

# Rising Prices in the Healthcare Sector: Unpacking Health Inflation

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*This research note considers the divergence between health inflation and headline inflation (CPI) in South Africa. The composition of health inflation and its contribution to headline inflation are discussed. The note also specifically considers the difference between hospital price inflation, medical scheme contribution increases and health inflation (as captured by Statistics South Africa in the CPI calculations). It is shown that there are large differences between the respective trends over time. These trends are expected to be of importance for the Competition Commission's inquiry into the private healthcare sector. (This research was commissioned and sponsored by the South African Private Practitioners Forum (SAPPF) and Healthman.)*

## 1 Introduction

South Africa's Competition Commission (CC) has initiated an inquiry into the private healthcare sector, to be concluded towards the end of 2015. Among other matters, the CC is concerned that the historical divergence between headline inflation and health inflation may be indicative of uncompetitive practices in the sector. The Final Statement of Issues<sup>1</sup> summarises the matter as follows:

*"In the Terms of Reference, it is stated that prices in the private healthcare sector are at levels that only a minority of South*

*Africans can afford. Further, the Terms of Reference state that various concerns have been raised about the functioning of private healthcare markets in South Africa due to rising healthcare expenditure. **Prices across key segments are rising above headline inflation. These increases in prices and expenditure informed the decision to initiate the Inquiry.***

*The Panel notes this rationale and accordingly wishes to inquire into the level of prices, expenditure and costs in the sector as well as the reasons for the above-inflation increases in prices in private healthcare. Giv-*

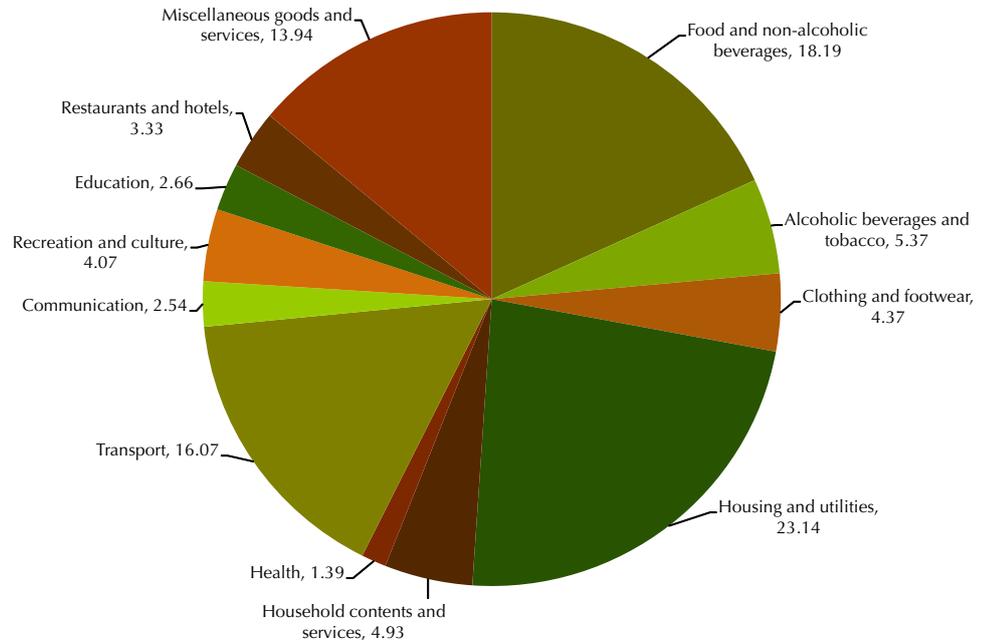
*en the large number of possible explanations for these increases, which may or may not be related to the state of competition in the sector, there is a need for a thoroughgoing Inquiry into the factors that drive the observed increases in private healthcare expenditure and prices in South Africa."* (Own emphasis)

The CC's key concern with price increases in the private healthcare market relates primarily to increased health insurance contributions (i.e. **medical scheme premiums**) and **expenditure by medical schemes**. This short note serves to provide a better understanding of

1. Competition Commission. 2014. Final Statement of Issues: Market Inquiry into the Private Healthcare Sector. 1 Aug. (p. 6)

the underlying dynamics that drive health inflation and why it varies from headline inflation, and specifically emphasises the fact that **expenditure on health insurance is not captured in the health basket of the Consumer Price Index (CPI)**. To this end, it provides a description of health inflation as a component of headline inflation, followed by a trend analysis and a discussion of the different factors that drive inflation of medical products and medical services. A short description of the difference between health inflation and medical scheme contribution increases is also included.

Figure 1: Weighted components of the Consumer Price Index for the total country, 2014



Source: Statistics South Africa (2014)

## 2 Health inflation as a component of headline inflation

The CPI is the most common measure used to estimate the annual increase of prices in South Africa (known as headline inflation). The increase in price levels is estimated by comparing the cost of a basket of goods

and services representative of the average South African household in a given year with the cost of the same basket in a base year. South Africa's official annual inflation rate for 2013 was 5.7%.<sup>2</sup> For 2014 thus far, average year-on-year (y-o-y) inflation until August was 6.2%.<sup>3</sup>

Each product and service included in the CPI basket is

weighted according to its relative contribution to overall household expenditure. As Figure 1 illustrates, the health grouping in the CPI basket is the smallest of all of the item groupings, accounting for 1.39% of the total basket. Housing and utilities make up the largest proportion of the basket, followed by food and non-alcoholic beverages, and

### ECONEX Services

Econex has extensive experience in competition economics, international trade and regulatory analysis. We have an established reputation for providing expert economic advice in high profile mergers and complaints that appear before the competition authorities. Some of the highlights include the complaint against British American Tobacco, the merger between MTN and iTalk, the complaint against Senwes and the acquisition of KayaFM by Primedia. More recently, Econex acted as expert economists in the Glencore/Xstrata merger. Apart from competition work, we have also been involved in trade matters, including the analysis of the effects of tariffs, export taxes and anti-dumping duties. As a result of our work in competition proceedings we have invaluable experience in some of the sectors of the South African economy where regulation continues to play an important role, e.g. the telecommunications, health and energy sectors. We use economic knowledge of these sectors to analyse specific problems for some of the larger telecommunications, health and energy companies.

2. Statistics South Africa. 2013. Consumer Price Index. December 2013.

3. Statistics South Africa. 2014. Consumer Price Index. August 2014.

transport. The CPI basket compiled for urban areas reflects a slightly larger weighting for health (1.46%), suggesting that households in urban areas direct a larger share of their expenditure to healthcare than households in rural areas.

The weighting of goods in the CPI basket was adjusted in 2008, when products were no longer classified according to Interna-

**Table 1: Contribution of different consumption groups to the annual percentage change in the CPI<sup>6</sup>**

Group	August 2014
Food and non-alcoholic beverages	1.4
Alcoholic beverages and tobacco	0.3
Clothing and footwear	0.2
Housing and utilities	1.4
Household contents and services	0.2
<b>Health</b>	<b>0.1</b>
Transport	1.0
Recreation and culture	0.1
Education	0.3
Restaurants and hotels	0.3
Miscellaneous goods and services	1.1
<b>All items</b>	<b>6.4</b>

tional Trade Classification (ITC) standards, but instead according to the Classification of Individual Consumption by Purpose (COICOP). The COICOP standard has been used since. As of 2008, health insurance has not been included in the health component of the CPI basket but is instead captured under miscellaneous goods and services.<sup>4</sup> The rationale is that medical scheme contributions are affected by a variety of determinants – such as administration costs, benefit changes and changing utilisation patterns – other than pure price changes of medical services or medical products. Health insurance carries a weight of 7.12% in the CPI basket, which is significantly more than that of health (1.39%).

Table 1 illustrates the contribution of different item groups in the CPI basket to headline inflation. The CPI release of August 2014, with year-on-year headline inflation of 6.4%<sup>5</sup>, shows that expenditure on health (excluding health insurance) added 0.1 percentage points

to headline inflation. Since the exclusion of health insurance from the health grouping, health has consistently made a relatively small contribution to headline inflation.

### 2.1 Composition of health inflation

The health group in the CPI basket is divided into expenditure on medical products and medical services, as illustrated in Figure 2. The proportions that each of the components account for are shown in brackets. Medical services are further subdivided into out-patient services (97%) and hospital services. The basket of out-patient medical services is comprised of consultation fees for private patients with or without medical aid, and ultrasound obstetrics for private patients. The uniform patient fee schedule (UPFS) of public GPs and -specialists is used to reflect the price of medical services in the public sector.<sup>7</sup> Dental services include oral examination fees and amalgam restorations for private patients with and without medical aid.<sup>8</sup>

4. Miscellaneous goods and services also include expenditure on personal care, social protection, other forms of insurance, and other services not classified elsewhere

5. Statistics South Africa. (2014). Consumer Price Index: August 2014. Statistical release P0141.

6. Statistics South Africa. 2014. Consumer Price Index. Statistical Release P0141. August.

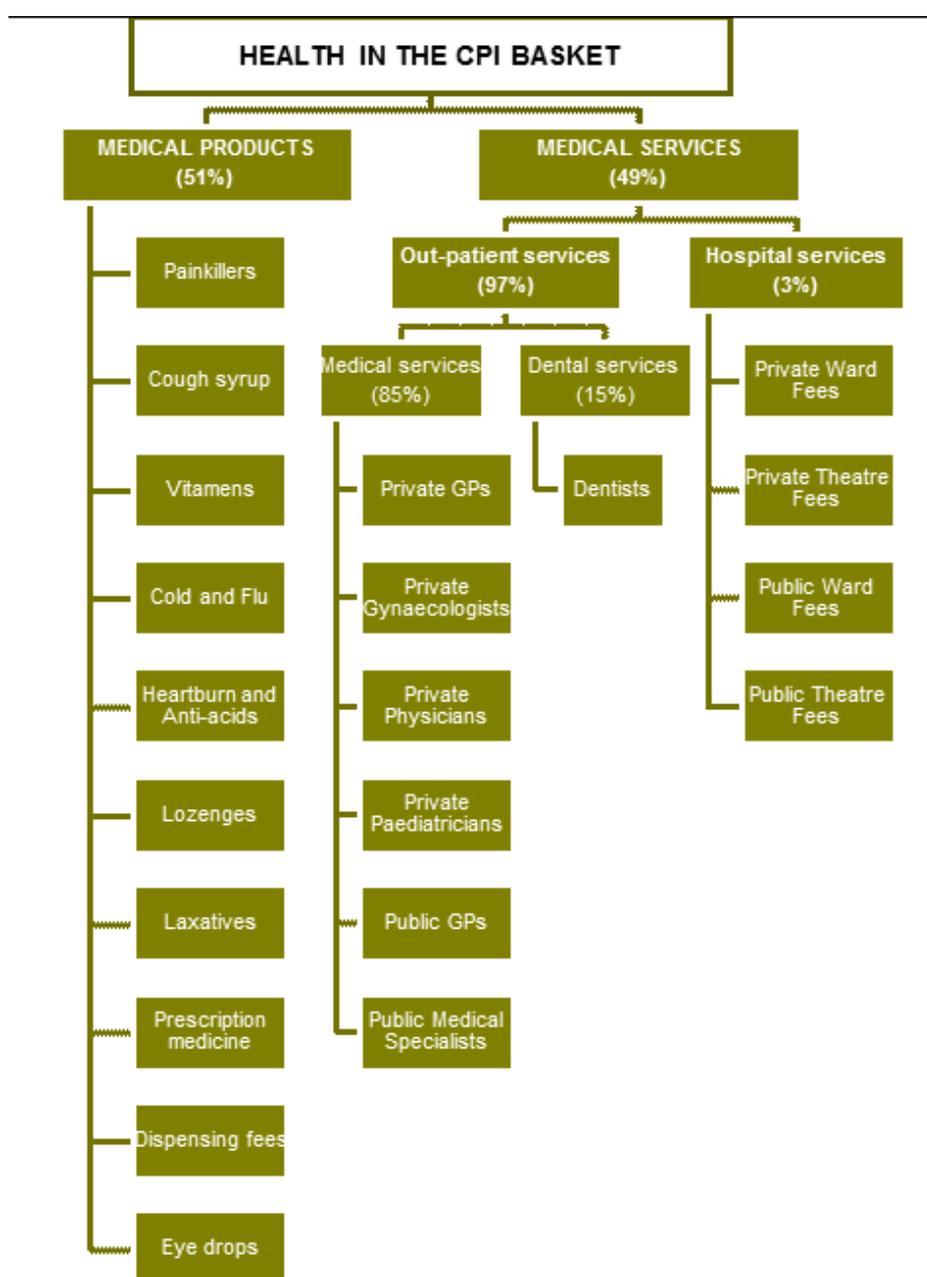
7. The inclusion of medical services provided by the public sector is a recent addition to the CPI basket (February 2013). Prescription medicine, dispensing fees and eye drops were added to the basket of pharmaceutical products. Another change is the removal of consumables from the basket of hospital services (Statistics South Africa, 2013).

8. Statistics South Africa. 2013. The South African CPI Sources and Methods Manual: Release v.2. February 20th.

The rationale for the small share that hospital services account for in the health component of the CPI basket relates to the fact that the majority of South Africa's population receives these services free of charge (or at a subsidised rate) from public hospitals.

This section has illustrated the size of healthcare in comparison to other expenditure components captured in the CPI basket. The following section considers recent trends in headline and health inflation, keeping in mind the CC's concern that "prices across key segments are rising above headline inflation".

Figure 2: Medical products and services included in the health group of the CPI basket<sup>9</sup>



Source: Statistics South Africa (2013)

### 3 Trends in headline and health inflation

As mentioned in the introductory remarks, the CC wants to better understand the dynamics between health inflation and headline inflation. In this context, health inflation refers to price increases of a selection of medical products and services, and does not include expenditure on health insurance. Price increases specific to the medical sector are estimated by examining changes in the health grouping in the CPI basket. A year-on-year growth rate is estimated for each month, and is averaged across months to determine inflation for a given year.

Figure 3 illustrates the variation in headline and health inflation from 2003 to August 2014. Health inflation was lower than headline inflation from 2006 to 2008, and has again been below headline inflation since 2012 to

9. Statistics South Africa. 2013. *The South African CPI Sources and Methods Manual: Release v.2. February*; Statistics South Africa. 2013. *Consumer Price Index (CPI) 2012 Weights (Total country). Statistical Release P0141.5*

date. In 2013, reported headline inflation was 5.7% whereas health inflation was 4.7%. The difference between health inflation and headline inflation appears to have declined over time (shown by the bar chart included in Figure 3). From 2003 to 2013, health inflation has exceeded headline inflation by 0.81 percentage points on average,<sup>10</sup> which is low compared to earlier periods and international evidence.

When health inflation is disaggregated into price changes in medical products and medical services (according to the description in Figure 2), we see that the price of both of these expenditure items has grown at a slower rate over the past five years. This is especially true for medical products – which account for 51% of expenditure on healthcare (excluding health insurance) in the CPI basket – and would have contributed significantly to the decline in the difference between health inflation and headline inflation.

The trends illustrated and described above are counterintuitive to proclamations about high health inflation published in the media, and with what appears to be the perspective of the CC. This can potentially be explained on two grounds: first, concerns about growing

Figure 3: Headline inflation and health inflation 2003-2014 (average y-o-y growth rates)

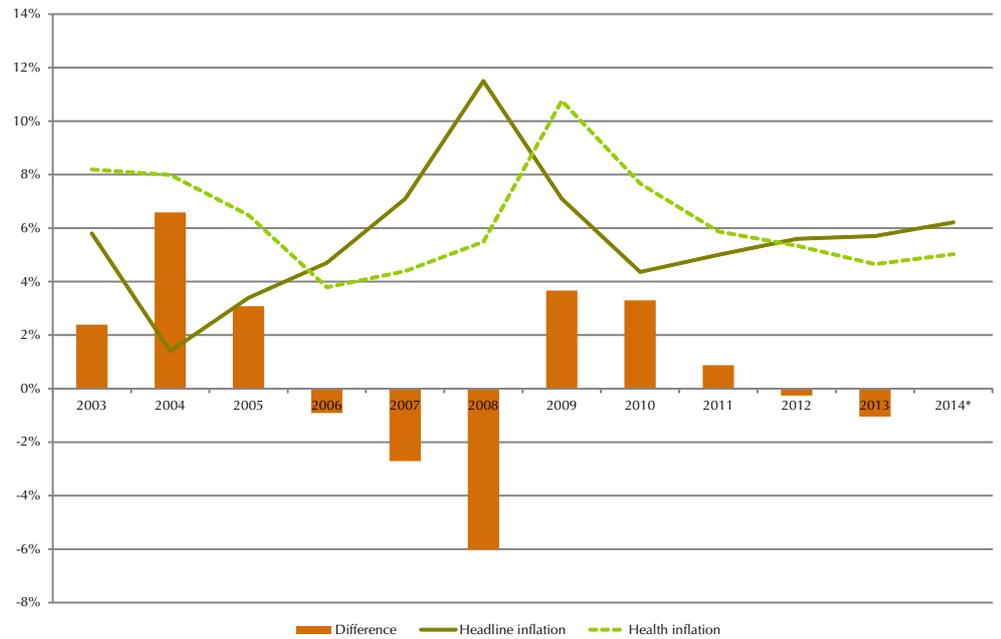
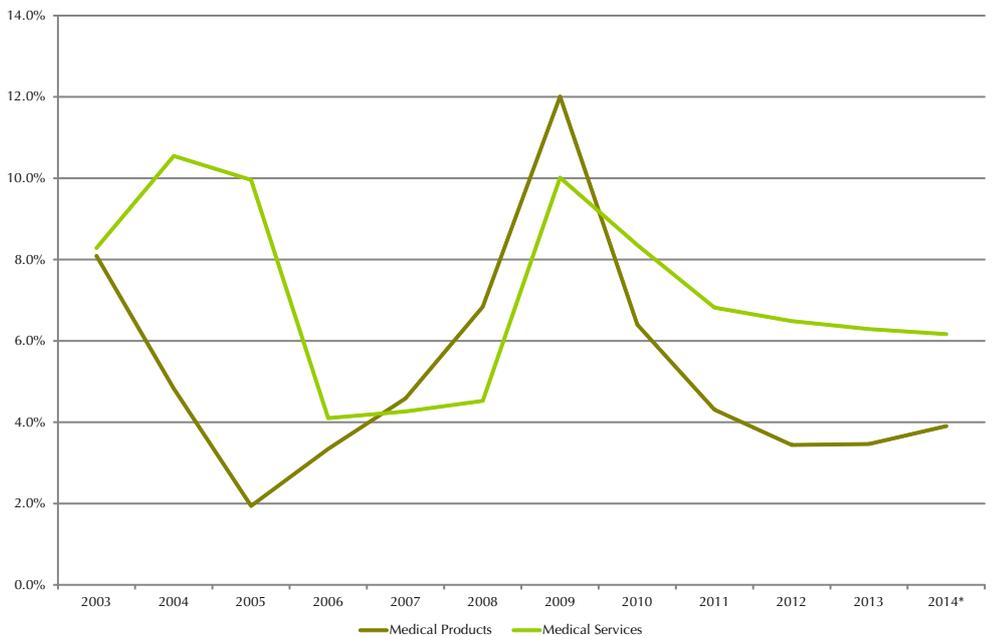


Figure 4: Inflation of medical services and medical products



healthcare prices often arise due to increased spending on medical services by medical

schemes or by patients, which in turn relates to higher annual premiums for medical scheme

10. Statistics South Africa data, Econex calculations

membership. While we deal with growing expenditure on medical scheme contributions in a later section, it is worth emphasising here that medical scheme premiums are not solely driven by the cost of medical products and services. South African and international experience indicate that important factors contributing to this trend are burden of disease (people are generally sicker or have more than one illness), salary inflation (especially for nurses), an ageing private medical scheme population, open enrolment of medical schemes, the cost of prescribed minimum benefits, etc.

Second, the focus is often on growing hospital prices when

health inflation is considered. While Figure 5 illustrates that growth in the price of hospital services consistently exceeded headline inflation from 2003 to 2011, since 2012 hospital services inflation has either been below or on par with headline inflation. While hospital services inflation has been high in the past, it only accounts for 3% of medical services in the health basket and thus has a minimal influence on overall health inflation.

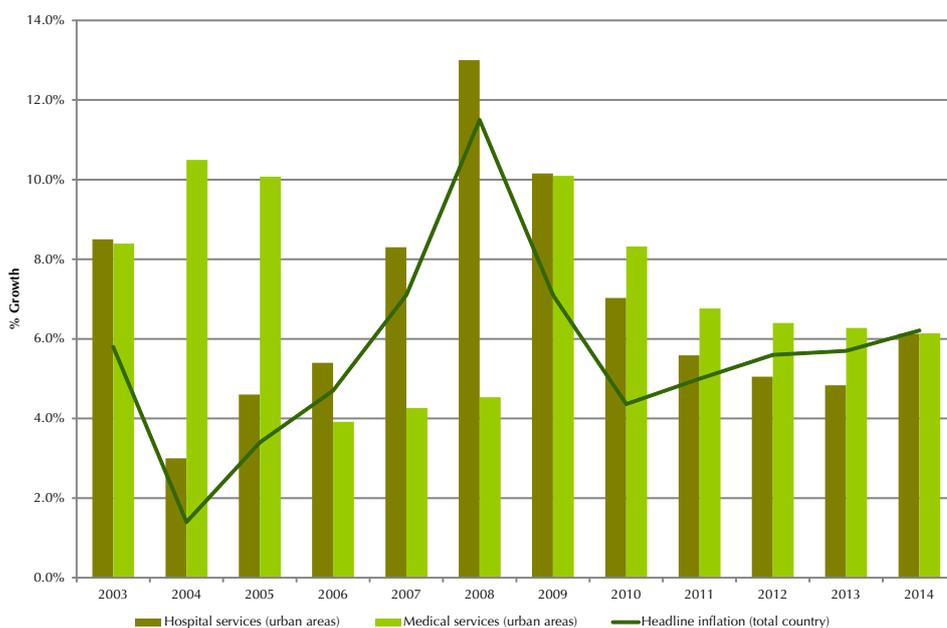
Comparing expenditure on hospital services with aggregate medical services (i.e. including out-patient services) prior to 2010 shows that hospital services inflation exceeded medical services inflation

in all years except 2004 and 2005. However, from 2010 onward, out-patient services appear to be the key driver of medical services inflation. As was shown in Figure 4 price increases in medical services have outweighed that of medical products in recent years. As such, medical services inflation shown in Figure 5 is slightly higher than overall health inflation, implying a smaller difference between hospital inflation and health inflation, than between hospital inflation and medical services inflation.

The following section investigates the factors that give rise to these trends.

## 4 Determinants of health inflation

Figure 5: Growth in the price of hospital services and medical services compared to headline inflation



Given differences in inputs, the price of all goods and services cannot be expected to grow at the same rate. Health inflation (comprised of medical products and medical services) has periodically fluctuated above and below headline inflation. While health inflation above headline inflation could be indicative of irregularities in the market, this is not *per se* an indicator of anti-competitive behaviour. The key question is whether price trends are driven by legitimate increases in input costs, demand and supply

dynamics, or by anti-competitive behaviour. This should be the focus of the CC in considering trends in health inflation.

In explaining the difference between headline inflation and *medical services* inflation specifically, it can be noted that headline inflation is not representative of the basket of goods and services that make up the operational expenditures of medical service providers. Price increases in significant input costs for medical service providers (e.g. nursing salaries, electricity, malpractice insurance, imported medical equipment, etc.) play an important role in the price of providing services, but are not equally weighed in the CPI basket. If these components increase at a faster/slower rate than headline inflation, fees for medical services would grow at a different pace than headline inflation. In addition, demand and supply dynamics in the market for medical services would also affect prices in a way that would not be reflected in the overall movement of headline inflation.

Regulatory changes to the medical schemes industry, the pharmaceutical industry and other

related or supporting industries may also have impacted significantly on the 'margin' that we see between health inflation and headline inflation. In terms of *private hospital services*, the abolishment of collective bargaining by SAMA, HASA and the BHF in 2004 led to price increases in line with international standards of hospital inflation being roughly two percent above headline inflation. This trend has become less prominent in South Africa from 2011, but the impact that slower growth in private hospital services has had on health inflation in general is limited as it accounts for such a small portion (1.47%) of the health basket.

The price of *medical products* (pharmaceuticals) is largely regulated by the Department of Health, which annually publishes the maximum increase allowed in the single exit price (SEP) of drugs purchased by retailers/ pharmacies in the private sector. Retailers are then allowed to add a dispensing fee, of which the maximum is also regulated. This price regulation has likely contributed to the price increases below headline inflation that have been associated with medical products over

the last few years. To date, the formula to calculate the annual price increase (which the Minister of Health uses as guidance in setting the final price ceiling) has been a function of the inflation rate and the Dollar and Euro exchange rates. However, in efforts to contain private sector health inflation, the Minister of Health has not always allowed the price ceiling suggested by the formula. This has placed local producers of pharmaceutical products at a disadvantage, worsened by the devaluation of the Rand which increases the price of imported inputs. A new formula that will better account for varying input costs is being considered. These dynamics also affect the difference between headline inflation and health inflation.

## 5 Medical Scheme Contribution Increases

It was emphasised throughout this note that health inflation as measured by Statistics South Africa does not include medical insurance (or medical scheme contribution) increases. We know however, that these increases have been above CPI

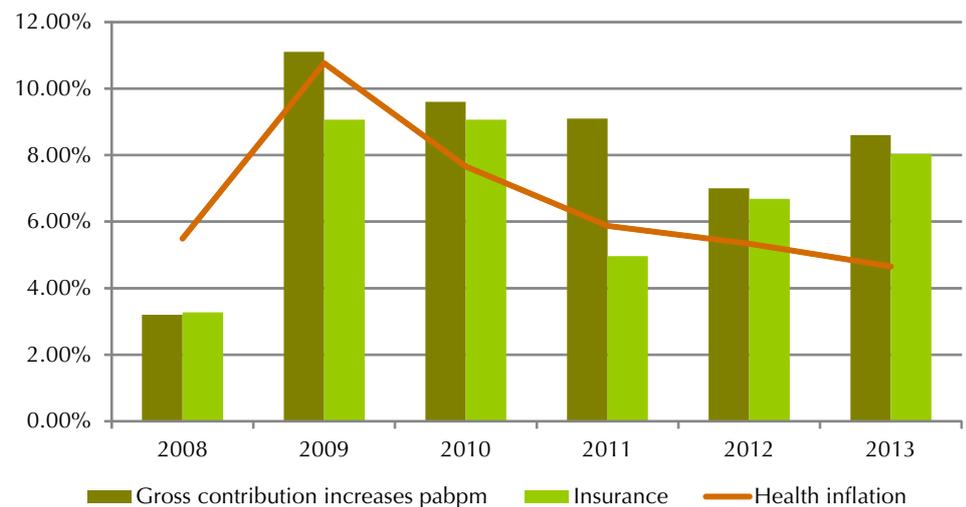
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ECONEX is an economics consultancy that offers in-depth economic analysis, covering competition economics, international trade, strategic analysis and regulatory work. The company was co-founded by Prof Nicola Theron and Prof Rachel Jafta during 2005. 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](http://www.econex.co.za).

over the past few years and that this is a source of concern (and hence a focus point) for the CC in the healthcare enquiry. As was mentioned, since 2008 'insurance connected with health' (i.e. medical aid premiums) are captured under miscellaneous goods and services, and carry a weight of 7.12% in the CPI basket, which is significantly more than that of health (1.39%). In addition to insurance (which includes short term insurance and medical aid premiums), miscellaneous goods and services are further made up of personal care, financial and other services not classified elsewhere – each item carrying a different weight in the overall CPI basket.

Unfortunately the data used for 'insurance connected with health' are not available publicly, and we could only access that of the 'insurance' category over time. However, the bulk of the insurance category comprises of medical aid premium. The insurance category carries an aggregate weight of 9.08%, split between medical aid (7.12%) and other forms of insurance (1.96%). In Figure 6 the insurance category is shown together with gross medical

Figure 6: Health inflation, insurance and gross medical scheme contribution increases pabpm, 2008-2013



scheme contribution increases pabpm<sup>11</sup> from the CMS Annual Reports, as well as health inflation between 2008 and 2013.

From Figure 6 it is clear that medical scheme contribution increases closely relate to the data that are used by Statistics South Africa to determine the insurance increases in the CPI calculations.<sup>12</sup> It is further evident that health inflation is lower than medical scheme contribution increases in most of the years. There are a number of reasons for this, as was explained briefly in section 2. Most notably, there are many different factors influ-

encing medical scheme contribution increases *in addition* to the variables (price changes) included in the determination of health inflation. In addition to Healthcare provider price changes<sup>13</sup>, price changes of non-healthcare expenses such as managed care or administration services are also taken into account. Further, benefit changes to medical scheme options are 'priced' and expected utilisation patterns (including demographic profile changes) are included when medical scheme contribution increases are calculated. Additional factors like reserve requirements or historic losses

11. Per average beneficiary per month.

12. In 2011 there is a great discrepancy between the medical scheme contribution increase and insurance increase. This may be due to a number of factors which we cannot determine with certainty, given the limited data availability. (One reason may be due to the fact that the data for medical aid premiums are collected from only three open medical schemes. That group may have had smaller contribution increases than the rest of the medical schemes in 2011.)

13. This would be similar to medical services and medical products price changes included in health inflation.

also need to be considered. One would therefore expect medical scheme contribution increases to be much different (and possibly higher) than health inflation.

## 6 Concluding remarks

This brief note has highlighted recent trends in health inflation as a component of South Africa's headline inflation. It has shown that, while health inflation (made up of medical products and medical services) has exceeded headline inflation in

the past – as is the international norm – recent trends indicate smaller price increases. While hospital price inflation has also traditionally exceeded medical services and headline inflation, in recent years this trend seems to have been reversed. However, hospital inflation only accounts for a small portion of the health component in the CPI basket, which limits the impact of this effect on overall health inflation.

Although not the focus of this note, as increases in expenditure on health insurance are not

captured in the health grouping of the CPI basket, health insurance (medical aid premiums) accounts for a large share of the CPI basket. We have shown that in most instances increased medical scheme contributions have outweighed health inflation, as medical scheme contributions are driven by different variables in addition to those included in the determination of health inflation. These trends are also expected to be of importance for the enquiry. We trust that this short note will provide the CC with helpful background.

## Data sources

1. Headline inflation: Official inflation rates published by monthly CPI releases.  
*Available online:* <http://beta2.statssa.gov.za/publications/P0141/CPIHistory.pdf>
2. Health inflation, Medical Services, Medical Products and Insurance:
  - a. 2002-2008: CPI, Total Country (Index Dec 2008 = 100)
  - b. 2008-2014: CPI, Total Country (Index Dec 2012 = 100)*Available online:* [http://beta2.statssa.gov.za/?page\\_id=1849](http://beta2.statssa.gov.za/?page_id=1849)
3. Hospital inflation: CPI, All urban areas - Medical industry: Hospital services (Index Dec 2012 = 100)  
*Available online:* <http://www.easydata.co.za/data/timeseries/SSA-CPS06301/> (Log in required)
4. Medical Scheme Contribution Increases: CMS Annual Reports 2008/9 to 2013/14  
*Available online:* <https://www.medicalschemes.com/Publications.aspx>

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