of health care worker teams to use skills more efficiently through specialisation and the leverage of talent. For example, the establishment of inter-disciplinary group practices and centres of excellence could be considered. Also, the role of the private sector in training certain categories of health care workers could be reviewed.
- Mechanisms could be created to facilitate the development of billing and health care delivery relationships between medical schemes and public sector institutions and facilities.
- The regulatory environment could be refined to enable medical schemes (whether employer or state sponsored) to implement low-cost options for low-income earners, in a way that anti-selection by people on higher incomes is prevented.
- The new regulatory framework introduced during the past decade with favourable impact on medicine prices and non-healthcare costs could be further refined to address cost levels and cost increases in an expanded health insurance sector.

- A regulatory framework could be implemented to facilitate the development and negotiation of hospital and specialist billing arrangements that do not rely on balance billing to bridge the gap between fees charged and insured benefits. This is particularly important in the case of the minimum benefits prescribed by legislation and the development of solutions for the low income sector.
- The trend towards risk-sharing alternative reimbursement for hospital services could be encouraged, to provide incentives for efficiency and the adoption of new technology. Similarly, this trend could also be encouraged for other service provider types where appropriate.