DEMAND-SIDE ANALYSIS OF MEDICAL SCHEME COVERAGE AND ACCESS IN SOUTH AFRICA

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Prepared for the Centre for Financial Regulation and Inclusion (Cenfri) and FinMark Trust by

FOREWORD

During the last ten years, South Africa has achieved remarkable progress in the area of financial inclusion for lower-income households in specifically the banking and, to a lesser degree, insurance markets. Limited progress has been made in expanding medical schemes (government's chosen vehicle for private health financing) to more South Africans. While it may be fair to say that the higher-income market for medical schemes is saturated, middle to lower income groups remain excluded.

A well-functioning health financing market supports the development of a market for private health services by attracting service providers because a financing mechanism exists which can ensure that they are remunerated for their services. Current financing systems are, however, increasingly unaffordable and exclusionary. Without appropriate health financing mechanisms, private healthcare is not an option for the majority of low-income South Africans.

The following analysis focuses on the demand-side of the medical schemes market in South Africa. It is presented in the context of a larger discussion taking place in South Africa on how to extend access to health services to more South Africans, whether this is achieved through a National Health Insurance (NHI) or through other means. This study supplements a second FinMark Trust study on private health financing, with the latter study focusing on the drivers of medical scheme costs as basis for strategies for creating lower cost and, therefore, more affordable medical schemes. This second study by Elixir Health and Fifth Quadrant is due to be released early in the second half of 2009.

The analysis contained in this document provides an overview of how the current medical scheme population differs from non-covered South Africans and, by implication, what this means for extending access to health services through private financing. It also provides estimates for the portion of the population able to purchase medical scheme cover under different affordability scenarios and identifies distinct groups to be targeted by policy and private initiatives aimed at extending medical scheme coverage.

We would welcome feedback on the analysis which highlights pockets of opportunity for extending private health financing to potentially double the market for medical schemes. However, it also indicates that two thirds of South Africans are unable to afford medical scheme options, even under scenarios of significantly cheaper medical scheme options and potential employer/government subsidies. Careful thought will have to be given to extending access to health services also to these individuals. We commend this report to all those interested in providing South Africans with expanded access to health services.

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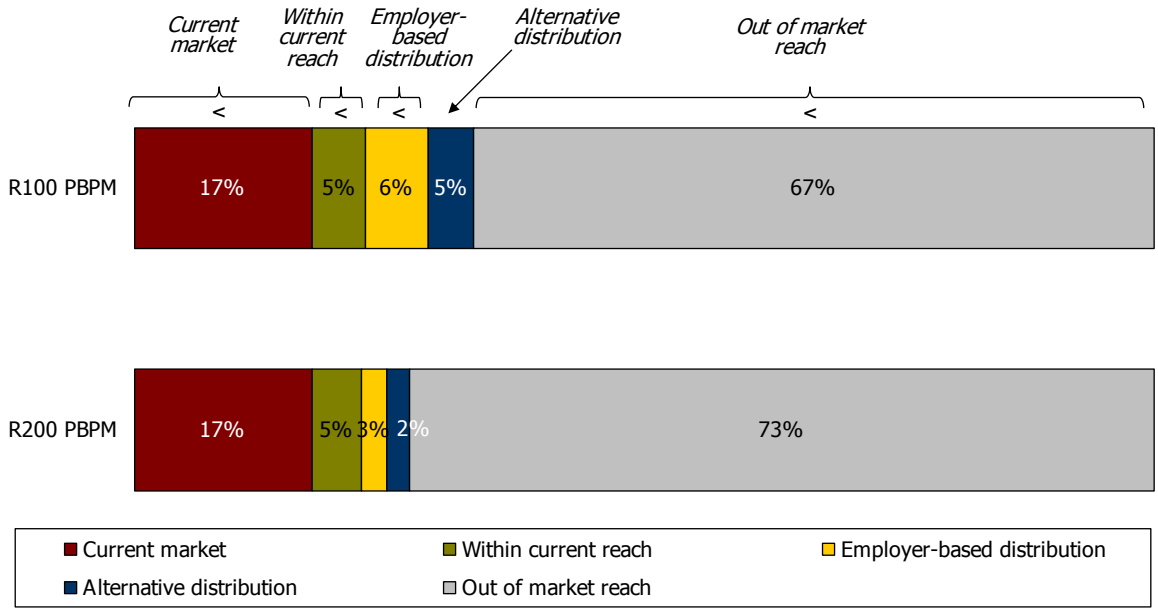
EXECUTIVE SUMMARY

- This paper explores a range of survey data sources to characterise medical scheme coverage in South Africa and to assess the scope for market expansion.
- Data from the Council for Medical Schemes indicates that in 2007 7.5 million individuals corresponding to 15.6% of the population were medical scheme members. The estimate from the General Household Survey for the same year, at 6.8 million individuals, is slightly lower.
- Survey data sources indicate that roughly 2.5 million households have at least one household member who belongs to a medical scheme. Unsurprisingly households with full or partial cover are far more likely than their uninsured counterparts to have higher incomes. According to the Income and Expenditure Survey, 71% of households with cover have an income of R8,000 per month compared to just 7% of households with no cover.
- According to FinScope, the most frequently cited reason for not have medical scheme cover is a lack of affordability. In order to assess affordability this analysis assumes that a maximum of 10% of household income could be allocated to medical scheme membership. Two scenarios relating to average monthly per beneficiary contributions have been used: a best case scenario of R100 and a base case scenario at R200.
- Based on data from the General Household Survey at a price point of R100 per beneficiary per month, 4.5 million households containing 7.1 million individuals who are not currently medical scheme members could afford cover. If the price point is increased to R200, 3 million individuals who are currently without medical scheme cover could afford to join a medical scheme.
- An employment-based analysis of access using the Labour Force Survey indicates that 51% of permanently employed workers in the formal sector do not have employer-provided medical benefits. Those with medical benefits are more likely to work in the public sector (40%) than those without (13%). It is noteworthy that around 60% of employees who do not have medical benefits have retirement benefits.
- Data from the Labour Force Survey has been used to assess the extent to which market access can be expanded principally via employers. These findings can be summarised in a strand presented in Chart 1 below which segments the market into mutually exclusive categories of households depending on their ranked ability to access medical scheme.

Chart 1. Access strand: R100 and R200 PBPM



Source: LFS 2007

- The current market comprises those workers and their dependents who already have some form of employer-provided medical benefits. Based on the Labour Force Survey, this segment totals 8.3 million individuals or 17% of the population.
- Those who do not currently have medical scheme benefits, but are likely to obtain them primarily through GEMS (there is at least one public sector employee in the household) or through expansion of existing benefits (there is at least one employed household member who has medical benefits and the households appears to be able to afford medical scheme cover at a price point of R100) are regarded as being within reach. 2.5 million individuals (or 5% of the total population) fall in this group.
- Households that appear to be able to afford medical benefits and have at least one permanently employed formal sector worker are potentially reachable through their employers. At a price point of R100, this segment comprises just under 3million individuals or 6% of the population.
- Individuals who can afford the product but who cannot be reached through formal sector employers will need to be reached through alternative mechanisms. This segment of the market comprises 2.1 million individuals or 4.5% of the population.
- Households with very low per capita incomes cannot afford cover even at the reduced price points used in this analysis.
- While the analysis indicates that two thirds of uninsured South Africans could not afford cover at a price point of R100, it also indicates significant scope for expansion of the current market. At a price point of R100 the expansion of GEMS and employer mandated cover in the private sector could

increase the current market from around 17% of the population to 28% of the population. A further 5% of the population could theoretically afford cover but would need to be reached through alternative distribution channels.

CONTENTS

1 INTRODUCTION AND DATA SOURCES

This study, an analysis of available demand-side data relating to usage of and access to medical schemes has been commissioned by the Centre for the Financial Regulation and Inclusion ("Cenfri") on behalf of the FinMark Trust. It provides a context for a broader study exploring the main drivers of medical scheme and health services costs and identifying cost reduction strategies to support inclusion[1]. It seeks to consolidate and summarise available data from various household surveys.

In order to meet these objectives a review was undertaken of recent, nationally representative household surveys. No single survey on its own allows for a sufficiently nuanced assessment of access and different data sources have been used to explore specific aspects in detail. These include the 2005/6 Income and Expenditure Survey ("IES"), the General Household Survey ("GHS") and the Labour Force Survey ("LFS") undertaken by Statistics South Africa ("StatsSA"), the FinScope Survey conducted by the FinMark Trust and the All Media and Products Survey ("AMPS") undertaken by the South African Advertising Research Foundation. A brief overview of each of the surveys is provided as context.

[1] The larger study is being conducted by Elixir Consulting and Fifth Quadrant.

Table 1. Survey data sources

IES 2005/6	▪ The IES is a detailed periodic household survey of income and expenditure patterns undertaken primarily to determine the composition of the basket of goods and services tracked by the Consumer Price Index ▪ It has a range of detailed questions on various expenditure categories including medical expenditure, medical aid expenditure and medical insurance expenditure. ▪ The survey was conducted between September 2005 and August 2006 and the data is weighted to April 2006 ▪ Sample size: 21,144 households
GHS	▪ The GHS is an annual household survey exploring the composition of households and their living conditions as well as access to and usage of educational institutions and healthcare facilities ▪ The survey contains questions on health events and usage of medical services as well as membership of medical aid schemes ▪ Sample size (2007): 27,981 households
LFS	▪ The LFS is a survey of employment covering sector of work, industry and working conditions (hours worked, benefits provided) ▪ The format of the survey has changed. No income data is gathered by the new quarterly survey launched in 2008 ▪ The survey contains a question on employer provided medical aid and health insurance benefits ▪ Sample size (Sept. 2007): 29,280 households
AMPS	▪ AMPS is a survey of households and adults (16+) covering product and media usage ▪ It contains rich demographic data as well as some psychographic data ▪ The survey contains a question on medical aid membership ▪ Sample size (2008 RA): 21,090 adults (16+)
FinScope	▪ FinScope is an annual survey of adults (16+) focusing on financial services usage ▪ It contains rich demographic data as well as data on attitudes to and perceptions of financial providers and financial issues more generally ▪ The survey contains questions on usage of medical aid or medical schemes and hospital cash plans ▪ Sample size (2008): 3,900 adults (16+)

Aside from the sample size, frequency of the survey and respondent profile (household, adults, workers or individuals) the survey questions relating to medical schemes or medical insurance differ noticeably. Comparative analysis across surveys is therefore fairly complex. In some cases (using the GHS for example) data is gathered for each household member. In other surveys it is gathered for the individual adult respondent alone (FinScope, AMPS). In the case of the LFS the question relates to employer provided medical benefits for the employed and his or her dependents although there is no data to assess whether all dependents or only some might be covered nor what the nature of these medical benefits is. With regard to the IES only data on expenditure in the year prior to the survey is provided. We have no data on how many household members have cover nor on whether membership might have lapsed during the course of the year. For reference purposes survey questions are summarised below.

Table 2. Survey questions

IES 2005/6	*Question 15.1.1 Subscriptions and premiums in connection with medical aid schemes and medical provident schemes* ▪ Paid by household member (Rands) ▪ Contribution by employer (Rands) *Personal insurance and other investments:* *Question 18.4.1 Insurance premiums paid by you or your employer: c) Medical insurance* (Rands)
GHS	*Question 1.18 Is …(individual household member)… covered by a medical aid or medical benefit scheme or other private health insurance?* ▪ *Yes* ▪ *No* ▪ *Don't know*
LFS*	*Question: 4.19 Does the organization/ business/ enterprise/ branch where …(individual worker)… works provide contributions towards membership of a medical aid fund or health insurance for him/her?* ▪ Yes, for him/herself only ▪ Yes, for him/herself and his/her dependents ▪ Yes, but he/she is not using it ▪ No medical aid benefits provided ▪ Don't know
AMPS	*Question K9. Are you a member of a medical aid scheme usually via your employer or a household member's employer* ▪ Yes ▪ No
FinScope	*Question ST3. Please tell me how many of these products or policies you currently hold: 14. Medical Aid or Medical Scheme, 15. Hospital cash plan which pays you cash if you are hospitalised* • Never had • Used to have in past but don't have • Have now • Don't know what this policy is

*Note: This question in the LFS has changed. The new Quarterly Labour Force Survey asks "Are you entitled to medical aid benefits from your employer?"

2 EXPLORING DEMAND

2.1 Introduction

It is useful to distinguish between *need* and *demand* on the one hand and *access* and *usage* on the other. All households in South Africa are likely to have a need for medical services at some point, and by implication a need for a funding mechanism (including subsidies). Given the sometimes catastrophic nature of the expense funded solutions typically incorporate some degree of risk pooling and provide a measure of protection for those who use them. In contrast to need, effective demand measures the market that could seemingly afford to use the product given its costs and competing claims on the household's income.

Access on the other hand indicates the size of the addressable market given the specifications of the product (i.e. the supply-side parameters) and the characteristics of the market (the demand-side parameters). In contrast to demand, access incorporates other barriers impacting on product adoption aside from affordability. Access may be limited by provider exclusions, mismatches between income frequency and payment frequency; accessibility of payment mechanisms (e.g. ability to pay premiums through a banking system), physical proximity of sales (distribution) or service channels and in the case where voluntary take-up is presumed, sufficient knowledge and awareness of the product to enable potential users to make informed choices[2].

In this analysis affordability is a key factor used to determine access to medical schemes, although it is noted that other access constraints highlighted above are critical. The income measure used to assess affordability is principally per capita income within the household. In contrast to household income, per capita income takes into account household size and dependencies. It therefore provides a more realistic, albeit still limited, view of income. In this analysis per capita income is calculated by dividing the household income by the number of people who live in the household[3]. Of course, the definition of a household is critical. The IES uses a dwelling-based definition - to be counted as part of the household, household members must reside in the household on average for four nights per week over the past four weeks. Household size therefore does not capture members of the financial or risk household who reside in another dwelling. In addition, where households contain extended family members or non-relatives, income and risk pooling may be incomplete - household members may well 'cook and eat from the same

[2] As noted by several researchers, access is not the same as usage. Some of those who have access to a product might choose not to use it. Both access, or ability to purchase, and willingness (or in some cases compulsion) to purchase cover must be considered when determining potential usage. Yet another distinction is useful for some financial products; that between take-up or product adoption and usage. In some cases products may have been adopted but are not used. This is frequently the case with rider products where knowledge of ownership status and benefits might be low

[3] The per capita income measure simply uses the number of people in the household. No adjustment is made for the number of children in the household

pot"[4] but they may not share medical or other 'private' expenditure captured directly by one household member.

2.2 The current market

As expected, estimates of the current market generated by the various data sources explored as part of this analysis differ. This not only reflects the inherent nature of the research tool (surveys by their nature are imprecise) but also differences in sampling bases and questionnaire design.

Table 3. Size of the current market: Various demand-side estimates

Data source	Number of individuals who have medical aid / employer provided medical benefits	Number of employees who have medical aid / employer provided medical benefits	Number of adults (16+) who have medical aid / employer provided medical benefits	Number of households that have at least one medical aid member / medical aid expenditure
GHS 2007	6,834,319	-	4,979,594	2,528,484
LFS 2007	8,350,707* (est.)	3,788,671	-	2,532,582
IES 2005/6	7,255,470** (est.)	-	-	2,197,921
AMPS 2008	-	-	5,111,964	
FinScope 2008	-	-	3,533,203	-

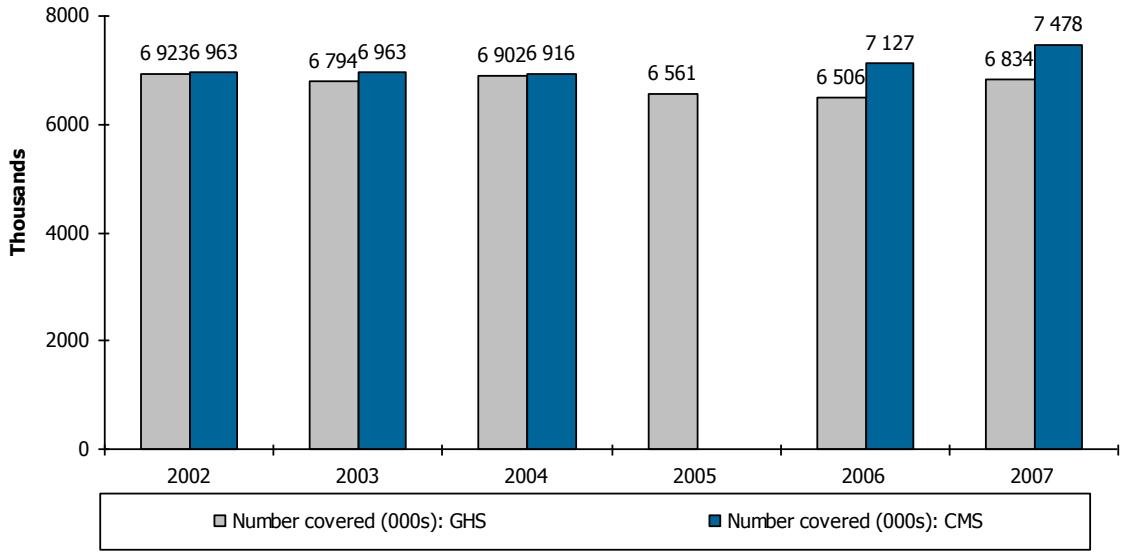
*Total individuals in households where at least one worker has medical benefits for dependents

** Total individuals in households where there is medical scheme expenditure

Data from the Council of Medical Schemes ("CMS") indicates that there were almost 7.5 million medical scheme members (15.6% of the population) in 2007. While the GHS estimate is broadly aligned with supply-side data, it is noted that the GHS does not appear to capture more recent growth in the current market. Data from the GHS indicates that in the same year 6.8 million people (14.3% of the population) were members of medical schemes.

[4] This is the standard definition used to determine whether those who live in the same dwelling are in fact members of the same household

Chart 2. Medical scheme membership: 2002 - 2007



Source: General Household Survey 2002 - 2007

Coverage at a household level is more nuanced. According to the GHS 2.5 million households (19.1%) have at least one medical scheme member[5]. In 1.9 million of these households all household members are medical scheme members. Data from the LFS indicates that in a similar number of households (2.5 million households, 19.3% of all households) there is at least one worker who has employer-provided medical benefits. In 2.2 million of these households benefits extend to the worker's dependents. These households contain a total of 8.35 million individuals who may have medical benefits. That the LFS individual coverage estimate is high partly reflects the question in that survey, which incorporates all employer-provided medical benefits not only medical scheme benefits, as well as the assumption that where benefits extend to the worker's dependents, all household members are covered – even those who might not be regarded as dependents either by the respondent or the rules of a medical scheme.

Various data sources have been used to compare the profile of households in the current market with the uninsured market in terms of a range of dimensions as summarised below:

[5] It is noted that the estimate of the total number of households provided by the GHS at 13.26 million is significantly higher than estimates from other surveys such as the IES (12.5 million)

Table 4. Profile of insured and uninsured households (full or partial coverage, none)[6]

	Full or Partial Household Cover	No Cover
Totals:		
IES 2005/6	2 197 921	10 259 660
LFS 2007	2 532 582	10 594 718
GHS 2007	2 528 484	10 732 445
AMPS 2008a	1 970 135	9 168 272
Location (IES)		
Rural	10%	45%
Urban	90%	55%
Household Income (IES)		
Less than R2,500	5%	68%
R2,500 to R8,000	25%	26%
R8,000 to R15,000	43%	6%
R20,000+	26%	1%
Per Capita Income (IES)		
[R0, R200)	1%	19%
[R200, R600)	4%	37%
[R600, R2000)	17%	30%
[R2000, R3000)	12%	6%
R3000+	66%	8%
Sector of Work (LFS)		
Public sector	49%	6%
Private sector	47%	46%
Other	4%	10%
Not working	0.0%	37%
Unspecified / don't know	0.1%	1%
Full or partial cover (GHS)		
Full cover	75%	NA
Partial cover	25%	NA
Cell phone (IES)		
Cell phone access	92%	66%
No cell phone access	8%	34%
Family Structure (GHS)		
Single parent	10%	12%
Couple	16%	8%
Nuclear	32%	18%
One-person	16%	24%
Other family / non-relatives	26%	39%
Health Spending (IES)		
Have OOP	88%	80%
Don't have OOP	12%	20%
Banking Status (AMPS)		
Banked	90%	50%
Unbanked	10%	50%

Source: IES 2005/6, AMPS 2008a, GHS 2007, LFS 2007

Unsurprisingly households that belong to medical schemes are far more likely than un-insured counterparts to be based in urban areas and to have higher incomes (household or per capita) with two thirds of the current market having a per capita income in excess of R3,000 per month. Insured households are also more likely to be nuclear family households. Interestingly they are more likely to have out-of-pocket ("OOP") expenditure than uninsured households. This in all likelihood reflects

[6] For sector of work if a household has one or more permanently employed public sector workers it is assigned the status of 'Public sector'. If it has no public sector workers but has one or more permanently employed private sector workers it is assigned the status "Private sector". If it has at least one employed member but no permanently employed workers in the public or private sector it is assigned the status "Other". If it has no employed members it is assigned the status of "not working".

healthcare rationing by poorer, uninsured households, as well as their usage of *de facto* free services[7] provided by the public sector.

2.3 Exploring potential demand

In this section, we explore the potential for an increase in membership of medical schemes based on a set of assumptions relating to:

- an affordability threshold based on existing data from household surveys on household expenditure on medical scheme membership;
- the per beneficiary per month ("PBPM") cost of an affordable medical scheme offering based on existing packages and assumptions on cost reductions likely to be gained from supply-side efficiencies together with the impact of a subsidy or negotiated discount.

These assumptions are applied to household survey data to determine the additional number of individuals or households that could be brought into the private health financing system.

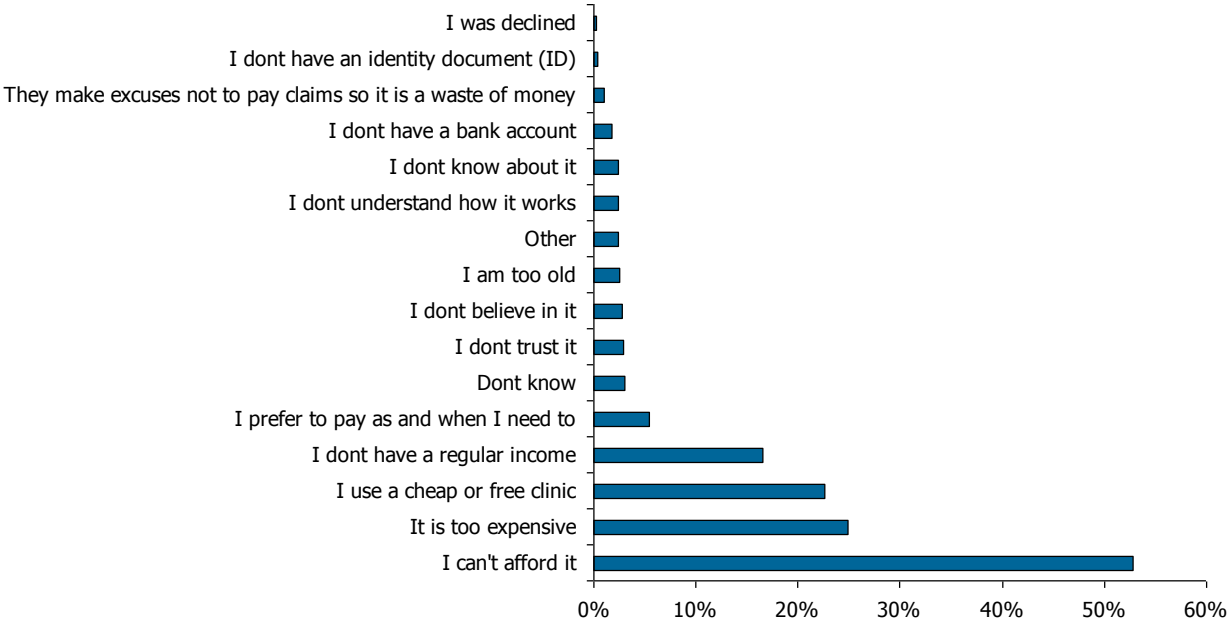
2.3.1 Affordability threshold

According to FinScope 2008 the most frequently cited reason for not having medical scheme cover is affordability, with over two thirds of adults that do not have medical scheme cover (corresponding to 19.3 million adults of the 28.5 million who say they do not have a medical scheme[8]) stating that the reason they do not have the product is that they cannot afford it or it is too expensive.

[7] Although a user fee system applies to the usage of public hospitals, this is not always consistently applied and public hospital users may thus view the service as being free.

[8] FinScope estimates of the current market are significantly understated. The survey finds 3.5 million adults have medical aid while 753,249 have medical insurance.

Chart 3. Reasons for not having medical scheme cover



Source: FinScope 2008
Question: ST7 – Reasons for not having medical aid/scheme cover

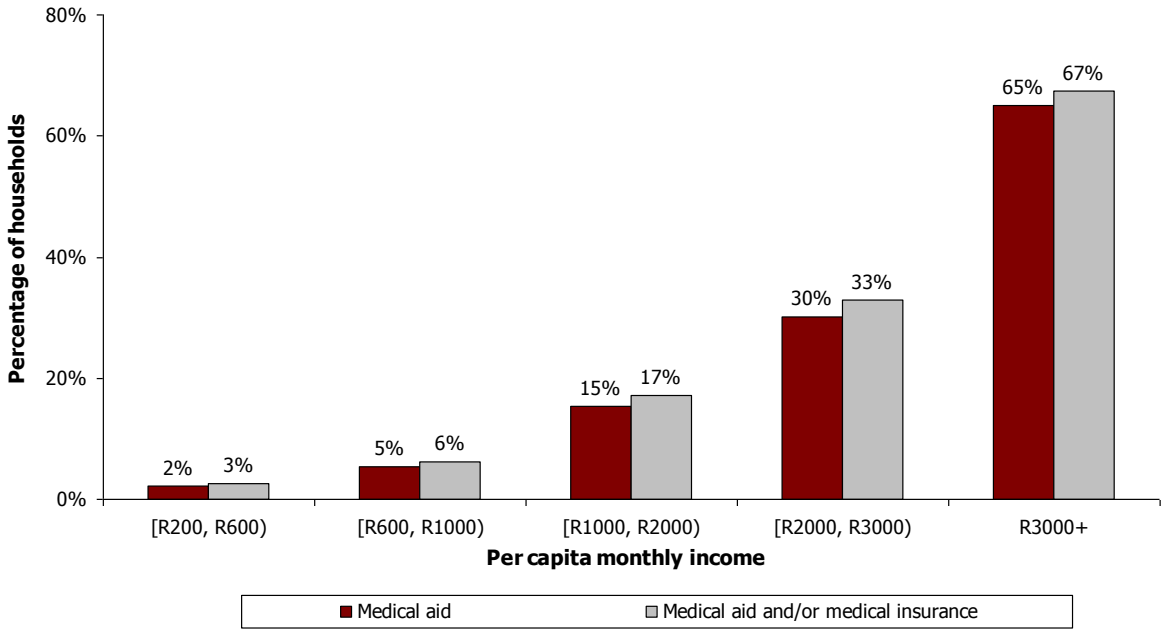
Of course, reported inability to afford a product may reflect expenditure preferences and choices as opposed to objective affordability barriers; some of those who say they cannot afford a medical scheme may allocate sizeable funds towards non-essential items and could theoretically allocate resources towards medical scheme membership without compromising their ability to meet other important needs. A reasonable assumption is therefore required as to what percentage of income a household might be able to allocate to medical scheme contributions.

As a first step it is useful to explore data from the IES on medical scheme membership across various per capita income segments of the market[9]. Penetration rates proxied by households that report expenditure on medical schemes are very low for lower income segments, with coverage increasing steeply as per capita incomes increase. For instance, medical scheme expenditure is reported by just 5% of households with a per capita income of between R600 and R1,000 per month. In contrast, in the segment where per capita incomes are R3,000 per month or more, 65% of households report medical scheme expenditure. Given that it seems reasonable that respondents may have been confused by the questions on medical schemes and medical insurance, the chart below summarises penetration data for medical scheme alone as well as for medical scheme *or* medical insurance. Chart 4 indicates that there is not a substantial difference between the percentage of households that have medical scheme coverage in each income

[9] The IES estimates that there are 7,255,470 people in households with any kind of medical aid contribution compared with 7,127,343 medical aid scheme members reported by the CMS for the same period.

category compared to the percentage of households that have medical scheme *or* medical insurance coverage in the same income category.

Chart 4. Percentage of households with medical scheme expenditure by per capita monthly income



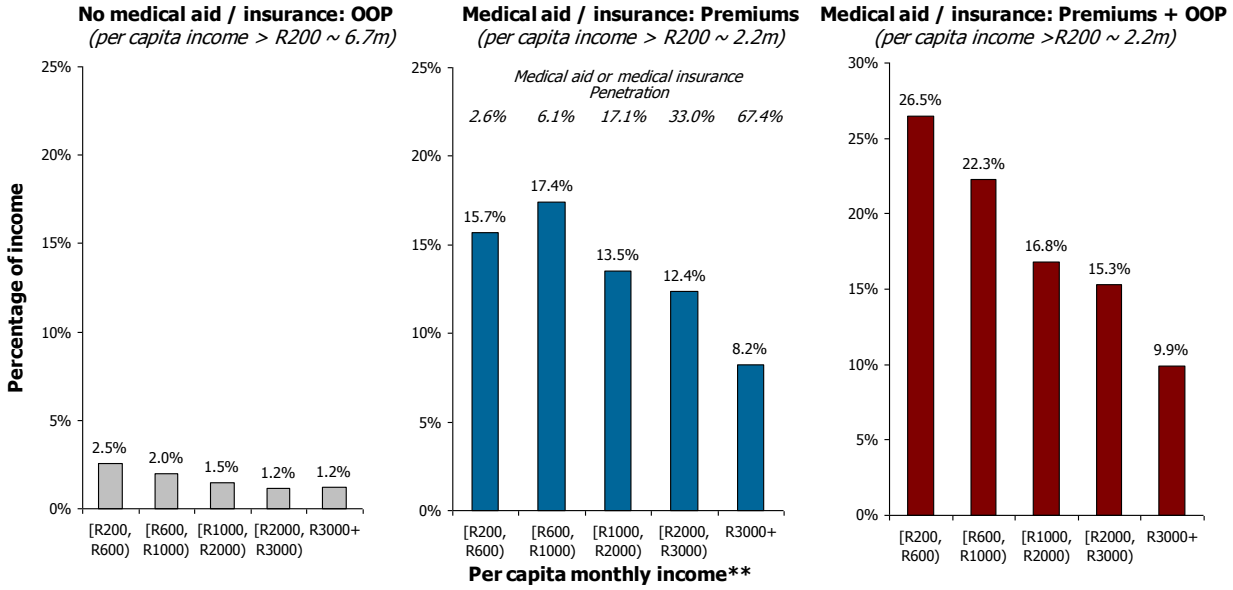
Source: IES 2005/2006
*Data for households earning less than R200 per capita per month appears to be unstable

Data from the IES indicates that spend on medical services and medical scheme membership varies significantly across per capita income groups. In interpreting the data a word of caution is required; the IES significantly underestimates the Rand value of medical scheme contributions. According to the IES, a total of R27.869 billion was contributed to medical aid schemes by households in the year prior to the survey. However, the CMS Annual Report for 2006/7 reports that the total receipts of all registered medical aid schemes was R57.6 billion for 2006. It is plausible that households may understate the magnitude of employer contributions, although it is unlikely that this alone can account for the understatement. An alternative possibility is that households do not distinguish between medical scheme and medical insurance. According to the survey a total of R6.4 billion was spent on medical insurance bring the total expenditure on medical scheme and medical insurance to R34.3 billion[10]. Further investigations are required to establish the reasons for the understatement with greater certainty. Nevertheless in the absence of a better alternative the IES data is used for the analysis.

[10] According to the survey 834,000 households have expenditure on medical insurance. The average monthly premium paid in 2006 was R647

The chart below summarises the percentage of income allocated to OOP expenses as well as medical scheme or medical insurance premiums for those who have OOP expenditure only and for those who have medical scheme or medical insurance.

Chart 5. Average out-of-pocket medical and medical scheme expenditure by monthly per capita income



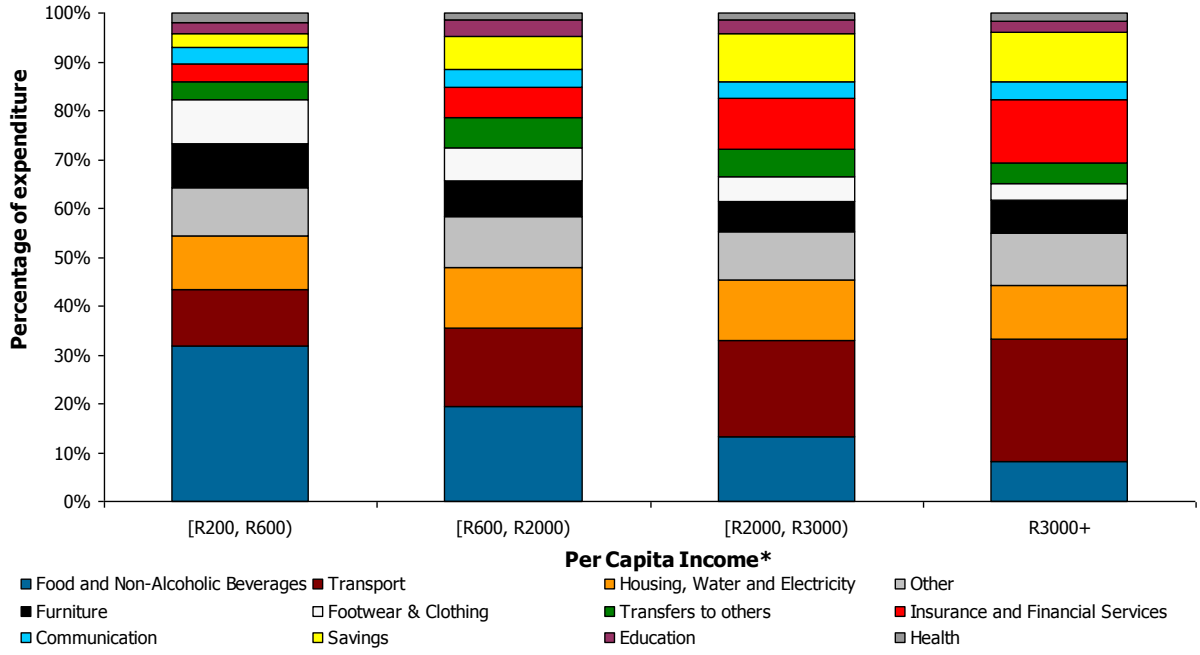
Source: IES 2005/2006
*Data for households earning less than R200 per capita per month appears to be unstable
** Income for households that contribute to medical aid includes employer's contributions to medical aid

For those who have medical scheme expenditure in the monthly per capita income bands of R200 to R600 and R600 to R1,000, medical scheme and or medical insurance contributions account for on average[11] 15.7% and 17.4% of per capita income respectively while total expenditure on medical-related items including medical scheme and OOP expenditure amounts to 26.5% and 22.3% of per capita income. While it could be argued that these parameters provide a good indication of affordability the data clearly highlights that penetration rates for lower income households are very low: 2.6% for those with a per capita income of between R200 and R600 per month and 6.1% for those with a per capita income of between R600 and R1000 per month[12]. It is highly likely that penetration rates are low precisely because the available solutions are unaffordable. In higher per capita income segments where penetration is higher the percentage of income allocated to medical scheme and out of pocket medical expenditure is far lower. At a per capita income of between R2,000 and R3,000 per month households spend on average 12.4% of income on medical scheme and 15.3% on medical expenses in total. In the highest per capita income segment (R3,000 or more) the percentages are around 8% and 10% respectively.

[11] Actual contributions as a percentage of income vary significantly making average calculations less useful. The standard deviation is 11.6% indicating a very wide spread.
[12] Medical aid contributions include employer contributions. To better reflect total income, personal income is also increased by employer contributions. This change enables affordability to be based total medical aid costs rather than only the employee portion.

Given the expenditure profile of lower income households an appropriate affordability threshold for lower income households should arguably be no higher than the proportion of income more affluent households appear to allocate to medical expenses. The expenditure profile of lower income households was explored in more detail to assess what scope there might be to divert resources towards medical scheme. In households with a per capita income of less than R2,000 per month, 57% of expenditure goes toward basic items such as food, transport, housing and education. Food expenditure alone in these households accounts for between 20% and 32% of expenditure. In contrast, households earning per capita income above R3000 per month allocate 8.2% of their total expenditure to food. These higher income households allocate 23% of total expenditure towards savings and financial services, whereas lower income households allocate only 6% of total expenditure towards these items.

Chart 6. Total household expenditure: All households with per capita income above R200 per month (~10.4 million households)



Source: IES 2005/2006
* Income for households that contribute to medical aid includes employer's contributions to medical aid

In some countries medical expenditure is defined as catastrophic when out-of-pocket health expenditure exceeds 30% of disposable household income less food expenditure[13]. Assuming that lower income

[13] This definition was suggested by Elixir Health. Xu et al. (2003: 112) mention that various studies on catastrophic health expenditure have used a definition of 5% to 20% of total household income, while they (for the purpose of their study) use a definition of at least 40% of a household's "capacity of pay". Capacity of pay is defined as "effective income remaining after basic subsistence needs have been met" (Xu et al., 2003: 112). The definition used here (30% of disposable household income less food

households spend 25% of their incomes on food, a medical scheme contribution of around 20% of total income – the current reported allocation for lower income households with medical scheme expenditure - would itself be approaching catastrophic expenditure.

For the purposes of this analysis an affordability threshold of 10% of per capita household income for expenditure on medical scheme membership has been set. This parameter appears to be reasonable - according to the IES 70% of households that have medical scheme expenditure spend 10% or less of their income on medical scheme membership - but it is noted that it may still be relatively high for poorer households. The analysis based on affordability should therefore be regarded a relatively optimistic scenario.

2.3.2 Cost of cover

After consideration of various low- or lower cost medical scheme options, it appears that the average contribution per beneficiary per month (PBPM) for a minimum package of benefits is in the region of R300.

expenditure) is one used by the Mexican government as part of their extensive health reform process, as detailed in the larger study by Elixir Health and Fifth Quadrant.

Table 5. Comparison of medical scheme benefits and costs (2007 data)

Medical Scheme	Option	Out-of-hospital benefits	In-hospital benefits	Pbpm*
Discovery Health	Keycare Core	▪ No GP visits or minor procedures ▪ Limited pregnancy benefits – 2 visits	▪ Keycare hospitals with sub-limits (some PMBs in State facilities)	254**
GEMS	Sapphire	▪ Comprehensive at Prime Cure	▪ Comprehensive in State hospitals ▪ R105,000 limit per family per year	259
Bonitas Medical Aid	Boncap Option	▪ Comprehensive at contracted GPs	▪ R500,000 family limit in network ▪ R200,000 limit per beneficiary per year	311
Momentum Health	Base Network	▪ Comprehensive at Faranani network or Prime Cure	▪ R650,000 family limit in network (some PMBs in State facilities)	349
GEMS	Beryl	▪ Comprehensive at Prime Cure	▪ Comprehensive in network ▪ R525,000 limit per family per year	352
Discovery Health	Keycare Plus	▪ Comprehensive in GP network	▪ Comprehensive in Keycare network (some PMBS in State facilities)	364
Oxygen	Essential Carecross	▪ Comprehensive in Carecross GP network	▪ Comprehensive in Oxygen network	370
Medshield Medical Scheme	Medivalue	▪ Limited number of GP visits dep. on family size (M +2 = 10 visits)	▪ Comprehensive with R200,000 family limit	378

**Per average beneficiary per month (assumes 1 principal member, 0.8 adult dependents and 1.2 child dependents*
***The costing is for the lowest income bracket: 0-R5,500 per month. Income cross subsidies occurs.*

It is assumed that supply-side efficiencies could potentially reduce this cost by as much as one third (R100 per month). Furthermore, it is assumed that a subsidy and/or bulk negotiated discount would reduce this price point by a further R100[14]. For the purposes of this analysis two price points of R100 and R200 are therefore used.

2.3.3 Household affordability

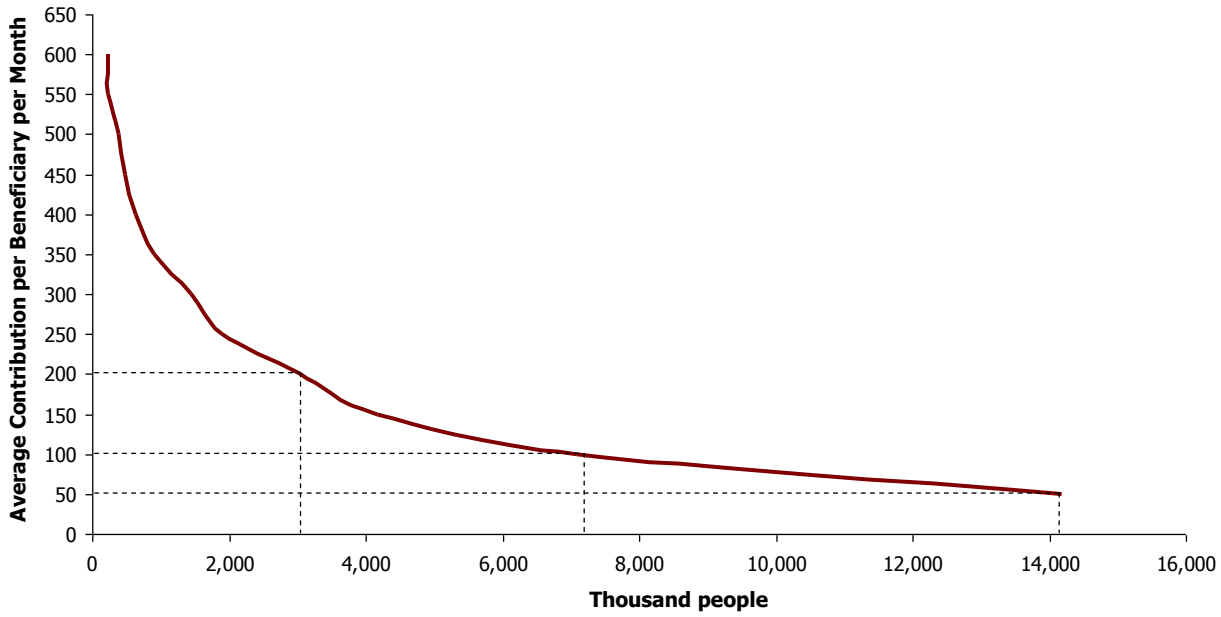
In order to assess whether a household can afford medical scheme cover, the average contribution PBPM is multiplied by the number of people in the household. If this amounts to 10% or less of household income (the affordability threshold), that household is (or those individuals in the household are) assumed to be able to afford medical scheme cover. In households where some but not all household members have medical scheme cover, the same affordability calculation described above is applied. This may well over-state potential levels of cover if the actual cost of cover for those who already have cover in the household is higher than the average contribution PBPM[15] used in the calculation. It is worth

[14] These assumptions will need to be confirmed by the supply-side analysis.
[15] There is no indication in the data as to how much partially covered households spend per covered member.

highlighting comments made earlier relating to household composition – many households contain extended family members or non-relatives which in reality may not choose to (or be able to) pool risks.

As illustrated in Chart 7 below, *based on data from the GHS, assuming an affordability threshold of 10% of income, at a R100 price point an additional* ***4.5 million households*** *containing* ***7.1 million people*** *who are not currently covered by a medical aid scheme could afford cover*. This would effectively double the current market bringing penetration to around 30% of the population. Note that this is likely to be an upper limit to the number of people to whom medical scheme coverage could potentially be extended in South Africa. If this price point is increased to R200 per beneficiary per month, then 2.8 million households, corresponding to three million people could afford cover[16]. The chart below summarises the potential market for a range of price points.

Chart 7. Demand histogram based on a 10% affordability threshold: Individuals



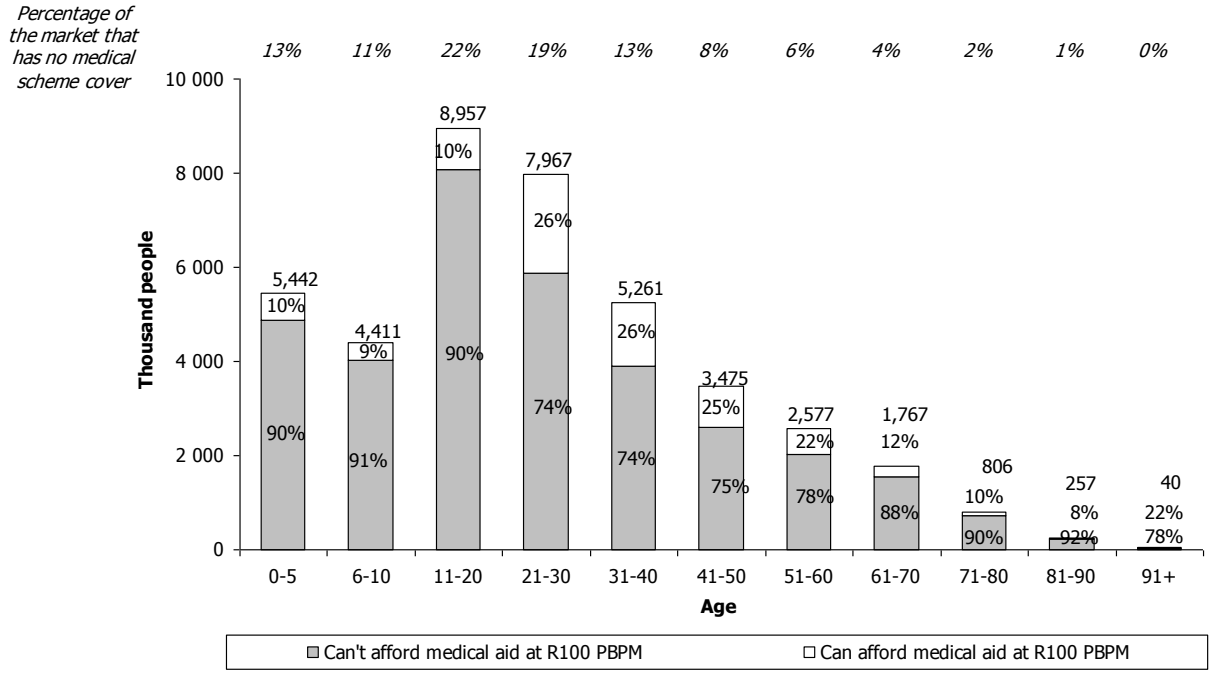
Source: GHS 2007
* Affordability is based on medical aid contributions of at most 10% of household income assuming everyone in the household in covered

The age distribution of those who can seemingly afford cover at a R100 price point is of interest. People between the ages of 21 and 40 represent 32% of those who do not have cover, however, they make up 49% of people (3.5 million) who can afford medical scheme cover at a price point of R100. Keeping all other factors constant, enlarging the pool of younger members and beneficiaries covered by medical schemes could serve to decrease the average cost of medical schemes. The segment of people

[16] Approximately half of these people are in households that already have partial cover.

approaching retirement is also of interest. These individuals may well be able to afford cover currently but may be unable to do so when they retire. Based on GHS data roughly 10% of uninsured children under the age of 21 live in households that can afford medical scheme cover at R100 PBPM.

Chart 8. Age of those individuals not covered (~ 41 million)

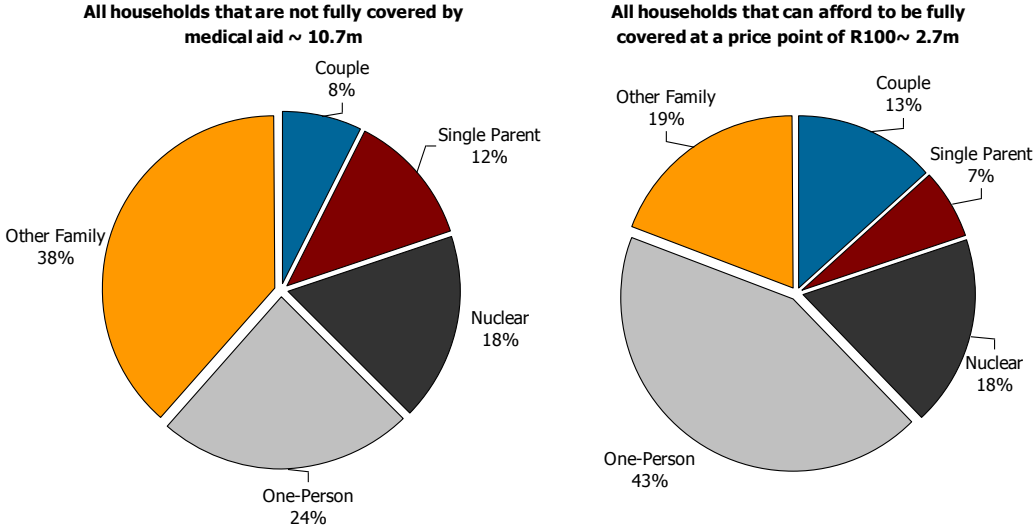


Source: Based on GHS 2007
* ACPBPM is R100 and at most 10% of household income is contributed to medical aid

As indicated in Chart 9 below, at a price point of R100, single member households and couples together make up 56% of households that can afford cover. That it is predominantly smaller households that can afford cover is not surprising given that the basis of affordability is a per capita one. However, it is noted that the size of this segment is likely to be significantly over-stated - many single person households may not be able to afford cover if their financial obligations to dependents living elsewhere are taken into account.

Households with children under the age of 20 are noticeably less able to afford cover at a price point of R100. As per Chart 8, this segment comprises 46% of people who don't have cover, but only 26% of people who can afford cover at this price point. Of course, those with children are likely to value the benefits of health cover more highly than those without and may be willing to allocate more than 10% of their incomes towards medical cover. Conversely they are also more likely to have many financial commitments and may not be able to afford more than 10%.

Chart 9. Household structure



Source: GHS 2007
* Affordability is based on medical aid contributions of at most 10% of household income

3 AN EMPLOYMENT-BASED ANALYSIS OF ACCESS

As already noted, access is not the only factor determining usage in the medical scheme market. An individual's willingness to purchase cover must also be considered. In this regard, various data sources indicate that willingness to purchase comprehensive medical scheme packages is likely to be low. The LIMS Household Survey[17] found that for individuals with a household gross monthly income of less than R6,000, 10% were willing to pay R100 per month for comprehensive medical scheme cover. Only 4% were willing to purchase this cover if the cost was increased to R200. Mechanisms that either compel households to purchase cover or provide them with additional incentives to do so are likely to be required to expand the market significantly.

In the absence of a nationally mandated system, employer-driven models are likely to remain important in the future. Employer-based interventions appear to be sensible for a number of reasons:

- employers can provide mechanisms to subsidise participation;
- salaried workers earning regular incomes are more likely to be able to access medical scheme products that are based on monthly subscriptions; and
- segments of workers that may be served through their employer or an aggregator (e.g. labour union or industry groups) are likely to be easiest to reach.

In line with the above the analysis focuses on the *nature of the employment contract*, as well as the *sector of employment* to augment the analysis based on the level of income discussed above.

Data from the Q4 2008 Quarterly Labour Force Survey ("QLFS") indicates that permanent employees are far more likely to be provided with some kind of benefits. 46% of permanently employed workers are entitled to medical scheme benefits from their employers[18]. The corresponding percentage for those with unspecified duration or limited duration is just 3%. In addition, the distinction between private sector and public sector workers is also highlighted. Public sector workers have access to the Government Employees Medical Scheme ("GEMS") and coverage within this segment has begun to increase significantly. According to the Q4 2008 QLFS 85% of permanently employed public sector workers[19] say they are entitled to medical benefits[20] while the corresponding percentage in the private sector is just 35%.

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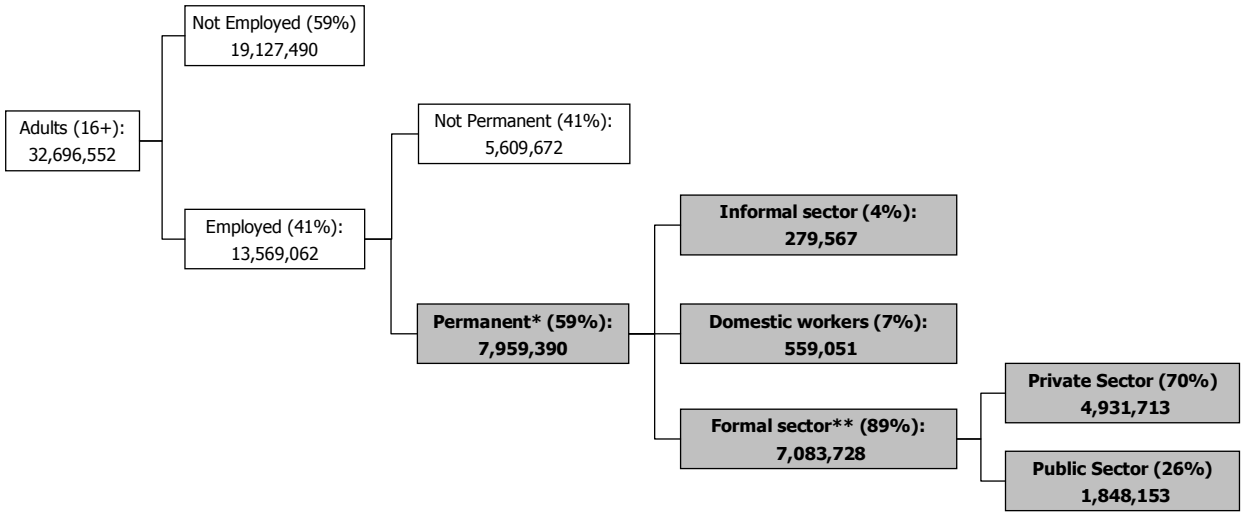
[17] LIMS Household Survey Final Report (Health and Development Africa (Pty) Ltd: 15 March 2006)
[18] The survey question in the new quarterly survey states "Are you entitled to medical aid benefits from your employer? 1 = YES, 2 = NO, 3 = DON'T KNOW)
[19] Including those employed by local, provincial or national government or a state-owned enterprise
[20] It is noted that employees who are entitled to a benefit may or may not actually make use of the benefit

Within the private sector, those who work in the formal sector are of interest. An analysis of domestic workers has also been undertaken primarily to serve as an example of a segment that might be reachable through an already existing market[21]. This does not mean that domestic workers are a stakeholder grouping of particular interest to the study. Rather, the domestic worker analysis is intended as an example of a group of workers with a relatively steady income flow but not easily reachable through client aggregators such as large employers.

The chart below summarises the employment profile of working-age adults in South Africa. 59% (almost 8 million) of the 13.6 million workers in South Africa have permanent employment. This is further broken down into informal employment, domestic workers and formal employment as illustrated below.

Chart 10. Employment in South Africa



Source: LFS 2007
* Question: Is your work Permanent, A fixed contract, Temporary, Casual, Seasonal or Don't Know?
37,045 workers said that they did not know which sector of work they are in or did not specify
** 303,863 (4% of permanent formal) are self employed, employed in a NGO or other

3.1 Permanently employed workers in the formal sector (7 million workers)

Data from the LFS indicates that *51% of permanently employed workers corresponding to* ***3.6 million workers*** *do not currently receive medical benefits from their employers*. The profile of permanent employees that have medical benefits is compared to those that do not in the table below.

[21] In the LFS domestic workers are not categorised as formal or informal workers but are instead treated as a separate category

Table 6. Profile of permanent employees with and without medical benefits

	Have medical benefits	Don't have medical benefits
Total	3 775 551	3 308 178
Personal Income		
Don't know	3%	2%
Not Applicable	1%	1%
Less than R1,500	4%	30%
R1,500 - R6,000	39%	55%
R6,000+	45%	8%
Refuse	8%	4%
Type of Business		
Public	40%	10%
A private business or a private household	55%	87%
Self-employed	1%	0%
Other or unspecified	4%	3%
Contribute to Pension		
Yes	89%	56%
No	10%	42%
Don't know / Unspecified	1%	2%
Industry		
Community, social and personal services	41%	14%
Financial services	17%	13%
Manufacturing	13%	17%
Wholesale and retail trade	11%	27%
Transport, storage and communication	7%	4%
Mining and quarrying	6%	4%
Construction	2%	7%
Electricity, gas and water supply	1%	1%
Agriculture, hunting, forestry and fishing	1%	12%
Unspecified	0%	0%
Foreign government	0%	0%
Private households	0%	0%

Source: LFS 2007

Aside from noticeable differences in the income and sector profiles it is of interest that around 60% of employees who do not have medical benefits have retirement benefits.

Using a price point of R100 and an affordability threshold of 10% of household income, LFS data indicates that an additional *1.7 million workers* who do not have employer-provided medical benefits either directly or through a household member could afford cover for themselves and their households. Approximately 927,000 employees could afford medical cover at a price point of R200. The profiles of workers who can afford medical benefits at price points of R100 and R200 PBPM together with those who cannot afford cover are summarised below[22].

[22] It is noted that while the affordability threshold has been applied to all households, in reality those households that have one or more public sector employees do not face an affordability threshold as cover for the entry level tier of GEMS is provided free of charge

Table 7. Profile of workers who could afford cover at R100 and R200 compared to those who could not afford cover at R100 (workers who are not covered)

	Afford at R100	Afford at R200	Can't afford at R100
Total	1 724 591	927 217	1 583 587
Personal Income			
Don't know	0%	0%	4%
Not Applicable	1%	1%	1%
Less than R1,500	10%	1%	51%
R1,500 - R6,000	73%	73%	36%
R6,000+	16%	24%	0%
Refuse	0%	0.0%	8%
Type of Business			
Public	11%	13%	8%
A private business or a private household	86%	85%	88%
Self-employed	0%	1%	1%
Other or unspecified	3%	2%	3%
Contribute to Pension			
Yes	64%	67%	49%
No	35%	32%	48%
Don't know / Unspecified	1%	0%	3%
Industry			
Wholesale and retail trade	26%	23%	27%
Manufacturing	19%	17%	16%
Community, social and personal services	16%	16%	12%
Financial intermediation, insurance, real estate	15%	17%	11%
Construction	8%	10%	6%
Mining and quirrying	6%	9%	3%
Agriculture, hunting, forestry and fishing	5%	3%	20%
Transport, storage and communication	4%	4%	4%
Electricity, gas and water supply	1%	1%	0%
Private households	0%	0%	0%
Exterior organisations and foreign government	0%	0%	0%
Unspecified	0%	0.0%	0%

Source: LFS 2007

By linking workers to households it is possible to assess the size of the potential market sized in terms of individuals (i.e. not only workers) at a given price point. The table below summarises the potential market sized in terms of workers and individuals who currently do not have cover but seem to be able to afford it for the two price points used in the analysis. It also provides an indication of the sensitivity of the analysis to the use of a higher affordability threshold of 15%.

Table 8. Potential market: Workers and individuals who do not have cover but could afford it

Affordability threshold	Price point	Workers that can afford medical scheme cover	Individuals that can afford medical scheme cover
10%	R 100	1.7 million	4.4 million
	R 200	927,000	1.9 million
15%	R 100	2.2 million	5.8 million
	R 200	1.2 Million	2.9 million

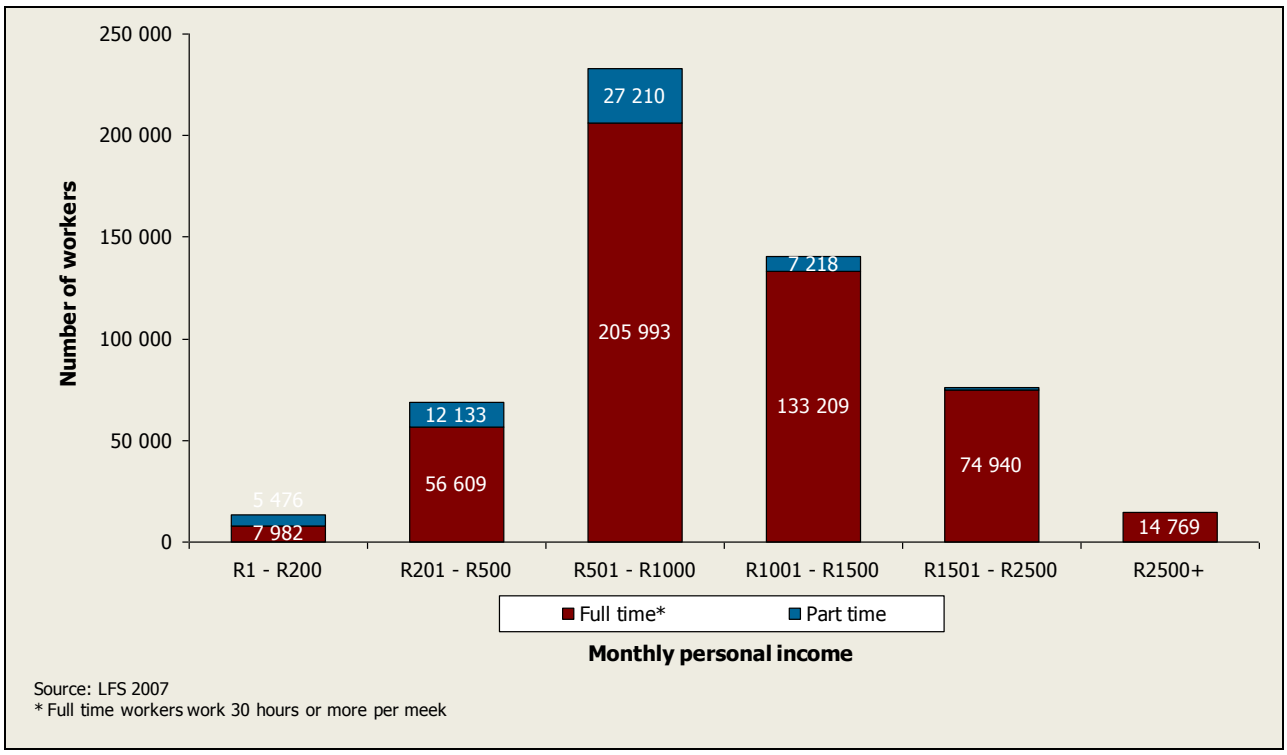
The impact of the affordability threshold is noticeable with the higher threshold adding an additional 1.8 million lives at the lower price point (an increase of 32%) and an additional 1 million lives at the R200 price point (an increase of 53%).

While the data source used to derive this estimate (the LFS) differs from the data source used to explore affordability more generally in the preceding chapter (the GHS), the analysis appears to indicate that assuming an affordability threshold of 10% **over half of those individuals who might be able to afford cover at a price point of R100 could potentially be reached through formal employers**[23].

3.2 Domestic workers

At around 559,000 individuals, domestic workers account for a relatively low percentage (7%) of all permanently employed workers. This sector is significantly underserved with only 1% of workers receiving medical scheme or health insurance benefits from their employers (LFS 2007). 58% of domestic workers personally earn R1,000 or less per month.

Chart 11. Personal income distribution of all permanent domestic workers that disclosed their income



Source: LFS 2007
* Full time workers work 30 hours or more per meek

[23] The GHS derived estimate of the potential additional lives covered is 7.1 million. The LFS indicates 3.8 million individuals live in households that could afford cover at R100 and have at least one household member who is permanently employed in the formal private sector

The vast majority of permanently employed domestic workers work for at least 30 hours per week and 94% work for one employer. Given the often close relationship between domestic workers and their employers, products that enable employers to purchase cover for domestic workers might be feasible. It is noted, however, that where employers pay low wages it is unlikely they will be willing to fund medical scheme cover for their domestic worker.

At a price point of R100 per beneficiary per month, 217,122 domestic workers can afford cover for their households. 50% of these workers live in single-person households[24] and 70% live in Gauteng. 90% of those who appear to be able to afford cover at R100 PBPM do not have cover provided by another household member's employer. At this price point, a total of 379,529 people (including domestic workers and other members of their households) who are currently not covered would be able to afford cover.

3.3 A summary of access based on employment profile

The findings of this analysis can be summarised in a tree which segments the market into mutually exclusive categories of households depending on their ranked ability to access a medical scheme as follows:

- **The current market**: This incorporates those who already appear to have access to medical schemes or medical benefit comprising employees with medical benefits as well as individuals who live in a household where at least one employee has medical benefits for him/herself *and* dependents. This segment totals 8.3 million individuals or 17% of the population[25].
- **Within reach**: This incorporates those who do not currently have medical scheme benefits, but are likely to obtain them either through GEMS (there is at least one public sector employee in the household[26]) or through expansion of existing benefits (there is at least one employed household member who has medical benefits and the household appears to be able to afford cover at R100). 2.5 million individuals (or 5% of the total population) fall in this group.
- **Employer-based distribution**: Those households that appear to be able to afford medical benefits and have at least one permanently employed formal sector worker are potentially reachable through their employers. This segment comprises just under three million individuals or 6% of the population.
- **Alternative distribution**: Individuals who can afford the product but who cannot be reached through formal sector employers will need to be reached through alternative mechanisms. This

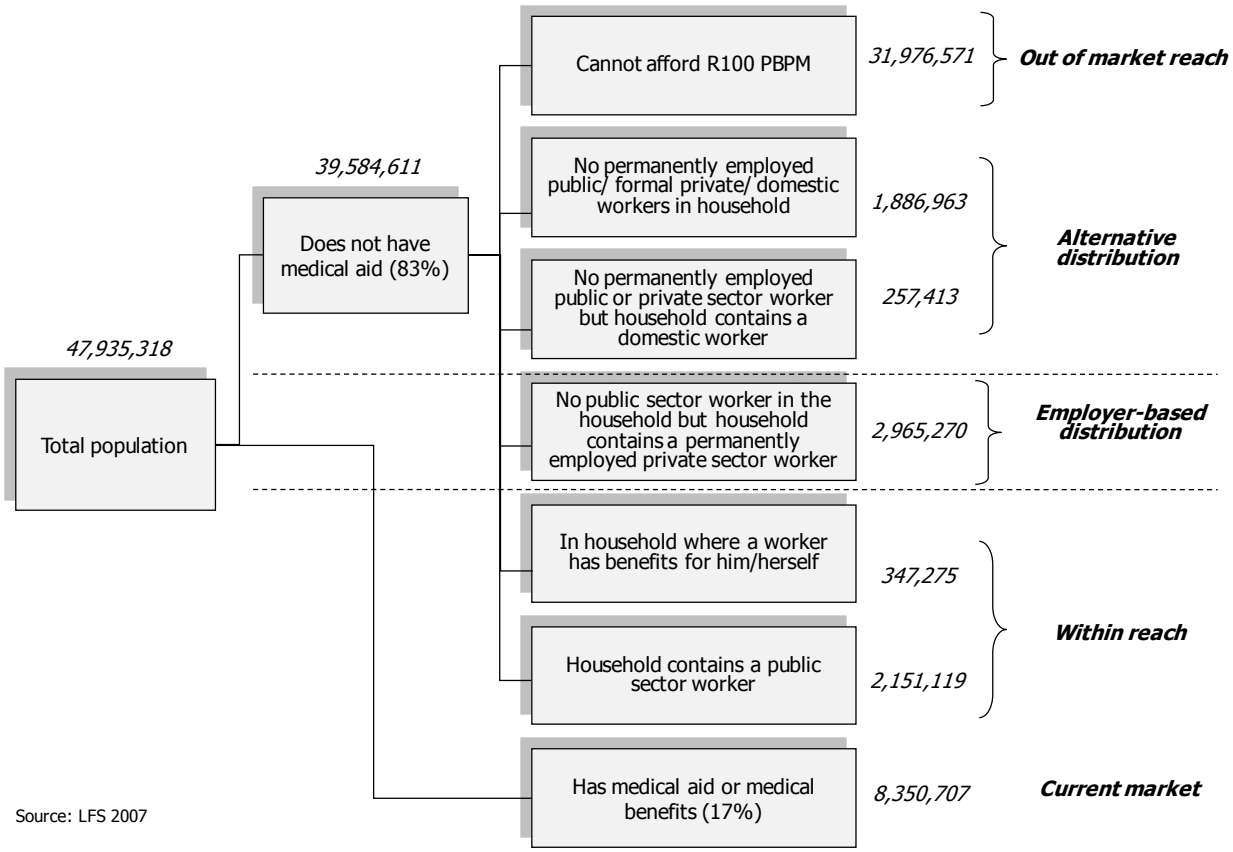
[24] The survey definition of a household is a dwelling-based definition. Domestic workers who live on the premises of their employers would be regarded as a separate household comprising one person despite the fact that they may have dependent family members living elsewhere.
[25] As noted the estimate of the current market based on the LFS is high – it includes those who have other non-medical scheme medical benefits as well as all household members where benefits extend to dependents.
[26] Note that for these individuals no affordability threshold has been incorporated. See footnote 22 above.

segment of the market comprises 2.1 million individuals or 4.5% of the population and would include individuals who can be reached through domestic workers highlighted for illustrative purposes above.

- **Out of market reach**: Those households with very low per capita incomes cannot afford cover even at the reduced price points used in this analysis. The vast majority of uninsured South Africans (67%) fall into this segment.

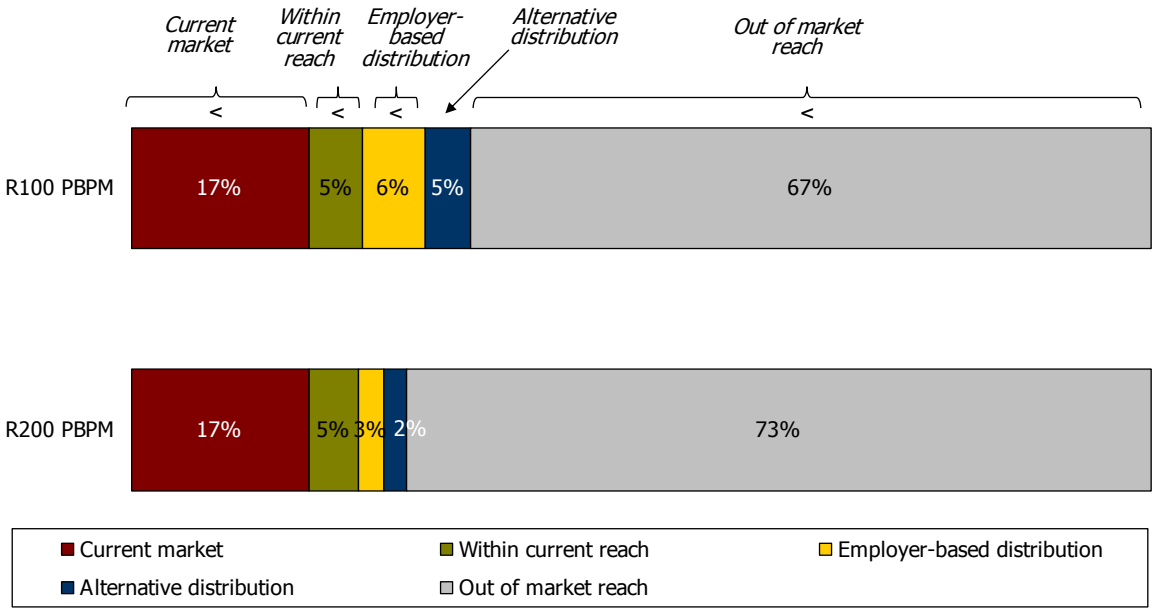
A graphical representation of the analysis in the form of an access 'tree' is presented in Chart 12 below.

Chart 12. Access tree based on employment profiles: Price point of R100



The analysis can be summarised in the form of a strand. Two strands are shown below; the first for a R100 price point and the second for a R200 price point.

Chart 13. Access strand: R100 and R200 PBPM



Source: LFS 2007

The implication of the above summary is that if subsidies and lower-cost schemes are provided and employer-based distribution and more innovative distribution through alternative mechanisms implemented, the medical scheme market could potentially be doubled.

4 OTHER CONSIDERATIONS FOR ENHANCING TAKE UP

In line with the most likely trajectory of the market, the analysis has explored an employer-based distribution model in detail. Other mechanisms to reach the market or factors that might encourage voluntary product adoption for those in reach of the market are also worth investigation. These include closer alignment between the needs of the market and package design, accessibility of health care service providers and additional inducements to become insured (for want of a better word) provided by other product providers. Some brief comments follow on each of these areas.

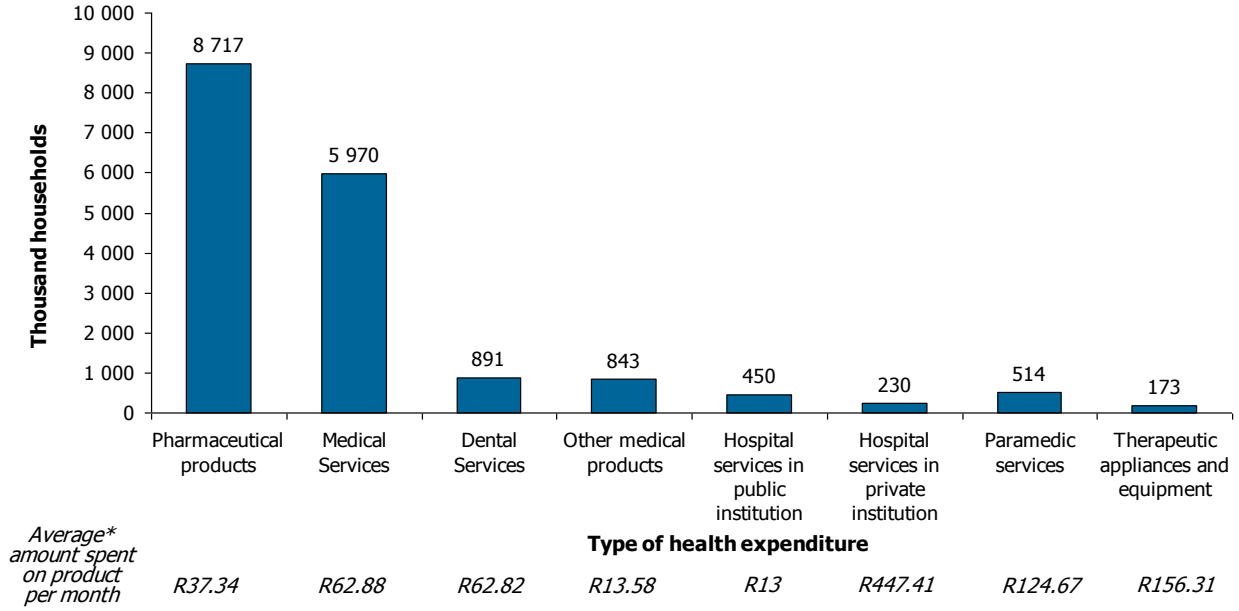
4.1 Alignment between the needs of the market and the benefits package

The composition of current medical expenditure potentially provides some insight into the need for risk cover and the benefits package design. Some data on the expenditure is therefore included. As discussed earlier, the IES 2005/6 data was used to investigate how much households spend on OOP health expenditure. On average 8.2 million households that have OOP expenditure but no medical scheme expenditure spend 2% of household income on health expenditure[27].

The chart below summarises data on OOP expenditure for all households with this expenditure category, including those that have medical scheme coverage. There is no data in that survey to determine how many health events took place nor the corresponding severity or duration. Approximately 85% of these households purchase pharmaceutical products over the course of a year. The average monthly expenditure on this item is R37.34. In the case of medical services roughly 58% of households reported expenditure on this category, spending roughly R63 per month on this item.

[27] The standard deviation is 7.4% and the median is 0.96%. This indicates that the distribution has a very long tail and that most households' OOP health expenditure is less than 1% of income.

Chart 14. Expenditure on medical services for all households that have OOP medical expenditure (~10.2 million households)



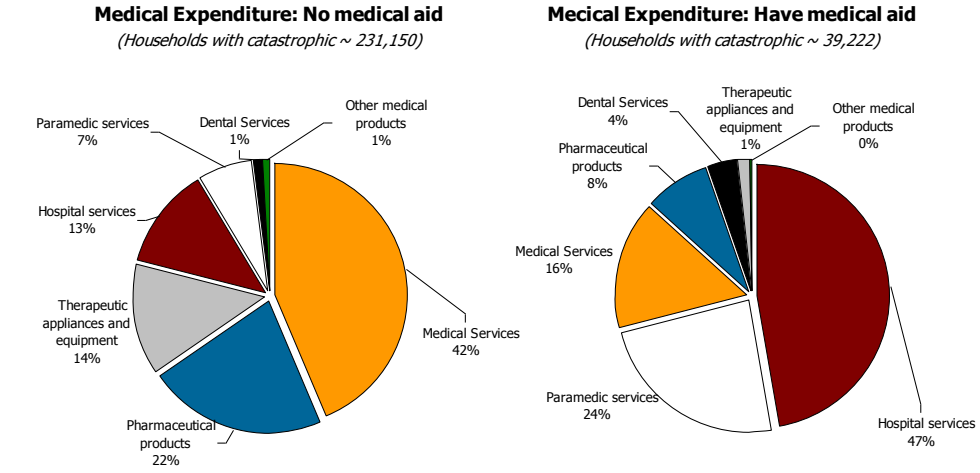
Source: IES 2005/2006
* Averages for each product exclude households where expenditure was zero for that product

Expenditure on hospital services is relatively uncommon. According to the IES just 450,000 households spent money on public hospital services while 230,000 paid for services in a private hospital. It is not clear whether this is because the services were not needed, whether they were not obtained if they were needed or whether they were accessed without payment. In this regard, data from the GHS indicates that 61% of those who obtained services from a public hospital did not pay.

As noted above, medical expenditure can be regarded as catastrophic when OOP health expenditure exceeds 30% of disposable household income less food expenditure. Using this definition, 2.8% of households without medical scheme contributions recorded catastrophic OOP health expenditure. For households with medical scheme expenditure, catastrophic OOP medical expenditure occurs in 2% of households. There is no data in the survey to indicate whether this catastrophic expenditure arises principally because of medical expenditure relating to household members who have no cover or because of limited benefits for those who do. Nevertheless, while there is a reduction of almost 40% in the extent of catastrophic expenditure in households with medical scheme expenditure compared to those without, it is not clear whether the reduction is sufficiently large to induce additional product take-up given the cost.

The composition of catastrophic expenditure is of interest as it potentially provides some insight into package design. According to the IES, in households without medical schemes where there was catastrophic medical expenditure almost two thirds is spent on medical services (primarily GP consultations) and medication. This could indicate that if a health benefit package was designed with the intention to drastically extend medical scheme coverage, the greatest need would be coverage for primary health services and medication. In contrast, in households with medical scheme expenditure almost half of all catastrophic OOP expenditure relates to hospital services. Note that the sample size for households that have medical scheme expenditure and have catastrophic OOP medical expenditure at 52 is relatively small but not insignificant[28].

Chart 15. Composition of medical expenditure in households without medical scheme coverage that experienced catastrophic medical expenditure



Source: IES 2005/2006

4.2 Access to health service providers

Clearly service levels and the location of service providers are critical if voluntary take-up of a pre-funded solution is to be significant. The IES does not allow for an exploration of indirect costs incurred in the procurement of medical services. Aside from opportunity costs relating to time required to access services, transport costs are a significant expenditure category. The LIMS survey found that the cost of transport accounts for 46% of all OOP costs for lower income households. A spatial analysis of the location of medical facilities and service providers is required in order to assess the extent of this barrier.

[28] The sample size for those without medical aid expenditure and catastrophic OOP expenditure is 427.

4.3 Leveraging other benefits of health coverage

Aside from the direct benefit of pre-funded access to health services, belonging to a medical scheme can provide additional benefits for other parties who have a direct financial interest in the physical well-being of the household. Lenders, particularly those that provide long term loans, are at risk if borrowers incur unexpected medical expenses or if poor access to health care ultimately compromises the ability of the borrower to generate an income. In this regard, data from AMPS indicates that 25% of adults who have a mortgage are not covered by medical schemes. While mortgage penetration is currently far lower than medical scheme penetration, as efforts to enhance access to expand the mortgage market unfold there may be opportunities to expand the medical scheme market in tandem.

5 CONCLUSION

The analysis has provided some indication of the scope for market expansion on the basis of employer-driven distribution models. As highlighted the analysis should be regarded as indicative – numerous inaccuracies plague the data and a range of simplifying assumptions have been made. Nevertheless the analysis indicates that an additional 3.3 million individuals could be reached through private sector employers at a price point of R100 while the expansion of GEMS is likely to bring in an additional 2.5 million individuals. The use of alternative distribution methods to reach individuals not easily reached through large private employers (e.g. domestic workers) could also significantly expand the market. Even if overstated, the analysis indicates that these interventions could significantly expand the market from its current level of around 7.5 million individuals.

Of course other efforts to enhance voluntary product adoption are worthy of further investigation. Aside from reducing the cost of membership, these include ensuring that targeted consumers are aware of the benefits of belonging to a scheme, aligning the design of the scheme with the needs of the market and providing physical access to health service providers.