



Analysis of the Schemes Risk Measurement returns - 2014

Research and Monitoring Unit

November 2015

Table of Contents

1. Executive summary.....	1
2. Introduction	3
3. Purpose of the report.....	4
4. SRM data and methods.....	4
4.1. SRM count and prevalence grids.....	4
4.2. Case definitions and benchmarks	5
4.3. Estimation of expected values	6
4.4. Categorisation	6
5. Scheme evaluation results	7
5.1. SRM data submitted for analysis	7
5.2. Data quality	7
5.3. Chronic disease prevalence: December 2013 / 2014.....	9
5.4. Variation in the risk profiles by medical schemes.....	12
5.4.1. Analysis of the financial impact.....	12
5.5. Price by age and community rate analyses	17
6. Summary of findings.....	18
6.1. Scheme participation	18
6.2. Data quality and application of the Entry and Verification Criteria	18
6.3. Chronic disease prevalence	18
6.4. Variation in the risk profiles by medical schemes.....	18
6.5. Price by age and community rate analyses	19
7. References.....	20

Table of Figures

Figure 1: Data quality groups by number of schemes - 2014.....	9
Figure 2: Number of beneficiaries by scheme risk category (December 2014).....	15
Figure 3: Scheme community rate on the Full table (December 2014).....	16
Figure 4: All Administrators Price by Age	17

List of Tables

Table 1: Categories and groups used in the analysis of SRM returns.....	6
Table 2: Schemes and beneficiaries included in 2014 SRM returns	7
Table 3: Beneficiaries included in 2014 SRM returns.....	8
Table 4: The 10 most frequently diagnosed and treated chronic diseases: December 2013 / 2014	10
Table 5: SRM health status estimated-risk-adjustment versus expected-risk-adjustment amount.....	11
Table 6: Industry community rate and scheme risk rate variation per quarter	12
Table 7: Frequency distribution of the number of schemes versus the scheme risk intervals	13
Table 8: Frequency distribution of the number of beneficiaries versus the scheme risk intervals	14

1. Executive summary

As part of the Scheme Risk Measurement (SRM) project, which replaced the Risk Equalisation Fund (REF) shadow period in the 2011/12 financial year, schemes submit consolidated monthly SRM returns to the Council for Medical Schemes (CMS) annually. The main purpose of the SRM project is to measure and report on the risk profiles of medical schemes.

This report presents the analysis of the Schemes Risk Measurement (SRM) returns submitted to the Council for Medical Schemes (CMS) for 2014.

By quarter 4 of 2014, 99.34% of beneficiaries (or 8 756 143) were represented in data submissions from schemes. Two (2) medical schemes failed to submit SRM returns in 2014, and as a result were not included in the analysis.

There has been a significant improvement in the quality of data submitted to the CMS over the last few years. Only 1 medical scheme failed to correctly apply the Entry and Verification Criteria by the end of December 2013. The CMS was not able to confidently adjudicate the accuracy of reported chronic disease list (CDL) data because of the outdated benchmark data for certain CDL conditions. The approach here has mainly been to observe CDL prevalence trends over time, epidemiological and clinical soundness of the reported data. A new SRM benchmark study will be undertaken in due course to establish the correct CDL benchmarks. However, these tools remain useful as a standard in comparing differences in risk profiles between medical schemes. Individual reports will be sent to schemes comparing the submission with the adjusted CDL prevalence. The area of improvement remains the correct classification of beneficiaries in the correct age bands, especially beneficiaries in the under 1 and the 85 plus age groups.

The prevalence of diagnosed and treated CDL conditions has remained unchanged between 2013 and 2014. There has been a slight increase in the absolute number of beneficiaries diagnosed and treated for CDL conditions. Hypertension remains the most prevalent CDL condition, followed by hyperlipidaemia, diabetes mellitus type 2, HIV/AIDS cases on ART and asthma. It must be noted that the reported prevalence is that of diagnosed and treated cases as per entry and verification criteria, and must not be mistaken as the number of beneficiaries registered on a chronic disease management programme or directly compared to the prevalence in the general population. This prevalence will therefore be lower than the true population prevalence of chronic diseases. The observed trends are valuable in the understanding of changes in the risk profiles of medical schemes.

The December calculations of the cost of the risk-adjusted community rate based on age distribution, CDL, HIV and maternity data show that the scheme community rate of the most unfavourable age structure is about R629.97

above the industry average, whereas the cost for a scheme with the most favourable age structure is about R303.09 below the industry average. The variation in the scheme risk have remained largely unchanged between 2013 and 2014. The findings indicate that a large degree in the variation in risk between schemes is directly attributable to the true differences in the risk profile of individual schemes. The increase in the reported industry community rate is likely a result of a change in the risk profile of the industry. The inflation adjusted 2009 weighting table is likely to be outdated and the cause of a possible underestimating of the industry community rate. The variation in the observed scheme community rate is a clear indication that schemes are facing different risks and a system of risk adjustment is still applicable in the private medical schemes industry.

2. Introduction

The importance of extending quality healthcare to all remains a relevant issue throughout the world. The escalating costs of healthcare are a significant obstacle to the realisation of the goal of healthcare for all. Policymakers have identified risk pooling as a tool to make healthcare affordable. Risk pooling ensures that the burdensome risk of high cost of healthcare intervention is borne by all members of the pool and not individuals.

The South African private health environment is characterised by the presence of many competing robust medical schemes. The medical schemes regulatory framework contained in the Medical Schemes Act (Act 131 of 1998) aims to ensure that medical scheme beneficiaries are not treated unfairly. The regulatory framework introduced three principles aimed at supporting social solidarity. Firstly, medical schemes must offer a set mandatory minimum benefits or Prescribed Minimum Benefits (PMBs) as part of a basic benefit package in all their benefit options. PMBs include a list of 270 diagnosis and treatment pairs that were introduced from 1 January 2000 and 25 defined chronic conditions (CDLs) introduced from 1 January 2004. Schemes were legally obliged to offer and pay for these benefits in full for all benefit options.

Secondly, the new framework introduced community rating – schemes are prohibited from setting contributions on the basis of health status, age or any other arbitrary grounds. Contributions can only be varied on the basis of income or number of dependents.

The third principle is open enrolment, a provision that prohibits open medical schemes from refusing membership on any ground. Certain criteria must be met for restricted scheme membership. These include being formerly or currently employed in a particular trade, profession or industry.

The act does not cover provisions on mandatory membership and risk equalisation between medical schemes. Mandatory membership would have removed the problem of anti-selection (a phenomenon in health insurance that occurs when individuals take up cover only when in need of healthcare) in medical schemes and also allow for a system of income cross-subsidisation. Risk equalisation would have ensured that medical schemes compete on an equal footing and not on the basis of demographic characteristics of beneficiaries. Non-inclusion of these measures gives medical schemes an incentive to continue to find ways of avoiding bad risks through the design of benefit options (Van den Heever, 2012).

All medical schemes participated in the voluntary Risk Equalisation Fund Shadow period from January 2005 by submitting monthly risk profile data to the CMS on a quarterly basis. The purpose of the REF shadow period was to provide an opportunity for the CMS and medical schemes to prepare for a system of risk equalisation. The CMS

stopped the REF Shadow period in December 2011. However, the CMS continues to collect risk profile data from schemes, similar to the REF process, albeit for a different purpose, to measure and report on the risk profiles of medical schemes (Council for Medical Schemes, 2011)

Despite the successful implementation of open enrolment, community-rating and a system of mandatory minimum benefits to enhance social solidarity, it is still possible for some open schemes to design and market their products in such a way that they attract younger and healthier beneficiaries.

The evaluation of the SRM data in the past has shown that the distortion in risk exposure of medical schemes is too large to be considered random. The December 2013 estimated cost of community-rated PMBs based on age, CDLs, HIV and Maternity was about R611.24 above the industry average for a scheme with the most unfavourable age structure, whereas the cost for a scheme with the most favourable age structure was about R229.17 below the industry average. The estimated industry community rate for December 2013 was R539.15.

3. Purpose of the report

The purpose of this report is to illustrate the impact of age and chronic diseases on the risk profile of medical schemes.

4. SRM data and methods

4.1. SRM count and prevalence grids

Two types of SRM grids are collected to count the number of beneficiaries with CDL conditions. The SRM grid count contains the total number of beneficiaries in each cell for the period. Each beneficiary must be placed in only one cell in Columns 1 to 28. For a person with two or more CDL conditions (or HIV/AIDS and one or more CDL conditions), the scheme chooses the highest cost cell of the combination. Thus the total of beneficiaries for Columns 1 to 28 must equal the number of beneficiaries in the scheme for the period. Counts of beneficiaries for the modifiers are done separately. This SRM grid count used in the calculation of the SRM contribution table is not prevalence of the disease; it is arrived at by taking the most expensive disease in any multiple disease combination. It therefore cannot be compared directly to prevalence in published medical literature.

SRM grid prevalence contains the total number of beneficiaries in each cell for the period. Each beneficiary must be placed in as many cells in Columns 1 to 28 as they have chronic conditions (CDL conditions or HIV/AIDS). For a person with three CDL conditions, the scheme places the beneficiary in the three relevant columns. Thus the total of beneficiaries for Columns 1 to 28 will amount to more than the total number of beneficiaries in the scheme

for the period.

A parallel process was initiated in 2015 to collect the SRM data as part of the Healthcare Utilisation Statutory Returns (ASR). This new process will streamline the data collection process and reduce the reporting burden from medical schemes. Starting from 2016 (2015 financial year SRM submissions), schemes will submit the SRM data through the Annual Statutory Returns Healthcare Utilisation process only. Data submission guidelines will be communicated to medical schemes and related parties through the publication of the updated Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria (Council for Medical Schemes, 2015).

4.2. Case definitions and benchmarks

Version 8.1 of the *Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria* (Council for Medical Schemes, 2014b) was used to identify qualifying beneficiaries for 2014. The purpose of this guideline document is to define the criteria which must be met in the identification of beneficiaries with the risk factors used in the SRM. The entry and verification criteria are intended for this purpose alone and are not to be construed as limitations or expansions on the entitlements of medical scheme beneficiaries to PMBs in terms of the Medical Schemes Act. There might therefore be instances where a beneficiary is legally entitled to a PMB in respect of a particular condition but cannot be included in the CDL portion of the SRM returns. Similarly, certain medicines that are not included in the CDL therapeutic algorithms may be included as proof of treatment for the purpose of identifying a beneficiary with a condition qualifying for inclusion in the SRM returns. The inclusion of such medicines in the entry and verification criteria does not create an entitlement for a beneficiary to access that medicine as a PMB.

The entry and verification criteria were developed with emphasis on the verifiability of cases and will be used to ensure that there is uniformity in the way that medical schemes identify SRM risk factors. These guidelines provide specific clinical codes which serve to identify patients who were treated for CDL conditions. The guidelines will be reviewed annually.

4.3. Estimation of expected values

In the evaluation of a scheme's data submissions for CDL conditions, maternity and HIV/AIDS, it is often difficult to determine whether the submissions reflect the true risk of the scheme or whether the submissions reflect data definition problems. The CMS applies statistical techniques to submissions in order to overcome this problem, whereby deviation from expected values (as determined in the PMB Costing Study 2009) is expressed as the weighted number of standard deviations if a scheme's submission differs from the expected values. The CMS also uses a clustering technique that groups together benefit options with similar expected disease-specific rates based on routinely collected variables. Scheme-specific expected rates are calculated using the benefit option cluster composition of each scheme.

4.4. Categorisation

SRM returns were evaluated in accordance with the categories listed in Table 1 below. The table groups together categories representing "fair data", "serious data errors", or "CDL definitions applied poorly". The data quality evaluation is a mostly automated process with the emphasis on scheme demographics and CDL data. In this process, the SRM demographic data is checked against the demographic data reported through the Financial annual Statutory Returns. The scheme's reported CDL are evaluated against the scheme-specific expected rates based on benefit option cluster composition of each scheme. Serious deviations are noted and reported to affected schemes.

Table 1: Categories and groups used in the analysis of SRM returns

Category	Description
Fair data	1. Minor concerns with the CDL and demographic data
CDL definitions applied poorly	1. Some concerns with the CDL data 2. Much lower than expected CDL prevalence 3. Much higher than expected CDL prevalence 4. Maternity data unlikely
Serious data errors	1. Many more beneficiaries in SRM returns than in statutory returns 2. No SRM data or substantially less than in statutory returns 3. Serious concerns with the reporting of CDLs

5. Scheme evaluation results

5.1. SRM data submitted for analysis

Table 2 indicates that by December 2014, 99.94% of the total number of beneficiaries reported in the statutory returns was accounted for in SRM submissions. The difference between the SRM and statutory returns (SR) beneficiary counts was less than 1% for all the quarters of the year. The observed differences are mainly attributable to data quality issues and failure to submit SRM data by two medical schemes, SEDMED and one PMB exempted scheme, Foodworkers Medical Benefit Fund. The two medical schemes cover about 20 000 beneficiaries collectively.

Table 2: Schemes and beneficiaries included in 2014 SRM returns

<i>Quarter end</i>	<i>Number of schemes (SRM data)</i>	<i>Statutory returns (SR) submissions</i>	<i>SRM submissions</i>	<i>SRM beneficiaries as % of SR beneficiaries</i>
Mar 2014	83	8 771 009	8 702 145	99,21
Jun 2014	81	8 765 961	8 707 575	99,33
Sep 2014	81	8 810 010	8 754 122	99,37
Dec 2014	81	8 814 458	8 756 143	99.34

5.2. Data quality

Table 3 overleaf indicates data inconsistencies in respect of inter-age differences between SR and SRM data submissions in December 2014. These differences are serious in the under-1 age band, a common reason for poor data quality decision for many schemes. Observed differences are attributable to minor differences between SR and SRM, poor quality data submission for some schemes, and the non-submission of SRM data by 2 medical schemes. Serious data issues will be raised with schemes through scheme specific feedback reports. The reporting of beneficiaries aged less than 1 year improved significantly in 2014 SRM submission. The difference in the number of beneficiaries aged less than 1 year between the SRM and SR submissions was 4 651 or 1.72% of SR in 2014 compared to 36 837 or 13,96% of SR in 2014. The deviation between SRM and SR was less than 2% for all age bands.

Table 3: Beneficiaries included in 2014 SRM returns

Age band	Statutory Return Dec 2014	SRM Grid Count Dec 2014	Difference	Difference as % of Statutory Return
Under 1	270 626	275 277	4 651	1,72%
1-4	640 610	631 676	-8 934	-1,39%
5-9	773 740	766 769	-6 971	-0,90%
10-14	672 734	669 052	-3 682	-0,55%
15-19	636 933	633 847	-3 086	-0,48%
20-24	469 327	463 737	-5 590	-1,19%
25-29	638 615	631 169	-7 446	-1,17%
30-34	736 123	731 898	-4 225	-0,57%
35-39	704 826	701 081	-3 745	-0,53%
40-44	689 077	684 359	-4 718	-0,68%
45-49	615 338	612 041	-3 297	-0,54%
50-54	554 042	550 683	-3 359	-0,61%
55-59	447 887	443 818	-4 069	-0,91%
60-64	318 886	317 133	-1 753	-0,55%
65-69	241 759	240 986	-773	-0,32%
70-74	173 879	173 104	-775	-0,45%
75-79	116 995	116 723	-272	-0,23%
80-84	68 834	68 864	30	0,04%
85+	44 227	43 926	-301	-0,68%
Total	8 814 458	8 756 143	-58 315	-0,66%

Figure 1 below shows the level of agreement in the data submitted for SR and SRM returns. The correlation between the two data sets was very high in the under one year age group for over 80% of schemes. Major differences were observed in the data submitted for SR and SRM for the 85 plus years age group with between 38% and 46% of schemes reporting unreliable data for this age group. Overall, there was a good agreement in the schemes' total number of beneficiaries reported in the SR and SRM.

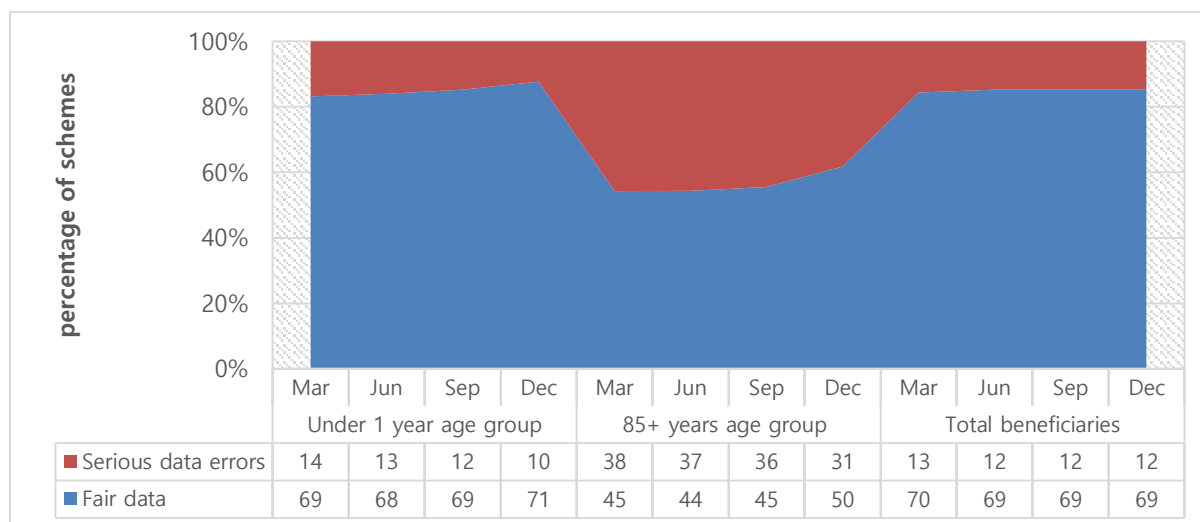


Figure 1: Data quality groups by number of schemes - 2014

5.3. Chronic disease prevalence: December 2013 / 2014

The top ten most common treated chronic conditions are shown in Table 4 below. The order of the diseases has remained unchanged between 2013 and 2014 except that cardiomyopathy and epilepsy have swapped positions in 2014. Hypertension has retained its position as the most prevalent condition with a prevalence of 9.10% in 2014. Hyperlipidaemia, diabetes mellitus, HIV/AIDS (beneficiary on ART in accordance with the National Antiretroviral Treatment Guidelines (Council for Medical Schemes, 2014b)) and asthma complete the list of top 5 most common conditions. The prevalence of hyperlipidaemia, cardiomyopathy and dysrhythmias increased significantly between 2013 and 2014. There was an increase of 18.30% in the number of beneficiaries receiving treatment for HIV/AIDS. The number of beneficiaries with multiple concurrent CDL conditions have largely remained unchanged between 2013 and 2013. Less than 15% (13.34%) of medical scheme beneficiaries were diagnosed and treated for at least one chronic disease in 2014. The figure has remained largely unchanged when compared to the proportion of beneficiaries with at least one CDL condition in 2013 (13.33%).

Table 4: The 10 most frequently diagnosed and treated chronic diseases: December 2013 / 2014

Chronic condition (CDLs & HIV/AIDS)	Dec-14		Dec 2013 ¹		Change in CDL Prevalence 2014 - 2013
	Prevalence ² (per 1 000 beneficiaries)	Order	Prevalence (per 1 000 beneficiaries)	Order	
Hypertension	90,95	1	90,67	1	0,30%
Hyperlipidaemia	37,01	2	36,48	2	1,47%
Diabetes mellitus type 2	28,42	3	28,20	3	0,74%
HIV/AIDS ³	21,15	4	17,88	4	18,30%
Asthma	15,83	5	16,20	5	-2,32%
Hypothyroidism	15,23	6	15,15	6	0,40%
Ischaemic heart disease	7,05	7	7,27	7	-3,11%
Cardiomyopathy	4,69	8	4,30	9	9,07%
Epilepsy	4,34	9	4,40	8	-1,34%
Dysrhythmias	3,34	10	3,18	10	5,07%
Other CDLs	16,68		16,81		-0,76%
Two concurrent CDLs	39,79		39,18		1,56%
Three concurrent CDLs	14,90		14,30		4,23%
Four or more concurrent CDLs	3,10		3,10		0,08%
Beneficiaries treated for at least one CDL	133,39		133,28		0,09%
Total population⁴	8 756 143		8 553 119		

Table 5 overleaf shows the relationship between actual and expected risk-adjustment amount for each condition. The table is colour-coded to highlight unusually low or unusually high counts for each condition. The light blue conditions are reported at the cost 5% lower than the total expected risk-adjustment amount. Diseases that were reported at more than 5% of the total cost are shown in red.

The results show that HIV/AIDS is reported at rates higher than expected for the industry (Council for Medical Schemes, 2014c). The ratio of the actual to expected risk-adjustment amount for HIV/AIDS is 408.42%. Hypothyroidism, diabetes mellitus type 2, bronchiectasis, bipolar mood disorder and hypertension are also reported at rates higher than expected by up to 90 percentage points in excess of expected cases. On the other hand, hyperlipidaemia, diabetes mellitus type 1 and Addison's disease seem to be under-reported by up to 50 percentage

¹ 2013 statistics restated

² Prevalence in the SRM prevalence grids is defined in version 8.1 of the *Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria*. Note the difference between Count and Prevalence in the SRM grids.

³ Beneficiary qualifies for ART in accordance with the National Antiretroviral Treatment Guidelines

⁴ Total population as reported in the SRM Grids for 2013 or 2014

points less than the expected rate for these conditions.

Overall, the difference between the estimated actual and expected total risk-adjustment amount was about 6 percentage points or R292 229 035.76.

Table 5: SRM health status estimated-risk-adjustment versus expected-risk-adjustment amount

Chronic condition (CDLs, Maternity & HIV/AIDS)	Estimated risk adjustment amount			
	Difference (A-E)	Expected	Actual	A/E
No CDL disease	-R 156 685 440.68	R 2 424 713 105.22	R 2 268 027 664.54	93.54%
Addison's Disease	-R 278 945.67	R 849 557.58	R 570 611.91	67.17%
Asthma	R 1 071 988.31	R 132 735 533.45	R 133 807 521.76	100.81%
Bronchiectasis	R 524 800.15	R 979 299.11	R 1 504 099.26	153.59%
Bipolar Mood Disorder	R 22 360 674.17	R 53 606 121.89	R 75 966 796.06	141.71%
Cardiac failure & Cardiomyopathy	R 13 203 728.93	R 142 761 355.65	R 155 965 084.58	109.25%
Chronic Obs. Pulmonary Disease	-R 15 846 221.73	R 68 249 526.60	R 52 403 304.87	76.78%
Chronic Renal Disease	-R 18 867 892.01	R 125 897 179.17	R 107 029 287.16	85.01%
Crohn's Disease	-R 13 461.87	R 5 829 007.73	R 5 815 545.86	99.77%
Diabetes Insipidus	-R 110 827.09	R 610 906.78	R 500 079.69	81.86%
Diabetes Mellitus 1	-R 34 988 590.99	R 89 960 018.72	R 54 971 427.73	61.11%
Diabetes Mellitus 2	R 108 207 633.32	R 156 965 076.92	R 265 172 710.24	168.94%
Dysrhythmias	R 9 671 110.64	R 51 080 056.50	R 60 751 167.14	118.93%
Epilepsy	R 10 799 290.22	R 58 391 420.73	R 69 190 710.95	118.49%
Glaucoma	R 1 701 987.66	R 11 065 015.48	R 12 767 003.14	115.38%
Haemophilia	-R 639 062.72	R 4 876 659.15	R 4 237 596.43	86.90%
Hyperlipidaemia	-R 121 341 497.01	R 206 704 269.28	R 85 362 772.27	41.30%
Hypertension	R 165 062 111.82	R 422 343 103.21	R 587 405 215.03	139.08%
Ulcerative Colitis	-R 209 078.68	R 6 554 630.67	R 6 345 551.99	96.81%
Coronary Artery Disease	-R 14 709 793.93	R 131 377 173.64	R 116 667 379.71	88.80%
Multiple Sclerosis	R 3 883 751.77	R 15 168 603.16	R 19 052 354.93	125.60%
Parkinson's Disease	R 1 834 757.09	R 23 010 230.63	R 24 844 987.72	107.97%
Rheumatoid Arthritis	R 8 603 405.93	R 34 278 327.59	R 42 881 733.52	125.10%
Schizophrenia	R 635 286.57	R 9 335 252.53	R 9 970 539.10	106.81%
Systemic LE	R 905 861.44	R 4 694 115.68	R 5 599 977.12	119.30%
Hypothyroidism	R 28 490 288.96	R 30 901 206.18	R 59 391 495.14	192.20%
HIV/AIDS	R 250 330 895.00	R 81 166 339.44	R 331 497 234.44	408.42%
Two simultaneous conditions	R 34 440 013.86	R 118 084 951.21	R 152 524 965.07	129.17%
Three simultaneous conditions	R 33 764 173.00	R 89 815 784.86	R 123 579 957.86	137.59%
Four or more simultaneous conditions	R 11 815 319.43	R 38 432 075.76	R 50 247 395.19	130.74%
Maternity Events	-R 51 387 230.13	R 347 695 085.49	R 296 307 855.36	85.22%
Total CDL Conditions	R 169 951 305.28	R 1 788 223 648.03	R 1 958 174 953.31	109.50%
Multiple CDL Conditions	R 80 019 506.29	R 246 332 811.83	R 326 352 318.12	132.48%
Total	R 292 229 035.76	R 4 888 130 990.01	R 5 180 360 025.77	105.98%

5.4. Variation in the risk profiles by medical schemes

The scheme's risk, difference between industry community rate and scheme community rate, was calculated for each scheme for March, June, September and December based on the full contribution table (Council for Medical Schemes, 2014c). The scheme risk is a proxy to illustrate the differences in the risk profiles of medical schemes. All the schemes that submitted the 2014 SRM data were included in the calculation of the industry community rate.

5.4.1. Analysis of the financial impact

Eighty three schemes were included in the analysis for March and eighty-one for June, September and December. The scheme risk varied from –R629.97 to R302.09 by the end of December 2014 as depicted in Table 6. The variation in the scheme risk is slightly higher than previously noted (Council for Medical Schemes, 2014a). The industry community rate is higher than the estimated amount of R552.30 (Council for Medical Schemes, 2014c).

Table 6: Industry community rate and scheme risk rate variation per quarter

Statistic	Full Contribution Table			
	March 2014	June 2014	September 2014	December 2014
Industry community rate	R 583.16	R 586.41	R 591.41	R 591.63
Minimum risk rate	-R 596.85	-R 622.74	-R 622.72	-R 629.97
Maximum risk rate	R 276.05	R 295.81	R 311.63	R 302.09
Standard deviation	R 199.18	R 195.97	R 192.91	R 190.37

In a system of risk adjustment, schemes with a community rate lower than that of the industry community rate would be net payers (young and healthy) and schemes with a community rate higher than the industry community rate would be net receivers (older and sicker). In Table 7 and Table 8, the “Pay” category refers to schemes with a scheme community rate that is lower than the industry community rate and “Receive” category refers to schemes with a community rate that is higher than the industry community rate.

There was approximately an equal number on schemes in both the risk categories throughout each end-of-quarter month in 2014 as shown in Table 7. On the contrary, about 72% of all beneficiaries were in schemes whose community rate was lower than that of the industry. The balance of the covered beneficiaries were in schemes that had a community rate higher than that of the industry as shown in Table 8.

About 63% of covered lives were in schemes whose community rate was R25 either above (10.11%) or below (53.40%) the industry community rate by December 2014.

Table 7: Frequency distribution of the number of schemes versus the scheme risk intervals

Scheme risk category	March 2014		June 2014		September 2014		December 2014	
	Schemes	%	Schemes	%	Schemes	%	Schemes	%
Pay: R0 to R25,00 PBPM	6	7.23	6	7.41	6	7.41	5	6.17
Pay: R25,01 to R50,00 PBPM	5	6.02	9	11.11	7	8.64	8	9.88
Pay: R50,01 to R75,00 PBPM	5	6.02	1	1.23	5	6.17	2	2.47
Pay: R75,01 to R100,00 PBPM	9	10.84	7	8.64	8	9.88	7	8.64
Pay: R100,01 to R125,00 PBPM	6	7.23	7	8.64	4	4.94	7	8.64
Pay: R125,01 to R150,00 PBPM	1	1.20	2	2.47	2	2.47	2	2.47
Pay: More than R150,00 PBPM	10	12.05	10	12.35	9	11.11	9	11.11
Pay category sub-total	42	50.60	42	51.85	41	50.62	40	49.38
Receive: R0,01 to R25,00 PBPM	5	6.02	4	4.94	6	7.41	6	7.41
Receive: R25,01 to R50,00 PBPM	4	4.82	4	4.94	2	2.47	5	6.17
Receive: R50,01 to R75,00 PBPM	0	0.00	3	3.70	3	3.70	1	1.23
Receive: R75,01 to R100,00 PBPM	3	3.61	4	4.94	6	7.41	7	8.64
Receive: R100,01 to R125,00 PBPM	5	6.02	2	2.47	2	2.47	2	2.47
Receive: R125,01 to R150,00 PBPM	2	2.41	2	2.47	2	2.47	1	1.23
Receive: More than R150,00 PBPM	22	26.51	20	24.69	19	23.46	19	23.46
Receive category sub-total	41	49.40	39	48.15	40	49.38	41	50.62
Total	83	100.00	81	100.00	81	100.00	81	100.00

Table 8: Frequency distribution of the number of beneficiaries versus the scheme risk intervals

Scheme risk category	March 2014		June 2014		September 2014		December 2014	
	Beneficiaries	%	Beneficiaries	%	Beneficiaries	%	Beneficiaries	%
Pay: R0 to R25.00 PBPM	3 010 146	34.59	3 004 998	34.51	4 687 176	53.54	4 676 053	53.40
Pay: R25.01 to R50.00 PBPM	1 886 382	21.68	2 120 366	24.35	477 645	5.46	491 402	5.61
Pay: R50.01 to R75.00 PBPM	261 071	3.00	18 390	0.21	56 477	0.65	18 820	0.21
Pay: R75.01 to R100.00 PBPM	287 812	3.31	186 165	2.14	673 061	7.69	608 727	6.95
Pay: R100.01 to R125.00 PBPM	639 259	7.35	653 402	7.50	136 521	1.56	222 858	2.55
Pay: R125.01 to R150.00 PBPM	7 307	0.08	97 555	1.12	139 628	1.59	94 900	1.08
Pay: More than R150.00 PBPM	179 176	2.06	180 423	2.07	125 553	1.43	171 485	1.96
Pay category sub-total	6 271 153	72.06	6 261 299	71.91	6 296 061	71.92	6 284 245	71.77
Receive: R0.01 to R25.00 PBPM	743 727	8.55	833 357	9.57	862 373	9.85	885 534	10.11
Receive: R25.01 to R50.00 PBPM	408 432	4.69	340 811	3.91	324 947	3.71	359 839	4.11
Receive: R50.01 to R75.00 PBPM		0.00	204 493	2.35	57 965	0.66	44 897	0.51
Receive: R75.01 to R100.00 PBPM	218 620	2.51	247 291	2.84	480 325	5.49	490 095	5.60
Receive: R100.01 to R125.00 PBPM	443 302	5.09	231 853	2.66	172 545	1.97	171 848	1.96
Receive: R125.01 to R150.00 PBPM	83 433	0.96	83 249	0.96	94 953	1.08	57 461	0.66
Receive: More than R150.00 PBPM	533 478	6.13	505 222	5.80	464 953	5.31	462 224	5.28
Receive category sub-total	2 430 992	27.94	2 446 276	28.09	2 458 061	28.08	2 471 898	28.23
Total	8 702 145	100.00	8 707 575	100.00	8 754 122	100.0	8 756 143	100.00

The financial impact by payment band on the beneficiaries is illustrated in Figure 2. For December 2014, 462 224 (5.28%) beneficiaries would have benefitted R150.00 per beneficiary per month or more in a system of risk adjustment. Only 171 485 (1.96%) beneficiaries are in schemes that will pay in more than R150.00 per beneficiary per month. About 71.77% of beneficiaries had a favourable risk profile when compared to the average industry community rate or risk-adjustment amount.

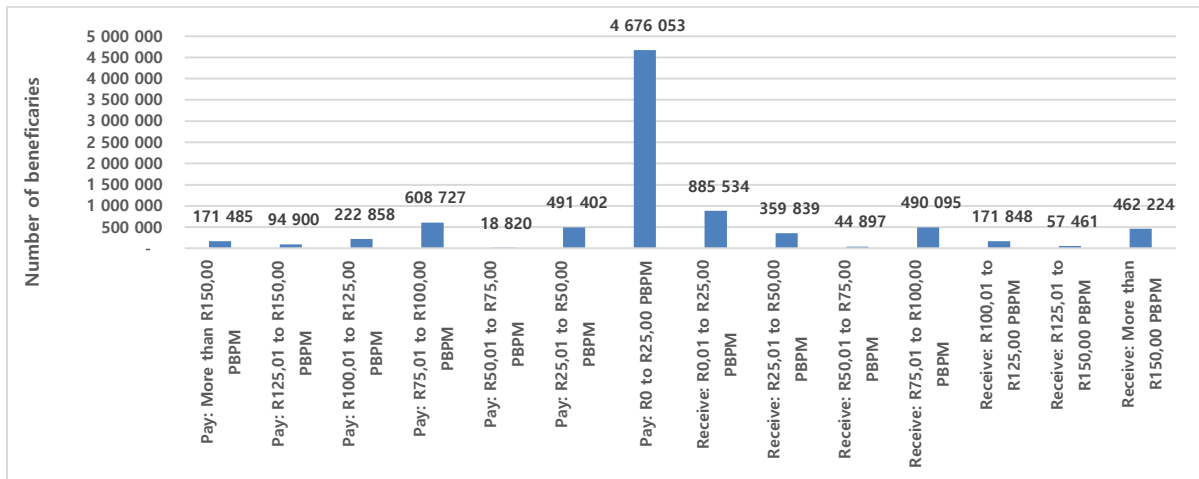


Figure 2: Number of beneficiaries by scheme risk category (December 2014)

Figure 3 below illustrates the variation in the schemes' community rate for December 2014. The community rate for the 83 scheme that were included in the analysis in December 2014 ranged from R289.54 to R1 221.60 per beneficiary per month.

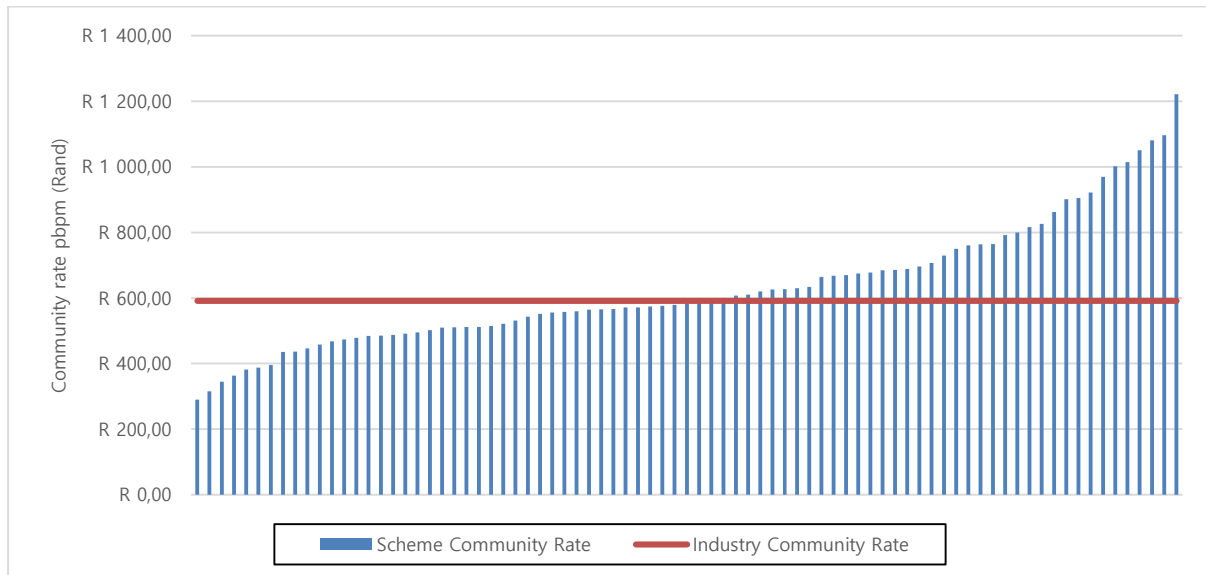


Figure 3: Scheme community rate on the Full table (December 2014)

5.5. Price by age and community rate analyses

The cost by age for the industry closely resembles the curve of the expected industry profile for all the quarters of 2014. The estimated cost by age starts at a relative high R880.97 in the under one age group, but drops between ages 1 to 20 years before reaching a second peak of R484.62 in the 30 to 34 years age group, then rises up to an amount of R2 365.76 in the 80 to 84 age group, as depicted in Figure 4.

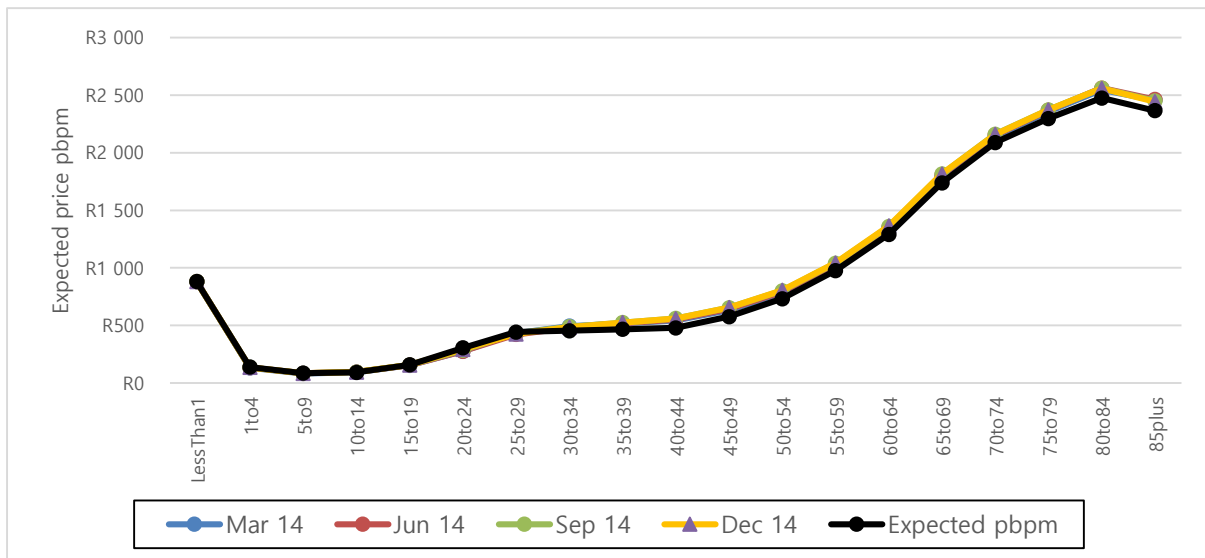


Figure 4: All Administrators Price by Age

6. Summary of findings

6.1. Scheme participation

Scheme participation in the SRM process has remained very high, notwithstanding the fact that it has been a voluntary process. Two schemes representing less than 0.5% of all medical schemes beneficiaries did not submit the SRM data. These schemes are likely not to have had an impact on the estimated industry community rate. From 2015, schemes will submit the SRM data through the Annual Statutory Returns Healthcare Utilisation process. The process of submitting data via excel grids falls away. This will reduce the administrative burden on the part of schemes with regards to submitting data to the CMS.

6.2. Data quality and application of the Entry and Verification Criteria

There has been a significant improvement on the quality of data submitted to the CMS over the last few years. Only one (1) scheme failed to correctly apply the Entry and Verification Criteria by the end of December 2013. It has become difficult to assess the quality of CDL data submitted by medical schemes because the 2009 weighting and count tables have become outdated. Nevertheless, these tools remain useful as a standard in comparing differences in risk profiles between medical schemes. Individual reports will be sent to schemes comparing the submission with the expected CDL Prevalence. The area of improvement remains the correct classification of beneficiaries in the correct age bands, especially beneficiaries under 1 and the 85 plus age groups.

6.3. Chronic disease prevalence

The prevalence of diagnosed and treated CDL conditions has remained unchanged between 2013 and 2014. Hypertension remains the most prevalent CDL condition, followed by hyperlipidaemia, diabetes mellitus type 2, HIV AIDS cases on ART and asthma. It must be noted that the reported prevalence is that of diagnosed and treated cases as per entry and verification criteria and must not be mistaken with the number of beneficiaries registered on a disease management programme or prevalence as reported in medical literature. This prevalence will therefore be lower than the true population prevalence of chronic diseases. The observed trends are valuable in the understanding of changes in the risk profiles of medical schemes.

6.4. Variation in the risk profiles by medical schemes

The findings indicate that a large degree in the variation in risk between schemes is directly attributable to the true differences in the risk profile of individual schemes. The increase in the reported industry community rate is possibly a result of a change in the risk profile of the industry. The inflation adjusted 2009 weighting table is likely to be

outdated and the cause of a possible underestimating of the industry community rate. The variation in the observed scheme community rate is a clear indication that schemes are facing different risks and a system of risk adjustment is still applicable in the private medical scheme industry.

6.5. Price by age and community rate analyses

The cost of treating beneficiaries under 1 and those over 60 years of age is very high. The costs are relatively low in the older children and adults under the age of 60 years. The relatively high costs in the 20 to 40 years could be explained by the demand for maternity services in these age bands. Diseases such as hypertension, bipolar mood disorder, diabetes mellitus type 2, HIV/AIDS and occurrence of multiple concurrent condition explains higher costs in the older age bands.

7. References

- COUNCIL FOR MEDICAL SCHEMES. 2011. *Circular 47 of 2011: Update on the Implementation of the Risk Equalisation Fund* [Online]. Pretoria: Council for Medical Schemes. Available: <http://www.medicalschemes.com/Publications.aspx> [Accessed 17 September 2015].
- COUNCIL FOR MEDICAL SCHEMES. 2014a. *Analysis of the Schemes Risk Measurement returns in 2013* [Online]. Pretoria: Council for Medical Schemes. Available: <http://www.medicalschemes.com/Publications.aspx> [Accessed 17 September 2015].
- COUNCIL FOR MEDICAL SCHEMES. 2014b. *Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria Version 8.1 Applicable from 1 January 2014* [Online]. Pretoria: Council for Medical Schemes. Available: <http://www.medicalschemes.com/Publications.aspx> [Accessed 17 September 2015].
- COUNCIL FOR MEDICAL SCHEMES. 2014c. *Scheme Risk Measurement Weighting and Count Tables for 2014* [Online]. Pretoria: Council for Medical Schemes. Available: <http://www.medicalschemes.com/Publications.aspx> [Accessed 17 September 2015].
- COUNCIL FOR MEDICAL SCHEMES. 2015. *Draft Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria Version 9.0 Applicable from 1 January 2015* [Online]. Pretoria: Council for Medical Schemes. Available: <http://www.medicalschemes.com/Publications.aspx> [Accessed 17 September 2015].
- VAN DEN HEEVER, A. M. 2012. The role of insurance in the achievement of universal coverage within a developing country context: South Africa as a case study. *BMC Public Health*, 12, S5.