QUALITY OF CARE IN MEDICAL SCHEMES

(for financial years 2013 and 2014)

RESEARCH & MONITORING

4 November 2015

EXECUTIVE SUMMARY

Background

The Research & Monitoring (R&M) unit was tasked to determine the quality of healthcare in the medical schemes environment. The Regulations, supporting the Medical Schemes Act, 131 of 1998, require schemes to pay for Prescribed Minimum Benefits (PMBs) in full. Managed care is included in the Regulations as a tool to ensure cost effective provision of healthcare. The Council for Medical Schemes (CMS) noticed the increased tendency of more schemes contracting with providers, as well as managed care organisations, to provide managed care to medical scheme members.

It is therefore vital to ensure the intended objectives of managed care are met. Managed care services should provide the proper quality of care, which in turn will ensure healthcare provision to be cost effective. In an attempt to determine the value of managed care and cost effectiveness of healthcare provision, the CMS has focused on a project assessing the quality of care for the Chronic Disease List (CDL) conditions. This project will follow a multi-pronged approach assisted by the Industry Technical Advisory Panel (ITAP).

Over the past few years, the bulk of medical schemes expenditure has been in-hospital, particularly private hospitalisation. In the 2014 financial year, 37.6% of the total benefits paid were for hospitalisation (Council for Medical Schemes, 2015 p. 146). In order to limit healthcare costs it is vital to keep beneficiaries out-of-hospital. Much attention has been given to the management of patients with CDL conditions. If the management of these patients is effective, the hospitalisation costs should decline. The CMS hopes to expand the monitoring of quality of care to conditions, which contribute to hospitalisation, but that are not part of the CDLs.

One objective of the project was to determine the minimum standard of care expected for members of medical schemes. As part of this process the task team had to determine the appropriate indicators to help measure if proper process in disease management was being followed, i.e. process indicators. In addition, outcome indicators were established for measuring the success of disease management programmes.

Purpose

The purpose of this report is to provide feedback on the quality of care provided by medical schemes as reported in the financial years 2013 and 2014. The CMS requested schemes to provide the number of unique beneficiaries who met the minimum standards of care as discussed at ITAP. The CMS also collected outcomes data, referring to hospitalisation (all cause admissions and readmission rates in some cases), of all unique beneficiaries who were admitted. The number of beneficiaries with co-morbidities was also collected.

Challenges

The major challenge was to analyse data relating to the quality of data that was submitted. This was the first submission of its kind and some schemes struggled to provide good quality data at benefit option level. It is also the first time for the CMS to collect such data, therefore no suitable benchmark to compare the results exists. Schemes are required to review their contracts with administrators and managed care organisations to ensure that the data, which they submit to the CMS is complete and accurate, especially where indicator data is not part of the normal claims data.

Schemes are also encouraged to expand data fields in order to improve management of their risks. Most data fields captured are for purposes of paying claims. Effective disease management would require more clinical data. This would allow schemes to target disease management interventions more effectively.

Summary of Results

Processes

The coverage of beneficiaries was very low in a vast number of instances. Monitoring tests that should be carried out were as low as 5% for some conditions.

HIV had the highest coverage with about 60% of the patients receiving viral load tests or CD4 tests.

Drug coverage was also quite poor, for example, diabetic patients receiving statins were as low as 10%. The highest coverage of drugs was for Human Immunodeficiency Virus (HIV), with up to 75% of beneficiaries on ARVs. In 2014, 66% of Ischemic Heart Disease (IHD) patients were on statins, which is a much higher coverage compared to other conditions.

Outcomes

Hospitalisation rates varied across conditions. The proportion of unique[1] beneficiaries hospitalised for more than a day was as high as 35% for hypertensive patients. IHD and Diabetes Mellitus Type I (DM1) had similar levels of hospitalisation, although they were lower.

Congestive Heart Failure (CHF) had the lowest hospitalisation rates at only 15% in 2014. The re-admission rates for CHF were also low, only 20%, compared to readmission rates for IHD which were 38.7%.

There is a significant number of beneficiaries with multiple chronic conditions, for instance 74.3% of IHD patients are hypertensive, while 22.7% are diabetic. Effective disease management should therefore provide proper coordination of care amongst providers.

[1] This identifies specific individuals who are beneficiaries of a medical scheme who meet set criteria.

Table of Contents

List of Tables

List of Figures

1 Introduction

The Council for Medical Schemes (CMS) is interested in understanding the quality of care in medical schemes. The ultimate objective is to measure the value of managed care. The CMS has engaged industry in an attempt to answer questions on the appropriate level of care, and to identify quality health outcome indicators. The main focus has been on chronic diseases, which are part of the Prescribed Minimum Benefits (PMBs). In the past few years industry engagement took place through the Industry Technical Advisory Panel (ITAP) who discussed eight (8) of the chronic disease list (CDL) conditions. These diseases are:

- Human Immunodeficiency Virus (HIV);
- Diabetes Mellitus, both 1 and 2 (DM1 and DM2);
- Hypertension (HYP);
- Congestive Heart Failure (CHF);
- Ischemic Heart Disease (IHD);
- Asthma; and
- Chronic Obstructive Pulmonary Disease (COPD)

ITAP identified minimum interventions and standards of care expected from Managed Care Organisations (MCO's) or schemes – referred to as process indicators. These are the minimum standards of care that should be provided when managing the diseases and these indicators are specific to the condition. The CMS will monitor schemes to measure their compliance with the indicated minimum standards.

Process indicators may defined as, "Process indicators assess what the provider did for the patient and how well it was done. Processes are a series of inter-related activities undertaken to achieve objectives. Process indicators measure the activities and tasks in patient episodes of care" (Mainz, 2003).

Outcome indicators have been defined as, "Outcomes are states of health or events that follow care, and that may be affected by health care. An ideal outcome indicator would capture the effect of care processes on the health and wellbeing of patients and populations" (Mainz, 2003).

This report mainly focuses on the reported process indicators and limited outcome indicators of the disease management programmes (DMP) of the first six of the eight conditions indicated above. It was the first time that the CMS received data on these indicators.

1.1 Data challenges

To measure outcomes, data is required. The CMS needs to put in place mechanisms of collecting standardised, good quality data from all stakeholders. Currently the CMS collects data through the Annual Statutory Returns (ASR). This data is collected from all schemes and is limited to what is available from schemes. The ASR requirements were recently amended to align data submissions with some of the ITAP requirements. Over time the CMS would like to collect data also from MCO's, which will include almost all necessary data fields.

Since this was the first time that the CMS received data on indicators described above, some schemes struggled to produce good quality data. The CMS expects the data quality to improve over time, especially when it starts to publish the results. As previously stated, data was only collected on the first six conditions on the above list.

Not all indicators identified at ITAP were collected. The indicators collected were only limited to what was available at medical schemes. Clinical markers, such as the level of blood sugar in a diabetic patient would provide valuable insights on the quality of care. The clinical test results were not available at scheme level, hence they were not collectable.

The data collected focused mainly on patient experience or coverage. Schemes had to provide the unique beneficiaries meeting the minimum standards of care. Data on the number of unique beneficiaries who also had adverse outcomes was also collected. The data analysis therefore should inform the CMS how well the beneficiaries were being managed, as well as the number of beneficiaries with this type of adverse outcomes. The collected data was available at benefit option level.

The collection of data had some challenges when it comes to analysing the results. These are listed below:

- Members move between different benefit options and medical schemes. While this mostly occurs on 1 January though, there are circumstances when beneficiaries change employment where this movement occurs during the year.

- Some benefit options are contracted to MCO's to manage diseases on behalf of schemes. Some of these contracts do not provide for sufficient sharing of information between MCO's and medical schemes. This means that while some interventions may have occurred, the scheme will not know to what extent, hence schemes reporting to CMS will lack this information.

- The process of drawing comparisons between options is complicated. The risk profiles of options are different, therefore outcomes need to pay attention to the different risk profiles. Fortunately, when comparing process indicators, a straight forward comparison may be done as these measure what an MCO is doing so as to effectively manage patients rather than the results of such management.

- Disease progression occurs over a long time. More objective results would be obtained over a longer period of time of analysis. The data the CMS collected only covers one financial year.

The data collected through the ASR has these and other weaknesses, but it does provide useful insights on the quality of care. While hospital admission data was collected as all cause hospitalisation, there is significant variation between hospitalisation rates of different conditions. This confirms that it is the chronic conditions that are the primary drivers of hospitalisation. Therefore, all cause hospitalisation can be used as an outcome indicator – though not a perfect measure in every sense.

1.2 Data used in the analysis

The CMS recently changed the data submission system for the utilisation data. The transition to the new system included plenty consultation sessions with stakeholders. The definitions of data fields were updated so as to ensure more accurate and uniform data submissions. More detailed definitions of the data collected are available on the data specification documents, which are available on the CMS website (Annual Statutory Returns Utilisation System n.d.).

Not all data submitted was used in the analysis. This was largely due to the data issues highlighted above. Some schemes made a common mistake of providing the number of unique beneficiaries meeting the required criteria, which was higher than the number of beneficiaries with the condition.

The number of unique beneficiaries going for certain tests should be less than the number of beneficiaries with the said condition. The objective of requesting this data was to assess if the patients with specified CDL conditions were being effectively managed. Therefore, the number of unique beneficiaries is supposed to be less than or equal to the number of beneficiaries registered on the CDL program.

Data that did not meet this requirement was excluded as it would skew the results. However a significant proportion of the data was used since it was considered of sufficiently good quality.

2 Human Immunodeficiency Virus

The prevalence of HIV for medical scheme beneficiaries was 26.6 per 1 000 beneficiaries in 2014 up from 22.3 per 1 000 beneficiaries in 2013. This is much lower than South Africa's prevalence which is estimated to be about 10% of the population (StatsSA, 2014).

2.1 Process and outcome indicators

Table 1 below shows the indicators identified by ITAP. Some of the process indicators in this list are in a way also outcome indicators.

	Table 1: HIV Indicators
Process indicators	
	Nr of unique beneficiaries with at least one ART treatment claim
	Nr of unique beneficiaries on the first line ART treatment regiment
	Nr of unique beneficiaries on the second line ART treatment regiment
	Nr of unique beneficiaries for whom CD4 count was taken
	Nr of unique beneficiaries for whom Viral Load was taken
Outcome Indicators	
	Nr of unique beneficiaries admitted to hospital at least once
	Mortality (all cause)
	Nr of unique beneficiaries on the third line treatment regiment

Hospitalisation was collected in two ways – day cases and long stay. Day cases are when a beneficiary's discharge date is the same as the admission date. Long stay is when the discharge date is greater than the admission day.

There will be an overlap between these admissions as a beneficiary may be admitted on more than two occasions with one as a day admission and the other as a long stay.

Mortality data was not collected.

Effective HIV management would entail monitoring of the patient. Such monitoring will require that the CD4 count and viral load test be carried out at least once every year for each beneficiary.

Effective management of patients also means the beneficiaries are managed in such a way that the onslaught of Anti-retroviral treatment (ART) is delayed. The more serious the HIV is, the higher the treatment regime will be. The higher treatment regiments are also more expensive. An effective HIV programme would therefore keep a very high portion of beneficiaries on the lowest treatment regime once they start receiving ART. The proportion of beneficiaries on the third line treatment regime is in a way an outcome indicator.

Any effective disease management programme should limit the amount of hospitalisation. Hospitalisation is very expensive and avoiding hospitalisation through good quality of care would help save healthcare costs for medical schemes in the long run.

2.2 Coverage in 2013 and 2014

Table 2 below summarises the coverage of HIV patients.

	Table 2: HIV Coverage	
Financial Year	**2014**	**2013**
Nr of patients in sample	**220 093**	**180 570**
Process indicators - Unique beneficiaries		
at least one ART treatment claim	77,0%	78,5%
on the first line ART treatment regime	58,8%	60,8%
on the second line ART treatment regime	2,0%	2,3%
for whom CD4 count was taken	71,2%	75,8%
for whom Viral Load was taken	71,0%	74,8%
Outcome indicators - Unique beneficiaries		
hospital admissions - day	4,6%	5,2%
hospital admissions - more than a day	19,5%	20,3%
on the third line ART treatment regime	16,3%	15,4%

The number of HIV patients sampled increased significantly from 181 000 to 220 000. The prevalence of this condition increased by 19% across the medical scheme beneficiaries. This is largely due to more beneficiaries registering for the HIV programme.

The level of monitoring of HIV patients is relatively high, though it has decreased from 2013 to 2014. The number of unique beneficiaries receiving CD4 counts reduced from 75.8% to 71.2% and a decrease of 4.8% was also observed for Viral Load tests.

There was a slight drop in the number of beneficiaries on the first line treatment decreasing from 60.8% to 58.8%. A corresponding increase was also observed of beneficiaries on the third line regime. There are two possible reasons for this; either treatment adherence by patients is falling, or the disease management programme is becoming inefficient in managing patients.

Overall, long stay hospitalisation for HIV patients fell slightly from 20.3% in 2013 to19.5% in 2014. There was also a 0.6% reduction in day admissions from 5.2% in 2013 to 4.6% in 2014.

3 Diabetes Mellitus

Diabetes mellitus is a group of metabolic diseases in which the patient has high blood glucose (blood sugar), either because insulin production is inadequate, or because the body's cells do not respond properly to insulin, or both. The high blood glucose is associated with long term damage, dysfunction and failure of various organs, especially eyes, kidneys, nerves, heart and blood vessels.

The prevalence of diabetes has been on the increase in insured lives. In 2014 it was 44.03 per 1 000 beneficiaries. In 2013 the prevalence was 42.98 per 1 000 beneficiaries.

3.1 Process indicators

Table 3 below displays the indicators identified at ITAP.

	Table 3: Diabetes Mellitus (1 and 2) indicators
Process indicators	
	Nr of unique beneficiaries with at least one (1) Dietician consult
	Nr of unique beneficiaries with at least one (1) Fundus Exam test
	Nr of unique beneficiaries with at least two (2) HbA1c tests
	Nr of unique beneficiaries with at least one (1) LDL / lipogram test
	Nr of unique beneficiaries with at least one (1) Creatinine / Albumin test
	Nr of unique beneficiaries with receiving Statins
Outcome Indicators	
	Hospital admissions (all cause)
	Mortality (all cause)
	Renal failure
	Retinopathy
	Amputations
	Neuropathy

Due to data challenges not all outcome indicators listed were collected for the 2015 submission. Only renal failure and hospital admissions were collected.

Hospitalisation was collected in the same way as for HIV. Similarly, there will be an overlap between these admissions as a beneficiary may be admitted on more than two occasions with one as a day admission and the other as a long stay.

As in the case of HIV, mortality data was not collected through the latest data submission. The number of beneficiaries developing retinopathy, amputation and neuropathy was also not collected. The number of diabetic patients on renal dialysis was collected as an indicator of renal failure.

Effective diabetes management would entail monitoring of the amount of blood sugar in diabetic patients. Such monitoring will require that at least 2 HbA1c tests be conducted in a single year.

The other monitoring tests would be required as a way of assessing if the patient is not developing the conditions listed as outcome indicators. These are:

a) At least one dietician consultation annually – patients need assistance with the right diet to manage their condition.
b) At least one annual renal function assessment with Creatinine – this test checks if the patient is developing renal failure.
c) At least one annual eye exam (fundal examination) – this is an eye function test to check if the patient is not developing retinopathy.
d) At least one annual LDL/lipogram test – the amount of cholesterol in the blood giving an indication of how effective the diet is.
e) Urine dipstick or Microalbuminuria – measures amount of sugar, protein and creatinine in urine giving an indication of renal kidney function.

3.2 Coverage in 2013 and 2014

Table 4 below summarises the coverage of DM1 patients.

	Table 4: Diabetes Mellitus 1 Coverage	
Financial Year	**2014**	**2013**
Nr of patients in sample	**44 608**	**45 355**
Process indicators - Unique beneficiaries		
at least one (1) Fundus Exam test	6,6%	6,2%
at least two (2) HbA1c tests	22,5%	21,8%
at least one (1) LDL / lipogram test	21,7%	20,5%
at least one (1) Creatinine/ Albumin test	39,7%	39,3%
on Statins	10,4%	10,2%
Outcome indicators - Unique beneficiaries		
hospital admissions - day	12,7%	12,5%
hospital admissions - more than a day	31,5%	32,6%
co-morbidities -renal failure	1,0%	1,0%

The number of DM1 patients sampled decreased from 45 400 to 44 600. The prevalence of this condition reduced by 4.4% across the medical scheme beneficiaries.

The level of monitoring of DM1 patients is relatively low though it has increased from 2013 to 2014. The number of unique beneficiaries receiving at least two HbA1c test counts increased from 21.8% to 22.5%. There were also modest increases in the other tests conducted on beneficiaries.

The coverage of statins is low. The majority of diabetic patients should be on statins to help control the cholesterol in the blood.

Day hospitalisations increased slightly from 12.5% in 2013 to 12.7% in 2014. On a positive note, the long stay hospital admissions reduced by 1.1% from 32.6% in 2013 to 31.5% in 2014.

The proportion of DM1 patients with renal failure remained the same at 1%.

Table 5 below summarises the coverage of DM2 patients.

	Table 5: Diabetes Mellitus 2 Coverage	
Financial Year	**2014**	**2013**
Nr of patients in sample	**323 878**	**304 369**
Process indicators - Unique beneficiaries		
at least one (1) Fundus Exam test	4,4%	4,1%
at least two (2) HbA1c tests	18,8%	18,3%
at least one (1) LDL / lipogram test	23,0%	21,3%
at least one (1) Creatinine/ Albumin test	38,3%	36,8%
on Statins	6,3%	6,2%
Outcome indicators - Unique beneficiaries		
hospital admissions - day	9,9%	10,3%
hospital admissions - more than a day	22,5%	21,6%
co-morbidities -renal failure	0,4%	0,4%

The number of DM2 patients sampled increased from 304 000 to 324 000. The prevalence of this condition increased by 3.5% across the medical scheme beneficiaries.

The level of monitoring of DM2 patients is relatively low, though it has increased from 2013 to 2014. The number of unique beneficiaries receiving at least two HbA1c test counts increased from 21.3% to 23.0%. There were also modest increases in the other tests conducted on beneficiaries.

Just like in DM1, the coverage of Statins is low. The majority of diabetic patients should be on Statin to help control cholesterol in the blood. One would expect a much higher coverage of Statins in DM2, but it is lower than in DM1.

Day hospitalisations reduced slightly from 10.3% in 2013 to 9.9% in 2014. However, the long stay hospital admissions increased by 0.9% from 21.6% in 2013 to 22.5% in 2014.

The coverage of DM2 patients is just slightly higher compared to DM1 patients. The level of DM2 hospitalisations is significantly less than DM1 hospitalisations.

4 Hypertension

Hypertension (HYP) is a chronic medical condition in which the blood pressure in the arteries is elevated. The increased blood pressure, if not controlled, would cause damage to the arteries, which in turn may lead to damage to the heart, brain and kidneys, among other effects.

This is the most prevalent condition of all the CDL conditions. The prevalence of HYP among medical scheme beneficiaries was 121 per 1 000 beneficiaries in 2014, up from 117 per 1 000 beneficiaries in 2013.

4.1 Process and outcome indicators

Table 6 below shows the indicators identified by ITAP.

	Table 6: Hypertension Indicators
Process indicators	
	Nr of unique beneficiaries with at least one (1) electrocardiogram test
	Nr of unique beneficiaries with at least one (1) Creatinine / eGFR test
	Nr of unique beneficiaries with at least one (1) total cholesterol test
Outcome Indicators	
	Hospital admissions (for stroke)
	Ischemic heart disease
	Chronic renal failure

The Creatinine test is used to check kidney function. Its purpose is to see if there is any damage to the kidneys. The total cholesterol test measures the amount of cholesterol in the blood. High cholesterol levels are associated with heart diseases. The rational of this test is to check if hypertensive patients are not at risk of heart disease.

The electrocardiogram test is used to check if high blood pressure has damaged the patient's heart or blood vessels. Effective management of hypertension requires that this test be carried out at least once a year for each hypertensive patient.

4.2 Coverage in 2013 and 2014

Table 7 below summarises the coverage of Hypertension patients.

	Table 7: Hypertension Coverage	
Financial Year	**2014**	**2013**
Nr of patients in sample	**404 161**	**382 153**
Process indicators - Unique beneficiaries		
at least one (1) electrocardiogram test	33,8%	34,6%
at least one (1) Creatinine / eGFR test	43,3%	43,7%
at least one (1) total cholesterol test	61,1%	60,7%
Outcome indicators - Unique beneficiaries		
hospital admissions - day	19,3%	19,3%
hospital admissions - more than a day	35,3%	34,7%
co-morbidities –diabetes mellitus	22,7%	23,7%

The number of Hypertensive patients sampled increased to 404 000 from 382 000. The prevalence of this condition increased by 3.3% across the medical scheme beneficiaries.

The level of monitoring of Hypertensive patients is relatively high. It has decreased slightly from 2013 to 2014 with the exception of total cholesterol testing, which increased marginally. The number of unique beneficiaries receiving at least one total cholesterol test increased from 60.7% to 61.1%.

Hospitalisation was also on the increase, from 34.7% in 2013 to 35.3% in 2014 for long stay in hospital. The day admissions remained unchanged at 19.3%.

5 Congestive Heart Failure

Congestive heart failure, or heart failure, is a condition in which the heart is unable to adequately pump blood throughout the body and/or is unable to prevent blood from "backing up" into the lungs. This causes blood and fluids to back up in the body – particularly in the liver, lungs, hands, and feet. There are many causes of this condition, which include hypertension and ischemic heart disease.

5.1 Process and outcome indicators

Table 8 below shows the indicators identified at ITAP.

	Table 8: Congestive Heart Failure Indicators
Process indicators	
	Nr of unique beneficiaries with at least one (1) electrocardiogram
	Nr of unique beneficiaries on Angiotensin Converting Enzyme / Angiotensin Receptor Blocker
	Nr of unique beneficiaries on Spironolactone (MRA)
	Nr of unique beneficiaries with at least one (1) Sodium test
	Nr of unique beneficiaries who had a flu vaccine
Outcome Indicators	
	Hospital admissions (all cause)
	Hospital re-admissions (all cause)
	Mortality (all cause)

Salt increases the retention of fluid in the body. There are also studies, which show that salt increases blood pressure. Congestive heart failure (CHF) patients should reduce their salt intake. The Sodium test is used to measure the amount of salt in the patient's body.

Spironolactone (MRA) and Angiotensin Converting Enzyme / Angiotensin Receptor Blocker are drugs used to treat CHF patients.

CHF patients are at a higher risk due to complications that may arise from influenza. It is therefore important that they receive a flu vaccine at least once a year.

5.2 Coverage in 2013 and 2014

In table 9 below, a summary of the coverage of CHF patients is displayed.

	Table 9: Congestive Heart Failure Coverage	
Financial Year	**2014**	**2013**
Nr of patients in sample	**116 099**	**109 134**
Process indicators - Unique beneficiaries		
on Angiotensin Converting Enzyme or Angiotensin Receptor Blocker	42,7%	43,8%
on Spironolactone (MRA)	23,5%	22,3%
at least one (1) electrocardiogram	66,1%	65,8%
at least one (1) Sodium test	30,0%	28,7%
flu vaccine was administered	8,4%	8,7%
Outcome indicators - Unique beneficiaries		
hospital admissions - day	4,7%	4,6%
hospital admissions - more than a day	15,3%	14,4%
hospital re-admissions - day	1,7%	1,5%
hospital re-admissions - more than a day	19,8%	18,5%

The number of CHF patients sampled increased to 116 000 from 109 000. The prevalence of this condition increased by 4.8% across the medical scheme beneficiaries.

The level of monitoring of CHF patients is relatively low compared to other CDL conditions. It has decreased slightly from 2013 to 2014 in the cases of Angiotensin Converting Enzyme or Receptor Blocker and flu vaccines. The number of unique beneficiaries receiving at least one Sodium test and at least one electrocardiogram increased marginally.

Hospitalisation was also on the increase, from 14.4% in 2013 to 15.3% in 2014 for long stay in hospital. The day admissions increased by only 0.1 from 4.6% in 2013 to 15.3% in 2014.

Short stay re-admissions increased by 0.2% to 1.7%. Longer stay in-hospital recorded a more significant increase, increasing from 18.5% in 2013 to 19.8% in 2014. The level of re-admission is of concern as it is higher than the number of unique beneficiaries being admitted. It shows that it is the same patients who are re-admitted more than once.

6 Ischemic Heart Disease

Ischemic heart disease (IHD) is a narrowing of the small blood vessels that supply blood and oxygen to the heart. IHD is also called coronary artery disease. The narrowing of these arteries may in some severe cases lead to heart attacks.

The prevalence of this condition was 13.7 per 1 000 beneficiaries in 2014, up from 13.4 in 2013. This was the third most expensive condition to treat in 2014 per beneficiary per month.

6.1 Process and outcome indicators

Table10 below shows the process indicators identified at ITAP.

	Table 10: Ischemic Heart Disease Indicators
Process indicators	
	Nr of unique beneficiaries with at least one (1) fasting glucose test
	Nr of unique beneficiaries with at least one (1) HbA1c test
	Nr of unique beneficiaries on statins
	Nr of Unique beneficiaries with at least one (1) LDL/Lipogram test
	Nr of unique beneficiaries on aspirin
Outcome Indicators	
	Hospital admissions (all cause)
	Hospital re-admissions (all cause)
	Mortality (all cause)

IHD patients need to be treated with statins and aspirin. Aspirin, prevents blood clots from forming in the patients arteries. This reduces the chance of a heart attack or stroke.

The fasting glucose test is used to monitor the blood sugar in patients. Higher levels of fasting glucose levels increase the risk of IHD.

6.2 Coverage in 2013 and 2014

Table 11 below summarises the coverage of IHD patients.

	Table 11: Ischemic Heart Disease Coverage	
Financial Year	**2014**	**2013**
Nr of patients in sample	**115 855**	**109 088**
Process indicators - Unique beneficiaries		
at least one (1) fasting glucose test	42,7%	43,8%
at least one (1) HbA1c test	23,5%	22,3%
on statins	66,1%	65,8%
at least one (1) LDL/Lipogram test	30,0%	28,7%
on aspirin	8,4%	8,7%
Outcome indicators - Unique beneficiaries		
hospital admissions - day	16,0%	16,1%
hospital admissions - more than a day	34,8%	34,2%
hospital re-admissions - day	5,2%	5,0%
hospital re-admissions - more than a day	38,7%	39,1%
co-morbidities hypertension	74,3%	74,0%
co-morbidities diabetes mellitus	12,4%	12,3%

The number of IHD patients sampled increased to 116 000 from 109 000. The prevalence of this condition increased by 2.5% across the medical scheme beneficiaries.

The level of monitoring of IHD patients is comparable to other CDL conditions. It has decreased slightly from 43.8% in 2013 to 42.7% in 2014 in the case of fasting glucose test. The number of unique beneficiaries receiving at least one HbA1c test and at least one LDL/Lipogram increased from 2013 to 2014.

The number of patients on aspirin is very low – less than 10%. Minimum standards of effective care require that IHD patients be on aspirin medication. On a positive note, the coverage of statins is very high, as it increased to 66.1% in 2014, up from 65.8% in 2013.

Hospitalisation was also on the increase, from 34.2% in 2013 to 34.8% in 2014 for long stay in-hospital. The day admissions decreased by only 0.1% from 16.1% in 2013 to 16% in 2014.

Readmission rates for short stay were low, only 5.2% in 2014 up from 5.0% in 2013. However, long stay hospitalisation was very high. It stood at 38.7% of the patients in 2014, down from 39.1% in 2013.

Approximately 74% of the IHD are being treated for hypertension and 12% of them are also being treated for diabetes mellitus. This makes it vital that care of patients is properly coordinated between disease management programmes, as well as health practitioners.

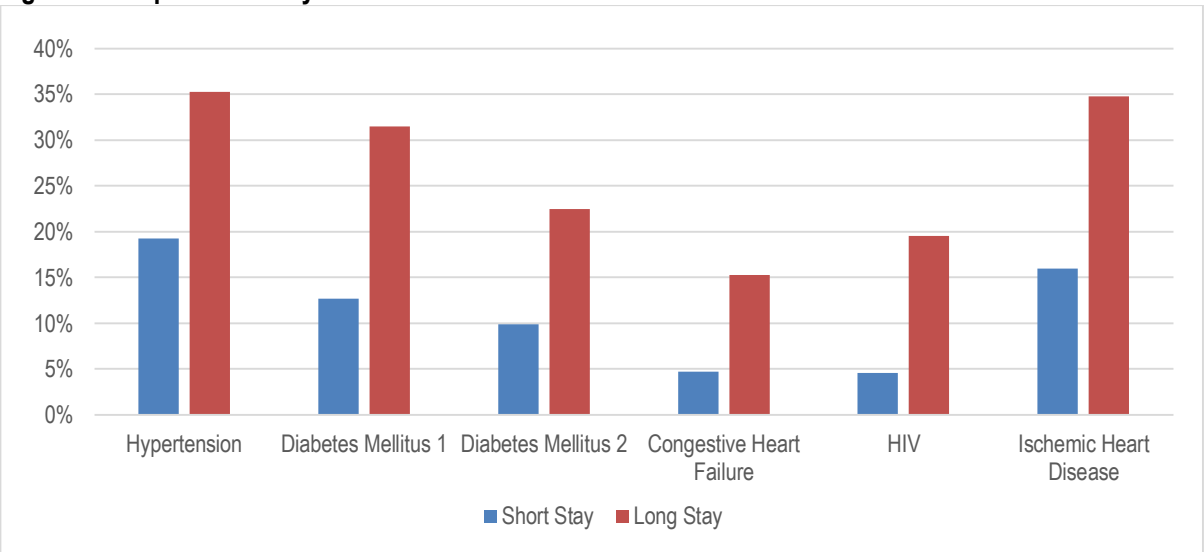
7 Analysis of results

In the following section the CMS will analyse the hospitalisation of all the CDL conditions discussed in this document. Co-occurring CDL conditions will also be discussed.

7.1 Hospitalisation

Effective disease management should limit the amount of hospitalisation. Below is a graph which compares the rate of hospitalisation for unique beneficiaries across all the conditions discussed:

Figure 1: Hospitalisation by CDL condition



There is significant variation of hospitalisation by CDL condition. This adds value to the analysis, which uses all cause hospitalisation. It can be inferred that it is the chronic condition which is primarily responsible for hospital admissions. The lowest rates of admissions are for CHF and HIV. HYP and IHD have similar rates of hospitalisation at 35%.

7.2 Co-morbidities

Co-occurring chronic conditions make disease management expensive and more complicated to manage. Effective management of diseases should limit co-morbidities. This is an important indicator to monitor from time to time as it is an indicator of quality of care, as well as an important risk factor. Table 12 below shows the co-occurring conditions in the 2014 financial year:

Table 12: Co-occurring CDL conditions among chronic patients			
	Hypertension	**Diabetes Mellitus**	**Renal failure**
Hypertension		22,7%	
Diabetes Mellitus 1			1,0%
Diabetes Mellitus 2			0,4%

Ischemic Heart Disease	74,3%	12,4%	

A significant portion of IHD patients also have Hypertension while 22.7% of Hypertensive patients are diabetic. Fortunately very few diabetic patients have renal failure.

7.3 Acceptable outcomes

This is the first time CMS is measuring quality of care in the medical schemes. It creates challenges in that there is no easy benchmark for the CMS to use in comparing findings. A key question that should be asked is whether the level of quality of care is acceptable? Given the data challenges explained earlier, how much emphasis can be placed on the current results?

At best, the results show that quality of care can be improved; in some instances coverage ratios are as high as 75%. All coverage ratios below this level can be improved to this level at least. It is difficult to say if 75% should be a reasonable target, as the CMS is aware that there are adherence issues. Some patients do not want to comply with treatment requirements, the extent to which this occurs is unknown at the moment.

7.4 Effectiveness of disease management programme

The effectiveness of disease management programmes can best be analysed by comparing process and outcome indicators for benefit options contracted to MCO's and those which are not. Risk adjustment would be necessary when considering outcomes. Benefit options have different risk pools which will ultimately affect outcomes. The process indicators would not be affected by the risk pool – a small adjustment may be made to results to allow for member movement.

7.5 Trends over time

Measuring outcome indicators should be an ongoing process. The quality of data should improve with time, thus the CMS results and data analysis will improve. It is also vital to monitor the trends over time. This may help identify problems early - when outcomes deteriorate the CMS needs to know why. Monitoring trends over time will help monitor progress in terms of achieving objectives mentioned earlier.

8 Conclusion and Recommendations

The quality of care in medical schemes should improve over time. Improving quality of care should improve the quality of life for the beneficiaries and hopefully also reduce costs of providing healthcare cover over time. Good quality of care should manage patients in such a way that they do not complicate and require expensive heath interventions.

The CMS encourages schemes to be more proactive in the monitoring of the quality of care of their patients. The CMS will continue reporting the results of quality assessments. The ITAP process will furthermore continue until all of the 25 CDL's are covered and the CMS will expand the list of indicators in the Annual Statutory Return data specification. The results will be published per benefit option per indicator in future. The CMS will also do more work on the evaluation of the outcomes data.

The CMS encourages schemes to improve on the coordination of care of patients and the quality of the indicator data. There is a significant portion of co-occurring CDL conditions. It is important that the care of these patients is well coordinated.

References

Council for Medical Schemes, 2015, *Annual Statutory Returns Utilisation System*. Available from: http://www.medicalschemes.com

Council for Medical Schemes, 2015, *The Council for Medical Schemes Annual Report 2014/15*. Pretoria: In-house publication. Available from the CMS website: http://www.medicalschemes.com.

Mainz, J. 2003. Defining and classifying clinical indicators for quality improvement. *International Journal for Quality in Health Care*, 15:6:523–530.

StatsSA. 2014. *Statistical release P0302- Mid-year population estimates 2014*. Pretoria: Statistics of South Africa. Available from: http://www.statssa.gov.za.