Medical Scheme Expenditure on Private Hospitals

Executive summary

• The increase in the expenditure on private hospitals per average medical scheme beneficiary per annum has been outstripping CPI over the last decade. This has erroneously and simplistically been attributed only to price increases of hospital services.

• An analysis of price and utilisation data have indicated that while hospital price inflation is above CPI, increasing utilisation patterns of the medical scheme population is having a much greater impact on the expenditure of medical schemes.

• It is evident from the data that medical scheme beneficiaries are being admitted to private hospitals more frequently as well as staying in hospital for longer during each admission.

• It was found that the hospital utilisation (patient days) per beneficiary increased by 12.5% between 2006 and 2010. In 2006, medical schemes purchased 753 private hospital days per 1,000 beneficiaries, while in 2010 this had increased to 847 private hospital days per 1,000 beneficiaries.

• The data also indicated that older people (those above 65) are being admitted to hospital more often. In 2006 54.5% of medical scheme beneficiaries over 65 were admitted to private hospitals, while in 2010 this had increased to 60.7%. This has the effect of increasing medical scheme expenditure on private hospitals, as older patients require the most expensive care.

• In addition there has been a marked increase in the utilisation of private hospital services by medical scheme beneficiaries with chronic diseases across all measures. This could be indicative of a deterioration in the demographic profile of the medical scheme population.

• The utilisation data collected from the private hospitals was compared to that published in the Council for Medical Schemes (CMS) Annual reports. The CMS data was volatile in nature compared to private hospital data which showed consistently increasing utilisation over 2006-2010. The inconsistency in the CMS data brings its accuracy into question and, by not having reliable industry data, the effect of changes in the utilisation of private hospital services on medical scheme expenditures cannot be accurately assessed.
1 Introduction

Over the past decade, medical scheme expenditure for various services has been increasing consistently. However, medical scheme expenditure on private hospitals has been growing faster than expenditure on other services. This has erroneously and simplistically been attributed only to price increases of hospital services. The aim of this note is to provide a better understanding of the factors that are driving this growth in expenditure on private hospital services.

Medical scheme expenditure on private hospitals can be expected to increase in line with increases in the number of beneficiaries, annual inflation and changes in the burden of disease. The analysis in this note controls for the increase in beneficiary numbers by illustrating all figures on a ‘per average beneficiary per annum’ (pabpa) basis, and decomposes increases in hospital expenditures between increases in price and increases in utilisation (volume and case mix) of hospital services. It then discusses factors that have driven increased utilisation of private hospitals by medical scheme members such as increased/changing disease burden, adoption of new technologies, anti-selection and changes in the regulatory framework for medical schemes.

The findings of this report contradict the assertion by some industry players that there has not been any significant increase in the demand for or utilisation of private hospital services. This research note therefore explains what has been driving medical scheme expenditure on private hospitals, and thus is critical in informing future health policy.

2 Increased Expenditure on Private Hospitals

As stated above, the aim of this note is to investigate the reasons for increased spending on private hospitals by medical schemes. In Figure 1 average Consumer Price Inflation (CPI) from 2000 to 2010 is compared to average private hospital price inflation and the average annual increase in nominal medical scheme spending on private hospitals pabpa over the same timeline.

As the graph shows, the increase in spending on private hospitals pabpa was twice as high as CPI over the period. This difference

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About ECONEX
ECONEX is an economics consultancy that offers in-depth economic analysis covering competition economics, international trade, strategic analysis and regulatory work. The company was co-founded by Dr. Nicola Theron and Prof. Rachel Jafta during 2005. Both these economists have a wealth of consulting experience in the fields of competition and trade economics. They also teach courses in competition economics and international trade at Stellenbosch University. For more information on our services, as well as the economists and academic associates working at and with Econex, visit our website at www.econex.co.za.
can be attributed to various factors and as one can see in Figure 1, it can only partly be explained by hospital price inflation.

In order to determine the drivers of medical scheme expenditure on private hospitals, and specifically the reasons for increased spending on these services over the past decade, we first consider why private hospital price inflation would be higher than CPI, as depicted here. However, the main focus of this note is to investigate the difference between the second and third columns in Figure 1 (private hospital price inflation and the increase in nominal scheme expenditure on these services pabpa).

### 3 Higher-than-CPI increases

The fact that hospital price inflation is higher than CPI is a global phenomenon and can be attributed to many of the input factors for hospitals that increase at rates higher than CPI. For example, the average annual inflation for salaries (which is the largest input cost item for hospitals) was 9.5% between 2000 and 2010. Compared with average annual hospital price inflation of 8.5% over this period – see Figure 1 – it implies that private hospitals had to absorb some of these costs and did not pass them on to the medical schemes or patients directly.

Healthcare professional salaries for nurses and pharmacy staff specifically make up the most significant portion of the total input costs faced by private hospitals. As such, salary increases have a significant impact on total costs, specifically also because of the scarce skills component of these inputs. For example, the inflation of nursing salaries in South Africa has been much higher than CPI due to wage settlements in the public sector, an international shortage of nurses (especially specialised staff such as theatre, ICU, high-care and neo-natal staff) and the high demand for South African nurses locally and worldwide. This means that the local private hospital industry is required to compete both with the public sector and globally in order to attract and retain properly trained nurses. These higher-than-CPI increases of healthcare professional salaries explain to a large extent why the annual increase in hospital prices would exceed CPI.

Another reason for hospital price inflation being higher than CPI is significant increases in the capital expenditure and maintenance related to the building and equipping of a private hospital. Although capital costs make up a smaller portion of hospital input costs than salaries, capital costs generally also increase at a higher rate than CPI.

Similarly, other inputs include, for instance, food and electricity, as well as rates and taxes of which the prices have also in-

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1. General salary inflation, StatsSA.
2. Refer to Econex Health Reform Note 9. Available at: www.econex.co.za
creased at rates higher than CPI over the past few years. It could therefore be expected that private hospital price inflation will not be equal to CPI, as a large proportion of the input costs increases at rates well above CPI. The fact that many of the important inputs in the provision of hospital services have increased by more than CPI, is not unique to South Africa. International evidence\(^3\) indicates that hospital price increases are usually higher than CPI, specifically because of the larger price increases to their most significant input factors.

3.1 Increases in expenditure on private hospitals

As seen above, the difference between CPI and the rate of increase in private hospital expenditure by the medical schemes pabpa (as depicted by the first and last columns in Figure 1) can be attributed to many different factors. Part of the difference can be attributed to hospital price inflation which has been higher than CPI. However, even after adjusting for hospital price inflation, a large portion of the increase in medical scheme expenditure on private hospital services remains unaccounted for. This residual growth in expenditure may be due to other drivers (e.g. utilisation changes due to differences in medical scheme benefit design, ageing, changes in the burden of disease or advances in medicine, changes in medical practices, to name a few).

The average growth in nominal expenditure on private hospitals pabpa (12.2% between 2000 and 2010 – see Figure 1) is split into its underlying components in Figure 2. In other words, Figure 2 shows what percentage of the average increase over the period is due to CPI, real hospital price inflation\(^4\) and other factors. Only 20.8% of the growth in expenditure on private hospitals by the medical schemes between 2000 and 2010 was attributable to real hospital price inflation, while 30% of the growth could be attributed to other factors. Although these numbers should not necessarily be interpreted as direct relationships, e.g. a 1% increase in CPI will not necessarily lead to a 1% increase in spending on private hospitals, it does suggest that hospital price inflation can only partially account for the expenditure increases over the past decade. In fact, if one only considers the increase above CPI, almost 60% of the increase in medical scheme expenditure on private hospitals

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4. Nominal hospital price inflation (as in Figure 1) less CPI.
can be attributed to other factors such as changes in utilisation.\(^5\)

From the data and graphs presented in this section, it is clear that while hospital price inflation has been higher than CPI (as one would expect) these increases alone cannot explain the growth in expenditure on private hospitals by medical schemes. In addition to input costs which were discussed above, there are a number of other factors that contribute to the increased spending on private hospital services. International research emphasises the contribution to hospital costs of volumes and case mix (see e.g. American Hospital Association (2005)\(^6\)). Figure 3 shows the underlying determinants of each of these drivers of hospital costs and serves as a framework for analysing the “other” components as described in Figure 2.

According to Figure 3, changes in the number of services provided (volumes) are not only driven by changes in usage rates, but also demographic changes. Changes to the demographic profile (e.g. age) of hospital patients affect both volumes and case mix (or the intensity of care). Case mix is further determined by acuity, technological changes, and some other factors. And, as explained above, the cost of goods and services (input costs) are determined by labour costs and the price of other goods and services that are used in the provision of hospital services. Within the South African context too, this diagram helps us to understand that the “other” factors in Figure 2 can potentially be attributed to utilisation\(^7\) increases (i.e. changes in the volume of the services being provided and case mix). The rest of this note provides evidence in this regard.

4 Utilisation Increases

This section describes changes in the number of services provided (volumes) and the intensity of care (case mix). We show that changes/increases in these factors can explain a significant portion of the increased spending on private hospitals by medical schemes.

4.1 Inpatient admissions

The increased utilisation of private hospital services, evident in the increased number of inpatient admissions at the three listed private hospital groups per 1,000 beneficiaries\(^8\) between 2005 and 2010.

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5. Determined by calculating the share that “other factors” comprise of the total increase in excess of CPI. In other words, 30.4%/ (100%−48.8%)=59.4%


7. For the purposes of this note, ‘utilisation’ is used as a collective term to describe changes in both volumes and case mix.

8. Here and throughout the remainder of this section, the data have been adjusted for the share of total private hospital beds accounted for by the three listed hospital groups, and for self-paying patients. In 2010 the three listed hospital groups represented more or less 70% of all private hospital beds in South Africa.
as depicted in Figure 4) impacts on the volume of services provided by these facilities and hence the expenditure on private hospitals by medical schemes. Figure 4 shows that total inpatient admissions have increased from 244 admissions per 1,000 beneficiaries in 2006 to 259 admissions per 1,000 beneficiaries in 2010, i.e. a cumulative increase of 6.2% over the period. This is similar to saying that in 2006, 24.4% of medical scheme beneficiaries were admitted to private hospitals; while in 2010 25.9% of medical scheme beneficiaries were admitted to private hospitals (an increase of 6.2% in the admission rate). Another measure of utilisation which shows an increase between 2006 and 2010 is the total number of patient days per 1,000 beneficiaries for the three listed hospital groups – see Figure 5. As is evident on the graph, there has been a 12.5% increase in patient days per 1,000 beneficiaries since 2006 (753 patient days sold per 1000 beneficiaries) to 2010 (847 patient days sold per 1000 beneficiaries). This means that the average medical scheme beneficiary spent 0.75 days in hospital in 2006, while in 2010 the average medical scheme beneficiary spent 0.85 days in hospital (an increase of 12.5%).

The fact that there has been a larger increase in the number of patient days than in the total inpatient admission rate for the three listed hospital groups, implies that there may also have been an increase in the acuity of the patients as reflected in the higher average length of stay (ALOS).12

Figure 4: Cumulative increase and total inpatient admissions per 1,000 beneficiaries9 for Mediclinic, Life and Netcare, 2006-2010

Figure 5: Cumulative increase and total patient days per 1,000 beneficiaries11 for Mediclinic, Life and Netcare, 2006-2010

10. Patient days, or patient days sold, refer to the cumulative number of days that patients spent in hospital; also calculated by multiplying admissions with the average length of stay for these admissions. In the CMS reports this is called “beneficiary days in hospital”.
11. See footnote 8.
12. The longer ALOS could also be an indication of supply-induced demand since the length of stay is determined by doctors and not the hospitals, nor the patients. However, we do not have any evidence in this regard and can only interpret the hospital data that is available to us at this time.
Figure 6 shows how this utilisation measure has increased from 2006 to 2010; implying that on average when patients were admitted to hospital, they stayed in hospital for 3.27 days in 2010, compared to 3.09 days in 2006. This means that there was a 5.9% increase in the ALOS over this period.

The evidence on increased utilisation presented in this section helps to explain why greater medical scheme spending on private hospitals cannot be attributed to price inflation alone. It is clearly seen from the evidence above that medical scheme members are being admitted to private hospitals more frequently as well as staying in hospital for longer during each admission. This increased utilisation is a key component of the increased expenditure by medical schemes on private hospitals.

4.2 Average costs and admission rates

Figure 7 shows the indexed average cost\(^{13}\) of all inpatient admissions to Mediclinic, Life Healthcare and Netcare hospitals across various age bands for 2010. It is clear that the cost of treating children under the age of one and people older than 65 is the highest – the average cost of treating patients in those age bands are almost 50% higher than the average cost of all admissions. Taking this into account, the increasing admission rate for the older age bands specifically (as will be shown in Figure 8) has a significant impact on the increased expenditure by medical schemes on private hospital services.

Despite a fairly constant average age profile of medical scheme beneficiaries, there seems to be a deterioration in the health status of the insured population. Increases in the number of admissions per 1,000 beneficiaries at the three listed hospital groups, show much larger admission rates in 2010 than in 2005, for the older patients specifically. Figure 8 compares the number of admissions per 1,000 medical scheme beneficiaries (admission rate) for each age band in 2005 and 2010. The change in the admission rate between 2005 and 2010 is also shown for the last two age

\(^{13}\) That is, the average cost across all inpatient admissions = 1.
bands; indicating that for patients older than 65 years of age there has been an 11.4% increase per 1,000 beneficiaries being admitted to the three listed hospital groups between 2005 and 2010 from 545 to 607 admissions per 1,000 beneficiaries. This is similar to saying that in 2006 54.5% of medical scheme beneficiaries over 65 were admitted to private hospitals, while in 2010 60.7% of medical scheme beneficiaries over 65 were admitted to private hospitals. The admission rate for those patients aged 55 to 64 increased from 352 to 368 admissions per 1,000 beneficiaries (4.5%) over those five years. It is clear that utilisation by elderly patients increased significantly.14

A report by the National Audit Office for the Department of Health in England investigated similar increases in the utilisation of hospital services in the National Health Service (NHS). It was found that the average annual increase in hospital activity, which includes emergency, elective and day case admissions, was 3.6% between 2000 and 2010. They also found that there was a 59% increase in the number of patients aged 75 and older being admitted to hospital over the same period, “suggesting that the complexity of care in hospitals has increased.”15 This is in line with local trends as discussed above and shown in Figure 8 – it seems the worsening disease profile of the population in general is not unique to South Africa and similar utilisation increases have been experienced in other countries as well.

4.3 Chronic disease burden

Turning to chronic disease admissions at the three listed hospital groups as opposed to all admissions as in the previous section, one finds a similar trend. The incidence of chronic diseases among the insured population, per 1,000 people, in various age brackets is shown in Figure 9. This illustrates that older individuals are more prone to chronic diseases than younger individuals, which suggests that an older population would require more frequent and expensive treatment than a younger population. South Africa has experienced an increase in the number of individuals who are being admitted to private hospitals for chronic diseases (refer to Figure 10), as well as an increase in the number of elderly patients being admitted in general, as was shown in Figure 8. The increase in the number of admissions, as well as

Figure 8: Inpatient Admissions per 1,000 beneficiaries at the three listed hospital groups per age band, 2005 and 2010

14. While there was a reduction in the admission rate for under 1s between 2005 and 2010, medical scheme beneficiaries in this age cohort increased by more than 80%. However, the proportion of beneficiaries over 65 is much larger than the proportion of under 1s. As such, the effect on medical scheme expenditure of the increase in the admission rate for beneficiaries older than 65 outweighs the impact of the reduction in the admission rate for under 1s.

the ALOS associated with various chronic diseases, are likely to be the result of anti-selection stemming from open enrolment and community rating policies, as will be explained below, but could also be related to a worsening disease burden in general.\textsuperscript{16} In effect, while the average age of the insured population is not increasing significantly, it is likely that the disease profile of the insured is however deteriorating.

This phenomenon is mainly due to healthy or low-risk individuals opting out of insurance in response to the increased premiums they face, along with an increase in less healthy or high-risk individuals who enjoy the same premiums as the healthy. There is substantial evidence of anti-selection by members of medical schemes in the voluntary environment.\textsuperscript{17} Medical schemes have a “twin-peak” age profile. Younger people have remained outside the voluntary health insurance system while older and retired people have joined medical schemes in significant numbers. The effect of remaining outside the system is very marked for young working men. The introduction of the Government Employees Medical Scheme (GEMS) since 2006 has increased the numbers of working women covered as the State employs significant numbers of women as teachers and nurses. There is also clear evidence of anti-selection in the voluntary environment by women in their child-bearing years. The minimum benefit package includes almost all maternity care and thus it has become a common phenomenon for women to join a medical scheme to have children and to leave if the children are healthy. The extent of anti-selection by those with chronic diseases can only be speculated, but the patterns of disease by age show unusual bulges in the young adult years for some severe diseases

\textsuperscript{16} We do not attempt to analyse the reason(s) for the increased number of admissions and ALOS for CDL conditions here, but only highlight the fact that these utilisation measures have increased among the medical scheme beneficiaries and that this impacts on medical scheme spending on private hospital services.

like multiple sclerosis, suggesting that families with someone with an expensive disease would try to join a medical scheme.\textsuperscript{18}

In addition to the regulatory changes discussed below, the Medical Schemes Act also instituted waiting periods to join medical schemes in order to provide some measure of protection against anti-selection, but these do not seem to have been effective for diseases requiring extensive treatment. There is anecdotal evidence that older people with chronic renal failure needing dialysis are encouraged to join medical schemes in order to access dialysis in the private sector. Limited resources in the public sector have resulted in severe rationing by age, with dialysis not typically provided over age 60. Dialysis in the public sector is offered to bridge the known 12 month waiting period that the medical scheme will apply. The impact on the medical scheme is substantial in terms of monthly costs. The net effect is that the community rate for all members of medical schemes must increase to cover the costs of anti-selection.\textsuperscript{19} This effect is amplified by younger, healthier individuals choosing not to belong to a medical scheme.\textsuperscript{20}

The impact of this, and other, regulatory changes can be seen in Table 1 and Figure 10. Table 1 gives the total inpatient admissions and patient days per 1,000 beneficiaries\textsuperscript{21} for all the chronic disease list (CDL) condition admissions to Mediclinic, Life Healthcare and Netcare. It is clear that there have been large increases in utilisation for these conditions, indicative of a deteriorating disease profile of the insured population.\textsuperscript{22}

Figure 10 illustrates the cumulative growth from 2005 in total admissions for all CDL conditions at the three listed hospital groups. It also shows the cumulative growth in the ALOS and total patient days sold for these conditions by the three listed hospital groups over the same period.

The total number of inpatient admissions per 1,000 beneficiaries at the three listed hospital groups

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|}
\hline
Year & Admissions (per 1,000 beneficiaries)\textsuperscript{23} & Patient days (per 1,000 beneficiaries)\textsuperscript{24} & ALOS \\
\hline
2005 & 38.83 & 149.85 & 3.86 \\
2006 & 43.95 & 174.33 & 3.97 \\
2007 & 46.37 & 189.24 & 4.08 \\
2008 & 48.87 & 203.56 & 4.16 \\
2009 & 50.79 & 217.12 & 4.27 \\
2010 & 57.14 & 252.56 & 4.42 \\
\hline
Cumulative increase (2005-2010) & 47.2\% & 68.5\% & 14.5\% \\
\hline
\end{tabular}
\caption{Total inpatient admissions, patient days and ALOS for all CDL conditions by Mediclinic, Life and Netcare, 2005-2010}
\end{table}
for all the conditions in the CDL, increased by 47.2% from 2005 to 2010, as illustrated in Figure 10. With a 68.5% increase, the number of patient days per 1,000 beneficiaries increased even more since 2005. This increase possibly indicates that there has been a deterioration in the morbidity of the insured population. Figure 10 and Table 1 also illustrate the increase in the ALOS for these conditions between 2005 and 2010.

This increase in utilisation of beneficiaries with chronic diseases over the past few years is confirmed by data from a CMS report\(^{26}\) on the Risk-Equalisation Fund (REF) shadow returns for 2010. The CMS states that the rate of reported CDL conditions was higher than expected throughout the year and that this upward trend in the 2010 submissions was observed in the previous years as well.

4.4 Pharmaceuticals and technology

Apart from more private hospital services being demanded, there has been a shift in the type of medical products and services demanded over time, i.e. changes to the case mix. This change in the distribution of goods and services used and provided during treatment, drives up the level of expenditure on private hospitals. The main causes for the change in the case mix stems from the development and implementation of new health technologies and the changing disease burden of the insured population (or acuity, as listed in Figure 3).

Since we have already considered changes in the burden of disease of the insured population above, we now turn to innovations in health technologies which include changes in drugs, devices, procedures, preventative measures, diagnosis as well as the treatment and rehabilitation of patients.\(^{27}\) Health technological improvements also incorporate improvements in organisation and managerial support. While some new healthcare technologies, such as developments in vaccines and preventative medicines, may reduce spending on hospital care, many medical innovations drive up expenditure on hospitals and have varying impacts on the cost of hospital services. These cost increase are linked to new treatment options for many conditions, the development of treatment possibilities for previously inoperable conditions, and the high initial cost

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27. Private Hospital review 2008, p.37
associated with technologies which stem from high research and development costs, limited economies of scale and the initial lack of competing technology.

While the progress in health technologies is an important driver of higher spending on private hospital services, the resulting benefits of improved healthcare delivery should not be underestimated. The advances in less invasive surgery, like laparoscopic or minimally invasive surgery, have resulted in a greater number of previously inoperable cases being performed. The improvement in outcomes of certain procedures makes patients, and medical professionals, more willing to undergo/provide certain treatments which might not have been the case previously, such as coronary artery stent operations. Many procedures like hip replacements for instance, which are aimed at improving the quality of life for many elderly and high risk patients, are becoming more accessible as the associated risk of these procedures decrease.

It should be kept in mind that the shift in health technologies not only impacts on case mix, but also on input costs. As newer health technologies tend to be more expensive than older options, this change in technology also impacts significantly on cost and therefore medical scheme expenditure on private hospitals.

5 Institutional Changes

Also affecting the volume and case mix of services provided by the private hospitals to medical scheme beneficiaries, are institutional or regulatory changes that have come into effect during the past few years. These changes also explain some of the behavioural changes that are evident in the increased demand for and utilisation of private hospital services, as was shown in section 4.

5.1 The Medical Schemes Act

The regulation of the medical scheme industry in terms of the Medical Schemes Act (with enabling regulations which came into effect on 1 January 2000) has caused major increases in the volume and cost of private hospital services provision. This, in turn, has also resulted in substantial increases to the contribution rates of medical scheme members. In order to remove any discrimination against people who are older and sicker, the Act introduced open enrolment, which meant that no one may be declined membership of an open/unrestricted medical scheme, irrespective of their age or health status. Another aspect that was introduced was community rating, meaning that a member’s contribution rate may not differ based on that person’s age or state of health.

These changes were not accompanied by any requirement for compulsory membership of the formally employed population to medical schemes. This increased the risk of anti-selection by members; which means that there is additional incentive for sick and elderly people to join medical schemes. As one would expect, this impacts negatively on the overall risk profile of medical schemes. The cost of contributions has therefore risen at a higher level than it would have if the medical schemes had a greater number of younger and healthier members. The effect of open enrolment and community rating is that proportionally more people are accessing private hospital services, for more severe illnesses. This is evident in the data on private hospital admissions considered above. Suffice to note that these provisions in the Medical Schemes Act also contributed to increased spending on private hospitals by medical schemes (especially between 2000 and 2004).

28. See footnote 27.
29. Nr. 131 of 1998
5.2 Prescribed minimum benefits (PMBs)

In addition to the regulatory changes discussed above, the Medical Schemes Act also introduced a list of Prescribed Minimum Benefits (PMBs), i.e. benefits that have to be covered by all medical schemes. The fact that these benefits have to be paid in full, irrespective of benefit option, has also caused spending on private hospital services to increase. In a research paper by the Council for Medical Schemes (CMS) evaluating medical scheme cost increases, reference is made to this factor, amongst others, and it is concluded that, “As a result of these practices, hospital costs have continued to rise sharply, with specialist and GP costs rising dramatically for the first time since the introduction of the Medical Schemes Act (which largely took effect from 2000).”

Although most of the PMB conditions require in-hospital treatment, the fact that it has to be paid in full, creates additional incentive for patients to seek care directly from hospitals rather than from GPs, for instance, and also incentivises providers to treat patients in-hospital, so as to ensure that their fees are fully covered.

Prof. McLeod produced a comparison of actual and expected PMB cost curves for the South African Treasury, which is in the public domain. Consistent with other research finding a similar trend, the actual PMB claims cost is significantly higher than expected. “The impact is roughly 25% (one-quarter) higher values...”, according to McLeod. It is important to note the expected

Figure 11: Comparison of Expected and Actual PMB curves for 2008 by Administrator

PMB curve was adjusted for tariff inflation, which leads one to the conclusion that the increased cost is due to increased utilisation of healthcare services and not price escalations alone. In line with the average costs index that was shown in Figure 7, Figure 11 shows the higher than expected PMB costs for neonatal and elderly patients which drives the overall higher average costs.

As was shown in Figure 2, 30% of the average increase in spending on private hospitals between 2000 and 2010 can be attributed to factors other than CPI, hospital price increases and beneficiary growth – these regulatory changes have contributed towards this part of the increase.

6 CMS admissions data

Comparing the evidence on increased utilisation of private hospital services to similar utilisation data as published by the CMS, reveals some inconsistencies. Specifically, an investigation of the CMS published data on hospital admissions and beneficiary days in hospital (i.e. patient days) show high volatility from year to year; while the same data from the private hospitals show a consistently increasing trend over the same period. For example, see Figure 12 and Figure 13 which compare CMS data on admissions and beneficiary days in hospital with private hospital data on admissions and patient days, respectively.

Note that we do not expect the CMS and private hospital data to be exactly the same, since the CMS data includes admission to public hospitals (albeit negligible). However, the trend should be the same. Also affecting the comparability of the nominal values is the fact that the data
for private hospitals was calculated by aggregating data from Mediclinic, Life Healthcare and Netcare, and adjusting it to represent only medical scheme patients and not uninsured patients; after which the data were then extrapolated to represent all private hospitals. On this basis, it is likely that the nominal values will not correspond exactly with CMS records for private hospital admissions. However, the trend should be more or less the same. Figure 12 and Figure 13 highlight the volatile nature of the CMS data when compared to private hospital data which are much more stable over this period. The inconsistency in the CMS data brings its accuracy into question and, by not having reliable data, the effect of changes in the utilisation of private hospital services on medical scheme expenditures cannot be accurately assessed. For instance, the CMS data indicate a downward trend between 2006 and 2010 for both utilisation measures shown here. This is in contradiction with the private hospital data, which show an increasing admission rate (Figure 12) and increasing patient days (Figure 13) per 1,000 beneficiaries over this period. These types of inaccuracies should be noted since we have shown in this note that a large part of the increased spending by medical schemes on private hospitals is explained by increases in utilisation of these services. The increased spending cannot be explained by private hospital price inflation alone, and therefore one needs accurate data on other factors, such as utilisation, in order to determine the effect thereof and to better understand the drivers of medical scheme expenditure on private hospitals.

7 Conclusion

In this note we investigated the drivers of medical scheme spending on private hospital services, since spending on these services has increased significantly over the past decade. It was shown that on average 30% of the annual increase in expenditure on private hospitals is due to increased utilisation (or factors other than price inflation and beneficiary growth). Put differently, and when considering only the part of the average annual increase that is above CPI, it means that on average almost 60% of the real increase in medical scheme expenditure on private hospitals can be attributed to non-price factors such as increased utilisation of these services.

Although hospital price inflation has been higher than CPI, this is in line with global trends and can be expected as the inflation rates of key inputs to the provision of private hospital services (such as health professional salaries) are significantly higher than CPI. However, after accounting for inflation in hospital prices and beneficiary growth, there are still other factors contributing to increased spending on private hospitals by medical schemes. Evidence on higher utilisation of private hospital services (per beneficiary) for chronic diseases and in general were discussed.

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before briefly considering institutional and regulatory changes that impacted on utilisation. Figure 5, for instance, showed that total patient days sold per 1,000 beneficiaries by the three listed hospital groups have increased by more than 10% since 2006. Such an increase would have a significant effect on medical scheme spending on private hospitals. The effect of new pharmaceutical products and medical technologies were also considered and it was pointed out that this would have an effect not only on input costs, but also on the type of services being provided.

Changes in utilisation (volumes and case mix) of private hospital services are thus responsible for a large part of the increased spending on private hospitals by medical schemes. However, it was shown that the CMS data on utilisation is extremely volatile and inconsistent, which brings its accuracy into question. By not having reliable data, the effect of changes in the utilisation of private hospital services on medical scheme expenditures cannot be accurately assessed. Without a proper assessment of the factors contributing to the annual increases in spending by medical schemes, this is often incorrectly blamed on private hospital price inflation alone. This note has shown that, when accurate data are analysed, increased expenditure on private hospital services by medical schemes over the past few years is not only due to hospital price inflation, but can largely be explained by increased utilisation of these services.