



## **Ministerial Task Team on Social Health Insurance**

**June 2005: Final**

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**CONFIDENTIAL**

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## **Social Health Insurance Options: Financial and Fiscal Impact Assessment**



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## **1. Introduction**

### **1.1 Purpose of Report**

This report has been produced to review quantitatively the advantages, disadvantages, impacts, and risks of various proposed health reforms impacting on the regulation of medical schemes, which include Social Health Insurance (SHI) and the proposed establishment of a Risk Equalisation Fund (REF).

### **1.2 Cabinet decision**

The Cabinet Lekgotla of January 2005 determined that:

More detailed work be done to enable the Cabinet to come back to a decision about the direction to be taken regarding SHI;

This work, referred to above, should include:

1. An analysis of the financing and fiscal implications of implementing the SHI, including a Risk Equalisation Fund, and especially risks to the Government relating to possible underwriting of risk;
2. An analysis of how a Risk Equalisation Fund would work in practice if the SHI was adopted, including an analysis of the current risk profile of the medical schemes and projections on what such a risk profile would result in with regard to possible contributions by each scheme;
3. Based on the above, an analysis of what this would mean for the Government in terms of actual numbers as part of information for purposes of reaching a conclusion on paragraph (1) above; and
4. Provide a report to the Cabinet on these requests by June 2005.

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## 2. Context for reform

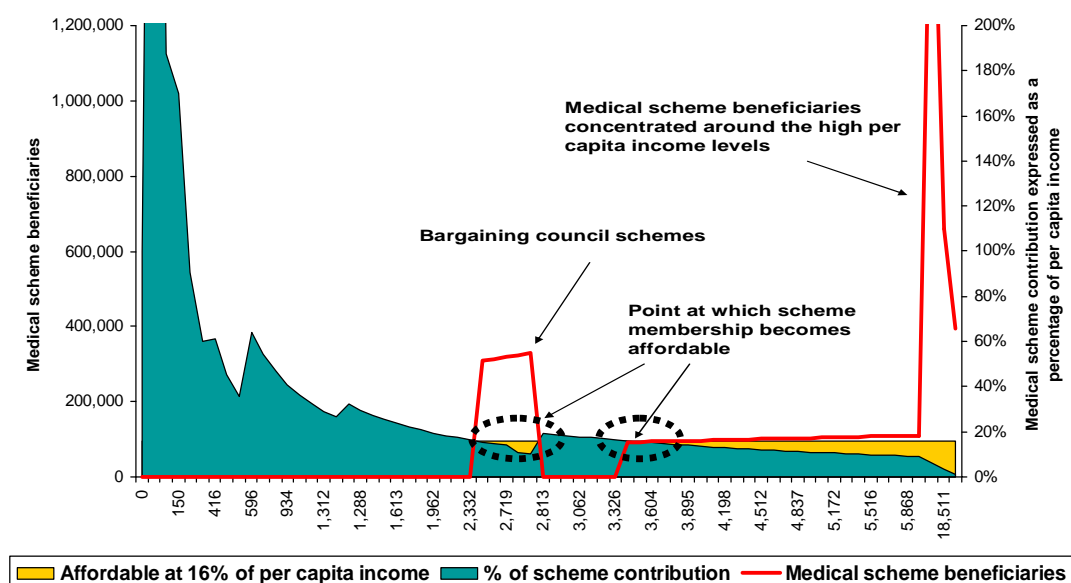
### 2.1 Low-income group access to risk pooling

The South African health system is made up of a significant public and private sector. Until 1994 no serious attempt had been made to harmonize the development of both sectors in a manner that promoted the interests of the broader South African population.

From 1994 onward the highly deregulated private medical schemes sector became an important focus of policy, culminating in the implementation of the **Medical Schemes Act No.131 of 1998** and the Council for Medical Schemes. The purpose of this legislation was to ensure that a greater degree of fairness in relation to access was introduced into the private health system.

An assessment of medical scheme participation by income has revealed that per capita income is a central measure determining access to cover. Where direct contributions to a medical scheme exceed 16% of per capita income, medical scheme participation declines to zero, apart from bargaining council schemes. **Figure 2.1** summarizes the analysis. **Table 2.1** also provides an overview using individual income categories. However, there is little that can be said about medical scheme participation using personal/individual income, as affordability is affected by family size.

**Figure 2.1: Assessment of current medical scheme participation by per capita income (2005 estimate)<sup>1</sup>**



Source: MTT model analysis

**Table 2.1: Percentage contribution required for medical scheme cover by individual income group, compared to estimated entitlement to the existing Tax Expenditure Subsidy<sup>2</sup>**

Income group (individual)	Current Medical Scheme Contribution	Current Tax Expenditure Subsidy	Current Medical Scheme Contribution	Current Tax Expenditure Subsidy
	Under 65		Over 65	
No income	n/a	n/a	n/a	n/a
R1 - R400	n/a	n/a	n/a	n/a
R401 - R800	n/a	n/a	n/a	n/a
R801 - R1,600	26.3%	0.0%	26.3%	0.0%
R1,601 - R3,200	27.4%	2.4%	27.4%	0.0%
R3,201 - R6,400	24.9%	2.1%	24.9%	5.4%
R6,401 - R12,800	17.5%	1.8%	17.5%	5.4%
R12,801 - R25,600	11.5%	1.2%	11.5%	5.1%
R25,601 - R51,200	5.9%	0.0%	5.9%	2.9%
R51,201 or more	3.6%	0.0%	3.6%	1.7%

Source: MTT model analysis

<sup>1</sup> The census information, adjusted to 2005, provided the base data set. Incomes were adjusted to 2005 by a pro-rata adjustment of the income groups to fit the 2005 estimated Current Household Expenditure. (See section 5.7 of this report). Income bands were split for all the lower-income groups, with a cross-table created with per capita income on the Y axis and personal income on the X axis. The current medical scheme population was then fitted to the data. This showed that affordability became a severe barrier to medical scheme access where contributions exceeded 16% of per capita income.

<sup>2</sup> These percentages reflect the cost of medical scheme cover adjusted for the type of product currently offered to each income group. The cost figures are inclusive of the amount that is expected an employer would pay. In the case of public sector employees this would be 67% of the contribution, while its assumed at 50% for private sector employees.

Where some risk-pooling occurs for low-income groups, such as in the bargaining council schemes, the focus is on primary care rather than comprehensive cover.

Specific obstacles for low-income groups to cover involve the following:

1. Affordability is a central concern, with even low-cost comprehensive cover exceeding 16% of per capita income for all but around 6.7 million people.
2. Employers have little desire to organize employer-based cover except for preferred employees;
3. Low-income groups have difficulty accessing information on potential vehicles offering cover;
4. Medical schemes are required by law to offer comprehensive minimum benefits, preventing low-income groups from obtaining partial cover, except in bargaining council schemes (which are exempt from the provisions) or through an application for exemption;
5. The subsidy offered to low-income groups who are users of the public sector is not portable and cannot be utilised to subsidise medical scheme coverage; and
6. The subsidy offered to existing medical scheme members takes the form of a Tax Expenditure Subsidy (TES), offered either through the employer or the employee, and favours only high-income groups.

## 2.2 Existing Tax Subsidies and their fairness: Tax Expenditure Subsidies

### 2.2.1 Overview

Tax expenditure subsidy (TES) for healthcare occurs in the following instances:

- Working age tax payers can deduct healthcare expenditure that exceeds 5% of taxable income. Medical scheme members can include medical scheme contributions in the above 5% calculation.
- If the employer contributes more than two-thirds of an employee's medical scheme contribution, the excess is added to the taxable income



as a deduction. The two-thirds portion is fully deductible in the hands of the employer.

- Taxpayers over the age of 65 can deduct 100% of healthcare expenditure, including medical scheme contributions. They are not subject to the fringe benefit calculation for medical scheme contributions.
- To the extent that the employer pays all or part of the medical scheme contribution, so the taxpayer has a lower gross income and hence pays less tax.

The total value of the combined TESs for healthcare amounts to an estimated R10.1 billion for 2005. (See **table 5.10**). (**Section 5.10** provides an overview of the method used to calculate the TESs.)

### **2.2.2 Fairness by income group**

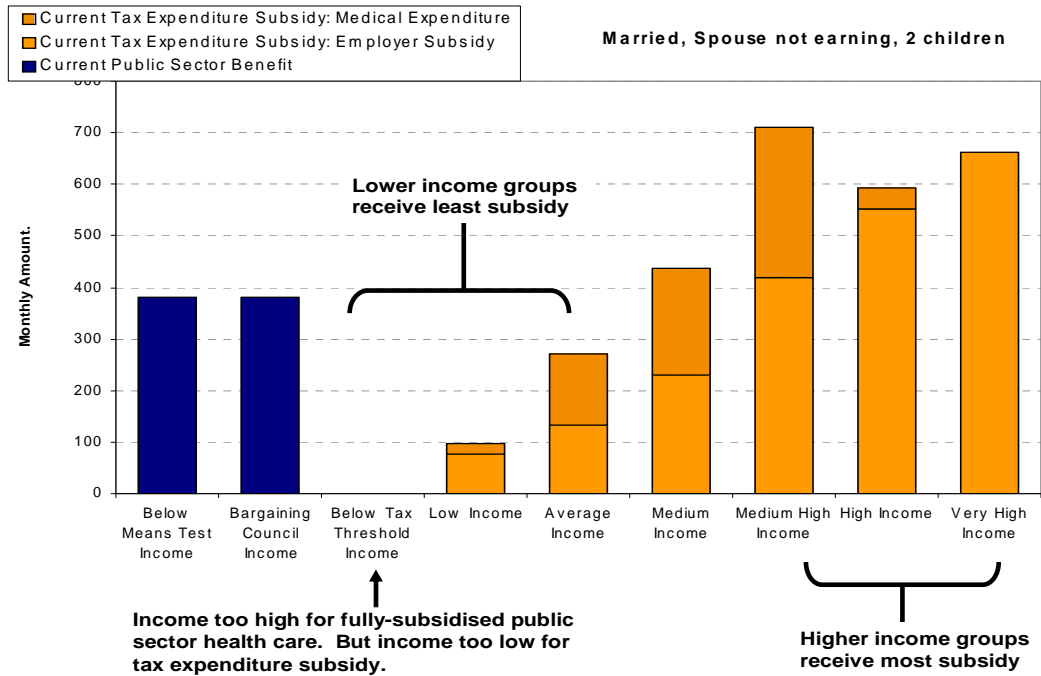
**Figure 2.2** shows the distribution across income groups for a designated family type (married with spouse and two children) of both the subsidy allocated by Government to people dependent on the public sector, as well as to those falling outside of the means test (the TES).

The analysis shows that public sector beneficiaries (people below the means test) receive a per capita subsidy valued at around R399 per beneficiary per month. However, income groups from “medium-income” and above receive a TES in excess of R400 per beneficiary per month.

The TES drops from a peak in the “medium-high” income groups when moving on to the “high” and very “high” income groups. This occurs because the higher income groups find it difficult to incur out-of-pocket medical expenses in excess of 5% of income. Nevertheless, the TES remains significantly higher than the subsidy given to public sector users and to the income groups ranging from the “below tax threshold” to “average income groups.

Overall the subsidy shows unevenness across income ranges that cannot be regarded as fair and reasonable. Furthermore, no clear public purpose can be identified for the allocations of public subsidies in this manner.

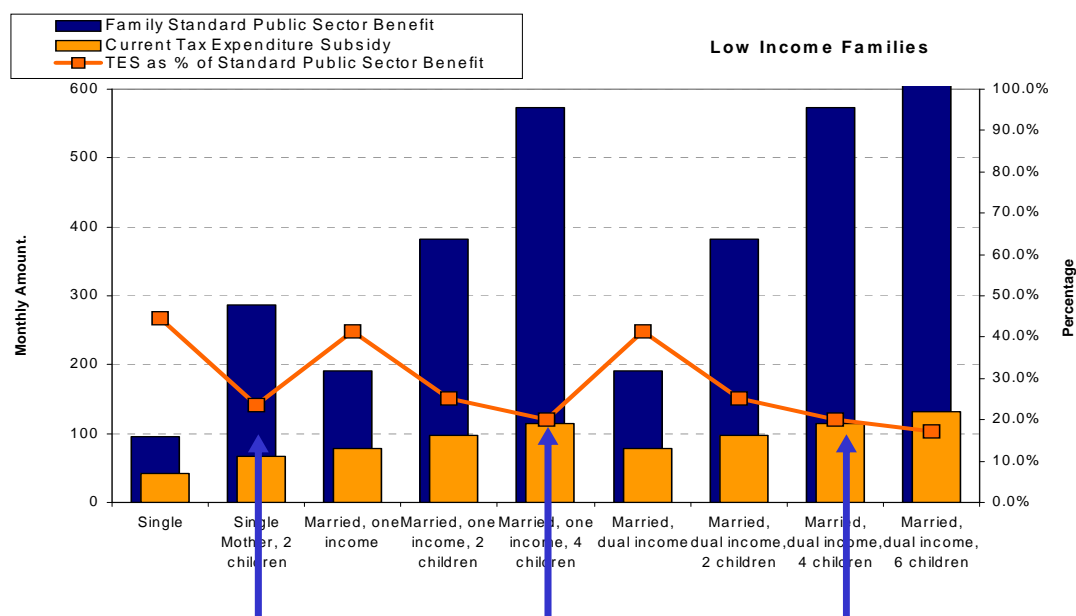
**Figure 2.2: Problems with Current Pillar 1 Subsidy for Healthcare**



### 2.2.3 Fairness by family size

Figure 2.3 shows the estimated distribution of the monthly value TES by family for the “low income” group, with alternative family constructions, shown in figure 2.2 compared to the monthly average family value of the subsidy if they were users of the public sector. Families vary by the number of income earners and child dependants. As the TES is insensitive to family size, only small families receive a TES anywhere close (but still significantly less) to the public sector subsidy. The TES consequently fails to adequately deal with family size.

**Figure 2.3: Current Tax Expenditure Subsidy framework and its impact on low-income families differentiated by family size and structure**



**The larger the family, the smaller the proportion of the public sector Pillar 1 subsidy they receive if the family joins a medical scheme. Single mothers and large families are worst off if they join a medical scheme.**

## 2.2.4 Risk transfer to Government

The TES grows with healthcare costs. As such as medical scheme contributions rise, Government accepts the risk for funding a portion of this increase as a tax subsidy.

## 2.2.5 Concluding remarks and findings

The TES suffer from the following flaws:

- The value of the subsidy rises with income, resulting a higher subsidy for higher-income groups.
- Low-income groups presently earning outside the means test for free access to public services, and including many people above the tax threshold, receive virtually no subsidy from Government, while high-income groups get very large subsidies. This is because the subsidy is allocated using a TES modality. There is no clear public policy rationale as to why a subsidy allocated by Government should discriminate against a particular class of poor people.
- The TES does not cater adequately for family size and effectively provides a greater benefit to smaller families than to larger ones. There is no clear public policy rationale that can explain why a subsidy allocated by Government should discriminate against larger families.

The worst hit, in this instance, are the large families of low-income groups.

- The TES modality transfers the risk of medical cost increases onto Government. At present the obligation is open-ended and encourages inefficiency in the market as poor cost control is rewarded.

### 2.3 The means test for access to public hospitals

Access to public hospital services is subject to the application of a means test at point-of-service. Although the application of this test is generally weak, resulting in many people accessing free services they are not legally entitled to, approximately 14.3 million people fall outside of the means test. The means test in place also varies by province ranging from annual single incomes of R21,000 in the Eastern Cape to R36,000 in the Western Cape. If the figure of R35,000 were used as a reasonable indicator of what the means test threshold should be, it would approximate the tax threshold.

Implicit in Government policy at present therefore, is the notion that people earning above the tax threshold should contribute toward their own healthcare, even when using public services. Government however does provide a subsidy to people required to fund their own healthcare, the TES discussed in **section 2.2** above. However, this subsidy increases with income and is highly regressive, resulting in the people within the monthly income range R2, 400 to R7,000 getting virtually no subsidy.

**Table 2.2: Means test criteria used for access to public hospitals based on 2002 information**

Province	Outside means test (current)			
	Above income (annual)		Above income (monthly)	
	Single income	Family unit	Single income	Family unit
Eastern Cape	21,000	35,000	1,750	2,917
Free State	32,000	51,000	2,667	4,250
Gauteng	21,000	35,000	1,750	2,917
KwaZulu-Natal	35,000	58,000	2,917	4,833
Mpumalanga	31,000	47,000	2,583	3,917
Northern Cape	31,000	51,000	2,583	4,250
Limpopo	35,000	52,000	2,917	4,333
North-West	35,000	52,000	2,917	4,333
Western Cape	36,000	59,000	3,000	4,917

Source: based on Department of Health, UPFS, annexure G, 2002

Thus, although the implicit policy of a degree of self-responsibility for funding healthcare, based on income is understandable. It is also rational to provide this group with some financial compensation for the loss of free access to Government services. It is however questionable to provide such financial compensation, using public funds, in a manner that rewards higher income groups disproportionately over lower income groups. It is just as questionable to dilute the funding available to indigent people dependent on public sector services.

#### **2.4 Variations in demographic risk between medical schemes**

Significant variations exist in the risk profile of medical schemes and options within medical schemes. This distribution occurs both by accident and design. The former occurs where an employer starts to wind up its business, reducing the young-and-healthy new entrants to a restricted membership (i.e. employer-based) scheme. The latter occurs where commercial open schemes actively chase good risk groups (i.e. the young and healthy).

The above bias affects the underlying cost of a scheme, irrespective of the cost-efficiency with which a scheme manages the benefits it offers. This encourages competition on the basis of “risk selection” (i.e. targeting young and healthy groups and discriminating against older and sicker groups).

#### **2.5 Concluding remarks**

The South African health system is anomalous in permitting a significant bias against low-income groups who wish to risk pool (i.e. join a medical schemes) for health care. This is largely due to the unfairness inherent in the existing subsidy framework, which arbitrarily drops to zero for designated low-income groups, while rising to very high levels for high income groups. This results from the TES modality used to deliver the subsidy to people outside of the means test for free access to public sector services.

In addition the TES discriminates against large families, or families with single incomes relative to dual incomes.

In addition to the challenges inherent in the system of income-cross-subsidies, unfair distributions of risk, based on underlying demographic profiles, occur

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between schemes and options. This results in medical schemes competing on the basis of risk selection (i.e. the exclusion of poor risks) rather than on cost-efficient benefits and benefit design.

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### 3. High-level policy overview

#### 3.1 Overview

This section provides a high-level policy overview to assist in contextualizing certain of the quantitative analyses performed in this report. This involves: clarifying central components of a health system; a comparative health systems assessment showing the structure of the South African health system compared to that of Chile; and a high-level policy framework for South Africa.

#### 3.2 Health sector components

The World Health Organization (2000, pp95-97) defines four central components of all health systems:

1. **Revenue collection:** This “is the process by which the health system receives money from house-holds and organizations or companies, as well as from donors. ... Health systems have various ways of collecting revenue, such as general taxation, mandated social health insurance contributions (usually salary-related and almost never risk-related), voluntary private health insurance contributions (usually risk-related), out-of-pocket payment and donations.”
2. **Pooling:** This “is the accumulation and management of revenues in such a way as to ensure that the risk of having to pay for health care is borne by all the members of the pool and not by each contributor individually. Pooling is traditionally known as the “insurance function” within the health system, whether the insurance is explicit (people knowingly subscribe to a scheme) or implicit (as with tax revenues). Its main purpose is to share the financial risk associated with health interventions for which the need is uncertain. ... When people pay out of pocket, no risk pooling occurs. ... Pooling reduces uncertainty for both citizens and providers. By increasing and stabilizing demand and the flow of funds, pooling can increase the likelihood that patients will be able to afford services and that a higher volume of services will justify new provider investments.”

3. **Purchasing:** This “is the process by which pooled funds are paid to providers in order to deliver a specified or unspecified set of health interventions. Purchasing can be performed passively or strategically. Passive purchasing implies following a predetermined budget or simply paying bills when presented. Strategic purchasing involves a continuous search for the best ways to maximize health system performance by deciding which interventions should be purchased, how, and from whom. This means actively choosing interventions in order to achieve the best performance, both for individuals and the population as a whole, by means of selective contracting and incentive schemes.”
4. **Provision:** This is the system by which services are actually delivered and vary from: vertically integrated publicly provided services; autonomous publicly owned services; non-profit private services; and for-profit private services.

### 3.3 Policy framework for Social Health Insurance

To eliminate the fundamental defects within the South African health system requires adjustments at the level of revenue collection and pooling.

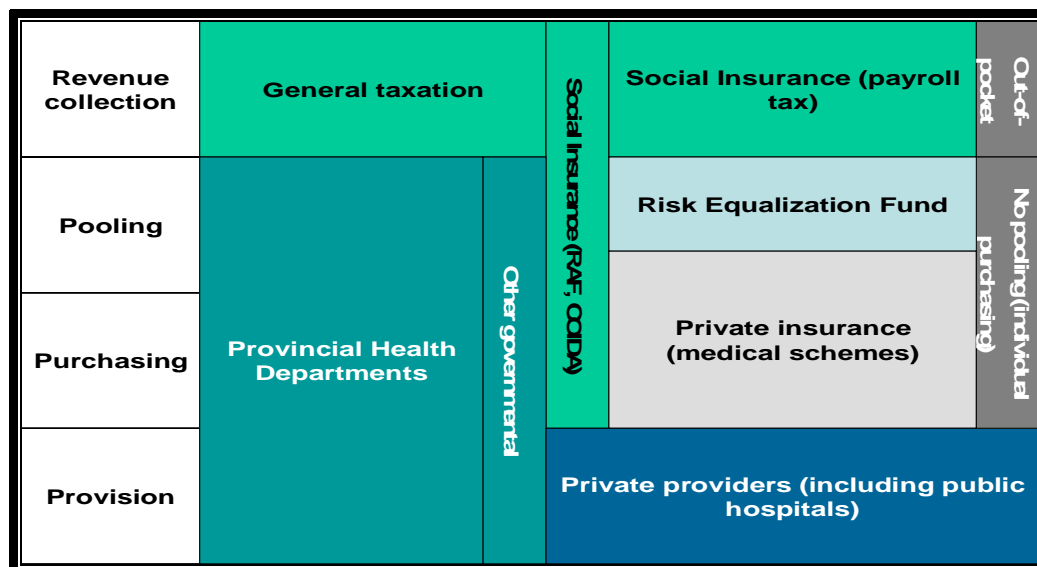
1. **Revenue collection:** A payroll tax needs to be introduced sufficient to fund a basic set of essential benefits. This intervention ensures that a degree of income fairness is introduced into the health system equivalent to a reasonable set of benefits.
2. **Pooling:** To prevent members of private insurance funds from being subject to risk-selection by private medical schemes, as occurs in the relatively unregulated Chilean environment, contributions to schemes must be risk-equalized at least to the level of a set of essential minimum benefits. To achieve this within a market for privately competing health insurers, such as is found in South Africa, a risk equalisation fund is required.

When an income-based revenue collection mechanism is combined with a risk-equalisation fund within a private market for health insurance all



participants are protected from risk-selection as well as unfair barriers based on affordability. The protection is only effective to the level of minimum benefits.

**Figure 3.1: Potential medium-term policy framework for South Africa**



### 3.4 Transition periods

According to the World Health Organization (WHO, January 2004, p.1) twenty seven countries have achieved universal coverage through social health insurance (SHI). The period between the initiation of SHI and the movement from incomplete to universal coverage is an incremental process. The organizational arrangements used to achieve the changes have also differed. These ranged from the “*steady expansion of membership in multiple sickness funds, initially run on a voluntary basis, to extension of membership steered by a government-driven central health insurance organization. Also note the speed of transition has varied from country to country.*” (WHO, January 2004, p.1).

**Table 3.1** provides a useful summary of transition periods to universal coverage for a range of countries. The initiation of SHI must therefore be seen as a transitional step to universal coverage.

**Table 3.1: Summary of the transition period for selected SHI countries**

	<b>Speed of transition</b>	<b>Important stages in the extension of social health insurance – legislative timeline</b>
<b>Germany</b>	1854-1988 (127 years)	<ol style="list-style-type: none"> <li>1*. Voluntary relief funds (early-mid C19<sup>th</sup>) established.</li> <li>2*. Compulsory membership within health insurance funds (1843); for specific employment groups (1849).</li> <li>3. First law passed at national level, making health insurance compulsory for all miners (1854).</li> <li>4. SHI becomes a nationwide, comprehensive system (1883), with systematic enrolment of different socio-professional groups (until 1988).</li> </ol>
<b>Austria</b>	1888-1967 (79 years)	<ol style="list-style-type: none"> <li>1*. Regulatory provisions for employer-based care (early-mid C19<sup>th</sup>).</li> <li>2*. Creation of association-based funds authorized (1867).</li> <li>3. Industrial accident and health insurance scheme (1887-8), with systematic enrolment of different socio-professional groups (until 1967).</li> </ol>
<b>Belgium</b>	1851-1969 (118 years)	<ol style="list-style-type: none"> <li>1. Mutual health funds for different professional groups officially acknowledged (1851).</li> <li>2. Funds subsidized by government (1894), with national alliances or unions formed between funds.</li> <li>3. Health insurance made compulsory for all salaried workers (1944), with extension to remaining non-covered groups (1964-9).</li> </ol>
<b>Luxemb.</b>	1901-1973 (72 years)	<ol style="list-style-type: none"> <li>1. Compulsory health insurance for manufacturing and industrial workers (1901).</li> <li>2. Extension to retired (post WWII), civil servants / other public sector (1952), further socio-professional groups (1958-64).</li> </ol>
<b>Israel</b>	1911-1995 (84 years)	<ol style="list-style-type: none"> <li>1. Health insurance fund – Kupat Holim Chalit – for some agricultural workers (1911).</li> <li>2. Three further health insurance funds established in this period.</li> </ol>
<b>Costa Rica</b>	1941-1961 (20 <sup>1</sup> years)	<ol style="list-style-type: none"> <li>1. Social security fund – CSSF – mainly for urban population and certain coffee-producing zones established (1941).</li> <li>2. Compulsory family coverage for insured (1956).</li> <li>3. Increased contributions and benefits (1960).</li> <li>4. Extension to remaining population accepted (1961), with intended systematic enrolment of these non-covered groups over a 10 year period.</li> <li>5. Effective enrolment of 83.4% by 1991.</li> </ol>
<b>Japan</b>	1922-1958 (36 <sup>1</sup> years)	<ol style="list-style-type: none"> <li>1*. Voluntary community health insurance schemes (CHIs) developed (early C19<sup>th</sup>).</li> <li>2. Compulsory insurance – Employee Health Insurance – for selected groups of workers (1922).</li> <li>3. CHIs replicated at national scale (1930s), mainly for the poor in rural areas, farmers, self-employed and small companies, culminating in National Citizens Health Insurance Law (1938).</li> <li>4. Simultaneous expansion of both of the health insurance schemes (1944-1958).</li> </ol>
<b>Republic of Korea</b>	1963-1989 (26 years)	<ol style="list-style-type: none"> <li>1. First Health Insurance Act passed (1963), with several voluntary health insurance schemes piloted (1963-77).</li> <li>2. Compulsory for workers and their dependants for firms with 500+ employees (1977); firms with 100+ employees (1981); firms with 16+ employees (1983).</li> <li>3. Extension to remaining population, such as self-employed (until 1989).</li> </ol>

Source: WHO, 2004.

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### 3.5 Concluding remarks

The health system components that form the most appropriate focus for reform within the South African context, as they effect the market for multiple competing medical schemes, is at the level of *revenue collection* and *pooling*. *Purchasing* and *provision* issues are the focus of other policy interventions.

Corrections to the revenue components would involve ensuring a consistent set of income cross-subsidies apply throughout the health system, including people seeking coverage through the use of a regulated medical scheme. At the level of pooling, unfair distributions of risk between schemes can be smoothed through the use of a risk equalisation mechanism.

In essence the framework attempts to deal substantively with the fundamental concerns raised in **section 2**. The purpose of subsequent sections in this report will be to assess more detailed alternatives around revenue collection and pooling within the context of the medical schemes market.

It is however important to see the proposed reforms as steps in a much longer process. Many countries have begun the process of achieving universal coverage through the establishment of sickness funds, or various forms of insurance targeted initially at the formal sector. Over time these systems are extended incrementally through mandates, subsidies, and the targeting of excluded groups.

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## 4. High-level policy scenarios – focusing on revenue collection

### 4.1 Overview

The revenue collection component of the health system provides the best picture of the overall financial impact from a macroeconomic perspective. It also provides the best picture of the distributional impacts between income groups. Income-based contributions create positive income cross-subsidies, while flat-rate contributions are regressive. The regressive nature of a flat-rate contribution can be exacerbated if combined with any tax deductibility of contributions.

This section provides a range of policy scenarios for a static financial comparison in **section 5** below. The static comparison of scenarios is in some senses artificial, in that the options can be seen as a continuum through time, with the scenarios offering more universal coverage only occurring at some distant point in the future when the economy and formal sector participation is significantly larger.

### 4.2 Scenario 1: Current policy framework

This scenario reflects the South African health system as it is today.

### 4.3 Scenario 2: Pillar 1 restructured

This scenario incorporates the following reforms:

1. Revenue:
  - a. The tax deduction provided to higher income groups is removed;
  - b. A direct government allocation (contribution subsidy) is provided to all medical scheme members consistent with their likelihood of claiming a comprehensive essential minimum benefit;
  - c. The contribution subsidy is an explicit allocation directly funded by Government and raised from general taxes;
  - d. The funds for the allocation will be largely revenue neutral and raised from the retrenchment of the existing Tax Expenditure Subsidy (TES).

2. Pooling:
  - a. All medical schemes are required to provide an essential minimum package of benefits (currently in position);
  - b. A risk equalisation fund is used to ensure a fair distribution of risk between all medical schemes at least to the value of the prescribed comprehensive essential minimum benefit.
  
3. Target group:
  - a. All current members of medical schemes; and
  - b. All families with household incomes in excess of R3000 per month.
  
4. Nature of medical scheme participation:
  - a. Membership will be voluntary.

#### 4.4 **Scenario 3: Social Health Insurance option 1**

This scenario incorporates the following reforms:

1. Revenue:
  - a. A direct government allocation (contribution subsidy) is provided to all medical scheme members consistent with their likelihood of claiming a comprehensive essential minimum benefit;
  - b. The tax deduction provided to higher income groups is removed;
  - c. The contribution subsidy is an explicit allocation directly funded by Government, and raised from an earmarked tax;
  - d. The funds raised in the earmarked tax will involve a consolidation (i.e. substitution) of the following:
    - i. The retrenchment of the TES; and
    - ii. A portion of existing contributions to medical schemes for the residual revenue requirement (for funding a costed comprehensive essential minimum benefit) after allocation of the funds raised from the retrenchment of the TES.
  
2. Pooling:

- 
- a. All medical schemes are required to provide an essential minimum package of benefits (currently in position);
  - b. A risk equalisation fund is used to ensure a fair distribution of risk between all medical schemes at least to the value of the prescribed comprehensive essential minimum benefit.
3. Target group:
- a. All current members of medical schemes; and
  - b. All families with household incomes in excess of R3,000 per month.
4. Nature of medical scheme participation:
- a. Membership will be voluntary – with the target income group able to elect to have their subsidy diverted to the public sector if they do not wish to use a medical scheme;
  - b. Payment of the earmarked tax is mandatory for all income groups eligible to participate in the subsidy.

#### 4.5 **Scenario 4: Social Health Insurance option 2**

This scenario incorporates the following reforms:

1. Revenue:
  - a. A direct government allocation (contribution subsidy) is provided to all medical scheme members consistent with their likelihood of claiming a comprehensive essential minimum benefit;
  - b. The tax deduction provided to higher income groups is removed;
  - c. The contribution subsidy is an explicit allocation directly funded by Government, and raised from an earmarked tax;
  - d. The funds raised in the earmarked tax will involve a consolidation (i.e. substitution) of the following:
    - i. The retrenchment of the TES; and
    - ii. A portion of existing contributions to medical schemes for the residual revenue requirement (for funding a costed comprehensive essential minimum benefit) after

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allocation of the funds raised from the retrenchment of the TES.

2. Pooling:
  - a. All medical schemes are required to provide an essential minimum package of benefits (currently in position);
  - b. A risk equalisation fund is used to ensure a fair distribution of risk between all medical schemes at least to the value of the prescribed comprehensive essential minimum benefit.
  
3. Target group:
  - a. All current members of medical schemes; and
  - b. All families with household incomes in excess of R2,000 per month.
  
4. Nature of medical scheme participation:
  - a. Membership will be voluntary – with the target income group able to elect to have their subsidy diverted to the public sector if they do not wish to use a medical scheme;
  - b. Payment of the earmarked tax is mandatory for all income groups eligible to participate in the subsidy.

#### 4.6 **Scenario 5: National Health Insurance**

This scenario incorporates the following reforms:

1. Revenue:
  - a. An earmarked tax is introduced for all income groups sufficient to fund an efficiently costed universal comprehensive essential minimum benefit;
  - b. The tax deduction provided to higher income groups is removed.
  
2. Pooling:
  - a. As this is a simplistic proposal for costing purposes, it is assumed that all funds are accumulated within a single fund which is used to purchase minimum benefits;

- 
- b. It is assumed that people who wish to purchase more insurance than the minimum benefit, consistent with existing preferences, are able to do so.
3. Target group:
    - a. Total population.



**Table 4.1: Alternative scenarios for restructuring the financing and pooling of health resources in the private health system**

	<b>Scenario 1 Current</b>	<b>Scenario 2 Pillar 1 restructured</b>	<b>Scenario 3 SHI option 1</b>	<b>Scenario 4 SHI option 2</b>	<b>Scenario 5 NHI</b>
<b>Revenue</b>	<ul style="list-style-type: none"> <li>○ Medical schemes are funded by a combination of direct contributions and a tax subsidy (TES)</li> </ul>	<ul style="list-style-type: none"> <li>○ TES removed;</li> <li>○ direct government allocation introduced funded from general taxes;</li> <li>○ value of contribution based on an efficiently costed comprehensive essential minimum benefit</li> </ul>	<ul style="list-style-type: none"> <li>○ TES removed;</li> <li>○ Compulsory earmarked proportional income tax introduced sufficient to fund the value of an efficiently costed comprehensive set of minimum benefits</li> </ul>	<ul style="list-style-type: none"> <li>○ TES removed;</li> <li>○ Compulsory earmarked proportional earmarked income tax introduced sufficient to fund the value of an efficiently costed comprehensive set of minimum benefits</li> </ul>	<ul style="list-style-type: none"> <li>○ TES removed;</li> <li>○ Compulsory proportional earmarked income tax introduced sufficient to fund the value of an efficiently costed comprehensive set of minimum benefits</li> </ul>
<b>Pooling</b>	<ul style="list-style-type: none"> <li>○ Medical schemes pool funds at the option level</li> </ul>	<ul style="list-style-type: none"> <li>○ Risk equalisation fund (REF) established equalizing the value of the efficiently costed comprehensive minimum benefit</li> </ul>	<ul style="list-style-type: none"> <li>○ Risk equalisation fund (REF) established equalizing the value of the efficiently costed comprehensive minimum benefit</li> </ul>	<ul style="list-style-type: none"> <li>○ Risk equalisation fund (REF) established equalizing the value of the efficiently costed comprehensive minimum benefit</li> </ul>	<ul style="list-style-type: none"> <li>○ Not evaluated</li> </ul>
<b>Target group</b>	<ul style="list-style-type: none"> <li>○ Untargeted</li> </ul>	<ul style="list-style-type: none"> <li>○ All families earning an income in excess of R3,000 per month</li> </ul>	<ul style="list-style-type: none"> <li>○ All families earning an income in excess of R3,000 per month</li> </ul>	<ul style="list-style-type: none"> <li>○ All families earning an income in excess of R2,000 per month</li> </ul>	<ul style="list-style-type: none"> <li>○ All citizens and permanent residents</li> </ul>
<b>Medical scheme participation</b>	<ul style="list-style-type: none"> <li>○ Voluntary</li> </ul>	<ul style="list-style-type: none"> <li>○ Voluntary</li> </ul>	<ul style="list-style-type: none"> <li>○ Voluntary</li> </ul>	<ul style="list-style-type: none"> <li>○ Voluntary</li> </ul>	<ul style="list-style-type: none"> <li>○ Not evaluated</li> </ul>

	<b>Scenario 1 Current</b>	<b>Scenario 2 Pillar 1 restructured</b>	<b>Scenario 3 SHI option 1</b>	<b>Scenario 4 SHI option 2</b>	<b>Scenario 5 NHI</b>
<b>Characterization of main subsidy</b>	<ul style="list-style-type: none"> <li>○ Highly regressive</li> </ul>	<ul style="list-style-type: none"> <li>○ As progressive as the general tax system (this is not clear at present)</li> </ul>	<ul style="list-style-type: none"> <li>○ At least proportional</li> </ul>	<ul style="list-style-type: none"> <li>○ At least proportional</li> </ul>	<ul style="list-style-type: none"> <li>○ At least proportional</li> </ul>
<b>Basis for competition</b>	<ul style="list-style-type: none"> <li>○ Risk-selection for all benefits</li> </ul>	<ul style="list-style-type: none"> <li>○ Value-for-money of the comprehensive minimum benefits;</li> <li>○ risk selection for non prescribed minimum benefits</li> </ul>	<ul style="list-style-type: none"> <li>○ Value-for-money of the comprehensive minimum benefits;</li> <li>○ risk selection for non prescribed minimum benefits</li> </ul>	<ul style="list-style-type: none"> <li>○ Value-for-money of the comprehensive minimum benefits;</li> <li>○ risk selection for non prescribed minimum benefits</li> </ul>	<ul style="list-style-type: none"> <li>○ Depends on payment and provider system - not evaluated</li> </ul>
<b>Required minimum benefit</b>	<ul style="list-style-type: none"> <li>○ Catastrophic cover;</li> <li>○ Maternity;</li> <li>○ essential chronic benefits;</li> <li>○ HIV/AIDS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Catastrophic cover;</li> <li>○ Maternity;</li> <li>○ essential chronic benefits;</li> <li>○ HIV/AIDS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Catastrophic cover;</li> <li>○ Maternity;</li> <li>○ essential chronic benefits;</li> <li>○ HIV/AIDS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Catastrophic cover;</li> <li>○ Maternity;</li> <li>○ essential chronic benefits;</li> <li>○ HIV/AIDS;</li> <li>○ basic primary care consultations;</li> <li>○ basic dentistry.</li> </ul>	<ul style="list-style-type: none"> <li>○ Catastrophic cover;</li> <li>○ Maternity;</li> <li>○ essential chronic benefits;</li> <li>○ HIV/AIDS,</li> <li>○ basic primary care consultations;</li> <li>○ basic dentistry.</li> </ul>

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#### 4.7 Discussion

The policy scenarios as presented move from regressive policy options with a high degree of risk pool fragmentation to the highest level of income and risk solidarity with a hypothetical NHI option. **Section 5** below provides a quantitative assessment of the macro financial implications of these scenarios.

## 5. Key assumptions

### 5.1 Overview

This section provides the methodology and assumptions used to quantify the impact of the policy scenarios described in **section 4**. The results of the scenario analysis are provided in **section 6**.

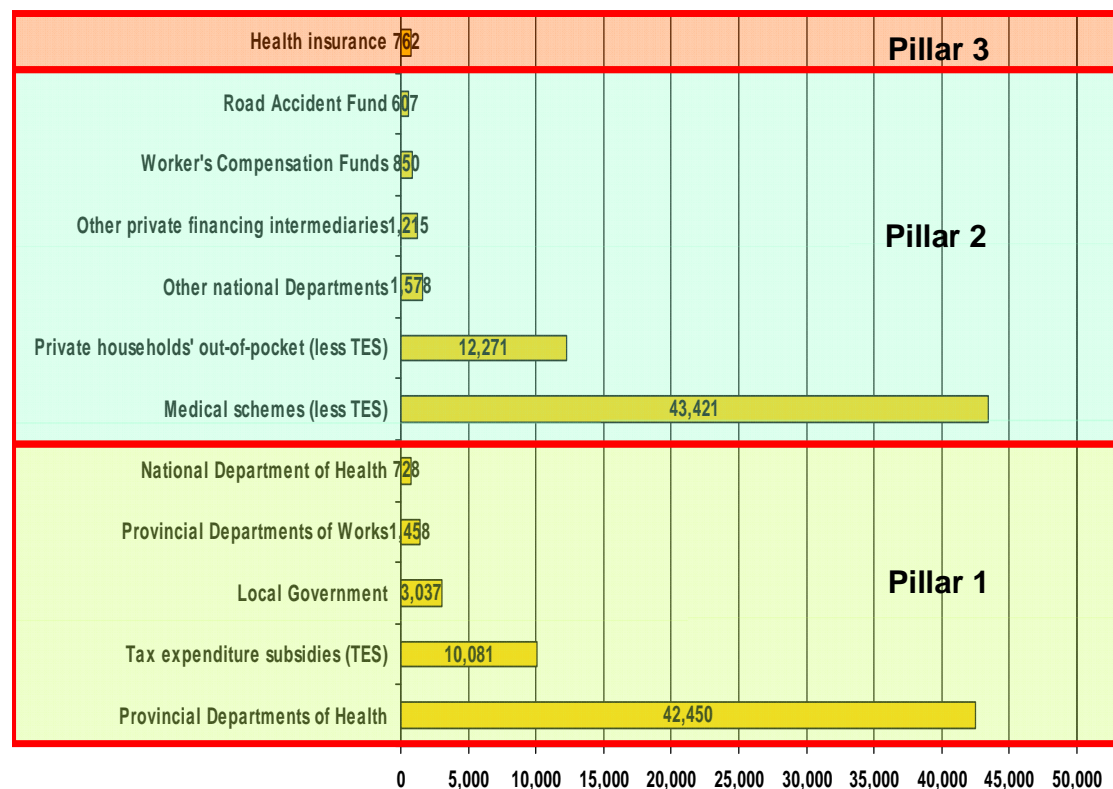
### 5.2 Year of analysis

All data is presented in 2005 prices. Where data is adjusted from an earlier year, these are based on the CPIX unless otherwise indicated.

### 5.3 National Health Accounts allocated into pillars of the health system

**Table 5.1** provides the base numbers, reflecting the current health policy framework, with the source or basis for the assumption. Total estimated health expenditure for 2005 is set at R117 billion, with R58 billion in Pillar 1 and 58 billion in Pillar 2.

**Figure 5.1: Expenditure by pillar and component of the South African health system (2005 estimates) (R'million)**



**Table 5.1: Expenditure on components of the South African health system for 2005 with notes on sources and assumptions**

Pillars of the health system	% of total	Estimated Expend. (R'million)	Source
<b>Total pillar 1</b>	<b>48.8%</b>	<b>57,754</b>	
Provincial Departments of Health	35.8%	42,450	2005 provincial budgets, less estimated transfers to local government <sup>3</sup>
Tax expenditure subsidies (TES)	8.5%	10,081	Estimation. Methodology in <b>section 6.10</b> in this report.
Local Government	2.6%	3,037	Derived from Department of Health (NHA, 2001), assumed at 2.6% of total expenditure
Provincial Departments of Works	1.2%	1,458	Derived from Department of Health (NHA, 2001), assumed at 1.2% of total expenditure
National Department of Health	0.6%	728	Budget Review 2005/6, vote 16, p.343
<b>Total pillar 2</b>	<b>50.6%</b>	<b>59,943</b>	
Medical schemes (less TES)	36.7%	43,421	Derived from Department of Health (NHA, 2001), but consistent with CMS Annual Reports
Private households' out-of-pocket (less TES)	10.4%	12,271	Derived from Department of Health (NHA, 2001), assumed at 10.3% of total expenditure
Other national Departments	1.3%	1,578	Budget Review 2005/6, vote 21, p.493 (Defense)
Other private financing intermediaries	1.0%	1,215	Derived from Department of Health (NHA, 2001), and includes mine healthcare services and occupational health
Worker's Compensation Funds (COIDA)	0.7%	850	Derived from Department of Health (NHA, 2001), assumed at 0.7% of total expenditure
Road Accident Fund	0.5%	607	Derived from Department of Health (NHA, 2001), assumed at 0.5% of total expenditure
<b>Total pillar 3</b>	<b>0.6%</b>	<b>762</b>	
Health insurance	0.6%	762	Derived from Department of Health (NHA, 2001), assumed at 0.7% of total expenditure
<b>TOTAL</b>	<b>100.0%</b>	<b>118,459</b>	

<sup>3</sup> Appropriation Bills for 2005 as introduced to the Provincial Parliaments.

#### 5.4 Population numbers, including medical scheme beneficiaries

The official mid-year estimate provided by Statistics South Africa was used from 2001 to 2003. However, the official estimate for 2004 (the latest) showed a year-on-year growth rate significantly different from that of previous years. It was therefore decided to use a 2% per annum population growth rate to adjust the total population forward from 2003 to 2005. A total population of 48,3 million is therefore estimated for 2005. According to this estimate there are 3,7 million additional people added to the population since 2001. The conservative assumption is preferred against which to test the scenarios.

**Table 5.2: Population assumptions by year**

Year	Total	% change	Source
2001	44,560,644		StatsSA mid-year est.
2002	45,454,211	2.01%	StatsSA mid-year est.
2003	46,429,823	2.15%	StatsSA mid-year est.
2004	47,358,419	2.00%	proj @ 2%
2005	48,305,588	2.00%	proj @ 2%

The medical scheme population was estimated in total and by income group. The income groups are based on household income categories.

#### 5.5 Household income categories

**Appendix B, table B1**, provides a breakdown of the income groups used and the estimated average per capita individual income by income earner. The estimates were produced using the following steps:

1. The income breakdown from the 2001 census was generated;
2. The income bands from the 2001 were inflated using the CPIX to 2005;
3. A simple average for each income band was produced from the 2005 bands;
4. The simple average multiplied by the total number of income earners by income band produced an estimate of the Current Household Income for 2005;
5. The average income by income band was then adjusted proportionately until the Current Household Income matched the control total estimate discussed in **section 5.2.6**.

## 5.6 Tax base

The tax base for the calculation in this review is Current Household Income, excluding the income of those earning an income but who fall below the tax threshold. It should be noted that an alternative base could be used if earmarked taxes were considered where a fixed percentage of a broader range of existing general taxes were considered to fund the entitlement. However, this option would be more appropriate where a universal subsidy was considered, rather than an SHI which limits the income solidarity to contributors only.

## 5.7 Current Household Income

Current Household Income (CHI) reflects the total compensation of employees, income from property, current transfers from general government, current transfers from incorporated business enterprises, and transfers from the rest of the world.

According to the South African Reserve Bank Quarterly Bulletin (March 2005) CHI was valued at R989 billion in 2004. To estimate the 2005 value, the average of the percentage increases in CHI over the past three years was used. This resulted in a total value for 2005 of R1,094 billion. (See **table 5.3**).

**Table 5.3: Calculation of Current Household Income for 2005**

	2004	2005	3yr ave % change
Compensation of employees	618,215	676,497	9.4%
Income from property	305,088	335,213	9.9%
Current transfers from general government	64,218	80,307	25.1%
Current transfers from incorporated business enterprises	1,180	1,288	9.2%
Transfers from the rest of the world	589	744	26.4%
<b>Current income</b>	<b>989,290</b>	<b>1,094,049</b>	<b>10.3%</b>
less: Current taxes on income and wealth	108,628	115,812	6.6%
less: Current transfers to general government	3,144	3,758	19.5%
less: Transfers to the rest of the world	287	357	24.5%
<b>Disposable income</b>	<b>877,231</b>	<b>974,123</b>	<b>10.8%</b>
Social transfers in kind and receivable from general government	124,011	142,559	15.0%
<b>Adjusted disposable income</b>	<b>1,001,242</b>	<b>1,116,681</b>	<b>11.3%</b>
less: actual final consumption	993,749	1,106,128	11.3%
<i>Final consumption expenditure by households</i>	<i>869,738</i>	<i>963,570</i>	<i>10.8%</i>
<i>Individual consumption by general government</i>	<i>124,011</i>	<i>142,559</i>	<i>15.0%</i>
<b>Saving</b>	<b>7,493</b>	<b>10,553</b>	<b>20.9%</b>

Source: The values for 2004 were taken from the South African Reserve Bank Quarterly Bulletin, March 2005.

Current Household Income was extrapolated to per capita family and household bands. For each scenario the aggregate income was estimated for people participating in medical schemes only. This estimation was used as the tax base for raising the proportional earmarked income tax (“health tax”) referred to in the scenario descriptions and reported on in **sections 6.3 and 9.2.3**.

## 5.8 Value of the medical scheme packages

The estimates of medical scheme expenditure used in the analysis are based on a number of costed packages of healthcare. The packages are additive and range from the most essential to the least essential cover. The costs are based on a number of studies performed for the Council for Medical Schemes (Fish T *et al*, 2002, McLeod *et al*, 2002, and McLeod *et al*, 2003).<sup>4</sup>

The various costed benefit packages going from most essential to least essential are:

- ***Prescribed minimum benefits (PMB)***: This is the cost of the existing minimum coverage requirements as provided for in the regulations to the **Medical Schemes Act 131 of 1998**.
- ***Basic benefits package (BBP)***: The BBP is a comprehensive package of services which includes both PMB conditions and primary care. (See **recommendations 8 and 9** of the IRP.
- ***Basic benefits package + supplementary benefits package (BBP+SBP)***: The supplementary benefits include certain benefits

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<sup>4</sup> The costing analysis is based on data supplied to the Council for Medical Schemes to analyze the cost impact of PMBs and the introduction of a new chronic disease list (CDL). The data set included detailed claims information on 1,4 million beneficiaries from Medscheme. All claims information was by age and gender. Medscheme is a private company which provides outsourced administration and managed care services to a large number of private medical schemes.



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generally regarded as needed, but for the time being excluded from the BBP for affordability reasons.

- ***Package in excess of BBP and SBP***: This reflects the cost of a full medical scheme benefit including residual benefits over-and-above the BBP and SBP.

The efficiency levels are:

- ***Fee-for-services***: This is the current cost of the benefit based in fee-for-service as the reimbursement model.
- ***Efficiency in REF***: This provides the cost of the benefit adjusted for the cost reducing impact of risk-equalisation and benefit standardization. No assumption is made about the delivery system.

***Own delivery system (ODS)***: This is the estimated value of the package if provided through a dedicated delivery system. This is assumed at 50% of the existing fee-for-service cost of any benefit.

**Table 5.5** provides the costs associated with each of the packages, at each efficiency level. The costs will also vary slightly depending upon the demographic profile of the market as a whole. Only the highest of all possible costs, based on the current demographic profile, was used to keep the estimates as conservative as possible.

Also see **appendix A** for a more complete discussion on the benefit costing methodology.

**Table 5.4: Value of assumed range of medical scheme package costs moving from the most to the least essential cover (2005 prices)**

Price used by REF and required by Medical Schemes at different levels of efficiency	Prescribed Minimum Benefits PMBs	Basic Benefits Package BBP	BBP+SBP (Supplementary)	Include Benefits Above BBP+SBP
Efficiency in REF	2,386	3,469	4,833	5,459
Fee-for-Service	2,982	4,788	6,493	6,823
Own Delivery System	1,491	2,394	3,247	3,412
<b>Break-down of costs making up each benefits package (Rands)</b>				
Efficiency in REF	2,386	1,084	1,364	626
Fee-for-Service	2,982	1,806	1,705	330
Own Delivery System	1,491	903	852	165
<b>Break-down of costs making up each benefits package (Percentage)</b>				
Efficiency in REF	43.7%	19.9%	25.0%	11.5%
Fee-for-Service	43.7%	26.5%	25.0%	4.8%
Own Delivery System	43.7%	26.5%	25.0%	4.8%

### 5.9 Choice of package by income group

Table 5.5 provides the package assumptions for income groups entering the medical schemes market. The assumptions are based on what is affordable for each income category. Income groups currently within medical schemes occur from R3,200 upward. The equation used to calculate total medical scheme expenditure is:

$$M = \sum (A_i \times B_{pe} \times C_{pe})$$

Where:

M = total medical scheme expenditure.

A<sub>i</sub> = medical scheme beneficiaries by income group.

B<sub>pe</sub> = percentage of each benefit package for each benefit category purchased by medical scheme beneficiaries.

C<sub>pe</sub> = cost of benefit package for each benefit category purchased by medical scheme beneficiaries.

i = income groups.

p = benefit category.

e = efficiency of package (i.e. either fee-for-service or own delivery system (ODS)).

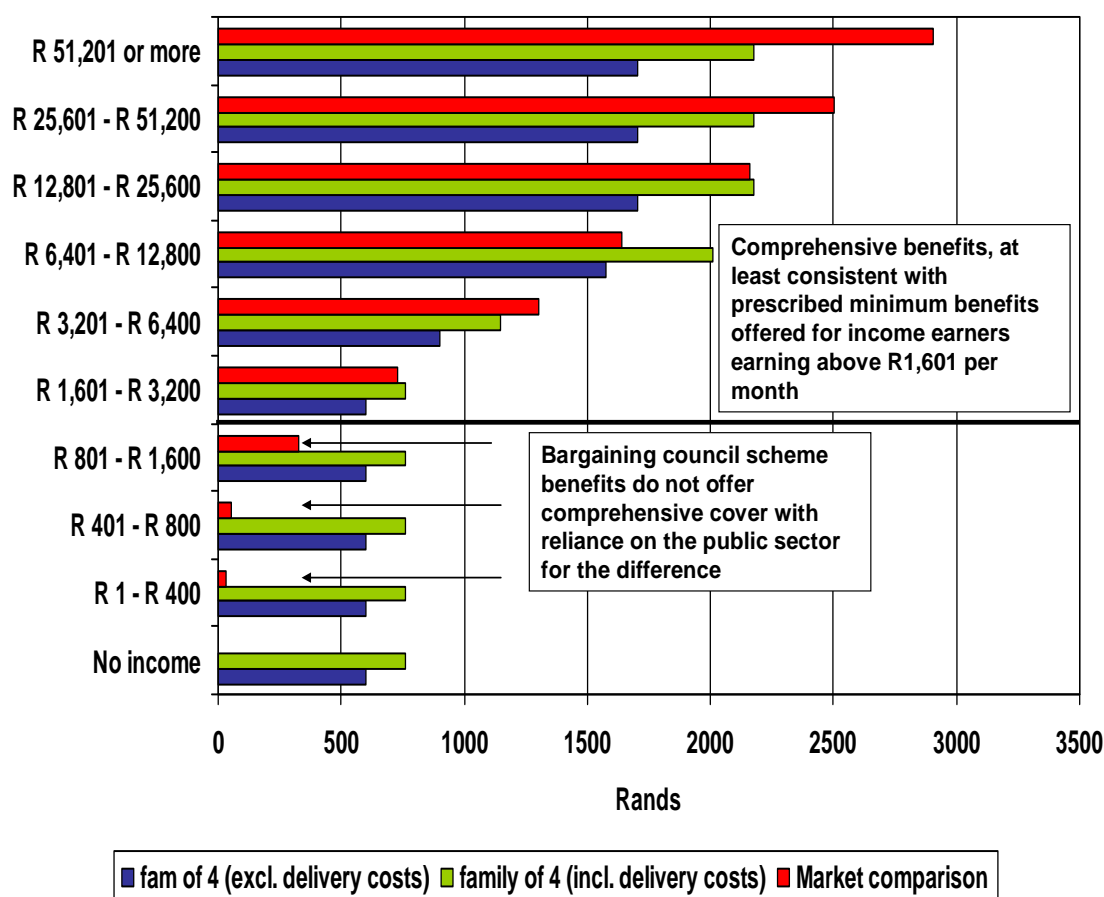
**Table 5.5: Package assumptions for income groups entering the medical scheme market**

Monthly income	PMB		BBP		BBP+SBP		BBP+SBP+	
	FFS	ODS	FFS	ODS	FFS	ODS	FFS	ODS
No income	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
R 1 - R 400	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
R 401 - R 800	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
R 801 - R 1,600	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
R 1,601 - R 3,200	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	0.0%
R 3,201 - R 6,400	100.0%	0.0%	50.0%	50.0%	50.0%	50.0%	0.0%	0.0%
R 6,401 - R 12,800	100.0%	0.0%	80.0%	20.0%	80.0%	20.0%	50.0%	0.0%
R 12,801 - R 25,600	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
R 25,601 - R 51,200	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%
R 51,201 or more	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%

**Table 5.6: Contribution table per income band resulting from the assumptions outlined in tables 5.4 and 5.5 (2005)**

Monthly income	Benefit cost per month		Contribution	
	per capita	family of 4 (excl. delivery costs)	family of 4 (incl. delivery costs)	Market comparison
No income	200	599	763	0
R 1 - R 400	200	599	763	30
R 401 - R 800	200	599	763	52
R 801 - R 1,600	200	599	763	329
R 1,601 - R 3,200	200	599	763	728
R 3,201 - R 6,400	299	898	1,145	1,304
R 6,401 - R 12,800	526	1,577	2,011	1,638
R 12,801 - R 25,600	569	1,706	2,175	2,158
R 25,601 - R 51,200	569	1,706	2,175	2,501
R 51,201 or more	569	1,706	2,175	2,905

**Figure 5.2: Contribution table per income band resulting from the assumptions outlined in tables 5.4 and 5.5 (2005)**



### 5.10 Estimation of the Tax Expenditure Subsidy

The tax expenditure subsidy (TES) is fully described in **annexure E**. The overall value of the TES in this analysis is R10,1 billion. No distinction is made here between the TES provided for risk pooling, and that for out-of-pocket expenses. It is assumed that the entire amount is currently used for subsidising medical scheme contributions. Although this is not strictly speaking correct, it is inappropriate for Government to subsidize highly regressive out-of-pocket health expenditure. For the purposes of scenario 1, therefore, it is assumed that the subsidy does not leak to less preferred modalities for the coverage of healthcare.

### 5.11 Government behaviour – “fiscal substitution”

The options outlined in **section 4** can result in a reduction in the budget allocated to public health services. For instance, if 3 million people opt to exercise their subsidy (as proposed in scenarios 2 to 4) the money that was

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implicitly allocated on their behalf within the public sector could now be done away with. This is what is referred to in this report as “fiscal substitution”.

Although fiscal substitution is entirely rational it may not always be appropriate to budget in this way, especially if the net consequence is a further decline in public health services. However, not substituting the expenditure will result in a net increase in Government’s expenditure on healthcare beyond what is appropriate.

To cater for both possibilities the maximum alternatives of *no fiscal substitution* and *full fiscal substitution* are assumed and measured. Although in reality the true path will lie somewhere between, the full implications of the most conservative estimate either way is preferred to create a clear picture of any fiscal risk faced by Government.

## 6. Fiscal and financial implications of policy alternatives

### 6.1 Overview

The implications of the five scenarios outlined in **section 5** are presented below. The quantification analysis is based on the assumptions in section six of this document.

### 6.2 Health expenditure

**Table 6.1** summarises the key changes in overall health expenditure for each pillar of the health system, and by each subcomponent of each pillar.

**Table 6.1: Scenario results by pillar of the health system (2005) (R'million)**

Pillars of the health system	Current	Pillar 1 restructured		SHI 1	SHI 2	NHI
	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5	
<b>With fiscal substitution</b>						
<b>Total health expenditure</b>	<b>101,753</b>	<b>106,267</b>	<b>115,831</b>	<b>123,991</b>	<b>172,844</b>	
<b>% of GDP</b>	<b>6.7%</b>	<b>7.0%</b>	<b>7.6%</b>	<b>8.1%</b>	<b>11.3%</b>	
<b>Total pillar 1</b>	<b>57,754</b>	<b>57,754</b>	<b>57,754</b>	<b>57,754</b>	<b>149,031</b>	
All government departments	47,673*	47,858	45,188	41,770	0	
Tax expenditure subsidy (TES)	10,081	0	0	0	0	
Universal subsidy allocated to MS members	0	9,896	12,566	15,984	149,031	
<b>Total pillar 2</b>	<b>44,000</b>	<b>48,514</b>	<b>58,077</b>	<b>66,238</b>	<b>23,813</b>	
Medical schemes: direct contributions	42,542*	47,056	44,021	48,755	22,355	
Direct pillar 2 subsidy to medical schemes	0	0	12,598	16,024	0	
Other social insurance	1,458	1,458	1,458	1,458	1,458	
<b>No fiscal substitution</b>						
<b>Total health expenditure</b>	<b>101,753</b>	<b>106,083</b>	<b>118,316</b>	<b>129,894</b>	<b>172,844</b>	
<b>% of GDP</b>	<b>6.7%</b>	<b>6.9%</b>	<b>7.7%</b>	<b>8.5%</b>	<b>11.3%</b>	
<b>Total pillar 1</b>	<b>57,754</b>	<b>57,569</b>	<b>60,239</b>	<b>63,657</b>	<b>149,031</b>	
All government departments	47,673	47,673	47,673	47,673	0	
Tax expenditure subsidy (TES)	10,081	0	0	0	0	
Universal subsidy allocated to MS members	0	9,896	12,566	15,984	149,031	
<b>Total pillar 2</b>	<b>44,000</b>	<b>48,514</b>	<b>58,077</b>	<b>66,238</b>	<b>23,813</b>	
Medical schemes: direct contributions	42,542	47,056	44,021	48,755	22,355	
Direct pillar 2 subsidy to medical schemes	0	0	12,598	16,024	0	
Other social insurance	1,458	1,458	1,458	1,458	1,458	

*\*At present the direct contribution and subsidy are not split. Members pay the full contribution and an indirect subsidy is paid through the tax system.*

Scenario Five (the introduction of an NHI) produces the most significant overall increase in expenditure of R149 billion (in 2005) or 11.3% of GDP. This compares to estimates of current expenditure (scenario 1) for 2005 of R102 billion (6.7% of GDP).

Scenario 2 produces a significantly smaller increase of expenditure to R106 billion (7.0% of GDP) with fiscal substitution. Where there is no fiscal substitution estimated expenditure under scenario 2 decreases very slightly.

With fiscal substitution scenario 3 also produces a small increase in expenditure to R116 billion (7.6% GDP). This increases by 0.1% of GDP when there is no fiscal substitution.

The subsidy framework in scenario 3 is essentially identical to that of Scenario 4, except that the latter would see a roughly 30% jump in the number of medical scheme beneficiaries from 10.5-million to 13.3-million. The larger number of beneficiaries means that the estimated total expenditure of Scenario 4 is R124-billion (8.1% of GDP) with fiscal substitution, and R129.9-billion (8.5% of GDP) without.

Government's universal subsidy for health (pillar 1, which includes both Government direct expenditure on public health services and the contribution subsidy to medical scheme beneficiaries) remains constant *with fiscal substitution*. Where there is no *fiscal substitution*, scenarios 3 and 4 show increases of R2.485 billion and R5.903 billion respectively in the overall government subsidy for health. Scenario 5 does not vary with or without fiscal substitution.

The pillar 1 subsidy to medical schemes in scenario 2 shows a small real decline from R10.1 billion (the TES in scenario 1) to R9.896 billion. This is due to slightly reduced private sector entitlement once the subsidy is converted to a fixed Rand per capita allocation.

The pillar 2 subsidies occur only in scenarios 3 and 4. The values of these subsidies are not affected by whether or not there is *fiscal substitution*.

Direct contributions to medical schemes are also independent of whether or not *fiscal substitution* occurs. It should be noted that in scenario 1 the tax expenditure subsidy (TES) is not distinct from the direct contributions of R53.502-billion, because the subsidy is presently made indirectly through the

tax system. In Scenario 1 actual direct contributions. However, for scenarios 2-4 the subsidy would be separate and distinct from direct member contributions. Direct contributions to medical schemes fall from R53.502 billion in scenario 1 to R47.056-billion in scenario 2, and further to R44.021-billion in scenario 3. Direct contributions rise to R48.755-billion in scenario 4.

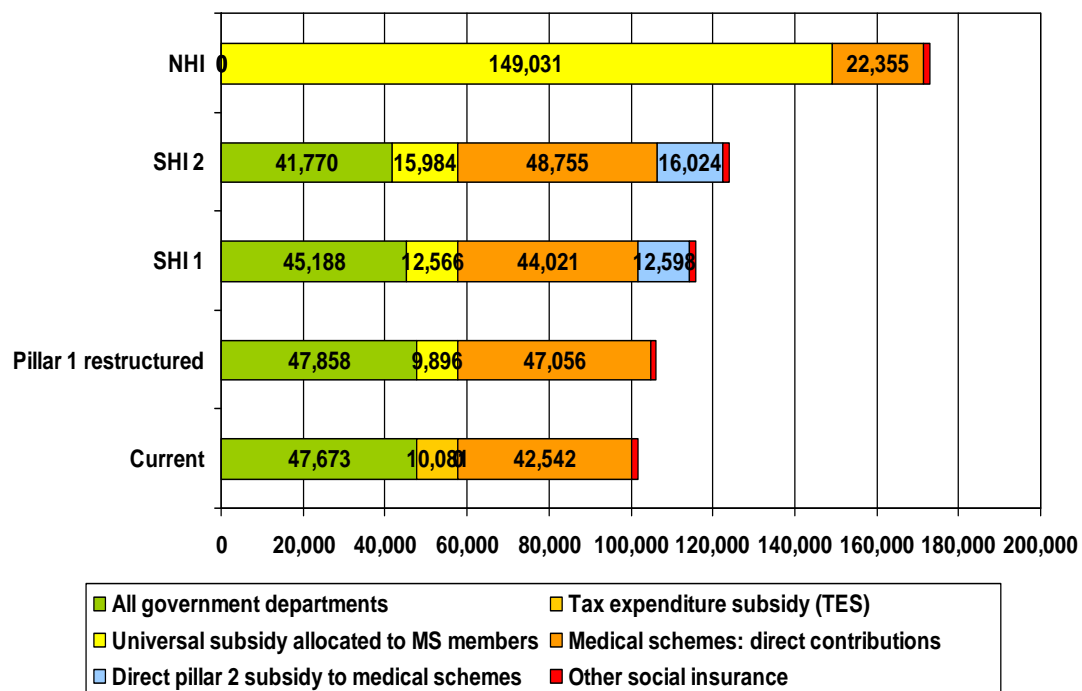
The introduction of a universal subsidy under Scenario 5 would result in a significant drop in value of direct contributions. The estimated value of R22.355 billion reflects the additional contributions high-income groups will probably voluntarily make in order to retain existing levels of coverage.

The estimates are all fairly conservative because none of the assumptions underlying the scenarios make allowances for potential efficiency gains in the system.

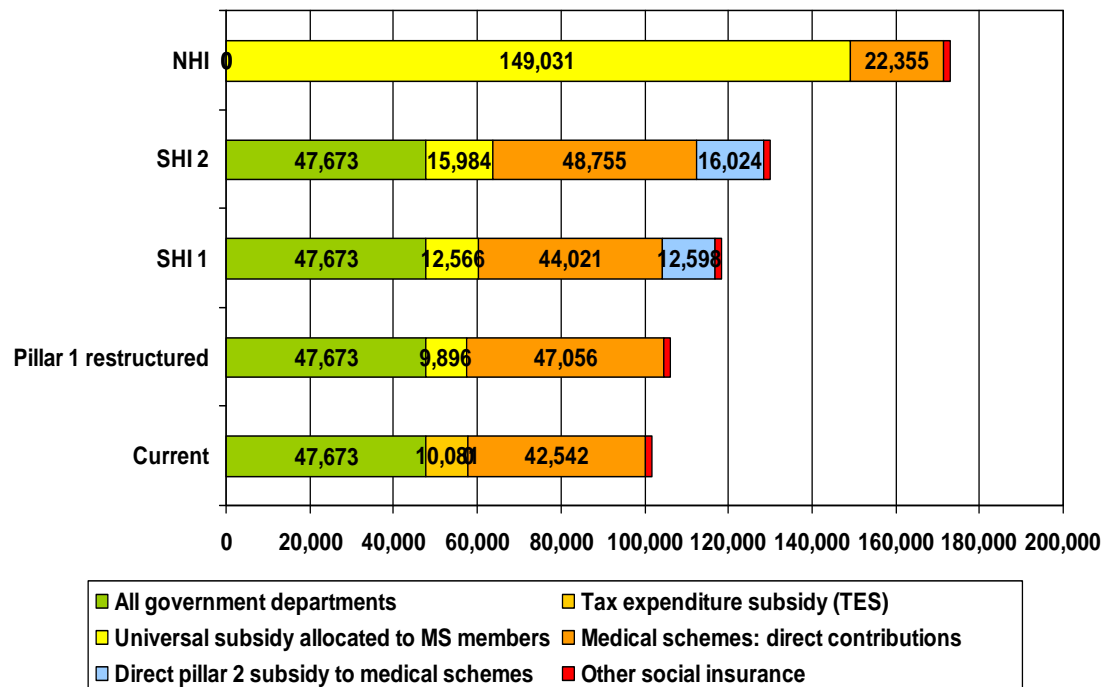
- In addition, the estimated expenditure increases may be mitigated by a number of factors: The average cost of basic benefits will decline due to the increased numbers of beneficiaries. **Annexure A, table A3** provides a breakdown of alternative values for each scenario).
- It is likely that higher income groups would chose to buy-down their packages in response to the combination of improved general coverage and the slight decrease in disposable income. Such a buy-down would lower overall healthcare expenditure while not decreasing essential coverage. The assumptions underlying **table 6.1** did not take into account this potential buy-down.
- In both scenarios 2 and 3 Government could choose partial fiscal substitution, which would still allow for a net real increase in per capita expenditure in the public health system.
- Non-healthcare costs are now a significant portion of medical scheme expenditure. Such costs should decrease with tougher competition for beneficiaries in the open scheme market.
- In all scenarios the maximum likely shift of beneficiaries into medical schemes is assumed. In reality the take-up will occur incrementally. Partial shifts will result in the retention of subsidy payments within the public sector, and no additional expenditure on medical scheme benefits.



**Figure 6.1: Expenditure by pillar of the health system, with fiscal substitution (2005) (R' million)**



**Figure 6.2: Expenditure by pillar of the health system, with no fiscal substitution (2005) (R' million)**



### 6.3 Value of an earmarked tax required to fund the income-based portable subsidy to medical scheme members

**Table 6.2** provides the basis for the calculation of the required health earmarked tax (ET), raised through a proportional health-specific income tax, *if the subsidy to medical scheme members were to be funded entirely from such a tax.*

Overall the value of the proportional tax would not be affected by any fiscal substitution as the subsidy is independent of general taxation and general government expenditure.

The analysis indicates that the existing subsidy, shown in scenario 1 would involve a 1.2% proportional tax if it were to be funded through an earmarked tax. Scenario 2 suggests a required increase from the indicative proportional tax of 1.2% to 3.1%. Scenario 4 requires a proportional tax 3.7%.

A direct comparison is not straightforward for scenario 5, which would see all health expenditure, except voluntary top-up cover, funded by the earmarked proportional health tax. This would mean a 15.1% proportional tax, much of which would involve a shift from general taxes to the earmarked tax.

**Table 6.2: Calculation of the value of an earmarked tax to fully fund the portable subsidy provided to members of medical schemes**

Pillars of the health system	Current	Pillar 1 restructured	SHI 1	SHI 2	NHI
Scenario	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5
<b>With fiscal substitution</b>					
Current income*	814,440	794,093	821,087	872,757	935,446
Full funding of ET	10,081	9,896	25,164	32,008	141,503
Required ET	1.2%	1.2%	3.1%	3.7%	15.1%
<b>No fiscal substitution</b>					
Current income*	814,440	794,093	821,087	872,757	935,446
Full funding of ET	10,081	9,896	25,164	32,008	149,031
Required ET	1.2%	1.2%	3.1%	3.7%	15.9%

\*This excludes the income of those below the tax threshold.

#### 6.4 Public sector and medical scheme beneficiaries

The various scenarios assume a sudden shift in beneficiary demographics to the maximum number covered over an extended period of time. In reality the changes will occur incrementally and not involve stark structural shifts. **Table 6.3** summarises the assumed/target beneficiary shifts consistent with each scenario.

**Table 6.3: Beneficiaries served by the public sector and medical schemes, pre- and post-reform (2005) ('000)**

Public sector/medical scheme	Current	Pillar 1 restruc tured	SHI 1	SHI 2	NHI
	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5
<b>Public sector beneficiaries</b>	41,312	40,028	37,795	34,937	0
<b>Medical scheme beneficiaries</b>	6,994	8,277	10,511	13,369	48,306
<b>Total</b>	48,306	48,306	48,306	48,306	48,306
<b>Public sector beneficiaries</b>	85.5%	82.9%	78.2%	72.3%	0.0%
<b>Medical scheme beneficiaries</b>	14.5%	17.1%	21.8%	27.7%	100.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

The scenarios show a shift in medical scheme participation from 14.5% of the total population in scenario 1 to 17.1% in scenario 2, 21.8% in scenario 3 and 27.7% in scenario 4. By definition the NHI scenario (scenario 5) covers 100% of the population, although this would not necessarily be through the mechanisms of medical schemes.

Scenario 3 is indicative of the coverage resulting from the inclusion of all families where the principal breadwinner earns in excess of R6,000 per month. Scenario 4 extends to all people earning in excess of R4,600 per month and where the direct medical scheme contribution is 16% or less of family income.

#### 6.5 Per capita value of the income-based subsidies

**Table 6.4** provides the per capita value of the subsidies offered both for the public sector and medical scheme beneficiaries.

**Table 6.4: Per capita value of the subsidies (Rands, 2005 prices)**

	Current	Pillar 1 restructured	SHI 1	SHI 2	NHI
Scenario	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5
<b>With fiscal substitution</b>					
Public sector	1,154	1,196	1,196	1,196	na
Medical scheme pillar 1 subsidy	1,441	1,196	1,196	1,196	3,028
Medical scheme pillar 1 + 2 subsidy	1,441	1,196	2,394	2,394	3,028
<b>No fiscal substitution</b>					
Public sector	na	1,191	1,261	1,365	na
Medical scheme pillar 1 subsidy	na	1,196	1,196	1,196	3,190
Medical scheme pillar 1 + 2 subsidy	na	1,196	2,394	2,394	3,190

The per capita value of the pillar 1 subsidy provided to public sector beneficiaries rises from R1,154 in scenario 1 to R1,196 in scenarios 2-4, with fiscal substitution. The pillar 1 subsidy to medical scheme members declines from R1,441 to R1,196, i.e. to the same value as the subsidy provided to public sector beneficiaries. With no fiscal substitution the pillar 1 subsidy rises from R1,196 to R1,261 in scenario 3 and R1,365 in scenario 4.

The combined pillar 1 and 2 subsidy to medical schemes is only relevant from scenario 3 onward, as there is no pillar 2 subsidy mechanism in scenarios 1 and 2. The combined subsidy is R2,394 in scenarios 3 and 4, rising to R3,190 in scenario 5. It should be noted that the pillar 2 subsidy is for medical scheme contributors only, and focuses on ensuring a greater degree of risk and income solidarity within the market than would be possible with only the universal pillar 1 subsidy.

## 6.6 Impact on the tax levels of households

The impacts of the policy scenarios on the tax levels of households are summarized in **table 6.5**.

**Table 6.5: Impact of the scenarios on the taxation of households (2005)  
(R'million)**

Pillars of the health system	Current	Pillar 1 restructu red	SHI 1	SHI 2	NHI
Scenario	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5
<b>With fiscal substitution</b>					
taxation pre-reform	115,812	115,812	115,812	115,812	115,812
taxation post reform	na	115,812	128,410	131,836	199,561
net impact	na	0	12,598	16,024	83,749
tax paid by hsholds post-reform	115,812	115,812	128,410	131,836	199,561
Change in taxation	0	0	12,598	16,024	83,749
% change	0.0%	0.0%	10.9%	13.8%	72.3%
<b>No fiscal substitution</b>					
taxation pre-reform	115,812	115,812	115,812	115,812	115,812
taxation post reform	na	115,627	130,895	137,739	207,089
net impact	na	-185	15,084	21,927	91,277
tax paid by hsholds post-reform	115,812	115,627	130,895	137,739	207,089
change in taxation	0	-185	15,084	21,927	91,277
% change	0.0%	-0.2%	13.0%	18.9%	78.8%

The overall level of what could be considered taxation rises primarily as a consequence of the pillar 2 subsidy, rather than as a consequence of any restructuring of the pillar 1 subsidy. The pillar 1 subsidy is already implicit in the current system of government finances and the overall obligation does not change.

The pillar 2 subsidy is, however, not a general tax and involves a redistribution of income amongst participating income groups and their families only. The degree of redistribution is therefore restricted, because there are fewer people sharing the benefits.

If the pillar 2 subsidy were to be regarded as a “tax” in the ordinary sense, the tax burden would rise for eligible households by R12.6 billion (10.9%) in scenario 1 and R16.024 billion (13.8%) in scenario 3 where fiscal substitution occurs. Where there is no fiscal substitution, scenarios 3 and 4 rise to R15.084-billion (13.0%) and R21.927 billion (18.9%) respectively.

However, these changes are better understood within the context of changes to disposable income discussed in the next section.

## 6.7 Impact of scenarios on disposable incomes of households

Changes to the disposable income resulting from the alternative policy scenarios are summarised in **table 6.6**.

**Table 6.6: Impact of scenarios on disposable income (2005)**

Pillars of the health system	Current	Pillar 1 restruct ured	SHI 1	SHI 2	NHI
Scenario	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5
<b>With fiscal substitution</b>					
disposable income pre-reform	974,123	974,123	974,123	974,123	974,123
net tax payments	na	0	12,598	16,024	83,749
disposable income post-reform	974,123	974,123	961,525	958,098	890,374
Change in disposable income	0	0	-12,598	-16,024	-83,749
% change	0.0%	0.0%	1.3%	1.6%	8.6%
<b>No fiscal substitution</b>					
disposable income pre-reform	974,123	974,123	974,123	974,123	974,123
net tax payments	na	-185	15,084	21,927	83,749
disposable income post-reform	974,123	974,307	959,039	952,195	890,374
change in disposable income	0	185	-15,084	-21,927	-83,749
% change	0.0%	0.0%	1.5%	2.3%	8.6%

Scenario 2 shows virtually no change in disposable income from scenario 1, irrespective of whether or not there is fiscal substitution.

Disposable income declines only slightly in scenarios 3 and 4, with an estimated 1.5% fall for the former, and 1.6% for the latter when there is fiscal substitution. Where there is no fiscal substitution disposable incomes fall by an additional 0.2% in scenario 3 and 0.7% in scenario 4.

Scenario 5 by contrast shows a significant reduction in disposable income of 8.6%, and this decline is unaffected by whether or not there is fiscal substitution.

The impact on disposable income of scenarios 2-4 are relatively mild and appear within the affordable range from a macroeconomic perspective. It is especially important to note that all assumptions leading to these estimates are deliberately on the conservative side and do not take into account any

dampening impact likely from phased implementation options and incremental take-up of medical scheme membership.

Scenario 5, however, appears unaffordable at the existing level of economic development.

## 6.8 Value of income-based subsidies as a percentage of Gross Domestic Product

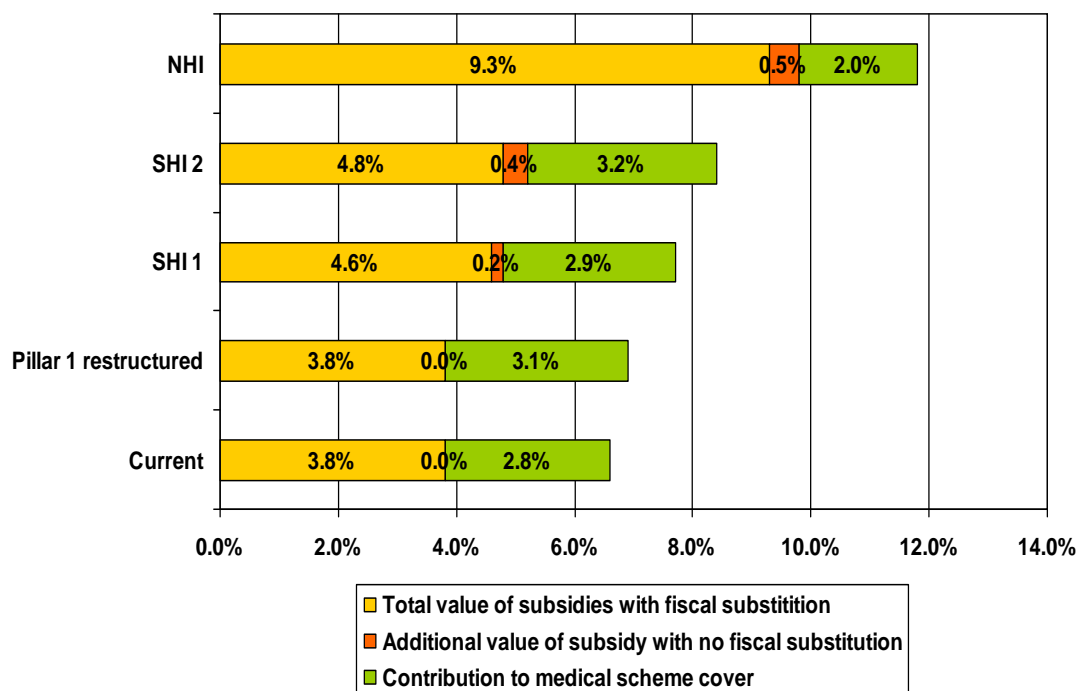
**Table 6.7** indicates the value of the various subsidies as a percentage of GDP in the alternative policy options. This provides an indication of the scale of changes to Government policy in proportion to the size of the domestic economy.

**Figure 6.3** compares the aggregate value of all subsidies as a percentage of GDP with the value of direct medical scheme contributions expressed as a percentage of GDP.

**Table 6.7: Subsidy expressed as a percentage of Gross Domestic Product (2005)**

Subsidy	Current	Pillar 1 restructured	SHI 1	SHI 2	NHI
Scenario	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5
<b>With fiscal substitution</b>					
Pillar 1 subsidy	3.8%	3.8%	3.8%	3.8%	9.3%
Pillar 2 subsidy	0.0%	0.0%	0.8%	1.0%	0.0%
Combined	3.8%	3.8%	4.6%	4.8%	9.3%
<b>No fiscal substitution</b>					
Pillar 1 subsidy	3.8%	3.8%	3.9%	4.2%	9.3%
Pillar 2 subsidy	0.0%	0.0%	0.8%	1.0%	0.0%
Combined	3.8%	3.8%	4.8%	5.2%	9.3%

**Figure 6.3: Total value of income-based subsidies expressed as a percentage of GDP, with and without fiscal substitution compared to own medical scheme contribution as a percentage of GDP (2005)**



The total pillar 1 subsidy, which is uniform for both users of the public and private health system, amounts to 3.8% of GDP for scenarios 1 to 4. Where there is no fiscal substitution scenarios 3 and 4 grow to 3.9% and 4.2% of GDP respectively.

The pillar 2 subsidy occurs only in scenarios 3 and 4 and is valued at 0.8% and 1.0% of GDP respectively, irrespective of whether or not there is fiscal substitution.

When both pillars 1 and 2 are combined they amount to 3.8% of GDP irrespective of whether or not there is fiscal substitution in scenarios 1 and 2. Scenario 2 ranges from 4.6% to 4.8% of GDP (an additional 0.2%) depending upon whether or not there is fiscal substitution.

Scenario 4 ranges from 4.8% to 5.2% (an additional 0.5% of GDP) depending upon whether or not there is fiscal substitution.

Scenario 5 has the most significant impact, showing the total government subsidy for health rising to 9.3% of GDP.



## 6.9 Discussion

The analysis suggests that three of the five scenarios, scenarios 2-4, offer significant improvements in the quality of social security for South Africa at costs that are feasible and affordable within a medium-term time horizon. Scenario 5, although offering a significant improvement in social security, is not affordable in the medium-term.

## 6.10 Findings

The financial and fiscal implications of scenarios which combine a restructuring of the existing subsidies with risk-equalisation amongst medical schemes are affordable within the medium-term. The level of subsidy can also be adjusted on a discretionary basis to limit fiscal risk in any given year.

The National Health Insurance (NHI) option, even with a minimum benefit costed at the lowest level feasible, appears not to be affordable in the medium-term. Overall health expenditure would rise to exceed 11.3% of GDP. Were minimum benefits to be more comprehensive, the increases in overall health expenditure would be significantly in excess of this figure.

Ignoring issues relating to supply and the organization of the health system and focusing only on the financial value of the subsidy, NHI will become affordable only if the level of formal employment rises coupled with significant increases in the average incomes of the formally employed population. This will only happen in the very long-term, and will depend fundamentally on the nature and extent of economic development.

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## 7. Risk equalisation fund: a quantitative evaluation of the implications for schemes

### 7.1 Overview

This section focuses exclusively on the proposed risk equalisation fund (REF) as the vehicle by which unfair distributions of risk between medical schemes are to be equalized. The design of a full REF, including its systems and detailed operational requirements, is currently at an advanced stage.

A process has also been established to gather additional data on scheme profiles and test the practical application of a risk equalisation formula. A shadow period of operation for the REF has been embarked on under which schemes submit the intended data to the Council for Medical Schemes but no money changes hands. The purpose of the shadow period is to ensure that medical schemes and the Council for Medical Schemes are able to handle the technical and administrative requirements of the full implementation of the Risk Equalisation Fund.

### 7.2 Background

Specific REF options were examined in a consultative process established by the Risk Equalisation Fund Task Group (established by the Department of Health) in 2003. The outcome of this process was a set of technical recommendations. These were subsequently put to an international review panel (IRP), involving experts from six countries with risk equalisation modalities in place.

The IRP did not find any problem with the proposals and supported the overall approach. They also indicated that the prevailing nature of the South African market created a necessity for REF to be established and implemented on an urgent basis. The IRP recommended strongly that the REF be established as soon as possible. The results of this review, with the associated findings and recommendations, are published in a public report (International Review Panel, 2004, obtainable on [www.medicalschemes.com](http://www.medicalschemes.com)).

Provisional work has already been completed defining the following:

- The reporting framework and financial flows;

- The formula for determining risk-adjusted medical scheme payments;
- The database requirements and systems design;
- The information technology infrastructure requirements; and
- The organizational requirements, including high-level business process and governance requirements.

### 7.3 Process for 2005

The Council for Medical Schemes has been requested by the Minister of Health to implement an interim arrangement to test the requirements of the REF before implementation. Full details of this process are available on the Council for Medical Schemes (CMS) website [www.medicalschemes.com](http://www.medicalschemes.com).

### 7.4 Proposed Risk Equalisation Fund Modality

The REF process for equalizing risk between schemes would involve the following:

1. All medical schemes would be required to update and maintain a centralized registry of beneficiary information (this is currently being fully evaluated in a feasibility assessment by Dimension Data). This information would include:
  - Age last birthday on 1 January, summarised into age bands Under 1, 1-4, 5-9, 10-14... 75-79, 80-84, 85+.
  - Gender (the data will be collected but not applied in the Contribution Table);
  - The 25 chronic conditions (the Chronic Disease List or CDL conditions) that must be covered as part of Prescribed Minimum Benefit legislation. These include conditions such as asthma, diabetes, hypertension, chronic renal failure and multiple sclerosis;
  - A modifier for the number of multiple CDL conditions. Allowance is made for 2, 3, and 4+ simultaneous CDL conditions.
  - HIV/AIDS provided the beneficiary is receiving or has received anti-retroviral therapy according to the PMB definition;
  - A modifier for maternity, delivery of a single/multiple foetus either stillborn or alive following a pregnancy of at least 24 weeks duration.

2. The above information would be weighted through the application of a “contribution table” (see below) containing Rand values associated with a beneficiary’s average cost of claiming.
3. For each option within each medical scheme a REF Grid (see **annexure D, table D1**) will be completed showing all beneficiaries with and without the specified conditions (see **annexure C, table C1**). The consolidated information from all schemes would be used to compile a REF Grid for the industry. This will also provide valuable information on industry prevalence for essential health conditions.
4. The scheme REF Grid will then be multiplied through by the REF Contribution Table (table D2, annexure D) to establish the scheme community rate. The industry REF Grid will be multiplied through by the REF Contribution Table to establish the industry community rate. The difference between the scheme community rate and the industry community rate will determine whether payments are due to the scheme from REF or from the scheme to REF.

## 7.5 Methodology and assumptions

The analysis assumes the following:

- REF financial transfers will occur on a quarterly basis following the submission and validation of beneficiary level information to a central registry on a monthly basis.
- It is assumed that all net financial adjustments will occur during the financial year of the scheme. The REF modality is consistent with a high degree of automation permitting REF settlements to occur within rather than after the end of the financial year.
- Schemes will only be liable for net transfers to the REF rather than a monthly contribution (this option is currently the central focus of the feasibility assessment undertaken by the Council for Medical Schemes). Options incorporating a monthly contribution have also been examined. However, provisional findings from a feasibility study

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suggest that the high level of likely automation will eliminate the need for a system of contributions to fund the net transfers.

- REF adjustments will occur by option rather than by medical scheme.
- The 2005 Contribution shown in **table D2 (annexure D)** is used to calculate the industry and scheme community rates (by option).
- The REF Contribution Table is a table of amounts payable to the REF per beneficiary, according to the REF risk factors. The amount is determined from historic data and other inputs on cost per disease. The amount is set to cover:
  - A defined benefit package (the Prescribed Minimum Benefits (PMBs) for the entire medical scheme industry population; and
  - The package cost is adjusted for reasonable efficiency gains.
- The medical scheme data is based on the latest audited returns supplied to the Council for Medical Schemes for 2003, which requires that member and beneficiary data be supplied by age by option. Schemes will only be submitting data on the numbers with chronic diseases from 1 July 2005 in terms of the REF shadow process.
- The industry REF Grid<sup>5</sup> is used to generate a scheme REF Grid by assuming that the standard relationships between age and PMB conditions holds at a scheme level (this is a reasonable assumption to make as the sample upon which the industry REF Grid was generated was very large).
- The value of the package to be equalized is based on the “REF efficiency” value of the existing costed prescribed minimum benefits

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<sup>5</sup> This table is too large to put in the report. It is however available at [www.medicalschemes.com](http://www.medicalschemes.com).

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as reflected in the REF Contribution Table, and in 2005 is equivalent to R193.9 per beneficiary per month (i.e. the Industry Community Rate).

- It is assumed that schemes charge a flat per capita contribution per beneficiary for the basic package (PMB).
- It is assumed that the REF applies to the existing group of beneficiaries.<sup>6</sup>

## 7.6 Results

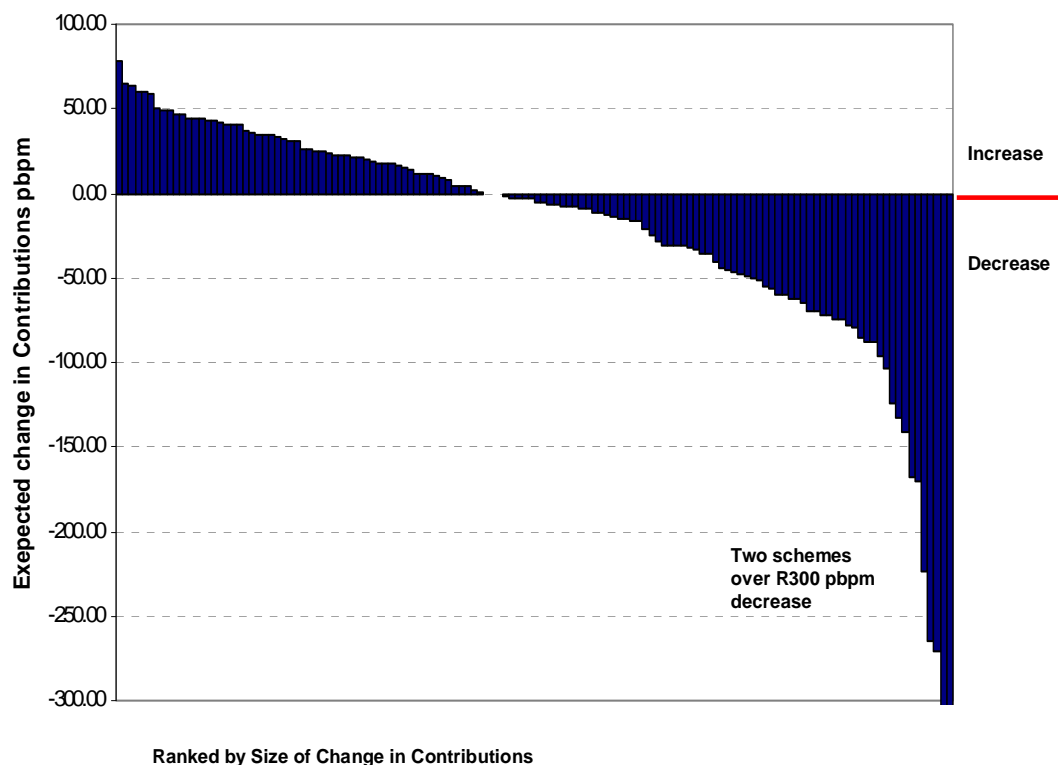
### 7.6.1 PMB prices by scheme and changes in contributions

**Figure 7.1** illustrates the dramatic variation in average scheme costs implied by the existing distribution of age groups between schemes. The results also show that schemes with worse risk profiles will benefit by more than schemes with good risk profiles will lose. The scheme with the best risk profile will experience a R75 rise in contributions compared to around seven schemes that will experience declines in contribution of the order to R150-R300 per beneficiary per month (pbpm).

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<sup>6</sup> This is purely for convenience. Variations in beneficiary numbers will result in a different industry community rate. This will be easy to calculate as and when the changes occur based on scheme reports. See **table A3, annexure A** for the impact different demographic profiles will have on the PMB price.

**Figure 7.1: Expected Change in Contributions pbpm [ranked] using the reported age profile of 2003 (2005 prices)**



### 7.6.2 Value of net transfers

The overall annual value of net transfers including bargaining council schemes is calculated at R1.3 billion, and R1.2 billion when bargaining council schemes are excluded. The most significant movement of net transfers will occur in open schemes with a total annual value of R864.7 million. (See **table 7.1**).

Bargaining council schemes currently do not offer a comprehensive set of minimum benefits and are exempted from such by the Council for Medical Schemes. Their participation in the REF, outside of any modality which incorporates an income-based cross-subsidy could be prejudicial to their members. (See analysis below).

As a consequence, it is likely that bargaining council schemes would have to be excluded from the REF unless income cross-subsidies are also introduced.

**Table 7.1: Value of net transfers by scheme classification, monthly and annual based on 2003 age data (2005 process)**

	Monthly	Annual
Open Schemes	72,059,521	864,714,255
Restricted Membership Schemes	30,107,934	361,295,207
Bargaining Council Schemes	6,373,005	76,476,055
<b>All Medical Schemes</b>	<b>108,540,460</b>	<b>1,302,485,518</b>
<b>Registered medical schemes</b>	<b>102,167,455</b>	<b>1,226,009,463</b>

### 7.6.3 Value of benefits equalized

The net transfer indicated above results in the risk equalisation of PMBs between medical schemes valued at R15.6 billion. This represents 29.2% of scheme Gross Contribution Income (GCI) or 37.2% of estimated claims expenditure (i.e. excluding all non-health expenditure). (See **table 7.2**)

**Table 7.2: Value of PMBs equalized if REF were introduced in 2005 (R'000)**

<b>Total medical scheme GCI</b>	53,502,005
<b>Total medical scheme claims</b>	41,954,168
<b>Total value of PMB</b>	15,620,215
% of GCI	29.2%
% of claims	37.2%

### 7.6.4 Indicative impacts on selected medical schemes

**Table 7.3** shows for ten selected large medical schemes the net monthly movements to or from the REF and changes in contributions. In these scenarios Discovery, Medihelp, Transmed, POLMED, and MEDCOR would all become net beneficiaries of transfers from REF. The largest improvements in contribution occur in Medihelp and Transmed due to their significant pensioner membership. This would have to be qualified by the fact that Medihelp pensioners are currently fully underwritten by Government<sup>7</sup> rather than by the scheme. All pensioners in that arrangement within Medihelp would have to be removed from the REF calculation of the scheme community rate until such time as the risk of the group is fully transferred to the scheme.

<sup>7</sup> Government currently pays the direct claims costs, rather than the contributions, of a group of former government employees. This implies that the claims risk has been transferred to Government and is not carried by the scheme. For this reason the pensioners need to be excluded from the REF.



**Table 7.3: Impact of REF on monthly net REF payments and contribution rates of selected large medical schemes (based on 2003 age data) (2005 prices)**

Schemes		Pure REF modality		Effect on Contributions		
Type	Name	Scheme Beneficiaries December 2003	Net Monthly REF Payment to Scheme	Scheme PMB Community Rate pbpm	Change in Contributions pbpm	Change in Scheme Cost of PMBs
Open	Discovery	1,427,167	10,431,386	201.2	-7.3	-3.6%
	Bonitas	651,511	-22,402,973	159.5	34.4	21.6%
	Medshield	250,642	-14,849,584	134.7	59.2	44.0%
	MediHelp	201,717	34,340,350	364.1	-170.2	-46.8%
	Sizwe	163,765	-1,815,143	182.8	11.1	6.1%
Restricted	POLMED	356,014	-15,435,531	150.5	43.4	28.8%
	Transmed	181,576	24,165,643	327.0	-133.1	-40.7%
	Bankmed	172,289	389,596	196.2	-2.3	-1.2%
	MEDCOR	108,319	-4,352,200	153.7	40.2	26.1%
	Profmed	72,062	1,045,684	208.4	-14.5	-7.0%

### 7.6.5 Impact on lower-income groups currently participating in medical schemes

Schemes that focus on low-income groups, and provide benefits below the value and scope of PMBs face some risk of a negative cross-subsidy toward other schemes. (See **table 9.1** and **figure 9.5**). However this needs more careful consideration. A low cost plan typically uses capitated primary care and other risk-sharing mechanisms with providers to achieve greater efficiency and achieves lower costs for members. This means the scheme community rate for PMBs is lower than that used in the REF process. These schemes will need to notionally pay the higher amount for PMBs to the REF. If they have the age and disease profile equivalent to the industry, they receive from the REF the same amount as paid in, giving zero net transfer with no need to charge any additional amount to members.

However if the low-cost plan has a younger and healthier risk profile it will have a net transfer to the REF and the scheme will need to fund the net transfer at the higher industry cost of PMBs (not its own lower delivery cost), requiring that contributions be increased to make up the funding shortfall.

The above problem is avoided if the low-cost plan has the industry risk profile, or is a net beneficiary of REF transfers by having an older or less healthy profile. In the latter instance the scheme will receive a net transfer at the industry price for PMBs but can deliver more efficiently, thus enabling them to expand benefits or lower contributions to members.

In the current market many low-cost schemes tend to have young and healthy profiles as they have attempted to design benefits and provider networks to discourage low-income members who are elderly and therefore high-claiming. Bargaining Council schemes also tend to have a younger than average profile because they often do not provide benefits to those who have retired from their industry. These practices of discouraging or not accepting older members will face a very different incentive under the REF where the payment from the REF to a scheme is much higher for an older person and one with a chronic disease.

Approaches to mitigate the phenomenon for truly low income schemes with an unavoidable younger profile (only workers to be covered under the bargaining council agreement, for example) involve the following:

1. Removing low-income schemes, which have all members earning less than the tax threshold, from the REF mechanism; and
2. Simultaneously introducing the REF mechanism with an income cross-subsidy sufficient to enable the purchase of a complete minimum benefit package by low-income groups.

## **7.7 Discussion and findings**

The results do not suggest any evidence of a destabilizing impact of REF on medical schemes. Were the REF not introduced, however, instability in the market will continue to be a concern going forward. Competition based on attracting desirable age and disease profiles is socially undesirable as well as inefficient.

The application of the REF in a voluntary environment does not present any concerns for implementation. The REF Contribution Table is easy to adjust based on reported information provided to the REF.

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Anticipated net transfers represent on 2.4% of existing scheme gross contribution income while affecting 37.2% (R15.6 billion of REF were introduced in 2005) of all medical scheme expenditure. Thus, for a relatively minor system of net financial flows, efficiencies are greatly improved for all essential health spending in the private sector.

Technological options appear to be available to permit net financial transfers to be paid rather than REF contributions.

The former Government employees currently funded through a special dispensation by National Treasury will require that this group of beneficiaries be excluded from REF. If this is not done, Medihelp would receive an unfair transfer from all other schemes for a risk it does not carry.

Schemes that legitimately focus on low-income workers in environments where the age profile is significantly younger through industry agreements may be prejudiced by the REF where their delivery costs are lower than the industry price of PMBs. This primarily affects bargaining council schemes who operate with certain exemptions from the Medical Schemes Act. This is easily mitigated through excluding them from the REF unless a system of income-based cross-subsidies is introduced that can compensate for this.

## **8. Underwriting risks for Government with respect to both REF and SHI modalities**

### **8.1 Overview**

Concerns have been raised by Cabinet concerning the potential underwriting risks for Government posed by the REF and any SHI modality. The REF risk was raised in earlier consultation processes as well as the International Review Panel (IRP), 2004. Neither the consultation process, nor the IRP raised any specific concerns about an SHI underwriting risk for Government.

Distinct from earlier processes, the Ministerial Task Team on SHI have identified a number of risks that differ from earlier discussions, both in relation to REF and SHI. All potential risks identified are raised in this section and evaluated.

### **8.2 Risk Equalisation Fund**

#### **8.2.1 Comments from the International Review Panel**

The IRP (2004, p.11 and p.65) raised concerns about the potential solvency of the REF and the need to make provision for this contingency. The comments and recommendation of the IRP are provided here in full.

*“Owing to the method that is used to calculate payments into the REF, there is a risk that REF may not be adequately funded in the immediate period following its introduction. This may result from significant changes in the beneficiary profiles of schemes between the date of the calculation of the REF contribution table and the making of payments to the REF together with uncertainty as to the true cost of providing the PMB to beneficiaries. Based upon numbers provided to the Review Panel, it seems that a 10% difference between actual and envisaged beneficiary (membership) experience would mean that there would be a deficit of less than 1% of the current total contribution income for the industry. The risk of insolvency of the REF due to this reason should diminish over time, as better information becomes available to determine the contribution tables and the industry cost for the PMB. If a deficit were to occur, it would have to be balanced by increased subsequent payments from beneficiaries.” (IRP, 2004, p.36).*

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*“The Panel recommends that further modeling needs to be undertaken to determine the likelihood of the REF becoming insolvent. In the short term, if a deficit scenario were to occur for the newly launched REF, there would be a need for short term bridging capital to cover the deficit. The Panel suggests that any such deficit should be financed by a loan from the National Treasury, or if this is impossible, by a loan from a commercial financial institution or existing medical schemes. The deficit should be covered by an increase of subsequent payments from the beneficiaries.”*

The following are the central concerns raised by the IRP:

1. The REF will be most at risk of insolvency, from a cash-flow perspective, in the start-up phase. The risk of REF insolvency will however diminish over time.
2. This risk results from:
  - a. The possibility that there will be significant changes in the beneficiary profile of schemes between the date of the calculation of the REF Contribution Table and the making of payments to the REF; and
  - b. Uncertainty as to the true cost of providing the PMB to beneficiaries.

The following are the risk mitigation proposals made by the IRP:

1. Further modelling needs to be undertaken to determine the likelihood of the REF becoming insolvent; and
2. Bridging options should be considered to “underwrite” the start-up risk to prevent a cash-flow shortage. However, as this risk represents an unpredictable shortfall in funding rather than a risk that has been transferred to the REF, it can be funded on a loan basis, either by National Treasury or the private sector. Ultimately, the shortfall will be fully recovered from the medical schemes through an adjustment to the contributions.

### **8.2.2 Discussion**

The IRP’s concern arises from the possibility that the number of beneficiaries with CDL conditions, HIV/AIDS or maternity in a given year could differ

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from the assumed experience arising from the initial modelling exercises. This concern is raised specifically in relation to the REF Contribution Table.

In raising this concern the IRP has a particular REF funding modality in mind. It assumes that schemes pay in to the REF the full value of their beneficiaries' expected claims in accordance with the Scheme Community Rate, and are subsequently reimbursed from the REF in accordance with the Industry Community Rate.

Thus, if there is a timing and information gap between the determination of the payment to the REF and the payment from the REF, the payments to schemes would be using information that is more accurate than used to determine contributions to the REF. This information gap would obviously diminish as time goes on.

The assumed modality discussed by the IRP is however not necessarily the only approach and differs from the more fully formed proposal. The envisaged REF modality would operate as follows:

1. A beneficiary registry would be maintained centrally, and updated routinely by medical schemes.
2. The REF beneficiary database would be fully populated at least 12 months before any REF financial transfers would occur.
3. REF payments would be based on actual beneficiary information and experience (prevalence of the relevant conditions) and not modelled information.
4. The REF Contribution Table used to determine the Industry Community Rate will be updated constantly based on the updated registry. This eliminates any possibility that differences will occur between payments and beneficiary experience.
5. REF financial transfers will occur at least one month after the end of each quarter (adjustment 1). These will occur in respect of the

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beneficiary information finalised and locked after specified dates for the preceding quarter.

6. A second, minor, adjustment (adjustment 2) will occur in the subsequent quarter. This will be based on information that could not be supplied in time for adjustment 1. After this, no further adjustments will be permitted.
7. Each quarter a net adjustment for each scheme will be quantified in respect of adjustments 1 and 2. The transfers to and from the scheme will then be cleared immediately.
8. No contributions, based on the contribution table will be paid to the REF as this is not necessary for the REF adjustments to be enabled.
9. It is anticipated that a full 12-month dry-run of the REF occur before any financial transfers occur. This will allow for the full testing of the Contribution Table, Scheme Community Rates, and Industry Community Rates well before any financial flows occur. It will also ensure that the net transfer modality can be successfully achieved.

Different to the IRP, the Ministerial Task Team (MTT) has identified an ongoing small cash-flow risk that could occur if any scheme defaults on a net transfer to the REF. This risk has little to do with the problem identified by the IRP, and is unlikely to be systematic or involve any of the larger sophisticated schemes. As all schemes now have reserves at 25% of Gross Contribution Income (GCI) this will not occur because a scheme is failing financially, but because of a technical difficulty.

To manage this specific risk it is proposed that the REF hold a small portion of all schemes' statutory reserves, which can be used to ensure no shortfalls occur in the process of clearing net transfers. Any individual scheme defaulting on a net transfer will become a debtor to the REF for this amount. It is proposed that of the 25% of required reserves that schemes must hold, 2% will be held by the REF. If the risk of defaults increase, these reserves could

be increased. If any scheme needs to draw on their reserve the funds would be made available immediately by the REF.

Through the above approach the REF solvency can be achieved without any need to increase solvency levels in the market as whole. This option has been discussed with key medical scheme stakeholders who fully support it.

### **8.2.3 Finding**

No underwriting is required from Government in respect of the REF, either in the start-up phase or when operational. The REF will also not be a risk taking entity, and can easily transfer any residual cash-flow risks back onto the medical schemes.

## **8.3 Social Health Insurance and related modalities**

### **8.3.1 Potential underwriting risks**

A number of potential financial risks arise from the introduction of an income-based subsidy mechanism provided to medical scheme members. An underwriting risk would relate to unpredictable variations in subsidy claims relative to revenue streams.

Three areas could be identified where Government would face some risk:

1. Where revenue from the earmarked tax does not fully fund the value of benefits promised in respect of medical scheme beneficiaries;
2. Where cash-flow difficulties arise in respect of the earmarked tax, with timing delays between obligations to pay benefits to schemes and the revenue to fund them; and
3. Increases in underlying medical costs result in an increase in Government's financial obligation.

### **8.3.2 Discussion**

The financial risks that could be identified in respect of SHI scenarios (**scenario 3** and **4** as defined in **section 5** and quantified in **section 7**) are as follows:

1. *Revenue from earmarked tax does not fully fund the benefits:*



Risk: This occurs where the revenue raised from the value of the earmarked tax (i.e. the proposed earmarked health tax) is insufficient to meet the promise to pay, implied in the fixed benefit paid out in respect of each medical scheme beneficiary.

Discussion: Although this possibility could happen in the initial phase of an SHI, the risk would diminish fairly quickly as any revenue gap was identified. An adjustment could be made either to the promise to pay (i.e. the Rand value of the per capita subsidy paid in respect of beneficiaries) or to the value of the earmarked tax. Which approach is adopted would depend on the scale of the funding gap.

This type of problem is not systemic and could be mitigated fairly easily. As the SHI proposals all involve a degree of phasing, with minimal initial income-based subsidies, it is unlikely that the scale of any difference would be significant.

2. ***Cash-flow difficulties could arise from timing delays between revenue and obligations to allocate subsidies:***

Risk: Revenue could fluctuate during a financial year taken in from the earmarked tax. If a payroll tax is used, a degree of volatility is expected. This could cause problems from a cash-flow perspective, as the obligation would remain constant.

Discussion: This issue relates far more to how government finances are organized than to any systemic problem. The revenue to SHI is easily smoothed by making the transfer a budget item of central government. The revenue would be set against the budget item with any fluctuations in intake relatively small compared to the total revenue of Government.

3. ***Medical costs rise, altering the underlying value of PMBs:***

Risk: If the value of the subsidy were to be fixed to the actual market-value of PMBs over time, excessive medical inflation would cause an increase in Government's financial obligations.

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Discussion: The value of the subsidy paid in respect of beneficiaries, although benchmarked against PMBs is not set as equivalent to PMBs. If costs rise because of poor management by schemes, this risk is carried by schemes and not Government.

De-linking the subsidy from the prices set in the market in this way creates pressure on schemes to converge on the benchmark PMBs. Were this risk to be carried by Government, i.e. if the subsidy was to be set in relation to actual costs experienced over time, schemes would have little incentive to contain costs for PMBs. Here Government would experience an increase in its obligations. In fact, this is currently how the existing Tax Expenditure Subsidies (TES) operate, where the subsidy actually increases in value with increases in costs within medical schemes. The TES mechanism, which indemnifies tax-payers for a portion of their medical expenses through subsidies to employers and individual tax-payers, passes a portion of the risk of medical cost increases directly onto Government.

It should be noted, that the REF component of SHI can equalize benefits at the level of the PMB costs experienced without conflicting with the above. The REF mechanism keeps the risk management incentives firmly placed on schemes. No risk is passed to Government, the SHI or the REF mechanism.

### **8.3.3 Findings**

Three “underwriting” risks could be identified for Government in respect of SHI modalities, relating to funding gaps, cash-flow problems and medical cost increases. All three are mitigated fairly easily through SHI design. The start-up phase of SHI potentially represents the greatest risk of fiscal error. However, this is easily remedied through improved information and adjustments to the value of the subsidy.

As Government does not accept any risk for the actual value of packages offered by schemes, the incentive to manage scheme costs remains firmly with competing schemes. This incentive is further intensified through the REF

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mechanism which equalizes the risk of claiming between schemes for PMBs, but does not subsidise at this level.

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## 9. Distributional impacts of the feasible range of policy scenarios on a standard family structure

### 9.1 Overview

The scenarios described in **section 4** and quantified in **section 6** have a number of distributional impacts on families depending on their income and family structure. This section examines the distributional impacts of scenarios 1-4 for a standard family type by income group. Scenario 5 is not examined because it is regarded as outside of the feasible range of policy alternatives based on the analysis in **section 6**. These distributional impacts reflect in part the central social gains to be obtained for each scenario. More detailed summary results are provided in **annexure F**.

### 9.2 Approach

#### 9.2.1 Family type

The assumptions used to quantify the macro level impacts in **section 6** produced an indication of the total revenue and expenditure required to fund the various scenarios. Required tax payments per income earner and benefit per beneficiary were also determined. To examine the transfers that occur between income groups these results have been applied to a range of income groups with a standard family type: family of four, with two adults and two children. All the results in this section relate to individual families and not the full income group.

#### 9.2.2 Income group categories

The income group categories used for some of the result sets vary slightly from those used in **sections 5** and **6** of this report. **Table 9.1** provides the description and applicable income range used where these occur. These are used, where necessary, to permit greater insights into the various scenario impacts on low-income families, which have been split to show the higher, middle, and lower ends of the income group R1,600 to R3,200. It is assumed that the groups with family incomes of less than R1,600 a month will not be able to afford medical scheme cover in all of the scenarios, and are consequently excluded from further examination here.

It should be noted that the various analyses do not assess the impacts relative to out-of-pocket payments, as no reliable information currently exists by income category. The comparison consequently refers to different impacts based on the cost of providing benefits in medical schemes, equivalent to the packages currently demonstrated to be purchased by these income groups.

**Table 9.1: Income group assumptions and the associated medical scheme contribution (current) per member per month (pmpm) (2005 prices) (Rands)**

Description	Monthly Personal Income (original 2001 census bands)	Current Average Medical Scheme Contribution pmpm* (2005 averages)
No Income	No income	0.00
Below Means Test Income	R1 - R400; R401 - R800; R801 - R1,600	0.00
Bargaining Council Income	Lower part of R1,601 - R3,200	69.35
Below Tax Threshold Income	Middle part of R1,601 - R3,200	899.90
Low Income	Higher part of R1,601 - R3,200	899.90
Average Income	R3,201 - R6,400	1,467.32
Medium Income	R6,401 - R12,800	1,710.69
Medium High Income	R12,801 - R25,600	2,104.68
High Income	R25,601 - R51,200	2,343.45
Very High Income	R51,201 or more	2,963.26

\*Based on packages available in the market. The bargaining council package is for primary care only.

An impact assessment has also been provided showing how low-income families (i.e. the higher part of the income range R1,601 to R3,200, as reflected in **table 9.1**) with differing family types benefit in **section 9.7**.

**Table 9.2** provides the family type definitions and assumptions for results referring to specific income ranges rather than a description (as in **table 9.1**). These refer to specific family type falling within the range.

**Table 9.2: Family assumptions used in this section (2005 prices)**

Family details	Monthly income range					
	R 1,601 - R 3,200	R 3,201 - R 6,400	R 6,401 - R 12,800	R 12,801 - R 25,600	R 25,601 - R 51,200	R 51,201 or more
<b>Family profile</b>						
Adults	2					
Children	2					
Total	4					
<b>Income (monthly)</b>						
family	4,224	9,327	19,349	37,089	74,043	242,200
per capita	1,056	2,332	4,837	9,272	18,511	60,550
main breadwinner	3,894	7,231	18,725	35,595	71,189	232,847
spouse	330	2,096	624	1,493	2,853	9,353

### 9.2.3 Definitions

Results have been provided in a standard format for each scenario for comparative purposes. The following are definitions, and explanations, of the data found in the tables and figures shown in this section:

- **Revenue/Cost (see table 9.3):** This refers to the revenue side of medical scheme benefits, including the funding side of any Government subsidy as well as direct contributions to medical schemes.
- **Benefit (see table 9.3):** This, in some measure, reflects what is purchased using the revenue referred to under “revenue/cost”. The true benefit is in fact insurance, which is difficult to reflect in any other way than participation in the risk pool (medical scheme) where all beneficiaries share the average cost of the benefits paid out and the associated delivery costs. The “benefit” includes the subsidy paid by Government in respect of each beneficiary. This is both the TES, in scenario 1, and the various contribution subsidies in scenarios 2 to 4.
- **Health tax (see table 9.3):** The “health tax” provides an indication of the “tax burden” used to fund the Government subsidies in all scenarios and is consistent with the taxes discussed in **section 6.3**. In scenarios 1 and 2 an implicit proportional tax is assumed to reflect the

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tax burden in a manner that allows comparison with scenarios 3 and 4, where funding occurs through an explicit earmarked income tax.

The scenario 1 subsidy (the TES), which refers to the status quo, is implicitly funded via general income taxes which is *progressive* rather than *proportional*. A progressive tax involves increasing percentages of tax as income rises. A proportional tax is a flat percentage irrespective of income. The tables in scenario 1 thus reflect a more conservative view of the tax burden on lower income groups than actually occurs.<sup>8</sup>

It is assumed that the full TES is raised in respect of medical scheme contributions rather than a portion going to out-of-pocket purchases. This assumption affects the *benefit* portion of the equation rather than the revenue/cost side.

- **MS Contr.** (see tables 9.3 and 9.4): This refers to the contribution made directly and explicitly to a medical scheme.
- **Subs.** (see table 9.3): This refers to the Government subsidy paid in respect of each beneficiary. In scenario 1 this subsidy occurs through the tax system as a Tax Expenditure Subsidy (TES). From scenario 2 to 4 this subsidy is assumed to be an *explicit contribution subsidy*.
- **MS Cover** (see table 9.3): This refers to the average value of the coverage available to medical scheme members funded purely from their direct medical scheme contribution. In scenario 1 the total contribution would not be distinct from the subsidy, as the subsidy is provided to members and employers subsidizing members. From scenarios 2 to 4, however, the subsidy is distinct from benefits funded by the scheme.

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<sup>8</sup> The degree to which the current tax system is progressive is presently unclear. Although personal income taxes are typically progressive, the very substantial revenue intake from VAT, which is regressive, raise the possibility that the overall system approximates a proportional tax environment. This particular issue was not examined in this report.

- *Net contr.*: This refers to the net total cost of medical scheme cover for each income group. Here the “health tax” and direct medical scheme contribution are totalled and the Government subsidy deducted.
- *MS Contr. (direct) (see table 9.4)*: This refers to the direct medical scheme contribution, for the family, expressed as a percentage of family income. In each scenario this shows how the out-of-pocket cost for medical scheme cover changes with alternative subsidies.

### 9.3 Scenario 1: Current policy framework

The current medical scheme contribution by income rises with income group as indicated in **figure 5.2** and **table 5.1**. **Figure 9.1** consequently shows how the Rand value of the subsidy tends to rise with income group, peaking in the middle-income group.

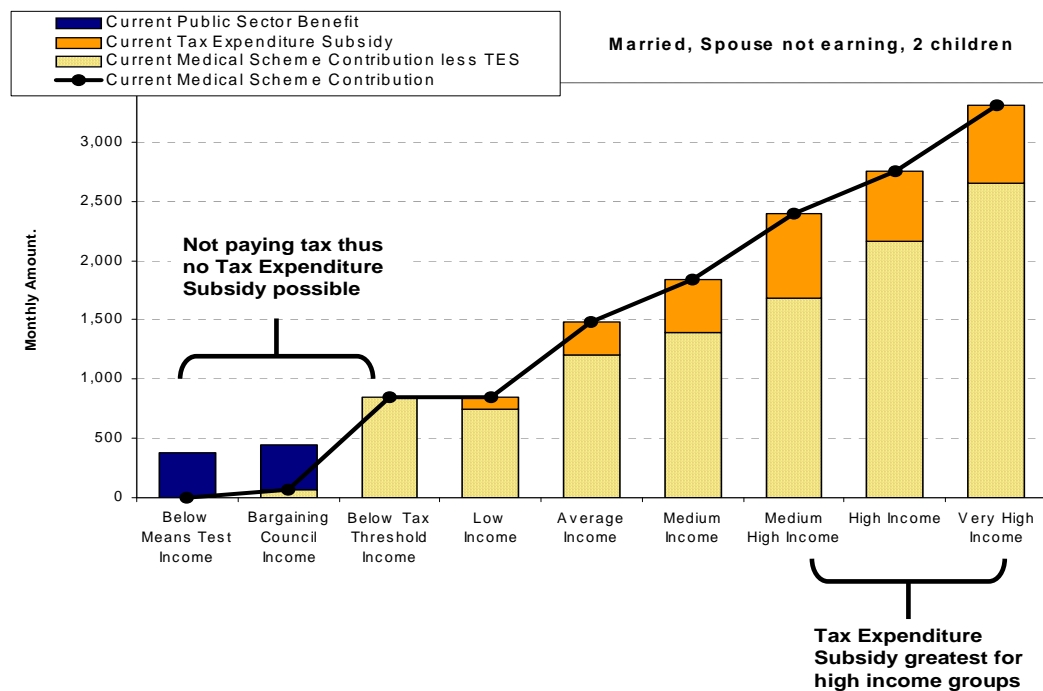
All income groups from “medium-income” and higher receive a per capita subsidy in excess of an equivalent family using the public sector. The group that is below the tax threshold, but excluded from free public services through the means test, receive no subsidy, based on policy-determined entitlements.<sup>9</sup> The “low-income” and “average income” groups both receive a TES subsidy that is below the implicit in-kind subsidy of the same family type below the means test for free access to public sector services, as well as the TES provided to the “medium-income” group and above.

The “high” and “very-high” income groups show a decline in TES relative to the “medium” income group because they are unable to generate out-of-pocket medical expenses, including contribution to a medical scheme, in excess of 5% of their income. They are consequently only able to benefit from the TES provided through the employer. (Also see **figure 2.1**).

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<sup>9</sup> Many people excluded from free access to public sector services nevertheless continue to use them through non-disclosure of their income and assets. Although this group implicitly makes use of a free service, the public sector is not properly planned to serve this group.



**Figure 9.1: Current Subsidy for Healthcare**

**Tables 9.2** and **9.3** summarize the various costs and benefits of scenario 1 (the current situation) for the families outlined in **table 9.2**. Implicitly income groups R1,601 to R6,400 contribute towards the funding of the Government subsidy but receive no subsidy, because their incomes are too low to qualify for a TES.

The two highest income families contribute significantly to the TES but receive significantly less back as a subsidy. This implies a degree of income cross-subsidy from the groups R25,601 and above to the range R6,401 to R25,600.

The highest income group currently pays an implicit health tax for medical scheme cover of R2,896 as well as a direct medical scheme contribution of R2,901. The family with the income R51,201 and above therefore pays R5,797 per capita in taxes and medical scheme contributions, while only receiving a subsidy of R548.

The largest recipient of the income-cross subsidy is the income group R6,401 to R12,800, with the lower income groups receiving nothing.

**Table 9.3** provides the value of the health tax and direct medical scheme contribution as a percentage of income. From a review of the current medical scheme participation by income (see **section 2.1**), when direct contributions to medical schemes exceed 16% of family income, families do not join. This income barrier occurs within the R3,201 to R6,600 range, where direct contributions start to exceed 16%. The family in the income range R1,601 to R3,200 face direct contributions of around 36.1% on a discounted package of services, and are consequently unlikely to join a medical scheme. The highest income group faces direct contributions of only 1.2% of income, with the next income range down at only 3.9% of income.

The value of the health tax, when expressed as a *proportional tax*, works out at 1.2% of personal income (i.e. this is what is experienced by tax payers rather than their families) and between 1.1% and 1.2% of family income. For the income group R51,201 and higher, the proportional tax is virtually the same as the direct medical scheme contribution. Together they would come to 2.4% of this family's income.

Interestingly, the family receiving the largest cross-subsidy, R6,401 to R12,800, and with the lowest net contribution, still pays 13.9% of overall income to participate in a medical scheme. Although, this is within the range of affordability, it is only 2.1% from being unaffordable. If they were not net recipients of the income-cross-subsidy from higher-income groups, this family would probably drop out of cover.

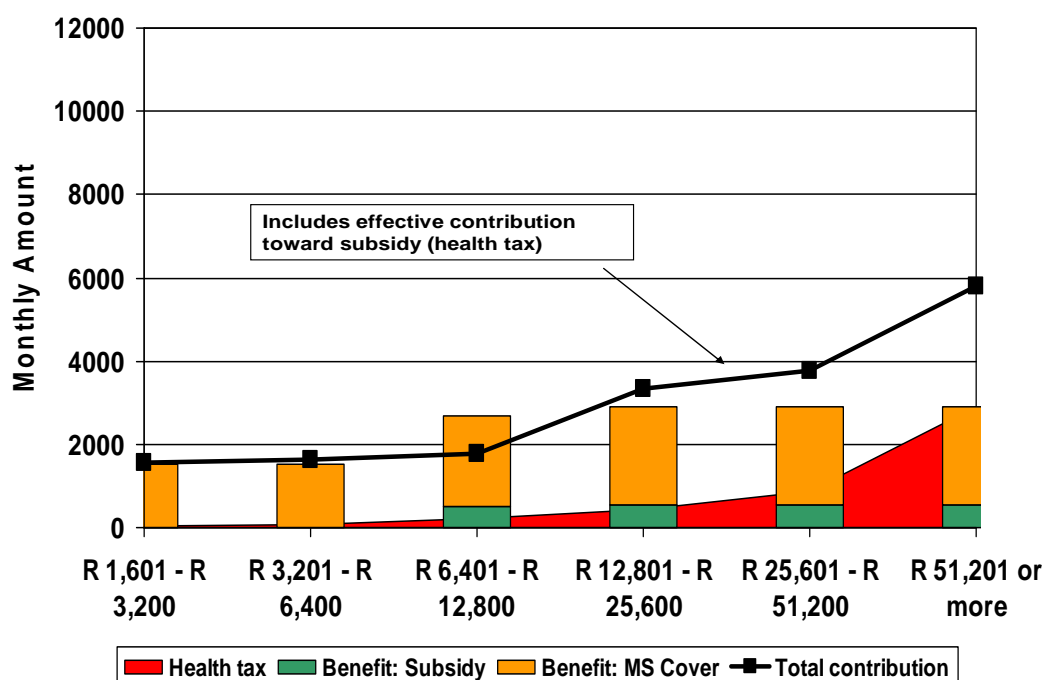
**Table 9.3: Scenario 1: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**

Income range (monthly)	Revenue/cost			Benefit			Net contr.
	Health tax	MS Contr.	Total	Subs.	MS Cover	Total	
R 1,601 - R 3,200	48	1,527	1,575	0	1,527	1,527	1,575
R 3,201 - R 6,400	90	1,527	1,617	0	1,527	1,527	1,617
R 6,401 - R 12,800	233	1,527	1,760	507	2,174	2,681	1,253
R 12,801 - R 25,600	443	2,901	3,343	548	2,352	2,901	2,795
R 25,601 - R 51,200	885	2,901	3,786	548	2,352	2,901	3,238
R 51,201 or more	2,896	2,901	5,797	548	2,352	2,901	5,249

**Table 9.4: Scenario 1: Value of health tax (effective) as a percentage of personal and family income compared to the direct family cost of a medical scheme contribution expressed as a percentage of family income (2005 prices)**

Income range (monthly)	Health tax (% of income)		MS Contr (direct) (% of income)
	Personal	Family	
R 1,601 - R 3,200	1.2%	1.1%	36.1%
R 3,201 - R 6,400	1.2%	1.0%	16.4%
R 6,401 - R 12,800	1.2%	1.2%	13.9%
R 12,801 - R 25,600	1.2%	1.2%	7.8%
R 25,601 - R 51,200	1.2%	1.2%	3.9%
R 51,201 or more	1.2%	1.2%	1.2%

**Figure 9.2: Scenario 1: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**



#### 9.4 Scenario 2: Pillar 1 restructured

Scenario 2 involves two distinct impacts, the first being the contribution subsidy allocated to everyone on a medical scheme, equivalent to the per capita value of the existing subsidies allocated equitably. The value of this subsidy is, however, not equivalent to a comprehensive set of basic benefits (i.e. PMBs) but only part subsidises benefits.

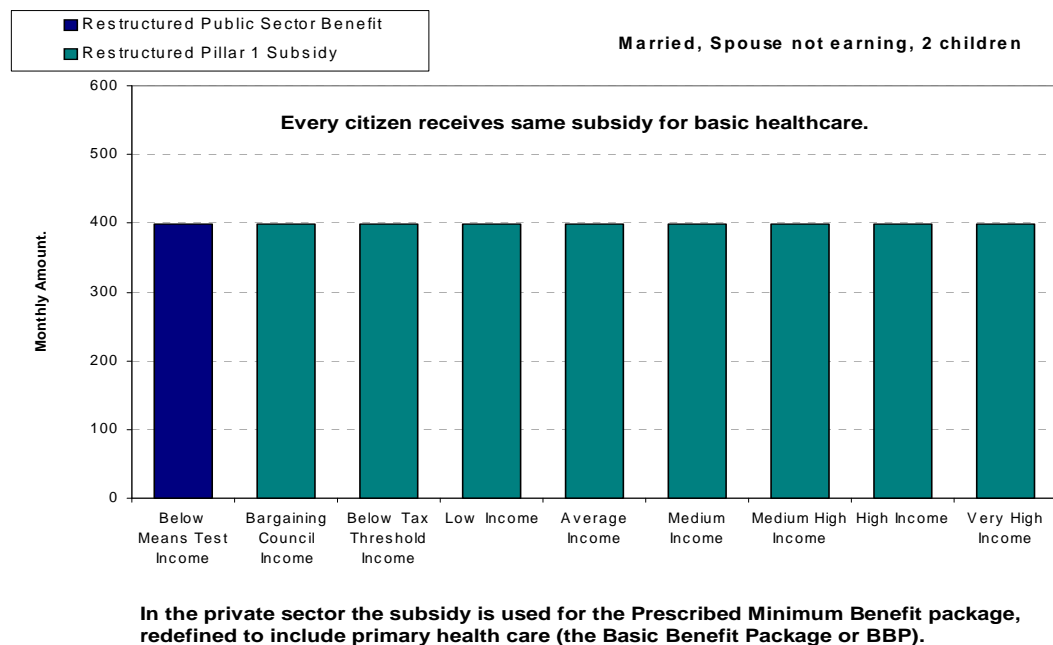
The second is the impact of REF which is equalized at a value of PMBs equivalent to an efficiently costed fee-for service package for these benefits (see **annexure A, table A3**).

**Figure 9.3** shows the impact of the restructured pillar 1 subsidy, which presently has significant gaps for the lower income groups, and was higher for medium and higher income groups. (See also **figure 2.1**).

**Table 9.5** and **figure 9.4** (both of which are based on the income groups outlined in **table 9.1**) shows the impact the restructured subsidy framework has on direct contributions to medical schemes by income group. When REF is excluded, all the lower income groups from “average income” and below, excluding those who are below the means test and not on medical schemes, show decreased contributions, ranging from -10.6% to -613.8%.

All the higher income groups, from “medium income” and above show increases in contribution. The largest increase occurs in the “medium-high” group who are presently the largest beneficiaries of the TES. The “high” income group and above do not lose as much from the removal of the TES due to their inability to claim the TES for individual tax-payers.

**Figure 9.3: Scenario 2: Restructured Pillar 1 Subsidy for Healthcare**



When the REF effect is introduced (see **table 9.5** and **figure 9.4**) some dampening of the income transfer occurs. This is most dramatic for the bargaining council members, where the advantage of the income transfer is totally lost. This was discussed in **section 7** and occurs because these schemes do not offer comprehensive benefits, while the REF equalizes a costed minimum benefit, the PMB.

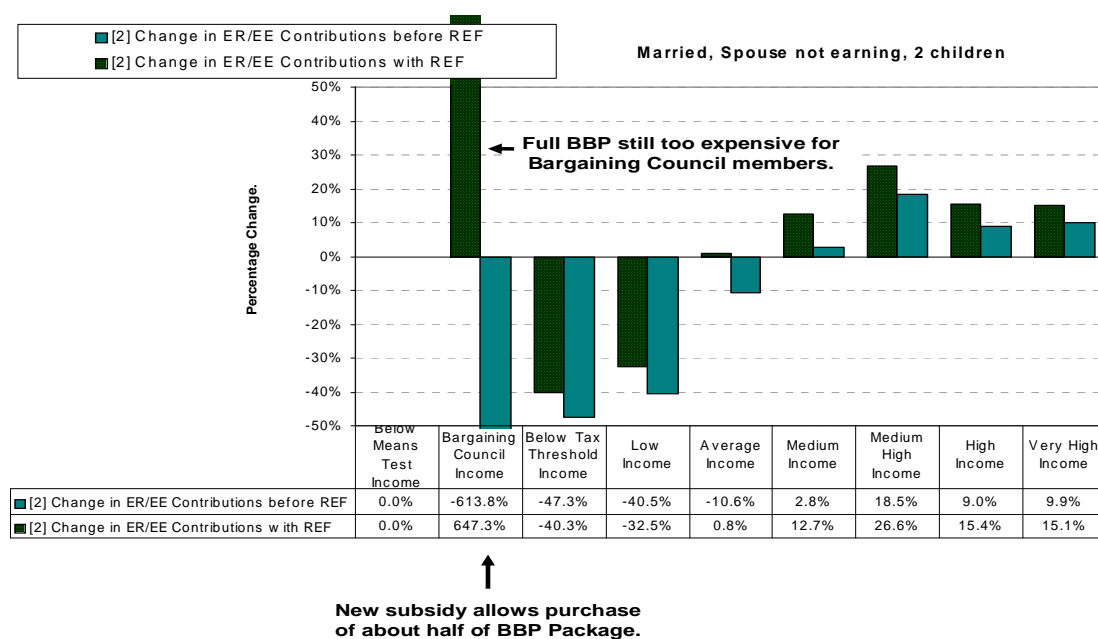
Thus any such scheme (i.e. offering complete benefits) with a demographic and experience profile that would result in a net transfer to the REF would have to make up the cost difference to meet the value of the Industry PMB. It is only the bargaining council scheme income profile that experiences this impact in the analysis. All other lower income groups are still better off.

The logical solution to the above is to remove any scheme from the REF framework unable to provide the PMB package. They would, however, not be excluded from the pillar 1 income transfers. The value of the PMB for a family of four amounts to R798. Only the bargaining council contributions (of R65) are below this value, with all other income groups at R843 and above. The value of the income subsidy per family of four works out at R399, which is just under 50% of the value of a low-income package. (See **table 9.2**).

**Table 9.5: Impact of REF on different income groups for a standard family of 4 (2005 prices)**

Income groups	Change with REF (%)	Change without REF (%)	(Current) Family of 4 contribution (Rands)
Below means test income	0.0%	0.0%	0
Bargaining council schemes	647.3%	-613.8%	65
Below tax threshold	-40.3%	-47.3%	843
Low-income	-32.5%	-40.5%	843
Average income	0.8%	-10.6%	1,479
Medium income	12.7%	2.8%	1,836
Medium-high income	26.6%	18.5%	2,597
High income	15.4%	9.0%	2,757
Very high income	15.1%	9.9%	3,310
<b>Value of PMB (by family of 4)</b>			<b>798</b>
<b>Pillar 1 subsidy (by family of 4)</b>			<b>399</b>

**Figure 9.4: Scenario 2: Restructured Subsidy for Voluntary Healthcare**



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The results in **tables 9.6, 9.7** and **figure 9.5** are based on the family structures and income indicated in **table 9.2**.

In scenario 2 the overall value of the health tax as a percentage of income amounts to 1.2%. When looked at by income, only families with the lowest incomes come in slightly under value of the proportional income tax. This is not significantly different to scenario 1. However, the redistributive effect is stronger, with the lower income families participating in a family subsidy equivalent to R399 per month.

There is a technical downward adjustment, relative to scenario 1, in the medical scheme direct contributions due to a portion of the contribution becoming substituted into the subsidy. In scenario 1 this subsidy was implicit and not experienced as a discount on contributions.

There is a significant downward adjustment in the overall direct medical scheme contributions effecting lower income families. Now all families from R3,201 and above are below the affordability threshold of 16%, with only the family in the income range R1,601 to R3,200 unable/unlikely to take up medical scheme cover, with a direct medical scheme contribution requirement equivalent to 26.7% of family income.

The redistributive effect of scenario 2 is quite strong, with the main recipient income groups in the range R3,201 to R12,800. The redistributive effect would be quite strong for the lowest income family if they were able to take up medical scheme cover. However, this would be unlikely.

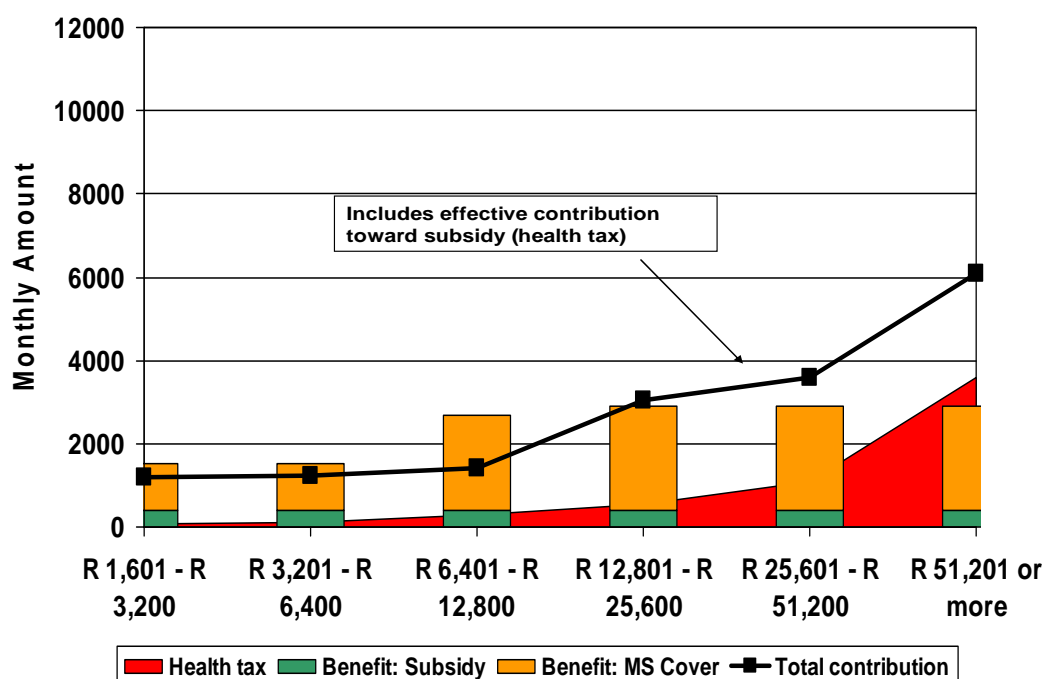
**Table 9.6: Scenario 2: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**

Income range (monthly)	Revenue/cost			Benefit			Net contr.
	Health tax	MS Contr.	Total	Subs.	MS Cover	Total	
R 1,601 - R 3,200	60	1,128	1,188	399	1,128	1,527	790
R 3,201 - R 6,400	112	1,128	1,240	399	1,128	1,527	841
R 6,401 - R 12,800	290	1,128	1,418	399	2,283	2,681	1,019
R 12,801 - R 25,600	551	2,502	3,053	399	2,502	2,901	2,654
R 25,601 - R 51,200	1,102	2,502	3,604	399	2,502	2,901	3,205
R 51,201 or more	3,604	2,502	6,106	399	2,502	2,901	5,708

**Table 9.7: Scenario 2: Value of health tax (effective) as a percentage of personal and family income compared to the direct family cost of a medical scheme contribution expressed as a percentage of family income (2005 prices)**

Income range (monthly)	Health tax (% of income)		MS Contr (direct) (% of income)
	Personal	Family	
R 1,601 - R 3,200	1.2%	1.1%	26.7%
R 3,201 - R 6,400	1.2%	1.0%	12.1%
R 6,401 - R 12,800	1.2%	1.2%	11.8%
R 12,801 - R 25,600	1.2%	1.2%	6.7%
R 25,601 - R 51,200	1.2%	1.2%	3.4%
R 51,201 or more	1.2%	1.2%	1.0%

**Figure 9.5: Scenario 2: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**





### 9.5 Scenario 3: Social Health Insurance – option 1

In scenario 3 there is a pillar 1 and 2 subsidy. The latter raises the value of the income-based subsidies to the value of a basic benefit package (BBP)<sup>10</sup> provided in an own delivery system (ODS). (See **section 5.8** and **annexure A** for definitions and discussion of ODS). This is significantly lower in cost than a BBP costed at fee-for-service, or with an efficiency adjustment caused by the REF mechanism. (See **annexure A** for definitions and discussion on benefit efficiency adjustments).

Whereas the pillar 1 and 2 subsidy cover a BBP for the “low income” group (the “below tax threshold” and lower income groups do not participate in this scenario), for all higher income groups a funding gap occurs for the cost of the BBP they generally purchase. As a consequence, higher income groups will need to pay in (co-pay) to fully fund the BBP. The “low-income” group would not necessarily have to make this additional payment, as they will have the cover delivered under capitated and other risk-sharing arrangements with providers which results in a lower contribution for the member.

**Tables 9.8** and **9.9**, and **figure 9.6** provides the results of the family analysis based on the assumptions in **table 9.2**. Scenario 3 shows the redistributive effect becoming more pronounced, but not impacting on the lowest income family. This is because in this scenario, although they are entitled to the pillar 1 subsidy, they are not entitled to the pillar 2 subsidy, unlike all the other families.

Overall direct medical scheme contributions decline relative to previous scenarios, as the subsidy substitutes for more of the contribution. The health tax now stands at 3.1% of personal income, and around 3% of most family incomes.

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<sup>10</sup> The BBP would become the regulated PMB in this scenario. The distinction between PMB and BBP as discussed in annexure A is to distinguish between the current PMB and a future PMB expanded to accommodate the additional services included in the BBP.

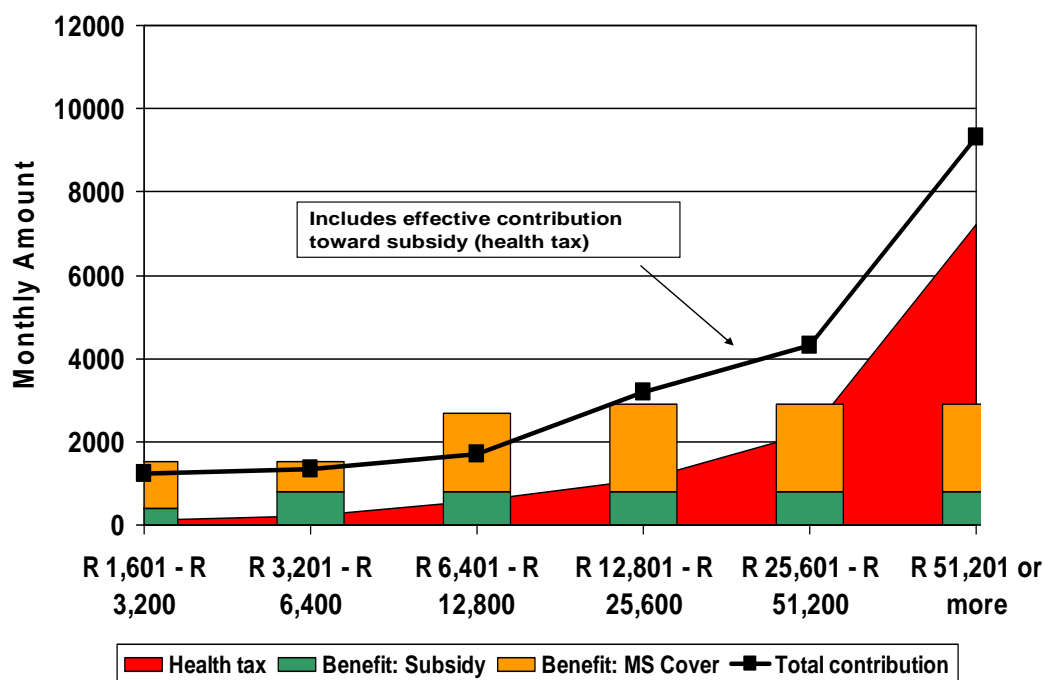
**Table 9.8: Scenario 3: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**

Income range (monthly)	Revenue/cost			Benefit			Net contr.
	Health tax	MS Contr.	Total	Subs.	MS Cover	Total	
R 1,601 - R 3,200	121	1,128	1,249	399	1,128	1,527	850
R 3,201 - R 6,400	224	1,128	1,352	798	729	1,527	554
R 6,401 - R 12,800	580	1,128	1,709	798	1,883	2,681	910
R 12,801 - R 25,600	1,103	2,102	3,206	798	2,102	2,901	2,408
R 25,601 - R 51,200	2,207	2,102	4,309	798	2,102	2,901	3,511
R 51,201 or more	7,218	2,102	9,320	798	2,102	2,901	8,522

**Table 9.9: Scenario 3: Value of health tax (effective) as a percentage of personal and family income compared to the direct family cost of a medical scheme contribution expressed as a percentage of family income (2005 prices)**

Income range (monthly)	Health tax (% of income)		MS Contr (direct) (% of income)
	Personal	Family	
R 1,601 - R 3,200	3.1%	2.8%	26.7%
R 3,201 - R 6,400	3.1%	2.4%	7.8%
R 6,401 - R 12,800	3.1%	3.0%	9.7%
R 12,801 - R 25,600	3.1%	2.9%	5.7%
R 25,601 - R 51,200	3.1%	2.9%	2.8%
R 51,201 or more	3.1%	2.9%	0.9%

**Figure 9.6: Scenario 3: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**



## 9.6 Scenario 4: Social Health Insurance – option 2

The picture for **scenario 4** is very similar to **scenario 3** except that the lowest income family can now participate in the pillar 2 subsidy. The increased participation in the subsidy increases the value of the required health tax to 3.7% of personal incomes, and around 3.5% for most family incomes.

The total medical scheme contribution, including both the health tax and direct contribution increased to R11,719 for the highest income family, up from R5,797 in scenario 1, and R9,320 in scenario 3.

The redistributive impact still does not move the lowest income family to a direct medical scheme contribution of less than 16%. However, many other families in this income range will move below this point. All the other families pay direct contributions at a level below 10% of family income. If the health tax is added to the contribution, combined contributions (excluding the lowest income family) range from 13.7% of family income to 4.8%.

For these changes there is an overall improvement in medical scheme participation estimated at 2.8 million.

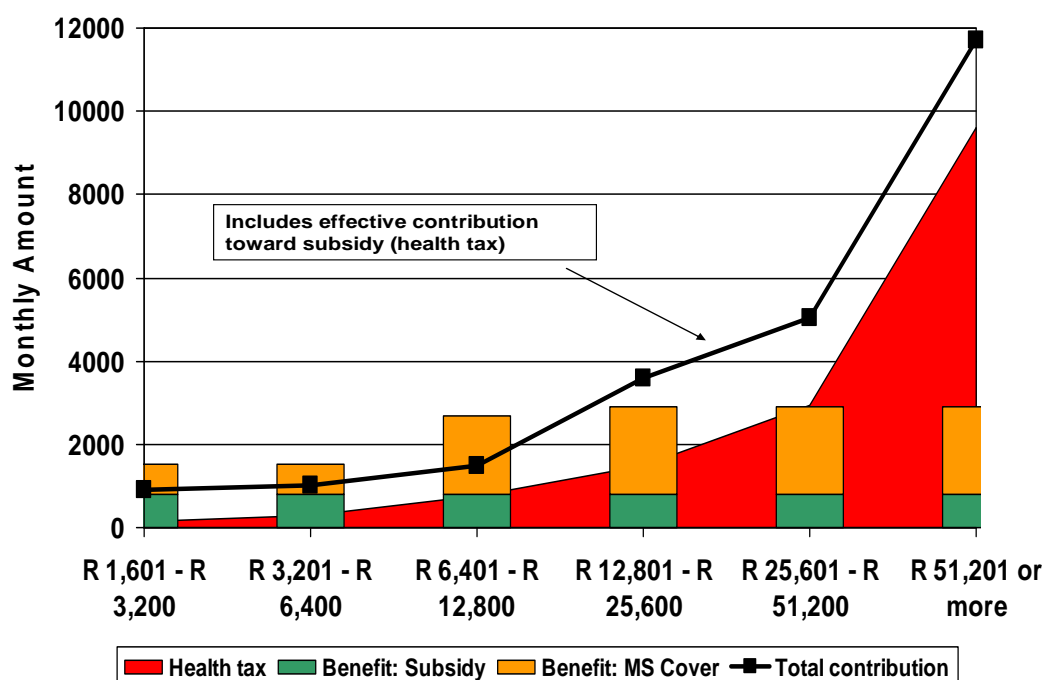
**Table 9.10: Scenario 4: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**

Income range (monthly)	Revenue/cost			Benefit			Net contr.
	Health tax	MS Contr.	Total	Subs.	MS Cover	Total	
R 1,601 - R 3,200	161	729	889	798	729	1,527	91
R 3,201 - R 6,400	299	729	1,027	798	729	1,527	229
R 6,401 - R 12,800	773	1,883	2,656	798	1,883	2,681	1,858
R 12,801 - R 25,600	1,470	2,102	3,573	798	2,102	2,901	2,774
R 25,601 - R 51,200	2,940	2,102	5,043	798	2,102	2,901	4,245
R 51,201 or more	9,617	2,102	11,719	798	2,102	2,901	10,921

**Table 9.11: Scenario 4: Value of health tax (effective) as a percentage of personal and family income compared to the direct family cost of a medical scheme contribution expressed as a percentage of family income (2005 prices)**

Income range (monthly)	Health tax (% of income)		MS Contr (direct) (% of income)
	Personal	Family	
R 1,601 - R 3,200	3.7%	3.4%	17.2%
R 3,201 - R 6,400	3.7%	2.8%	7.8%
R 6,401 - R 12,800	3.7%	3.5%	9.7%
R 12,801 - R 25,600	3.7%	3.5%	5.7%
R 25,601 - R 51,200	3.7%	3.5%	2.8%
R 51,201 or more	3.7%	3.5%	0.9%

**Figure 9.7: Scenario 4: Monthly cost and benefit of medical scheme cover by family type (2005) (Rands)**



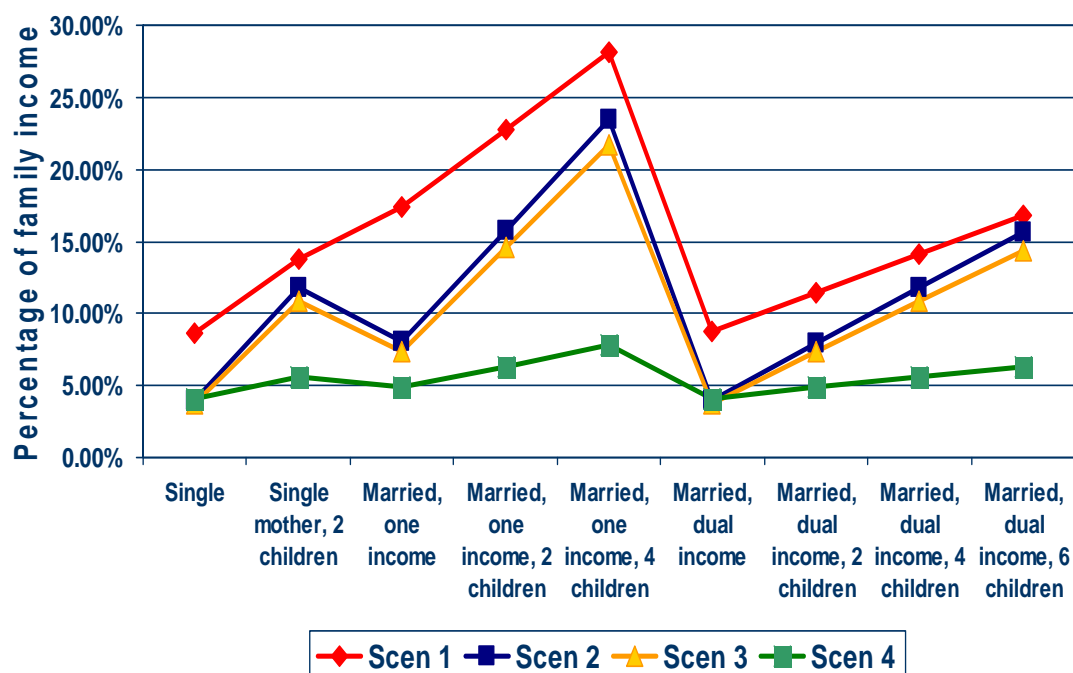
## 9.7 Impact by family type on low-income families

The number of dependants in a family has an important influence on direct medical scheme contribution costs for a family. Medical schemes are permitted to vary contributions by number of dependants. Thus, if an income-based subsidy leaves a funding gap between the subsidy and the residual direct contribution, families with more dependants will face a greater financial burden.

**Figure 9.9** and **table 9.12** show how different scenarios affect “low-income” families with different family sizes. Scenario 2 involves a fairly dramatic improvement from scenario 1, but a fairly limited improvement to scenario 3. Nevertheless, in both scenarios 2 and 3 the shape of the impact remains fairly similar. This is because the pillar 2 subsidy does not extend to the “low income” families in scenario 3. They only receive the pillar 1 subsidy as in scenario 2. It is only with scenario 4, where the pillar 2 subsidy is extended to “low income” families, that a dramatic flattening of the impact by family type occurs. Scenario 4 therefore has a major impact in lessening the direct post-subsidy contribution cost of schemes for low-income groups, irrespective of family size.

Single income low-income families with four children will still pay in excess of 20% of family income to join a scheme even in scenario 3. Single-income families with 2 or less children will contribute between 5% and 15% of family income. Dual income families are generally better off for obvious reasons. Scenario 4 results in direct post-subsidy contributions for a low-income family dropping to below 8% for all family sizes. (See **table 9.12**).

**Figure 9.8: Percentage of family income spent on direct medical scheme contributions for low-income families, by family type**



**Table 9.12: Percentage of family income spent on direct medical scheme contributions for low-income families, by family type**

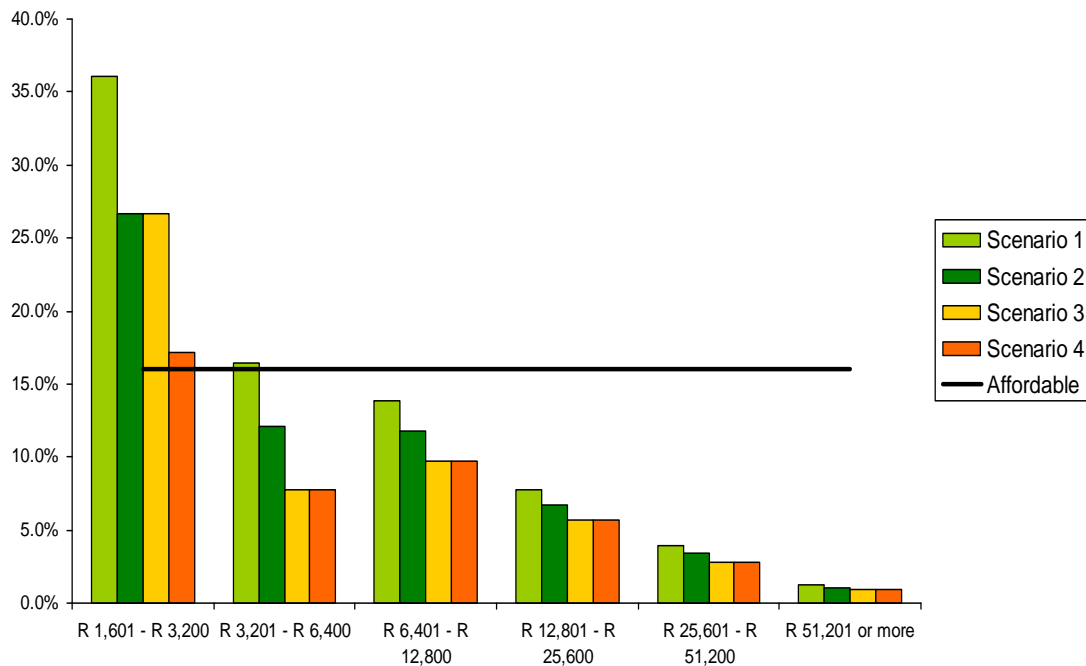
Family type	Scen 1	Scen 2	Scen 3	Scen 4
Single	8.6%	4.0%	3.7%	4.1%
Single mother, 2 children	13.8%	11.8%	10.8%	5.6%
Married, one income	17.4%	8.0%	7.4%	4.9%
Married, one income, 2 children	22.8%	15.8%	14.6%	6.3%
Married, one income, 4 children	28.1%	23.5%	21.7%	7.8%
Married, dual income	8.7%	4.0%	3.7%	4.1%
Married, dual income, 2 children	11.4%	7.9%	7.3%	4.9%
Married, dual income, 4 children	14.1%	11.8%	10.8%	5.6%
Married, dual income, 6 children	16.8%	15.6%	14.4%	6.3%

## 9.8 Affordability

Based on the analysis in this report (**section 2.1**) it appears that a distinct barrier to medical scheme access occurs where required direct contributions exceed 16% of family income. The results show that affordability for a broader range of income groups improves as one moves away from scenario 1. In scenario 4, only the lowest income family remains slightly outside the affordability level. In reality this may be sufficiently close for many people in this income range to join a scheme. (See **figure 9.9**)

Scenario 2 also shows a significant gain over scenario 1, with three of the four family types moving into the affordable range. The lowest income family does not benefit as much from the subsidy in all but scenario 4, where the pillar 2 subsidy kicks in for them. Prior to this, they either get no subsidy, or remain well outside the affordability range.

**Figure 9.9: Direct medical scheme contributions as a percentage of family income (2005)**



## 9.9 Cross-subsidization

**Table 9.13** shows the degree of cross subsidization between income ranges. The values in the table show the value of the per capita TES or contribution subsidy less the payment of the health tax. The results are for the family types indicated to **table 9.2**.

The cross-subsidy to low-income groups becomes more pronounced as one moves from scenario 1 to scenario 4. In scenario 1 there is a distinct cross-subsidy from the highest income group to the middle-income groups. Scenario 2 shows a dramatic shift relative to scenario 1, while keeping the overall value of the subsidy virtually the same. The predominant beneficiary of the cross-subsidy in scenario 2 is the lowest income group. In scenario 3 this shifts to the R3,201 to R6,400, as the pillar 2 subsidy comes in, but does not extend to

the lowest income groups, who only qualify for the pillar 1 subsidy. In scenario 4 this is corrected.

**Table 9.13: Net per capita cross-subsidy between income groups (2005 prices) (Rands)**

Income range (monthly)	Married, dual income, 2 children			
	Scenario 1	Scenario 2	Scenario 3	Scenario 4
R 1,601 - R 3,200	48	(338)	(278)	(637)
R 3,201 - R 6,400	90	(287)	(574)	(499)
R 6,401 - R 12,800	(274)	(109)	(218)	(25)
R 12,801 - R 25,600	(105)	152	305	672
R 25,601 - R 51,200	337	703	1,409	2,142
R 51,201 or more	2,348	3,206	6,420	8,819

### 9.10 Findings

The TES, as reflected in scenario 1, rises with income and is consequently unfair from a distributional perspective. It also cannot be considered an income-based cross-subsidy.

The “high” and “very high” income groups show a decline in TES relative to the “medium” income group as their income are too high to claim the TES for individuals, which allows a tax benefit where out-of-pocket expenses, including medical scheme contributions, exceed 5% of income.

There is a REF effect distinct from income cross-subsidy. For schemes serving very low-income groups, such as bargaining council schemes, a negative income-cross-subsidy results if they are subject to the REF mechanism. This is not sufficiently counter-balanced by the scenario 2 restructuring of the pillar 1 subsidy. However, scenarios 3 and 4 offer the possibility of inclusion in the REF mechanism as the subsidies support a more comprehensive package of benefits. However, even in scenario 4, incomes are still too low for many bargaining council members to access comprehensive medical scheme cover.

If scenario 2 is implemented, the schemes currently exempted from PMBs need to be exempted from the REF. However, they need not be exempted from the restructured pillar 1 subsidy.



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Scenario 2 shows a fairly dramatic overall impact in equity, relative to scenario 1 (the current environment), improving affordability in cover for an additional 1.3 million people relative to scenario 1.

The jump from scenario 2 to 3 is less dramatic, but does increase affordability for an additional 2.2 million people. However, the movement to scenario 4 involves a fairly significant improvement in equity, improving affordability for an additional 2.8 million people.

Affordability of medical scheme cover is highly sensitive to family size in “low income” families. Families with single incomes are obviously also worse off relative to those with dual incomes. Even in scenarios 2 and 3, which involve fairly reasonable income transfers, single-income families with four children will need to pay in excess of 20% of family income to obtain cover.

Scenario 4 dramatically flattens the impact of family size, reducing all post-subsidy contributions, for “low income” families to below 8% of family income. This dramatic shift occurs because the pillar 2 subsidy is extended to “low income” families in scenario 4, but not in scenario 3.

## **10. Central findings**

The central findings of the report are provided here under the specific issues raised by Cabinet in the January Lekgotla of 2005:

### **10.1 Financial and fiscal implications of implementing the SHI, including a Risk Equalisation Fund, and especially risks to the Government relating to possible underwriting of risk**

#### **10.1.1 Financial and fiscal implications**

The financial and fiscal implications of implementing SHI are distinct depending on where along an implementation path SHI is. The analysis in **section 6** of this report evaluates 5 scenarios, from the status quo to full universal coverage. Only scenarios 2-4 are relevant for investigation, as these fall into the feasible range of reform. All the scenarios are fully described in **section 5** of this report.

The REF is implicitly evaluated in scenario 2, as this implies little more than a restructuring of an existing subsidy delivered through the REF. It is assumed that the REF delivers both the risk and income-based cross-subsidies from scenarios 2 to 4.

The total delivery cost for REF on its own, and for the full SHI will be of the order of R15.8 million (2005 prices) per annum (R2.26 per beneficiary per annum) which will be financed by an increase in the existing levies on medical schemes. No change is required for SHI because the technological solution proposed involves a high degree of automation. (It should be noted that this finding is not based on analysis contained in the main body of this report, as it did not specifically form part of the request from Cabinet.)

The scenarios presented for evaluation can be seen as sequential steps in a reform process to full medium-term implementation of SHI, and NHI (scenario 5) as a final long-term option. Each scenario is evaluated in static terms, as if implemented in 2005. In reality this would not occur, as each step would be implemented further down in time, with different employment levels

and GDP. The broad assessment of each scenario is presented below, with quantitative results provided in **table 10.2**.

**Table 10.2** summarises the costs and benefits of each scenario combined with the summary assessment provided in **table 10.1**. The overall assessment is motivated as follows:

1. *Scenario 1:*

- a. Costs: No change.
- b. Benefits: No change.

2. *Scenario 2:*

- a. **Costs; assessment: low**: The cost impact is minimized because most of the reform is focused on improving the distribution of existing subsidies, without altering the overall level of subsidy. This applies to risk and income-based subsidies.
- b. **Benefits; assessment: medium to high**: People currently excluded from reasonable access to medical scheme cover, based on their risk profile and income, would be able to choose to purchase at least a basic level of services.

3. *Scenario 3:*

- a. **Costs; assessment: low to medium**: The increase in cost is minimised because the net increase is based on a “tax” (pillar 2 subsidy) that is confined to contributors to medical schemes and their families. Additional costs result from distributional impacts (high-income groups pay more than low-income groups) and increased participation in medical schemes by a wider range of income groups.
- b. **Benefits; assessment: high**: A significant increase in medical scheme participation occurs with a fundamental improvement in the overall equity of participation. The net change in participation is greater than the net change in required overall subsidies.

4. *Scenario 4:*

- a. **Costs; assessment: medium**: As with scenario 3, the net change in cost is associated with changes in the pillar 2 subsidy. There is an option for Government to permit a net per capita increase in the cost of the pillar 1 subsidy to public sector users, but this can also be confined to an affordable policy option. This is discretionary and not an automatic result of the introduction of the social health insurance framework.
- b. **Benefits; assessment: very high**: There is a significant gain because this would see the incorporation of close to the entire population above the tax threshold (breadwinners and their families) into medical schemes, through which an affordable comprehensive minimum package must be provided. This Scenario also permits the full harmonization of the means test structure to ensure that a clearly defined group of people are catered and budgeted for within the public health system. Medical scheme members may also continue to use public sector services, but on a contractual basis through their medical schemes. Schemes will have the discretion to contract with any service provider able and willing to offer a competitive price.

#### 5. *Scenario 5:*

- a. **Costs; assessment: very high**: The very high costs associated with this scenario arise primarily because the pillar 2 subsidy is made universal, rather than confining it to participants in medical schemes. This scenario involves both financial and institutional reforms which are not feasible in the medium-term.
- b. **Benefits; assessment: very high**: The benefits of this scenario, at least in financial terms, are significant. However, it is not clear that the overall gain over scenario 4 is sufficient to justify the cost of the measure when considered as a medium-term option.

Overall scenarios 2-4 appear financial affordable and capable of implementation in the medium-term. Each subsequent scenario involves what could be regarded as an additional step in a phased process of implementation.

The initial move from scenario 1 to scenario 2 creates the most significant immediate net gain, with subsequent steps important but more incremental.

**Table 10.1: Assessment of cost versus benefit of each scenario**

Scenario	Affordability range assessment				
	Medium-term			Long-term	
	low	medium	high	very high	
Scenario 1: current	cost				
	benefit				
Scenario 2: pillar 1 restructured	cost				
	benefit				
Scenario 3: SHI 1	cost				
	benefit				
Scenario 4: SHI 2	cost				
	benefit				
Scenario 5: NHI	cost				
	benefit				

**Table 10.2: Costs and benefits/affects of each scenario based on the quantitative assessment**

Scenario	Cost	Benefit/Affect
<b>Scenario 1 (current)</b>	<ul style="list-style-type: none"> <li>• Health tax equivalent: 1.2%</li> <li>• Public sector health budget:               <ul style="list-style-type: none"> <li>○ With substitution: R48 billion</li> <li>○ No substitution: R48 billion</li> </ul> </li> <li>• Medical schemes:               <ul style="list-style-type: none"> <li>○ Pillar 1 subsidy: R10.1 billion</li> <li>○ Pillar 2 subsidy: R0</li> </ul> </li> <li>• Reduced disposable income: no change</li> </ul> <p><b>Assessment: no change</b></p>	<ul style="list-style-type: none"> <li>• Unfair distribution of pillar 1 subsidy across <b>6.994 million</b> people on medical schemes</li> <li>• <b>Public sector beneficiaries receive lower pillar 1 subsidy</b> to medical scheme members and higher income groups</li> <li>• Access to medical schemes remains fixed at <b>6.994 million</b></li> <li>• <b>Risk selection retained</b> as a basis for competition on comprehensive minimum set of benefits within all medical schemes</li> <li>• <b>Remaining gap in coverage 8-million</b> (above tax threshold, but unable to join a medical scheme)</li> </ul> <p><b>Assessment: low benefit</b></p>
<b>Scenario 2 (Pillar 1 restructured)</b>	<ul style="list-style-type: none"> <li>• Health tax equivalent: 1.5%</li> <li>• Public sector health budget               <ul style="list-style-type: none"> <li>○ With substitution: R48 billion</li> <li>○ No substitution: R48 billion</li> </ul> </li> <li>• Medical schemes:               <ul style="list-style-type: none"> <li>○ Pillar 1 subsidy: R9.9 billion</li> <li>○ Pillar 2 subsidy: R0</li> </ul> </li> <li>• Reduced disposable income: 0.0% (max)</li> </ul> <p><b>Assessment: low cost</b></p>	<ul style="list-style-type: none"> <li>• Fair distribution of pillar 1 subsidy across <b>8.3-million</b> people on medical schemes</li> <li>• <b>Public sector beneficiaries receive equivalent pillar 1 subsidy</b> to medical scheme members</li> <li>• Additional <b>1.3-million</b> people able to access medical schemes</li> <li>• <b>Risk selection removed</b> as a basis for competition on comprehensive minimum set of benefits within all medical schemes</li> <li>• <b>Remaining gap in coverage 6.7 million</b> (above tax threshold, but unable to join a medical scheme)</li> </ul> <p><b>Assessment: medium-high benefit</b></p>

Scenario	Cost	Benefit/Affect
<b>Scenario 3 (SHI 1)</b>	<ul style="list-style-type: none"> <li>• Health tax: 3.1%</li> <li>• Public sector health budget               <ul style="list-style-type: none"> <li>○ With substitution: R45 billion</li> <li>○ No substitution: R48 billion</li> </ul> </li> <li>• Medical schemes:               <ul style="list-style-type: none"> <li>○ Pillar 1 subsidy: R12.6 billion</li> <li>○ Pillar 2 subsidy: R0</li> </ul> </li> <li>• Reduced disposable income: 1.3%-1.5%</li> </ul> <p><b>Assessment: low-medium cost</b></p>	<ul style="list-style-type: none"> <li>• Fair distribution of pillar 1 subsidy across <b>10.5 million</b> people</li> <li>• <b>Public sector beneficiaries receive equivalent pillar 1 subsidy</b> to medical scheme members</li> <li>• Additional pillar 2 subsidy affecting <b>10.5 million</b> people</li> <li>• Additional <b>2.2 million</b> people able to access medical schemes</li> <li>• <b>Risk selection removed</b> as a basis for competition on comprehensive minimum set of benefits within all medical schemes</li> <li>• <b>Remaining gap in coverage 4.5 million</b> (above tax threshold, but unable to join a medical scheme)</li> </ul> <p><b>Assessment: High benefit</b></p>
<b>Scenario 4 (SHI 2)</b>	<ul style="list-style-type: none"> <li>• Health tax: 4.1%</li> <li>• Public sector health budget               <ul style="list-style-type: none"> <li>○ With substitution: R42 billion</li> <li>○ No substitution: R48 billion</li> </ul> </li> <li>• Medical schemes:               <ul style="list-style-type: none"> <li>○ Pillar 1 subsidy: R15.98 billion</li> <li>○ Pillar 2 subsidy: R16.0 billion</li> </ul> </li> <li>• Reduced disposable income: 1.6%-2.3%</li> </ul> <p><b>Assessment: medium cost</b></p>	<ul style="list-style-type: none"> <li>• Fair distribution of pillar 1 subsidy across <b>13.4 million</b> people</li> <li>• <b>Public sector beneficiaries receive equivalent pillar 1 subsidy</b> to medical scheme members</li> <li>• Additional pillar 2 subsidy affecting <b>13.4 million</b> people</li> <li>• Additional <b>2.8 million</b> people (over-and-above scenario 3) able to access medical schemes</li> <li>• <b>Risk selection removed</b> as a basis for competition on comprehensive minimum set of benefits within all medical schemes</li> <li>• <b>Remaining gap in coverage 1.6 million</b> (above tax threshold, but unable to join a medical scheme)</li> </ul> <p><b>Assessment: very high benefit</b></p>
<b>Scenario 5 (NHI)</b>	<ul style="list-style-type: none"> <li>• Health tax: 14.3%</li> <li>• Total value of universal subsidy: R149</li> </ul>	<ul style="list-style-type: none"> <li>• Fair distribution of pillar 1 and 2 subsidies across the <b>total population</b> people</li> </ul>

Scenario	Cost	Benefit/Affect
	billion <ul style="list-style-type: none"> <li>• Reduced disposable income: 8.6% % (max)</li> </ul> <b>Assessment: high cost</b>	<ul style="list-style-type: none"> <li>• <b><u>Risk selection removed</u></b> as a basis for competition on comprehensive minimum set of benefits</li> <li>• <b><u>Remaining gap in coverage 0 million</u></b></li> </ul> <b>Assessment: very high benefit</b>



### 10.1.2 Underwriting risks: Risk Equalisation Fund

An evaluation of the potential underwriting risks for Government of the REF are presented in **section 8.2** of this report. The overall finding of the assessment is that no underwriting is required from Government in respect of the REF. The REF will not be a risk taking entity, and can easily transfer any residual cash-flow risk (identified as a small possibility in the case of schemes defaulting on net transfers) back onto the medical schemes.

The envisaged REF modality would operate as follows:

1. A beneficiary registry would be maintained centrally, and updated routinely by medical schemes.
2. The REF beneficiary database would be fully populated at least 12 months before any REF financial transfers would occur.
3. REF payments would be based on actual beneficiary information and experience (prevalence of the relevant conditions) and not modelled information.
4. The REF Contribution Table used to determine the Industry Community Rate will be updated constantly based on the updated registry. This eliminates any possibility that differences will occur between payments and beneficiary experience.
5. REF financial transfers will occur at least one month after the end of each quarter (adjustment 1). These will occur in respect of the beneficiary information finalised and locked after specified dates for the preceding quarter.
6. A second, minor, adjustment (adjustment 2) will occur in the subsequent quarter. This will be based on information that could not be

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supplied in time for adjustment 1. After this, no further adjustments will be permitted.

7. Each quarter a net adjustment for each scheme will be quantified in respect of adjustments 1 and 2. The transfers to and from the scheme will then be cleared immediately.
8. No contributions, based on the contribution table will be paid to the REF as this is not necessary for the REF adjustments to be enabled.
9. It is anticipated that a full 12-month dry-run of the REF occur before any financial transfers occur. This will allow for the full testing of the Contribution Table, Scheme Community Rates, and Industry Community Rates well before any financial flows occur. It will also ensure that the net transfer modality can be successfully achieved.

The Ministerial Task Team (MTT) has identified an ongoing small cash-flow risk that could occur if any scheme defaults on a net transfer to the REF. This risk is unlikely to be systematic or involve any of the larger sophisticated schemes. As all schemes now have reserves at 25% of Gross Contribution Income (GCI) this will not occur because a scheme is failing financially, but because of a technical difficulty.

To manage this specific risk it is proposed that the REF hold a small portion of all schemes' statutory reserves, which can be used to ensure no shortfalls occur in the process of clearing net transfers. Any individual scheme defaulting on a net transfer will become a debtor to the REF for this amount. It is proposed that of the 25% of required reserves that schemes must hold, 2% will be held by the REF. If the risk of defaults increase, these reserves could be increased. If any scheme needs to draw on their reserve the funds would be made available immediately by the REF.

Through the above approach the REF solvency can be achieved without any need to increase solvency levels in the market as whole. This option has been discussed with key medical scheme stakeholders who fully support it.

### 10.1.3 Underwriting risks: Social Health Insurance

The underwriting risks resulting from SHI modalities are discussed in **section 8.3** of this report. Three areas of risk could be identified. These are noted below, with an assessment of each.

1. Risk: Where revenue from the earmarked tax does not fully fund the value of benefits promised in respect of medical scheme beneficiaries.

Assessment: Although this possibility could happen in the initial phase of an SHI, the risk would diminish fairly quickly as any revenue gap was identified. An adjustment could be made either to the promise to pay (i.e. the Rand value of the per capita subsidy paid in respect of beneficiaries) or to the value of the earmarked tax. Which approach is adopted would depend on the scale of the funding gap.

This type of problem is not systemic and could be mitigated fairly easily. As the SHI proposals all involve a degree of phasing, with minimal initial income-based subsidies, it is unlikely that the scale of any difference would be significant.

2. Risk: Where cash-flow difficulties arise in respect of the earmarked tax, with timing delays between obligations to pay benefits to schemes and the revenue to fund them.

Assessment: This issue relates far more to how government finances are organized than to any systemic problem. The revenue to SHI is easily smoothed by making the transfer a budget item of central government. The revenue would be set against the budget item with any fluctuations in intake relatively small compared to the total revenue of Government.

3. Risk: Increases in underlying medical costs result in an increase in Government's financial obligation.

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Assessment: The value of the subsidy paid in respect of beneficiaries, although benchmarked against PMBs is not set as equivalent to PMBs. If costs rise because of poor management by schemes, this risk is carried by schemes and not Government.

De-linking the subsidy from the prices set in the market in this way creates pressure on schemes to converge on the benchmark PMBs. Were this risk to be carried by Government, i.e. if the subsidy was to be set in relation to actual costs experienced over time, schemes would have little incentive to contain costs for PMBs. Here Government would experience an increase in its obligations. In fact, this is currently how the existing Tax Expenditure Subsidies (TES) operate, where the subsidy actually increases in value with increases in costs within medical schemes. The TES mechanism, which indemnifies tax-payers for a portion of their medical expenses through subsidies to employers and individual tax-payers, passes a portion of the risk of medical cost increases directly onto Government.

It should be noted, that the REF component of SHI can equalize benefits at the level of the PMB costs experienced without conflicting with the above. The REF mechanism keeps the risk management incentives firmly placed on schemes. No risk is passed to Government, the SHI or the REF mechanism.

Overall the three major risks that could be identified for Government appear to be fairly easily mitigated through the design of SHI. The start-up phase of SHI potentially represents the greatest risk of fiscal error. However, this is easily remedied through improved information and adjustments to the value of the subsidy.

As Government does not accept any risk for the actual value of packages offered by schemes, the incentives to manage scheme costs remains firmly with competing medical schemes. This incentive is further intensified through the REF mechanism which equalises the risk of claiming between schemes for PMBs, but does not subsidise at this level.

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**10.2 An analysis of how a Risk Equalisation Fund would work in practice if the SHI was adopted, including an analysis of the current risk profile of the medical schemes and projections on what such a risk profile would result in with regard to possible contributions by each scheme**

**10.2.1 REF modality with and without SHI**

**Section 7** provides a detailed assessment of the REF modality and its consequences for schemes. The modality required for REF if SHI is implemented is discussed as scenarios 3 and 4, described in **sections 4.4** and **4.5**.

In essence an earmarked income-based health tax would be paid by all income earners eligible for SHI benefits. Based on this projected revenue, and the policy-determined per capita value of the pillar 1 and 2 subsidies, an amount would be budgeted by central government for transfer to the REF/SHI. These funds would be allocated to schemes containing the eligible members on a quarterly basis, at the same time as REF net transfers are to occur. The allocations would be risk-adjusted using the REF information as indicated in **section 7.4**.

It should be noted that the REF mechanism is distinct from, and unaffected by, the introduction of SHI or any contribution subsidy to medical scheme beneficiaries. However, the introduction of SHI, or any related contribution subsidy, would allow the net transfers identified by a REF to be affected through net adjustments to the SHI allocations, rather than as direct net movements of funds between schemes.

As the REF will contain individual beneficiary information in an up-to-date registry, SHI transfers will require that the South African Revenue Services (SARS) review and validate contributors against the REF registry. This validation will determine eligibility to an income-based subsidy. Based on these assessments, the REF will allow income-based subsidies to be paid to

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schemes in options where validated contributors and their dependents are present.

### 10.2.2 Scheme risk profiles

A detailed analysis of scheme risk profiles and the expected changes from REF are provided in **section 7** of this report. Overall the scheme with the best risk profile will experience a R75 pbpm rise in contributions compared to seven schemes that will experience declines in contribution of the order of R150-R300 pbpm. **Figure 7.1** summarizes the result for all schemes. These changes are in themselves a reflection of the risk profile of each medical scheme.

Anticipated net transfers represent 2.4% (R1.2-billion) of existing scheme gross contribution income while affecting 37.2% (i.e. R15.6 billion if REF were introduced in 2005) of all medical scheme claims expenditure. Thus, for a relatively minor system of net financial flows, efficiencies are greatly improved for all essential health spending in the private sector.

If implemented in 2005 open schemes would account for R865-million of all annual net transfers with restricted schemes accounting for R361-million. Bargaining council schemes, if included in the REF would account for R76-million of all annual net transfers.

Schemes that focus on low-income groups, and provide benefits below the value and scope of PMBs face some risk of a negative cross-subsidy toward other schemes. (See **table 9.1** and **figure 9.5**). However this needs more careful consideration. A low cost plan is typically uses capitated primary care and other risk-sharing mechanisms with providers to achieve greater efficiency and hence lower cost for its members. This means the scheme community rate for PMBs is lower than that used in the REF process. These schemes will need to notionally pay the higher amount for PMBs to the REF. If they have the age and disease profile equivalent to the industry, they receive from the REF the same amount as paid in, giving zero net transfer with no need to charge any additional amount to members.

However if the low-cost plan has a younger and healthier risk profile it will have a net transfer to the REF and the scheme will need to fund the net transfer at the higher industry cost of PMBs (not its own lower delivery cost), requiring that contributions be increased to make up the funding shortfall.

The above problem is avoided if the low-cost plan has the industry risk profile, or is a net beneficiary of REF transfers by having an older or less healthy profile. In the latter instance the scheme will receive a net transfer at the industry price for PMBs but can deliver more efficiently, thus enabling them to expand benefits or lower contributions to members.

In the current market many low-cost schemes tend to have young and healthy profiles as they have attempted to design benefits and provider networks to discourage low-income members who are elderly and therefore high-claiming. Bargaining Council schemes also tend to have a younger than average profile because they often do not provide benefits to those who have retired from their industry. These practices of discouraging or not accepting older members will face a very different incentive under the REF where the payment from the REF to a scheme is much higher for an older person and one with a chronic disease.

Approaches to mitigate the phenomenon for truly low income schemes with an unavoidable younger profile (only workers to be covered under the bargaining council agreement, for example) involve the following:

1. Removing low-income schemes, which have all members earning less than the tax threshold, from the REF mechanism; and
2. Simultaneously introducing the REF mechanism with an income cross-subsidy sufficient to enable the purchase of a complete minimum benefit package by low-income groups.

Overall the results do not suggest any evidence of a destabilizing impact of REF on medical schemes. Were the REF not introduced, however, instability in the market will continue to be a concern going forward. Competition based on attracting desirable age and disease profiles is socially undesirable as well as inefficient.

The application of the REF in a voluntary environment does not present any concerns for implementation. The REF Contribution Table is easy to adjust based on reported information provided to the REF.

**10.3 Based on the above, an analysis of what this would mean for the Government in terms of actual numbers as part of information for purposes of reaching a conclusion on paragraph (10.1) above**

All the quantitative information is available within the report upon which to base a finding. Below is a finding, based on the report, on how to approach the implementation of REF and SHI.

The analysis in this report shows that scenario 2, which focuses on the restructuring of the pillar 1 subsidy to medical schemes would achieve significant social gains with almost no fiscal implications. Although this is not SHI, it would represent the first step in this direction. Scenario 2 can be implemented simultaneously with the introduction of REF or even with some delay. The implementation of REF on its own will create the basic platform for the Scenarios 2-4, in the medium-term, and scenario 5 in the long-term. Any technical difficulties with the entire system will occur with the first implementation of the REF, reducing the risks of any subsequent reforms.

A consequence of any delay in the implementation of scenario 2 will involve an excessive and unnecessary continuation in the bottleneck occurring for around 2 million low income people.

Scenario 3 represents the introduction of a pillar 2 subsidy framework for medical scheme members which will permit a greater number of people to access medical scheme cover, offering a comprehensive set of minimum benefits, relative to scenario 1. The introduction of scenario 3 represents a logical next step after the introduction of scenario 2. However, at this point the entire pillar 1 and 2 subsidy should be consolidated into an earmarked health tax. This would allow a logical link to be made between the revenue and benefit side of the SHI framework. Both revenue and benefit would however be explicit policies determined, and at the discretion, of Government.



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Scenario 4, as evaluated should be considered only after the successful implementation of scenario 3. By this stage all the technical mechanisms will be in place and all fiscal risks known. From this point on, incremental changes should be considered as part of an ongoing process to provide an integrated universal system of healthcare.

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## Annexure A: Minimum benefits: an analysis

**Table A1** provides the “price” by age for key components of a comprehensive package of benefits offered within the private sector. These are used to construct the industry aggregate value of benefits shown in **table 5.5** in **section 5.8** of the report. The analysis is based on (Fish T *et al*, 2002, McLeod *et al*, 2002, and McLeod *et al*, 2003).

Table heading definitions:

- ***PMB-DTP***: Prescribed minimum benefit (PMB) disease-treatment pairs (DTP) as defined in the regulations to the Medical Schemes Act.
- ***PMB-CDL***: PMB chronic disease list (CDL) as defined in the regulations to the Medical Schemes Act and the treatment algorithms.
- ***PMB Total***: Combined DTP and CDL components of the PMBs.
- ***All admissions***: All hospital admission costs.
- ***All Chronic***: All chronic disease costs.
- ***All admissions and chronic***: Combined cost of all hospital admissions and all chronic diseases.
- ***Estimate PHC – PMB***: Estimate of the primary care component of all prescribed minimum benefits.
- ***Estimate BBP***: Estimate of the Basic Benefit Package (BBP), which adds primary care costs to the PMB total.
- ***Estimate BBP + SBP***: Estimate of the BBP and supplementary benefit (SBP) costs.
- ***Estimate Including Benefits Above BBP+SBP***: Estimate including benefit costs in excess of BBP and SBP.

**Table A1: Price by age of alternative components of medical scheme packages (2005 prices)**

Age	PMB-DTP	PMB-CDL	PMB-Total	All Admissions	All Chronic	All Admissions and Chronic	Estimate PMB-PHC	Estimate BBP	Estimate BBP+SBP	Estimate Incl. Benefits Above BBP+SBP
<b>0</b>	477.20	7.58	484.78	558.37	15.16	573.53	60.26	545.04	633.79	1,013.39
<b>1-4</b>	53.74	12.97	66.71	105.15	25.94	131.09	107.90	174.61	238.99	382.13
<b>5-9</b>	23.61	10.61	34.22	44.29	21.23	65.52	109.92	144.14	175.44	280.52
<b>10-14</b>	21.97	8.16	30.13	36.25	16.32	52.57	110.59	140.72	163.16	260.88
<b>15-19</b>	36.52	7.14	43.66	58.22	14.29	72.51	109.49	153.15	182.00	291.01
<b>20-24</b>	84.85	10.07	94.92	121.95	20.14	142.09	105.92	200.84	248.01	396.55
<b>25-29</b>	150.65	20.54	171.19	201.07	41.08	242.15	96.78	267.97	338.93	541.93
<b>30-34</b>	145.60	32.29	177.89	197.36	64.58	261.94	95.87	273.76	357.81	572.11
<b>35-39</b>	127.15	44.04	171.19	185.44	88.07	273.51	95.40	266.59	368.91	589.86
<b>39-44</b>	121.43	59.17	180.60	182.60	118.33	300.93	91.44	272.04	392.37	627.37
<b>45-49</b>	142.48	78.62	221.10	213.15	157.24	370.39	84.59	305.69	454.98	727.48
<b>50-54</b>	187.19	105.58	292.77	270.22	211.16	481.38	72.99	365.76	554.37	886.40
<b>55-59</b>	239.41	131.87	371.28	341.92	263.74	605.66	62.01	433.29	667.67	1,067.56
<b>60-64</b>	362.34	164.40	526.74	506.22	328.80	835.02	46.82	573.56	881.84	1,410.00
<b>65-69</b>	470.94	205.24	676.18	634.32	410.48	1,044.80	30.03	706.21	1,074.83	1,718.58
<b>70-74</b>	585.44	226.85	812.29	775.05	453.69	1,228.74	20.48	832.77	1,249.22	1,997.42
<b>75-79</b>	639.14	239.10	878.24	824.99	478.19	1,303.18	12.82	891.06	1,316.00	2,104.19
<b>80-84</b>	652.48	229.65	882.13	810.68	459.29	1,269.97	9.90	892.03	1,279.87	2,046.43
<b>85+</b>	585.38	197.05	782.43	720.86	394.09	1,114.95	34.79	817.22	1,149.74	1,838.36

## **Methodology for Determining Medical Scheme Packages:**

**PMB Package:** the latest available pricing is the REF Contribution Table [Base 2002, Use 2005]<sup>11</sup>. This is based on data from industry stakeholders that covers a little over half the beneficiaries in the industry. The price is set in order to cover the Prescribed Minimum Benefits (PMBs) for the entire medical scheme industry population that is expected for the next year (the target population). The methodology was determined and approved by a working group including DoH, CMS and key stakeholders. Prices are separately estimated for the PMB-DTP (some 270 diagnosis-treatment pairs, covering hospital and related costs) and the PMB-CDL (25 chronic conditions that must be covered for diagnosis, management and medication). The price includes the expected costs of treating HIV/AIDS (including anti-retroviral treatment according to the National Guidelines), using the most recent treatment costs and the estimated extent of the epidemic amongst medical scheme members in 2005. The price is calculated separately for the standard industry age bands: under 1, 1-4, 5-9, 10-14, .... 80-84 and 85+. The pricing applies to calendar year 2005 and was reviewed and approved by the Council for Medical Schemes.

**BBP Package:** the BBP package recommended by the International Review Panel<sup>12</sup> has not been fully defined but is expected to include the existing PMBs together with a comprehensive primary care (PHC) package. There is a reasonable market in capitated primary care products. The largest provider of these products provided a costing which includes basic dentistry and

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<sup>11</sup> RETAP (2005) *Methodology for the Determination of the Risk Equalisation Fund Contribution Table [Base 2002, Use 2005]*. Recommendations by the Risk Equalisation Technical Advisory Panel to the Council for Medical Schemes. Recommendations Report No. 1 of 2005. 10 February 2005. Available on <http://www.medicalschemes.com>

<sup>12</sup> Armstrong J., Deeble J., Dror D.M., Rice N., Thiede M., Van de Ven W.P.M.M. (2004) *The International Review Panel Report to the South African Risk Equalisation Fund Task Group*. 16 February 2004. Available on <http://homeoffice.medicalschemes.com/ref/>

optometry (on a two year benefit limit cycle), together with unlimited GP visits and including medication for acute conditions and all PMB chronic conditions. The PMB-DTP price and PMB-CDL prices above already include some primary care. These were priced in the PMB costing using 2001 data commissioned by the Council for Medical Schemes. The PHC parts of these two prices on an age-related basis were escalated by CPIX from 2001 to 2005. These were then removed from the industry quoted price for PHC, to obtain the additional PMB-PHC package that is most likely to be incorporated in a BBP Package.

**BBP + SBP Package:** the International Review Panel<sup>13</sup> recommended the development of a limited number of standardized supplementary benefit packages (SBP). This model uses a single SBP package to represent the typical comprehensive offering by medical schemes. The price is derived from the work on the PMB costing in 2001 which was subsequently used to develop a capitation model for the Western Cape public hospital system. The relationship between PMB events and all hospital events is taken from observed industry data and allows an estimate of the All Admissions price for hospital and related costs. The relationship between the PMB-CDL price and all chronic medication and treatment is more difficult to determine. The CDL list covers 70% of chronic beneficiaries but about half of the total chronic medicine cost. A conservative estimate is used where the shape by age remains the same and the price is taken as a doubling of the PMB-CDL price. The BBP+SBP package is the total of PMB-DTP, PMB-CDL, additional amount for All Admissions, additional amount for all chronic conditions and the PMB-PHC determined for the BBP package.

**Above BBP+SBP Package:** medical schemes are able to provide a more rich combination of benefits over and above the BBP+SBP. This may include private ward cover and a greater degree of freedom to choose practitioners and specialists. This high-end package is typically only used by the highest income groups. The amount is set to ensure that the total contributions received in the

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<sup>13</sup> *The International Review Panel Report to the South African Risk Equalisation Fund Task Group.*



year meet the total in the industry and is benchmarked against the costs of high-end packages available in the market.

### **Methodology for Determining Prices at Different Levels of Efficiency:**

The managed care reimbursement level and the degree of risk-sharing between the medical scheme and healthcare providers has a substantial impact on price. The table below uses data from the USA to illustrate the effect of different levels of managed care efficiency on provider behaviour.

**Table A2: Different levels of managed care efficiency on provider behavior from data supplied from the United States**

<b>Population</b>	<b>Efficiency level</b>	<b>Admissions per 1,000</b>	<b>Average length of stay</b>	<b>Bed days per 1,000</b>	<b>Relative to loosely managed</b>
<b>Commercial (i.e. under age 65)</b>	<b>Loosely managed</b>	77.2	3.98	307.4	
	<b>Moderately managed</b>	62.8	3.49	219.0	71%
	<b>Well managed</b>	48.3	2.70	130.5	42%
<b>Medicare (i.e. over age 65)</b>	<b>Loosely managed</b>	292.6	6.67	1,952.6	
	<b>Moderately managed</b>	220.8	5.87	1,296.7	66%
	<b>Well managed</b>	149.0	4.30	640.7	33%

Source: Rob Parke, Milliman USA

The PMB package in the REF Contribution Table is set as “the reasonably efficient achievable price” as agreed by stakeholders. In practice, this is similar to a moderately managed package and requires a reduction of 20% from the fee-for-service price for hospital, medicine and related costs. This reduction is applied to both PMB-DTP and PMB-CDL prices. This price requires some risk-sharing with healthcare providers and is known as the REF Efficiency price. The Fee-for-Service price does not include the adjustment for efficiency.

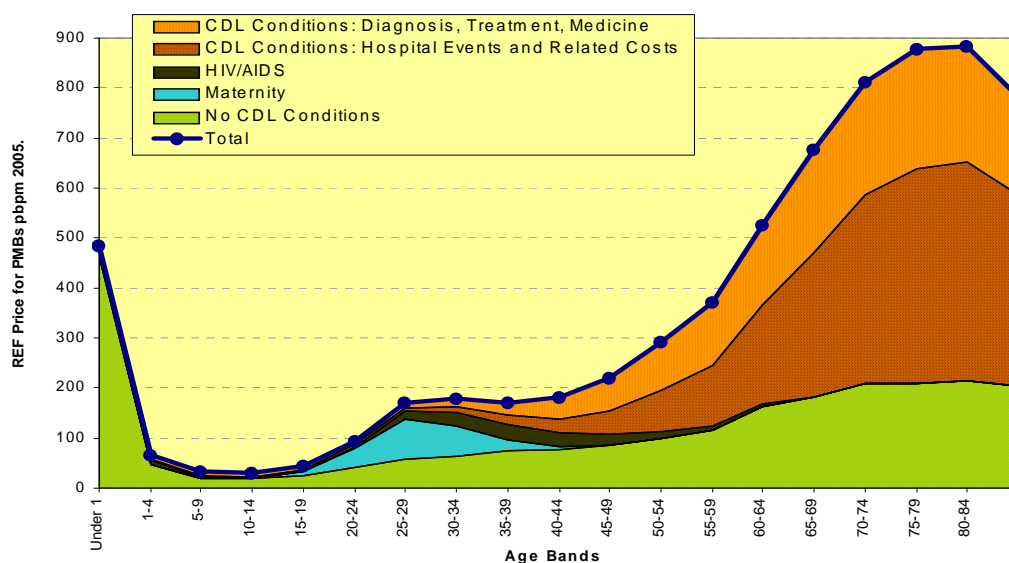
The Own Delivery system price is the price expected if the medical scheme has its own clinics and hospitals. This is only found in isolated circumstances in South Africa at present. It involves a further 30% reduction off the original fee-for-service price.

In the case of the PMB-PHC estimate, this is already a price based on capitated managed care with a substantial degree of efficiency and so the relevant fee-for-service price is estimated as an increase from this level of 40%. The Own Delivery price for PMB-PHC involves only a 10% reduction from the already efficient capitated price. These reductions in price according to efficiency level were benchmarked against United States funders and managed care organisations operating at different levels of risk-sharing.

### Methodology for Determining the Price for Different Target Populations:

Healthcare prices have a strong relationship with age, as shown using the REF Contribution Table 2005 in **figure A1**.

**Figure A1: Age profile of the cost of the components of a medical scheme package (2005 prices)**



The industry community rate (the average price of healthcare) is determined for the target industry population using tables of price by age.

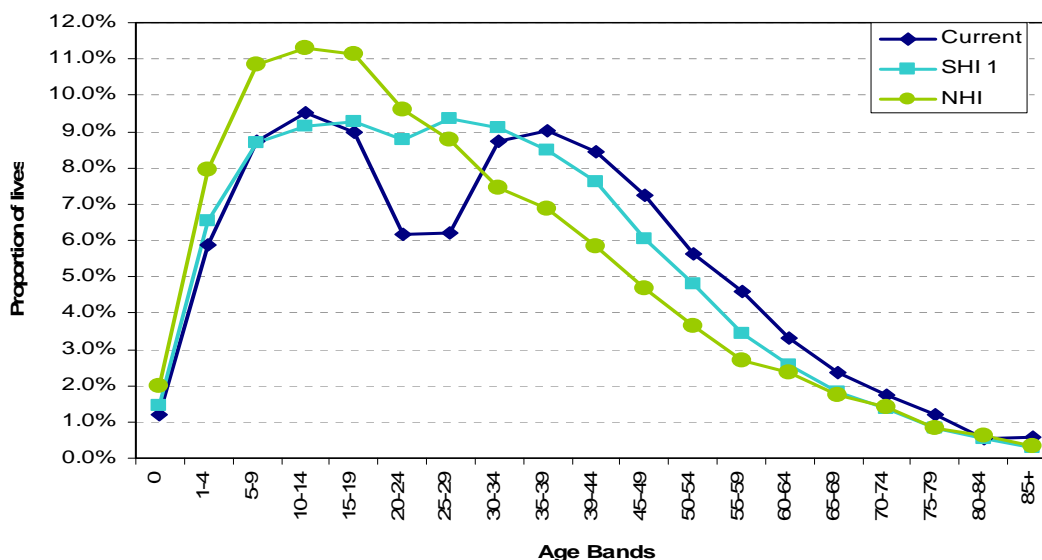
Estimates of the industry community rate have been prepared for six different scenarios:

1. **Current scenario:** uses the medical scheme industry age shape most recently reported to the Registrar of Medical Schemes.
2. **Current – no anti-selection scenario:** uses data on personal and household income by age from Census 2001 to predict the ages of the beneficiaries that should be covered under medical schemes at their

current affordability. Note that it differs from the currently reported age profile in the industry as there are more children and more young working adults. The current voluntary environment results in the young and healthy choosing to stay out of the system.

3. **Pillar 1 Restructured scenario:** uses the same shape and numbers as SHI 1 scenario.
4. **SHI 1 scenario:** uses data on personal and household income by age from Census 2001 to predict the ages of the beneficiaries covered under a compulsory contribution that begins at the tax threshold.
5. **SHI 2 scenario:** uses data on personal and household income by age from Census 2001 to predict the ages of the beneficiaries covered under a compulsory contribution that begins at R2,000 in 2005 Rand terms.
6. **NHI scenario:** uses data on personal and household income by age from Census 2001 and includes all people in the country.

**Figure A2:** Age profile of the medical schemes market as at present, with the introduction of Social Health Insurance (i.e. scenario 3 or SHI 1), and National Health Insurance



**Figure A2** shows the standardized age profiles for three scenarios. The lines in respect of the no anti-selection scenario and SHI 2 are very similar to the SHI 1 standardized profile. Note how the age profile becomes younger as more people are incorporated in medical schemes. This has a marked impact on the industry community rate, as shown in **table A3**.

**Table A3: Price of the various components of a medical scheme package by scenario (2005 prices)**

Price used by REF and required by Medical Schemes at different levels of efficiency and different target populations		Prescribed Minimum Benefits PMBs	Basic Benefits Package BBP	BBP+SBP (Supplementary)	Include Benefits Above BBP+SBP
Efficiency in REF	Current Price pbpa	2,386	3,469	4,833	7,728
	Current, no anti-selection	2,253	3,357	4,621	7,389
	Pillar 1 restructured	2,175	3,288	4,514	7,217
	SHI 1	2,175	3,288	4,514	7,217
	SHI 2	2,131	3,250	4,449	7,113
	NHI	2,024	3,158	4,285	6,851
Fee-for-Service	Current Price pbpa	2,982	4,788	6,493	9,660
	Current, no anti-selection	2,816	4,656	6,237	9,237
	Pillar 1 restructured	2,718	4,574	6,106	9,022
	SHI 1	2,718	4,574	6,106	9,022
	SHI 2	2,664	4,530	6,027	8,891
	NHI	2,530	4,420	5,828	8,564
Own Delivery System	Current Price pbpa	1,491	2,394	3,247	4,830
	Current, no anti-selection	1,408	2,328	3,118	4,618
	Pillar 1 restructured	1,359	2,287	3,053	4,511
	SHI 1	1,359	2,287	3,053	4,511
	SHI 2	1,332	2,265	3,014	4,446
	NHI	1,265	2,210	2,914	4,282

## Annexure B: Household income

**Table B1: Calculation of current income by household income band for 2005**

Monthly household income bands*				Average monthly income within bands			Population (based on 2001 census adjusted for population growth)			Current income	
2001 (Rands)*		2001 adjusted to 2005 prices (Rands)**		2005 prices	Adj. to fit CHI 2005***	Revised	Income earners*	Dependants	Total	R' million (2005 prices)	
no income		no income		0	0	0	0	10,229,529	10,229,529	0	
1	400	1	510	256	61	195	1,066,462	2,477,201	3,543,663	2,496	
401	800	511	1,020	766	182	584	2,557,505	5,972,135	8,529,640	17,927	
801	1,600	1,022	2,041	1,531	363	1,168	3,152,727	5,132,681	8,285,409	44,180	
1,601	3,200	2,042	4,081	3,061	726	2,335	2,948,834	4,083,160	7,031,994	82,628	
3,201	6,400	4,082	8,162	6,122	1,453	4,670	2,192,194	2,468,138	4,660,332	122,841	
6,401	12,800	8,164	16,325	12,244	2,905	9,339	1,698,111	1,456,246	3,154,357	190,300	
12,801	25,801	16,326	32,906	24,616	5,841	18,775	1,083,814	735,504	1,819,319	244,181	
25,601	51,601	32,650	65,810	49,230	11,681	37,549	402,991	255,206	658,196	181,581	
51,201	+	65,300	150,000	107,650	25,543	82,106	211,021	182,128	393,149	207,914	
<b>Adjustment to actual =</b>					<b>23.7%</b>	<b>Total</b>	<b>15,313,659</b>	<b>22,762,400</b>	<b>38,076,059</b>	<b>1,094,049</b>	
				<b>Population above specified income bands</b>			<b>Total 801+</b>	<b>11,689,692</b>	<b>14,313,063</b>	<b>26,002,755</b>	<b>1,073,626</b>
							<b>Total R1,601+</b>	<b>8,536,965</b>	<b>9,180,382</b>	<b>17,717,347</b>	<b>1,029,446</b>
							<b>Total R3,201+</b>	<b>5,588,131</b>	<b>5,097,222</b>	<b>10,685,352</b>	<b>946,818</b>
							<b>Total R6,401+</b>	<b>3,395,937</b>	<b>2,629,083</b>	<b>6,025,020</b>	<b>823,977</b>

\*Stats South Africa, 2001 Census.

\*\*2001 income bands inflation adjusted to 2005 using the CPIX.

\*\*\*The average was adjusted to fit the estimated Current Household Income (CHI) for 2005.

**Table B2: Employed population according to the General Household Survey 2003 and the Labour Force Survey (March and September 2004)**

Sector	LFS		GHS
	Sep-04	Mar-05	Jul-03
	thousand		
<b>Total employed</b>	<b>11,643</b>	<b>11,392</b>	<b>11,247</b>
Formal sector (excluding agriculture)	7,692	7,483	
Agriculture	1,063	1,258	
Informal sector (excluding agriculture)	1,946	1,766	
Domestic services	881	847	
Unspecified	61	38	

## Annexure C: REF Grid

Table C1 provides the codes and definitions used in the tables C2, C3, C4 and D1.

**Table C1: Code and definitions for REF tables**

<b>Diseases/Conditions</b>	
<b>Code</b>	<b>Explanation</b>
NON	No CDL disease
ADS	Addison's Disease
AST	Asthma
BCE	Bronchiectasis
BMD	Bipolar Mood Disorder
CHF	Cardiac failure
CMY	Cardiomyopathy
COP	Chronic Obs. Pulmonary Disease
CRF	Chronic Renal Disease
CSD	Crohn's Disease
DBI	Diabetes Insipidus
DM1	Diabetes Mellitus 1
DM2	Diabetes Mellitus 2
DYS	Dysrhythmias
EPL	Epilepsy
GLC	Glaucoma
HAE	Haemophilia
HYL	Hyperlipidaemia
HYP	Hypertension
IBD	Ulcerative Colitis
IHD	Coronary Artery Disease
MSS	Multiple Sclerosis
PAR	Parkinson's Disease
RHA	Rheumatoid Arthritis
SCZ	Schizophrenia
SLE	Systemic LE
TDH	Hypothyroidism
HIV	HIV/AIDS
MAT	Caesarean / NVD in period
CC2	Two simultaneous conditions
CC3	Three simultaneous conditions
CC4	Four or more simultaneous conditions







**Table C4: REF Grid Counts implicit in REF Contribution Table 2005**

Assumed REF Grid Count in REF Contribution Table 2005		Industry Assumptions																		
Total number of beneficiary months in the cell for the period, per 1,000 exposed beneficiaries in the scheme		Base Period	HIV/AIDS 2005, other diseases 2002																	
Explanation: This REF Grid Count used in the calculation of the REF Contribution Table is not prevalence of the disease. It is arrived at by taking the most expensive disease in any multiple disease combination. It can NOT be compared directly to prevalences in published medical literature.																				
Occurrence per 1,000 Beneficiaries in each age band in the Scheme																				
Age Bands	No CDL Diseases NON	Chronic Disease List (CDL) Conditions																		
		ADS	AST	BCE	BMD	CHF	CMY	COP	CRF	CSD	DBI	DM1	DM2	DYS	EPL	GLC				
Column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
Under 1	985.0	0.0	8.7	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.7	0.0				
1-4	969.1	0.0	22.4	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	2.1	0.0				
5-9	969.8	0.0	25.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	2.8	0.0				
10-14	976.3	0.0	18.6	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.1	3.5	0.0				
15-19	980.9	0.0	11.5	0.0	0.3	0.0	0.0	0.0	0.0	0.1	0.0	1.1	0.1	0.0	3.9	0.1				
20-24	977.1	0.0	8.7	0.0	0.9	0.1	0.0	0.0	0.1	0.2	0.0	1.6	0.3	0.2	3.9	0.1				
25-29	958.7	0.0	9.8	0.0	1.3	0.1	0.1	0.1	0.1	0.3	0.1	1.7	0.7	0.2	3.3	0.1				
30-34	935.3	0.0	11.1	0.0	1.2	0.2	0.1	0.1	0.2	0.3	0.1	2.2	1.7	0.3	3.4	0.2				
35-39	903.8	0.0	12.4	0.0	1.3	0.5	0.3	0.3	0.3	0.3	0.1	3.2	3.8	0.5	3.5	0.3				
40-44	858.9	0.0	13.6	0.0	1.3	1.0	0.3	0.6	0.3	0.3	0.2	5.1	6.5	1.0	4.0	0.5				
45-49	800.5	0.1	15.5	0.0	1.2	2.1	0.5	1.3	0.4	0.4	0.1	6.8	8.5	1.9	4.6	0.9				
50-54	732.7	0.0	17.3	0.0	1.4	3.4	0.7	3.1	0.7	0.4	0.2	9.2	8.8	3.2	5.0	1.6				
55-59	671.3	0.1	19.4	0.1	1.5	6.0	1.0	5.6	0.6	0.5	0.2	10.4	8.1	4.8	5.3	2.5				
60-64	605.9	0.1	21.9	0.0	1.5	9.8	1.6	9.2	1.1	0.6	0.3	11.4	8.2	7.9	5.9	3.4				
65-69	532.4	0.1	24.9	0.1	1.9	16.9	1.8	15.4	1.6	0.5	0.2	12.2	7.8	13.5	7.6	4.6				
70-74	487.6	0.2	22.2	0.1	1.6	26.4	2.3	20.3	1.7	0.5	0.3	10.4	6.6	18.4	7.9	6.0				
75-79	463.6	0.1	21.3	0.1	1.0	40.9	2.5	23.9	2.0	0.6	0.0	8.4	6.5	25.5	8.5	8.0				
80-84	468.8	0.1	17.3	0.1	1.5	56.5	4.2	21.3	0.9	0.4	0.0	6.3	6.0	27.9	7.3	8.8				
85+	522.1	0.0	13.8	0.0	0.7	79.7	3.1	10.3	0.6	0.0	0.0	3.7	6.8	30.1	6.6	10.6				
<b>Total by Condition*</b>	<b>876.2</b>	<b>0.0</b>	<b>15.9</b>	<b>0.0</b>	<b>0.9</b>	<b>3.0</b>	<b>0.4</b>	<b>2.0</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	<b>3.7</b>	<b>3.2</b>	<b>2.1</b>	<b>4.0</b>	<b>0.9</b>				
* using target population age profile used to determine Industry REF Community Rate																				
HAE	HYL	HYP	IBD	IHD	MSS	PAR	RHA	SCZ	SLE	TDH	HIV/AIDS	HIV	Total by Age Band	Multiple CDL Conditions			Maternity (b)	Industry Age Profile per 1,000 beneficiaries		
														2	3	4 or more				
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32					
0.04	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	1,000.0	0.0	0.0	0.0	0.0	12.982			
0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	1,000.0	0.4	0.0	0.0	0.0	62.774			
0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.7	1,000.0	0.5	0.0	0.0	0.0	89.737			
0.04	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	1,000.0	0.5	0.0	0.0	0.0	95.895			
0.04	0.5	0.5	0.1	0.0	0.0	0.0	0.2	0.2	0.0	0.4	0.1	1,000.0	0.8	0.1	0.0	0.0	89.594			
0.04	1.3	1.4	0.2	0.0	0.0	0.0	0.2	0.4	0.1	0.8	2.4	1,000.0	1.3	0.2	0.0	0.0	61.801			
0.04	2.9	5.2	0.3	0.2	0.1	0.0	0.5	0.3	0.2	2.3	11.4	1,000.0	2.8	0.5	0.1	0.0	66.636			
0.04	5.6	13.1	0.3	0.4	0.1	0.0	0.8	0.3	0.2	3.2	19.6	1,000.0	6.2	1.0	0.1	0.0	88.932			
0.04	10.6	29.5	0.4	1.1	0.2	0.0	1.3	0.3	0.2	4.3	21.5	1,000.0	13.5	2.2	0.4	0.0	90.864			
0.04	19.0	54.6	0.5	3.0	0.2	0.1	2.1	0.4	0.2	6.4	19.9	1,000.0	25.5	5.0	0.9	0.0	83.585			
0.04	31.6	88.4	0.6	6.3	0.2	0.2	3.1	0.4	0.2	9.3	14.9	1,000.0	45.0	9.8	2.1	0.0	69.229			
0.04	51.0	120.3	0.9	12.8	0.2	0.4	4.6	0.4	0.2	12.2	9.3	1,000.0	71.3	18.6	4.0	0.0	54.515			
0.04	69.6	147.7	1.0	19.3	0.3	0.9	5.2	0.4	0.1	12.8	5.3	1,000.0	95.7	27.0	6.8	0.0	43.189			
0.04	84.6	169.0	1.0	31.7	0.2	2.0	6.5	0.4	0.1	12.9	2.8	1,000.0	123.3	38.9	10.8	0.0	30.891			
0.04	97.9	189.9	1.3	45.0	0.1	3.9	6.7	0.5	0.1	12.1	1.0	1,000.0	155.3	55.5	17.4	0.0	21.758			
0.04	90.6	207.6	1.3	59.6	0.0	8.6	7.2	0.4	0.1	12.0	0.1	1,000.0	170.4	62.3	20.9	0.0	16.433			
0.04	70.5	215.0	1.2	70.8	0.1	10.8	7.3	0.7	0.0	10.7	0.0	1,000.0	178.0	68.8	23.1	0.0	10.951			
0.04	43.4	220.8	1.3	75.8	0.0	13.5	7.4	0.7	0.0	9.7	0.0	1,000.0	170.6	66.3	18.8	0.0	4.950			
0.04	14.7	198.7	1.0	72.9	0.0	13.4	3.9	0.5	0.0	6.8	0.0	1,000.0	155.1	49.2	13.3	0.0	5.288			
<b>0.04</b>	<b>18.7</b>	<b>45.2</b>	<b>0.4</b>	<b>6.8</b>	<b>0.1</b>	<b>0.6</b>	<b>1.7</b>	<b>0.3</b>	<b>0.1</b>	<b>4.4</b>	<b>8.8</b>	<b>1,000.0</b>	<b>29.1</b>	<b>8.4</b>	<b>2.3</b>	<b>11.5</b>	<b>1,000.00</b>			

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**Annexure D: REF Contribution Tables**

The REF contribution tables contain the weights that would be multiplied by the REF Grid Count for each scheme (by option) and the market. The resulting financial values for the scheme (scheme community rate) would be compared to the result for the market as a whole (industry community rate). The difference between the scheme and the industry community rate would provide the financial value of the funds that need to be transferred to or from the scheme to ensure risk equalisation. **Table D1** provides the “price” for single chronic conditions, AIDS and people with no chronic condition. The modifiers for multiple chronic conditions and maternity are also provided.

**Table D1: REF Contribution Table for use in 2005**

Table for use in Shadow Year 2005											
HAE	HYL	HYP	IBD	IHD	MSS	PAR	RHA	SCZ	SLE	TDH	HIV/AIDS
17	18	19	20	21	22	23	24	25	26	27	28
6,780.68	795.44	734.17	1,390.82	1,350.20	1,582.61	1,213.00	748.11	1,153.59	698.63	518.11	1,799.57
6,355.01	369.77	308.50	965.15	924.53	1,156.94	787.33	322.44	727.92	272.96	92.44	1,373.90
6,326.48	341.24	279.97	936.62	896.00	1,128.41	758.80	293.91	699.39	244.43	63.91	1,345.37
6,325.72	340.48	279.21	935.86	895.24	1,127.65	758.04	293.15	698.63	243.67	63.15	1,344.61
6,332.54	347.30	286.03	942.68	902.06	1,134.47	764.86	299.97	705.45	250.49	69.97	1,351.43
6,349.68	364.44	303.17	959.82	919.20	1,151.61	782.00	317.11	722.59	267.63	87.11	1,368.57
6,366.97	381.73	320.46	977.11	936.49	1,168.90	799.29	334.40	739.88	284.92	104.40	1,385.86
6,375.96	390.72	329.45	986.10	945.48	1,177.89	808.28	343.39	748.87	293.91	113.39	1,394.85
6,388.72	403.48	342.21	998.86	958.24	1,190.65	821.04	356.15	761.63	306.67	126.15	1,407.61
6,396.67	411.43	350.16	1,006.81	966.19	1,198.60	828.99	364.10	769.58	314.62	134.10	1,415.56
6,413.05	427.81	366.54	1,023.19	982.57	1,214.98	845.37	380.48	785.96	331.00	150.48	1,431.94
6,442.82	457.58	396.31	1,052.96	1,012.34	1,244.75	875.14	410.25	815.73	360.77	180.25	1,461.71
6,479.52	494.28	433.01	1,089.66	1,049.04	1,281.45	911.84	446.95	852.43	397.47	216.95	1,498.41
6,575.64	590.40	529.13	1,185.78	1,145.16	1,377.57	1,007.96	543.07	948.55	493.59	313.07	1,594.53
6,647.62	662.38	601.11	1,257.76	1,217.14	1,449.55	1,079.94	615.05	1,020.53	565.57	385.05	1,666.51
6,734.22	748.98	687.71	1,344.36	1,303.74	1,566.15	1,166.54	701.65	1,107.13	652.17	471.65	1,753.11
6,758.66	773.42	712.15	1,368.80	1,328.18	1,560.59	1,190.98	726.09	1,131.57	676.61	496.09	1,777.55
6,764.60	779.36	718.09	1,374.74	1,334.12	1,566.53	1,196.92	732.03	1,137.51	682.55	502.03	1,783.49
6,699.47	714.23	652.96	1,309.61	1,268.99	1,501.40	1,131.79	666.90	1,072.38	617.42	436.90	1,718.36

Modifier for number of chronic conditions			
Number of Conditions	2	3	4 or more
	CC2	CC3	CC4
All Ages	353.13	778.50	1,475.46
Amount is per beneficiary per month. Add to amounts obtained from Columns 1 to 28			

Modifier for Maternity	
	MAT
All Ages	17,041.44
Amount is per delivery (as defined). Use only once per delivery, not monthly.	

<b>REF Contribution Table [Base 2002, Use 2005]</b>	<b>Industry REF Community Rate</b>	<b>193.90</b>
Per Beneficiary Per Month		

Age Bands	No CDL Diseases NON	Chronic Disease List (CDL) Conditions														
		ADS	AST	BCE	BMD	CHF	CMY	COP	CRF	CSD	DBI	DM1	DM2	DYS	EPL	GLC
Column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Under 1	473.48	696.73	852.57	691.04	1,396.00	1,673.88	1,891.72	1,288.96	6,081.17	2,120.00	1,595.35	1,397.54	687.73	948.73	1,288.58	657.18
1-4	47.81	271.06	426.90	265.37	970.33	1,248.21	1,466.05	863.29	5,655.50	1,694.33	1,169.68	971.87	262.06	523.06	862.91	231.51
5-9	19.28	242.53	398.37	236.84	941.80	1,219.68	1,437.52	834.76	5,626.97	1,665.80	1,141.15	943.34	233.53	494.53	834.38	202.98
10-14	18.52	241.77	397.61	236.08	941.04	1,218.92	1,436.76	834.00	5,626.21	1,665.04	1,140.39	942.58	232.77	493.77	833.62	202.22
15-19	25.34	248.59	404.43	242.90	947.86	1,225.74	1,443.58	840.82	5,633.03	1,671.86	1,147.21	949.40	239.59	500.59	840.44	209.04
20-24	42.48	265.73	421.57	260.04	965.00	1,242.88	1,460.72	857.96	5,650.17	1,689.00	1,164.35	966.54	256.73	517.73	857.58	226.18
25-29	59.77	283.02	438.86	277.33	982.29	1,260.17	1,478.01	875.25	5,667.46	1,706.29	1,181.64	983.83	274.02	535.02	874.87	243.47
30-34	68.76	292.01	447.85	286.32	991.28	1,269.16	1,487.00	884.24	5,676.45	1,715.28	1,190.63	992.82	283.01	544.01	883.86	252.46
35-39	81.52	304.77	460.61	299.08	1,004.04	1,281.92	1,499.76	897.00	5,689.21	1,728.04	1,203.39	1,005.58	295.77	556.77	896.62	265.22
40-44	89.47	312.72	468.56	307.03	1,011.99	1,289.87	1,507.71	904.95	5,697.16	1,735.99	1,211.34	1,013.53	303.72	564.72	904.57	273.17
45-49	105.85	329.10	484.94	323.41	1,028.37	1,306.25	1,524.09	921.33	5,713.54	1,752.37	1,227.72	1,029.91	320.10	581.10	920.95	289.55
50-54	135.62	358.87	514.71	353.18	1,058.14	1,336.02	1,553.86	951.10	5,743.31	1,782.14	1,257.49	1,059.68	349.87	610.87	950.72	319.32
55-59	172.32	395.57	551.41	389.88	1,094.84	1,372.72	1,590.56	987.80	5,780.01	1,818.84	1,294.19	1,096.38	386.57	647.57	987.42	356.02
60-64	268.44	491.69	647.53	486.00	1,190.96	1,468.84	1,686.68	1,083.92	5,876.13	1,914.96	1,390.31	1,192.50	482.69	743.69	1,083.54	452.14
65-69	340.42	563.67	719.51	557.98	1,262.94	1,540.82	1,758.66	1,155.90	5,948.11	1,986.94	1,462.29	1,264.48	554.67	815.67	1,155.52	524.12
70-74	427.02	650.27	806.11	644.58	1,349.54	1,627.42	1,845.26	1,242.50	6,034.71	2,073.54	1,548.89	1,351.08	641.27	902.27	1,242.12	610.72
75-79	451.46	674.71	830.55	669.02	1,373.98	1,651.86	1,869.70	1,266.94	6,059.15	2,097.98	1,573.33	1,375.52	665.71	926.71	1,266.56	635.16
80-84	457.40	680.65	836.49	674.96	1,379.92	1,657.80	1,875.64	1,272.88	6,065.09	2,103.92	1,579.27	1,381.46	671.65	932.65	1,272.50	641.10
85+	392.27	615.52	771.36	609.83	1,314.79	1,592.67	1,810.51	1,207.75	5,999.96	2,038.79	1,514.14	1,316.33	606.52	867.52	1,207.37	575.97

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## **Annexure E: Estimation of the Tax Expenditure Subsidy**

**Population:** StatsSA provided data from Census 2001 in a specified format as requested. The data covered the total estimated population from the Census, that is 44,819,447 individuals in the following subsets:

- Age in five-year age bands, up to age 85+ ;
- Personal Income band per month; and
- Household Income band per month.

**Age Groups:** The Census data was grouped into three categories so that separate tax calculations are performed for taxpayers of working age and those over age 65:

- Children – under age 20 (no income allocated);
- Working Age – age 20 to age 64; and
- Retirement Age – over age 65.

**Medical Scheme Members and Beneficiaries:** there is a clear relationship between medical scheme membership and personal and household income. This has been studied using data from the October Household Survey 1999, the Labour Force Survey 2002 and PERSAL data 2003. Individuals and households in the Census are allocated to medical schemes using these patterns. The medical scheme members (who receive any employer subsidy, make the contribution and receive the Tax Expenditure Subsidy) are separated from other adult beneficiaries and child beneficiaries. It is assumed that medical scheme members over age 65 have only adult dependants.

**Income Tax table:** Personal Income Tax Table 2005/06 from *SARS Budget Tax Proposals 2005/6*, p5.

**Calculation of General Tax Payable:** the methodology is derived from examples from the 2004 SARS brochures IT12BU for Individuals and EMP10 for Employers.

**Table E1: Components of general tax payable**

<b>Income and Healthcare Expenditure</b>	Annual Average Income Medical Scheme Contribution by Employer Medical Scheme Contribution by Employee Other Medical Expenditure
<b>Tax Calculation</b>	Medical Scheme Fringe Benefit Retirement Deduction Taxable Income before Medical Deduction Medical Deduction
<b>Actual Tax</b>	Taxable Income Direct Tax Rebates <b>General Tax Paid</b>

**Categories of taxpayer:** the tax calculation is performed separately for the following categories of taxpayer:

- Medical Scheme Member Under Age 65;
- Medical Scheme Member Over Age 65;
- Medical Scheme Beneficiary Paying Tax Under Age 65: assumes that the employee and employer contribution as well as the medical deduction attach to the primary member;
- Medical Scheme Beneficiary Paying Tax Over Age 65: as immediately above;
- Not on Medical Scheme Under Age 65: no contribution to a medical; scheme but may have greater out-of-pocket expenditure; and
- Not on Medical Scheme Over Age 65: as immediately above.

**Annual Average Income:** the mid-point of the Census income bands is not a fair reflection of the average income as incomes will cluster towards the lower bound of the band. PERSAL data from 2003 was restated in the 2001 Census definition and bands and then extracts were made to determine average income by income band. The average income in the private sector for the highest income band was made higher than that in the public sector. Values for 2003 were inflated to 2005 using CPIX.

**Medical Scheme Contributions by Income:** the total contribution by income band from the adjusted PERSAL (see above) was extracted. This is the only data that gives a reflection of free choice by members under a generous

subsidy. The subsidy for lower income groups in the PERSAL data approaches  $\frac{2}{3}$  but given the cap on subsidy, the actual subsidy for higher income groups approaches  $\frac{1}{2}$  which is the most typical private sector subsidy level. Values for 2003 were inflated to 2005 prices using CPIX.

**Employer Portion of Medical Scheme Contribution:** separate tables for public and private sector workers and pensioners were established. These have different medical scheme subsidies applied. The private sector subsidies are drawn from the Old Mutual Healthcare Survey 2001. Public and private sector workers were then combined according to the estimates used in the Subsidy Consultative Task Team Report 2002. Other subsidy configurations can also be tested.

**Other Medical Expenditure:** the most comprehensive estimate of out-of-pocket expenditure by medical scheme members was made for the National Health Accounts 1998. The proportion of out-of-pocket expenditure from that estimate can be altered for different income groups. It is assumed that those not on a medical scheme have a substantially higher amount of out-of-pocket expenditure.

**Medical Scheme Fringe Benefit:** if the employer pays more than two thirds of the total contributions to the medical scheme, the amount exceeding the two-third portion is the fringe benefit. There is no fringe benefit calculation for those over age 65.

**Retirement Deduction:** the maximum deduction per person allowed by SARS is the greater of R1,750 or 7.5% of remuneration from retirement-funding employment for the year of assessment. It is assumed that all working age taxpayers in the model are entitled to this deduction.

**Medical Deduction:** the extent to which (Medical Scheme Contribution by Employee + Other Medical Expenditure) exceeds 5% of Taxable Income before Medical Deduction. The greater medical deduction allowed for handicapped people has not been included. Those over age 65 are allowed to deduct all medical expenditure.

**Tax Expenditure Subsidy (TES):** the TES for healthcare arises as follows:

- Working age tax payers can deduct healthcare expenditure that exceeds 5% of taxable income. Medical scheme members can include medical scheme contributions in the above 5% calculation.
- If an employer contributes more than two thirds of an employee's medical scheme contribution the excess is added to taxable income as a fringe benefit.
- Taxpayers over age 65 can deduct 100% of healthcare expenditure, including medical scheme contributions. They are not subject to the fringe benefit calculation for medical scheme contributions.
- To the extent that the employer pays all or part of the medical scheme contribution, so the tax payer has a lower gross income and hence pays less tax.
- In the SHI Model the TES is calculated in two stages in order to separate the TES for medical expenditure from the TES arising as a result of the employer subsidy . The elements of the model are indicated in **table E2**:

**Table E2: Elements of model used to calculate the Tax Expenditure Subsidy**

<b>Tax if No Medical Deductions</b>	Taxable Income Direct Tax Rebates <b>General Tax Paid</b>
<b>Tax if ER Subsidy as cash</b>	Taxable Income Direct Tax Rebates <b>General Tax Paid</b>
<b>TES and Subsidy</b>	<b>TES medical expenditure</b> <b>TES ER subsidy</b> <b>Total TES</b> <b>Public Sector Subsidy</b> <b>Contribution Subsidy</b> <b>Total Healthcare Subsidy Received</b>



The **TES Medical Expenditure** is calculated as the difference between General Tax Paid (if no Medical Deductions) and General Tax Paid (Actual Tax).

The **TES ER Subsidy** is calculated as the difference between General Tax Paid (if Employer Subsidy as Cash) and General Tax Paid (if no Medical Deductions).

Thus **Total TES** is: TES Medical Expenditure + TES ER Subsidy, i.e. the difference between General Tax Paid (if Employer Subsidy as Cash) and General Tax Paid (Actual Tax).

**Final Result:** tax and TES calculations are performed for each income band. These results are applied to the identified number of taxpayers in each band, for each of the groups in section f). These are then summed to obtain the final estimate of tax and the Tax Expenditure Subsidy.

**Table E3: Results of Tax Expenditure Subsidy Calculation in 2005**

<b>Result by income group</b>	<b>Rands</b>
<b>All Income Earners</b>	
○ <b>Current Total Income</b>	<b>561,475,890,834</b>
○ <b>Current TES (Medical Deduction)</b>	<b>4,312,500,165</b>
○ <b>Current TES (Employer Contribution)</b>	<b>5,768,333,474</b>
○ <b><u>Current Total Tax Expenditure Subsidy</u></b>	<b><u>10,080,833,639</u></b>
○ <b>Current General Taxes</b>	<b>67,574,606,523</b>
<b>Income Earners in Medical Schemes</b>	
○ <b>Current Total Income</b>	<b>331,858,655,163</b>
○ <b>Current TES (Medical Deduction)</b>	<b>3,670,822,429</b>
○ <b>Current TES (Employer Contribution)</b>	<b>5,768,333,474</b>
○ <b><u>Current Total Tax Expenditure Subsidy</u></b>	<b><u>9,439,155,903</u></b>
○ <b>Current Tax Expenditure Subsidy pbpa</b>	<b>1,406.06</b>
○ <b>Current General Taxes</b>	<b>54,673,077,716</b>
<b>Income Earners in Public Sector</b>	
○ <b>Current Total Income</b>	<b>229,617,235,672</b>
○ <b>Current TES (Medical Deduction)</b>	<b>641,677,736</b>
○ <b>Current TES (Employer Contribution)</b>	<b>0</b>
○ <b><u>Current Total Tax Expenditure Subsidy</u></b>	<b><u>641,677,736</u></b>
○ <b>Current Tax Expenditure Subsidy p(PS)bpa</b>	<b>21.09</b>
○ <b>Current General Taxes</b>	<b>12,901,528,807</b>

**Annexure F: Summary results of scenarios 1 to 4 for a standard family of four, by monthly income group**

Tables F1-6 provide more detailed results on family impact assessments underpinning the discussion in section 9.

**Table F1: Scenario results for a family of four with two working adults and two children for the family income range R1,602 to R3,200 per month (2005 prices)**

Income range: R1,601 to R3,200 per month		Married, dual income, 2 children			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Family	Family profile				
	Adults	2	2	2	2
	Children	2	2	2	2
	Total	4	4	4	4
Income	Income (monthly) family	4,224	4,224	4,224	4,224
	per capita	1,056	1,056	1,056	1,056
	main breadwinner	3,894	3,894	3,894	3,894
	spouse	330	330	330	330
Revenue	Health tax payment (family)				
	Value of health tax (monthly)	48	60	121	161
	% of personal income	1.2%	1.5%	3.1%	4.1%
	% of family income	1.1%	1.4%	2.9%	3.8%
	Medical scheme direct contribution (pbpm)	382	282	282	182
	% of per capita income	36.1%	26.7%	26.7%	17.2%
	Medical scheme direct contribution (family)	1,527	1,128	1,128	729
	% of income	36.1%	26.7%	26.7%	17.2%
Net contribution (family)	1,575	790	850	91	
% of income	37.3%	18.7%	20.1%	2.2%	
Benefit	Subsidy receipt (pbpm)	0	100	100	200
	Subsidy receipt (family)	0	399	399	798
	% of income	0.0%	9.4%	9.4%	18.9%
	Value of cover excluding subsidy (pbpm)	382	282	282	182
	% of income	36.1%	26.7%	26.7%	17.2%
	Value of cover excluding subsidy (family)	1,527	1,128	1,128	729
	% of income	36.1%	26.7%	26.7%	17.2%
	Total value of cover (pbpm)	382	382	382	382
	% of income	36.1%	36.1%	36.1%	36.1%
	Total value of cover (family)	1,527	1,527	1,527	1,527
% of income	36.1%	36.1%	36.1%	36.1%	
Net contribution (tax + contribution less subsidy)		1,575	391	452	-707

**Table F2: Scenario results for a family of four with two working adults and two children for the family income range R3,201 to R6,400 per month (2005 prices)**

Income range: R3,201 to R6,400 per month		Married, dual income, 2 children			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Family	Family profile				
	Adults	2	2	2	2
	Children	2	2	2	2
	Total	4	4	4	4
Income	Income (monthly) family	9,327	9,327	9,327	9,327
	per capita	2,332	2,332	2,332	2,332
	main breadwinner	7,231	7,231	7,231	7,231
	spouse	2,096	2,096	2,096	2,096
Revenue	Health tax payment (family)				
	Value of health tax (monthly)	90	112	224	299
	% of personal income	1.2%	1.5%	3.1%	4.1%
	% of family income	1.0%	1.2%	2.4%	3.2%
	Medical scheme direct contribution (pbpm)	382	282	182	182
	% of per capita income	16.4%	12.1%	7.8%	7.8%
	Medical scheme direct contribution (family)	1,527	1,128	729	729
	% of income	16.4%	12.1%	7.8%	7.8%
Net contribution (family)	1,617	841	155	229	
% of income	17.3%	9.0%	1.7%	2.5%	
Benefit	Subsidy receipt (pbpm)	0	100	200	200
	Subsidy receipt (family)	0	399	798	798
	% of income	0.0%	4.3%	8.6%	8.6%
	Value of cover excluding subsidy (pbpm)	382	282	182	182
	% of income	16.4%	12.1%	7.8%	7.8%
	Value of cover excluding subsidy (family)	1,527	1,128	729	729
	% of income	16.4%	12.1%	7.8%	7.8%
	Total value of cover (pbpm)	382	382	382	382
	% of income	16.4%	16.4%	16.4%	16.4%
	Total value of cover (family)	1,527	1,527	1,527	1,527
% of income	16.4%	16.4%	16.4%	16.4%	
Net contribution (tax + contribution less subsidy)		1,617	443	-643	-569

**Table F3: Scenario results for a family of four with two working adults and two children for the family income range R6,401 to R12,800 per month (2005 prices)**

Income range: R6,401 to R12,800 per month		Married, dual income, 2 children			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Family	Family profile				
	Adults	2	2	2	2
	Children	2	2	2	2
	Total	4	4	4	4
Income	Income (monthly) family	19,349	19,349	19,349	19,349
	per capita	4,837	4,837	4,837	4,837
	main breadwinner	18,725	18,725	18,725	18,725
	spouse	624	624	624	624
Revenue	Health tax payment (family)				
	Value of health tax (monthly)	233	290	580	773
	% of personal income	1.2%	1.5%	3.1%	4.1%
	% of family income	1.2%	1.5%	3.0%	4.0%
	Medical scheme direct contribution (pbpm)	670	571	471	471
	% of per capita income	13.9%	11.8%	9.7%	9.7%
	Medical scheme direct contribution (family)	2,681	2,283	1,883	1,883
	% of income	13.9%	11.8%	9.7%	9.7%
Net contribution (family)	2,407	2,174	1,665	1,858	
% of income	12.4%	11.2%	8.6%	9.6%	
Benefit	Subsidy receipt (pbpm)	127	100	200	200
	Subsidy receipt (family)	507	399	798	798
	% of income	2.6%	2.1%	4.1%	4.1%
	Value of cover excluding subsidy (pbpm)	544	571	471	471
	% of income	11.2%	11.8%	9.7%	9.7%
	Value of cover excluding subsidy (family)	2,174	2,283	1,883	1,883
	% of income	11.2%	11.8%	9.7%	9.7%
	Total value of cover (pbpm)	670	670	670	670
	% of income	13.9%	13.9%	13.9%	13.9%
Total value of cover (family)	2,681	2,681	2,681	2,681	
% of income	13.9%	13.9%	13.9%	13.9%	
Net contribution (tax + contribution less subsidy)		1,901	1,775	867	1,060

**Table F4: Scenario results for a family of four with two working adults and two children for the family income range R12,801 to R25,600 per month (2005 prices)**

Income range: R12,801 to R25,600 per month		Married, dual income, 2 children			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Family	Family profile				
	Adults	2	2	2	2
	Children	2	2	2	2
	Total	4	4	4	4
Income	Income (monthly) family	37,089	37,089	37,089	37,089
	per capita	9,272	9,272	9,272	9,272
	main breadwinner	35,595	35,595	35,595	35,595
	spouse	1,493	1,493	1,493	1,493
Revenue	Health tax payment (family)				
	Value of health tax (monthly)	443	551	1,103	1,470
	% of personal income	1.2%	1.5%	3.1%	4.1%
	% of family income	1.2%	1.5%	3.0%	4.0%
	Medical scheme direct contribution (pbpm)	725	625	526	526
	% of per capita income	7.8%	6.7%	5.7%	5.7%
	Medical scheme direct contribution (family)	2,901	2,502	2,102	2,102
	% of income	7.8%	6.7%	5.7%	5.7%
Net contribution (family)	2,795	2,654	2,408	2,774	
% of income	7.5%	7.2%	6.5%	7.5%	
Benefit	Subsidy receipt (pbpm)	137	100	200	200
	Subsidy receipt (family)	548	399	798	798
	% of income	1.5%	1.1%	2.2%	2.2%
	Value of cover excluding subsidy (pbpm)	588	625	526	526
	% of income	6.3%	6.7%	5.7%	5.7%
	Value of cover excluding subsidy (family)	2,352	2,502	2,102	2,102
	% of income	6.3%	6.7%	5.7%	5.7%
	Total value of cover (pbpm)	725	725	725	725
% of income	7.8%	7.8%	7.8%	7.8%	
Total value of cover (family)	2,901	2,901	2,901	2,901	
% of income	7.8%	7.8%	7.8%	7.8%	
Net contribution (tax + contribution less subsidy)		2,247	2,256	1,610	1,976

**Table F5: Scenario results for a family of four with two working adults and two children for the family income range R25,601 to R51,200 per month (2005 prices)**

Income range: R25,601 to R51,200 per month		Married, dual income, 2 children			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Family	Family profile				
	Adults	2	2	2	2
	Children	2	2	2	2
	Total	4	4	4	4
Income	Income (monthly) family	74,043	74,043	74,043	74,043
	per capita	18,511	18,511	18,511	18,511
	main breadwinner	71,189	71,189	71,189	71,189
	spouse	2,853	2,853	2,853	2,853
Revenue	Health tax payment (family)				
	Value of health tax (monthly)	885	1,102	2,207	2,940
	% of personal income	1.2%	1.5%	3.1%	4.1%
	% of family income	1.2%	1.5%	3.0%	4.0%
	Medical scheme direct contribution (pbpm)	725	625	526	526
	% of per capita income	3.9%	3.4%	2.8%	2.8%
	Medical scheme direct contribution (family)	2,901	2,502	2,102	2,102
	% of income	3.9%	3.4%	2.8%	2.8%
Net contribution (family)	3,238	3,205	3,511	4,245	
% of income	4.4%	4.3%	4.7%	5.7%	
Benefit	Subsidy receipt (pbpm)	137	100	200	200
	Subsidy receipt (family)	548	399	798	798
	% of income	0.7%	0.5%	1.1%	1.1%
	Value of cover excluding subsidy (pbpm)	588	625	526	526
	% of income	3.2%	3.4%	2.8%	2.8%
	Value of cover excluding subsidy (family)	2,352	2,502	2,102	2,102
	% of income	3.2%	3.4%	2.8%	2.8%
	Total value of cover (pbpm)	725	725	725	725
	% of income	3.9%	3.9%	3.9%	3.9%
	Total value of cover (family)	2,901	2,901	2,901	2,901
% of income	3.9%	3.9%	3.9%	3.9%	
Net contribution (tax + contribution less subsidy)		2,690	2,807	2,713	3,446

**Table F6: Scenario results for a family of four with two working adults and two children for the family income range R51,201 and higher per month (2005 prices)**

Income range: R51,201 pm and higher		Married, dual income, 2 children			
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Family	Family profile				
	Adults	2	2	2	2
	Children	2	2	2	2
	Total	4	4	4	4
Income	Income (monthly) family	242,200	242,200	242,200	242,200
	per capita	60,550	60,550	60,550	60,550
	main breadwinner	232,847	232,847	232,847	232,847
	spouse	9,353	9,353	9,353	9,353
Revenue	Health tax payment (family)				
	Value of health tax (monthly)	2,896	3,604	7,218	9,617
	% of personal income	1.2%	1.5%	3.1%	4.1%
	% of family income	1.2%	1.5%	3.0%	4.0%
	Medical scheme direct contribution (pbpm)	725	625	526	526
	% of per capita income	1.2%	1.0%	0.9%	0.9%
	Medical scheme direct contribution (family)	2,901	2,502	2,102	2,102
	% of income	1.2%	1.0%	0.9%	0.9%
	Combined health tax and contribution	5,797	6,106	9,320	11,719
% of income	2.4%	2.5%	3.8%	4.8%	
Benefit	Subsidy receipt (pbpm)	137	100	200	200
	Subsidy receipt (family)	548	399	798	798
	% of income	0.2%	0.2%	0.3%	0.3%
	Value of cover excluding subsidy (pbpm)	588	625	526	526
	% of income	1.0%	1.0%	0.9%	0.9%
	Value of cover excluding subsidy (family)	2,352	2,502	2,102	2,102
	% of income	1.0%	1.0%	0.9%	0.9%
	Total value of cover (pbpm)	725	725	725	725
	% of income	1.2%	1.2%	1.2%	1.2%
Total value of cover (family)	2,901	2,901	2,901	2,901	
% of income	1.2%	1.2%	1.2%	1.2%	
Net contribution (tax + contribution less subsidy)		<b>5,249</b>	<b>5,708</b>	<b>8,522</b>	<b>10,921</b>