Analysis of the Schemes Risk Measurement returns in 2013

Research and Monitoring Unit

September 2014

Table of Contents

Table of Figures

List of Tables

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 2013.

By quarter 4 of 2013, 97.46% of beneficiaries (or 8 553 119) were represented in data submissions from schemes. Eight (8) medical schemes failed to submit SRM returns in 2013, and as a result were not included in the analysis.

The evaluation results indicate that there has been a significant deterioration in the quality of data submitted during 2013. Schemes are classified into one of nine categories (Table 1), of which category 9 represents datasets that are clearly inadequate, incomplete, or inappropriate. In December 2013, there were 17 (19.8%) category 9 schemes, representing 4 085 219 beneficiaries, compared to 16 (17.2%) in the same category representing 1 568 882 beneficiaries in the previous year.

The office was not able to confidently adjudicate the accuracy of reported CDL data because of the outdated benchmark data for certain CDL conditions. The approach here has mainly been to look at 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.

The March calculations of the cost of community-rated PMBs based on age distribution, CDL, HIV and Maternity data show that the cost of PMBs for a scheme with the most unfavourable age structure is about R794.06 above the industry average, whereas the cost for a scheme with the most favourable age structure is about R275.62 below the industry average. The variation in the scheme risk is significantly higher than previously noted. This is likely to be due to the inclusion of the PMB exempted schemes in the analysis and schemes with data concerns can also further skew the data.

The change from quarterly submissions to one annual submission might explain some of the differences observed between SRM and SR number of beneficiaries. This problem is more pronounced in the 2013 submission than in the 2012 submission, the first year the annual submissions were implemented. Scheme amalgamations may also contribute to the observed SRM/SR returns variations.

Even though the 2013 submissions offer the best data set to assess the risk profiles of medical schemes, many schemes have submitted inadequate datasets that will most likely only be adequately improved when audits are performed. Schemes are urged to review the count and prevalence data grids before submitting their SRM data to the CMS. The correct application of the entry and verification criteria will help with the reduction of errors in the submitted data.

2. Introduction

The South African private health environment is characterised by the presence of many competing robust medical aid schemes. Medical schemes are required by law to offer a minimum set of benefits called "Prescribed Minimum Benefits" (PMB). The aim of PMBs is to reduce the incentive of medical schemes to select risk. Differentiation by age or medical condition of the beneficiary is not permitted, and most medical schemes apply "open enrolment", i.e. they must accept any applicant at standard rates (community rating). Scheme-specific community rating implies that contributions are based on risk exposure of each scheme, which is a function of, amongst other things, the age, gender, morbidity structure and the size of membership. The unequal distribution of risk between medical schemes has remained despite the introduction of open enrolment, community rating and PMBs.

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 2012 calculations of the cost of community-rated PMBs based on age distribution, CDL, HIV and Maternity data show that the cost of PMBs for a scheme with the most unfavourable age structure is about R392.26 above the industry average, whereas the cost for a scheme with the most favourable age structure is about R235.91 below the industry average.

3. Purpose of the report

The purpose of this report is to assist individual medical schemes to interpret scheme-specific results given on the statutory returns portal on the CMS website (www.medicalschemes.com). The report also seeks to illustrate the impact of age and chronic diseases on risk profile of medical aid 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.

4.2. Case definitions and benchmarks

Version 7.1 of the *Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria* (Council for Medical Schemes, 2013) was used to identify qualifying beneficiaries for 2013. 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 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. Based on these expected rates, the CMS then calculates Deviation from

Industry Norm (DIN) scores for each of the risk factors included in the SRM submissions. The CMS uses DIN scores to flag submissions that may represent unrealistic values.

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". Each medical scheme submission was evaluated by at least two analysts. In instances where analysts assigned discordant categories to a scheme, the SRM team evaluated the submission.

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

Category	*Short description*	*Group*
3 L	Some concerns, CDLs are reported at very low levels	Fair data
3	Some concerns	
3 H	Some concerns, CDLs are reported at very high levels	
4	Many more beneficiaries in SRM returns than in statutory returns	Serious data errors
5	No SRM data or substantially less than in statutory returns	
6	Much lower than expected CDLs	CDL definitions applied poorly
7	Much higher than expected CDLs	
8	Maternity data unlikely	Serious data errors
9	Combinations of the above or other serious errors in submitted data	

5. Scheme evaluation results

5.1. SRM data submitted for analysis

Table 2 indicates that by December 2013, 97.46% of the total number of beneficiaries reported in the statutory returns was accounted for in SRM submissions.

Table 2: Schemes and beneficiaries included in 2013 SRM returns

Quarter end	*Number of schemes*	*Statutory returns (SR) submissions*	*SRM submissions*	*SRM beneficiaries as % of SR beneficiaries*
Mar 2013	83	8 704 824	8 476 385	97.38%
Jun 2013	83	8 724 897	8 504 728	97.48%
Sep 2013	81	8 763 880	8 527 139	97.30%
Dec 2013	81	8 776 279	8 553 119	97.46%

All the schemes that have submitted the SRM data were included in the analysis, except Momentum Health. Momentum Health did submit their SRM data, but at the time of the analysis there were problems with the benefit option numbers and consolidation of the beneficiaries.

Scheme amalgamations usually have an impact in the ability of schemes to submit SRM Grids. The following schemes did not submit their data on time:

- Alliance Midmed Medical Scheme
- Food Workers Medical Benefit Fund
- PG Group Medical Scheme
- Pharos Medical Plan (amalgamated with Topmed Medical Scheme 1 January 2014)
- Sedmed
- Topmed Medical Scheme (amalgamated with Pharos Medical Plan 1 January 2014)
- Nampak (SA) Medical Scheme (amalgamated with Discovery Health Medical Scheme on 1 March 2013)
- Sappi Medical Aid Scheme (amalgamated with Bestmed on 1 April 2013)

5.2. Data quality

Table 3 indicates data inconsistencies in respect of inter-age differences between statutory returns and SRM data submissions in December 2013. 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 eight medical schemes. Serious data issues will be raised with schemes through scheme specific feedback reports. The reporting of too few beneficiaries aged less than 1 year is a major concern. This shows that many schemes scheme do not perform basic quality checks before submitting their SRM data grids to the CMS.

Table 3: Beneficiaries included in 2013 SRM returns

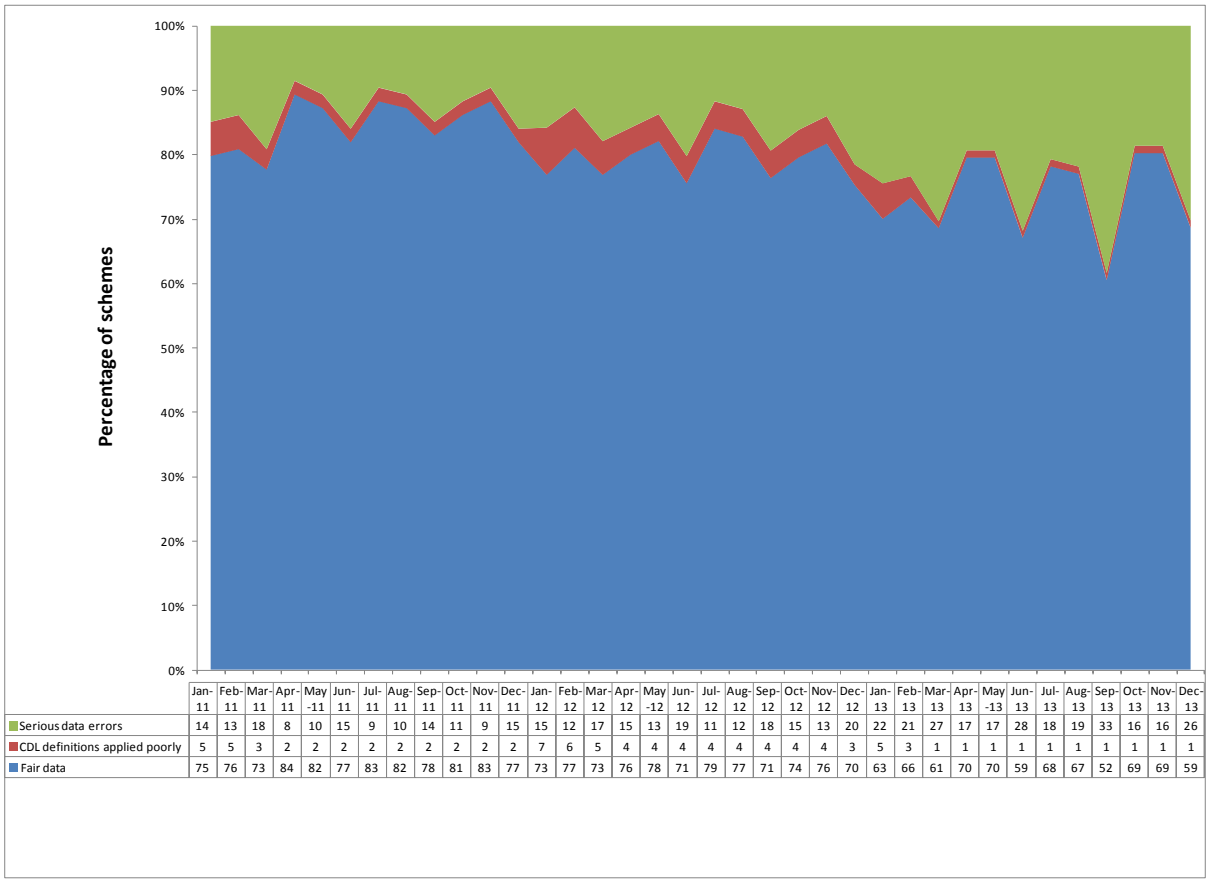
Age band	Statutory Return Dec 2013	SRM Grid Count Dec 2013	Difference	Difference as % of Statutory Return
Under 1	263 789	226 952	-36 837	-14%
1-4	640 748	629 009	-11 739	-2%
5-9	757 703	750 182	-7 521	-1%
10-14	675 973	668 870	-7 103	-1%
15-19	652 737	638 781	-13 956	-2%
20-24	480 790	445 860	-34 930	-7%
25-29	647 897	617 855	-30 042	-5%
30-34	719 041	703 061	-15 980	-2%
35-39	709 184	693 595	-15 589	-2%
40-44	689 467	682 075	-7 392	-1%
45-49	612 622	603 995	-8 627	-1%
50-54	551 397	540 533	-10 864	-2%
55-59	435 871	426 405	-9 466	-2%
60-64	314 439	307 146	-7 293	-2%
65-69	233 839	229 940	-3 899	-2%
70-74	168 737	166 913	-1 824	-1%
75-79	111 660	111 504	-156	0%
80-84	67 726	67 344	-382	-1%
85+	42 659	43 099	440	1%
Total	8 776 279	8 553 119	-223 160	-3%

The percentage of schemes that submitted fair data was 74% on average for 2013 compared to 79% in 2012 and 84% in 2011. The number of schemes that submitted poor quality data increased from a maximum of 20 during 2012 to 33 during 2013. The trend in the quality of submitted data over time is shown in Figure 1.

Data for over 80% of beneficiaries was of fair quality data in 2011 and 2012. The proportion of beneficiaries with fair quality data decreased to less than 50% in 2013 as indicates in Figure 2. The poor correlation in the demographic data between the Statutory Returns and Scheme Risk Measurement submissions is the main reason for the drop in data quality in 2013. One large scheme was responsible for an increase in the number of beneficiaries with unreliable CDL data in 2013.

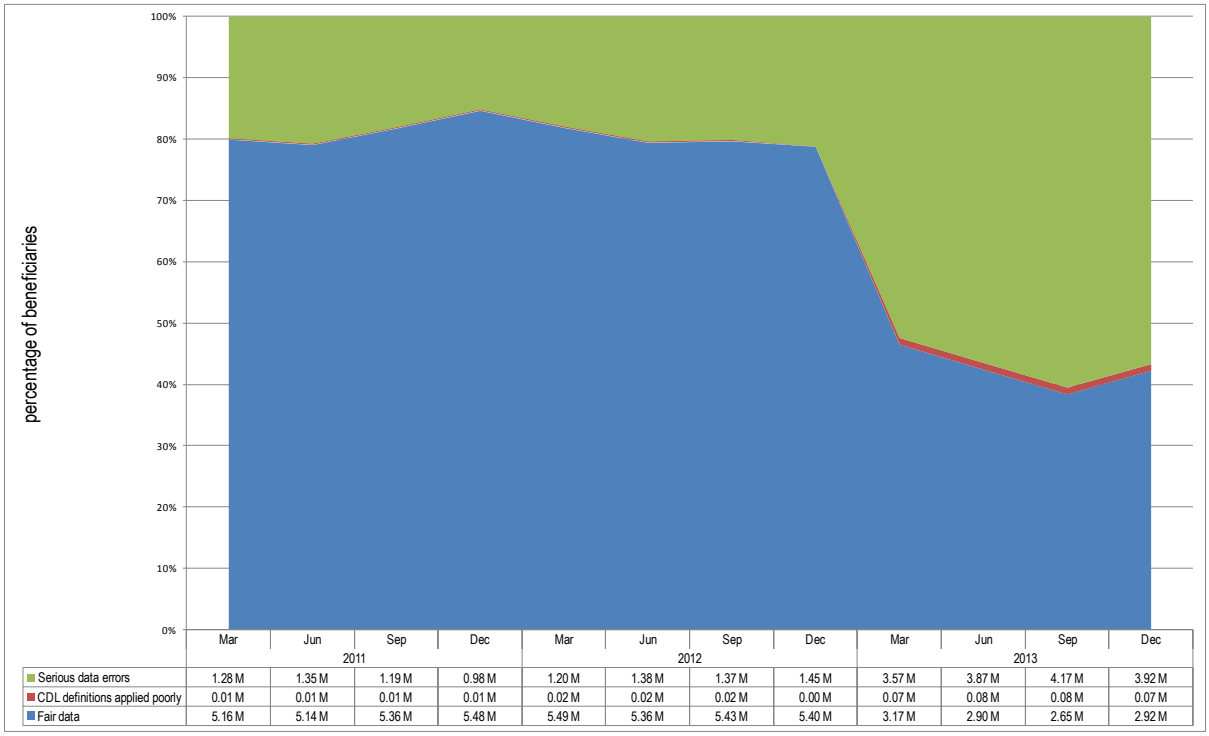
The data quality evaluation results for December 2013 by administrator are depicted in Figure 3 overleaf. The results show that a very small number of schemes submit data with serious problems per administrator. A large number of schemes with serious data problems are self-administered. Many schemes administered by large administrators submitted fair quality data, a few schemes with serious data errors administered by these administrators were normally very large schemes.

Figure 1: Data quality groups by number of schemes



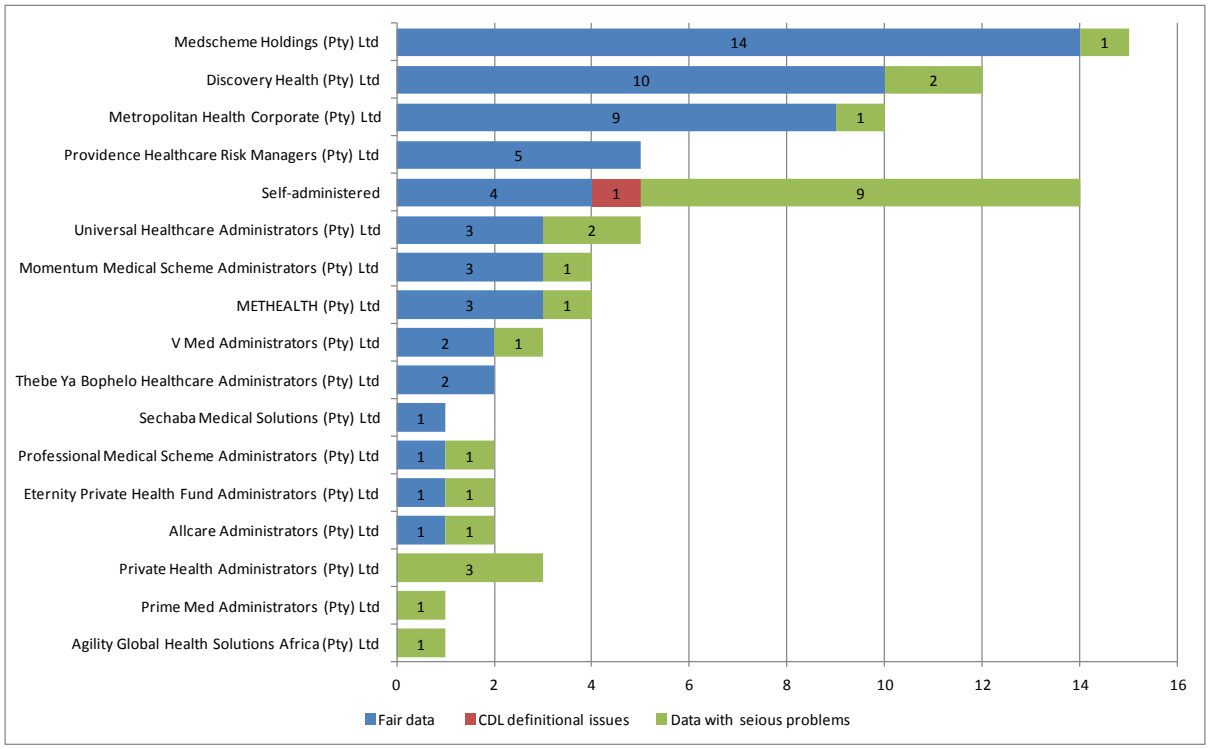
	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Serious data errors	14	13	18	8	10	15	9	10	14	11	9	15	15	12	17	15	13	19	11	12	18	15	13	20	22	21	27	17	17	28	18	19	33	16	16	26
CDL definitions applied poorly	5	5	3	2	2	2	2	2	2	2	2	2	7	6	5	4	4	4	4	4	4	4	4	3	5	3	1	1	1	1	1	1	1	1	1	1
Fair data	75	76	73	84	82	77	83	82	78	81	83	77	73	77	73	76	78	71	79	77	71	74	76	70	63	66	61	70	70	59	68	67	52	69	69	59

Figure 2: Data quality groups by number of beneficiaries



	Mar 2011	Jun 2011	Sep 2011	Dec 2011	Mar 2012	Jun 2012	Sep 2012	Dec 2012	Mar 2013	Jun 2013	Sep 2013	Dec 2013
Serious data errors	1.28 M	1.35 M	1.19 M	0.98 M	1.20 M	1.38 M	1.37 M	1.45 M	3.57 M	3.87 M	4.17 M	3.92 M
CDL definitions applied poorly	0.01 M	0.01 M	0.01 M	0.01 M	0.02 M	0.02 M	0.02 M	0.00 M	0.07 M	0.08 M	0.08 M	0.07 M
Fair data	5.16 M	5.14 M	5.36 M	5.48 M	5.49 M	5.36 M	5.43 M	5.40 M	3.17 M	2.90 M	2.65 M	2.92 M

Figure 3: Data quality groups by administrator, December 2013



5.3. Chronic disease prevalence

The top ten most common chronic conditions are shown in Figure 4 below. The order of the diseases has remained the same between 2012 and 2013 except that dysrythmias has been replaced by rheumatoid arthritis at position 10 as shown in

Table 4. Hypertension has retained its position as the most prevalent condition with a prevalence of 8.8% in 2013. Hyperlipidaemia, diabetes mellitus, HIV/AIDS and asthma complete the list of top 5 most common conditions. No significant changes in the prevalence of CDL conditions were observed between 2012 and 2013. The observed drop in the number of CDL cases in 2013 is as a result of a significant number of schemes that failed to submit SRM grids for 2013. Nearly a quarter (23.3%) of all beneficiaries were diagnosed and treated for at least one chronic disease in 2013. The figure has remained largely unchanged when compared to the proportion of beneficaries (23.8%) with at least one CDL condition in 2012.

Figure 4: Prevalence for the top ten most common of chronic diseases, December 2013

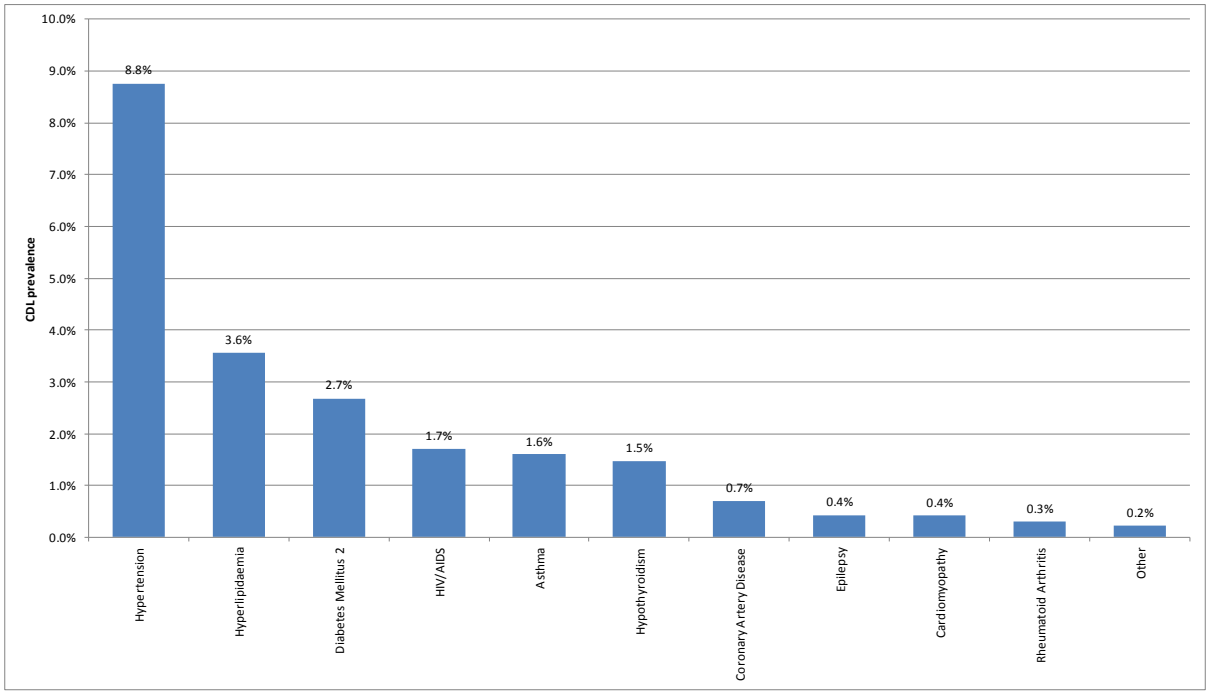


Table 4: The 10 most frequently occurring treated chronic diseases

CDL	Dec 2012			Dec 2013		
	Prevalence[1]	Disease order	% of beneficiaries	Prevalence	Disease order	% of beneficiaries
Hypertension	775 913	1	9.0%	748 553	1	8.8%
Hyperlipidaemia	316 552	2	3.7%	303 903	2	3.6%
Diabetes mellitus 2	232 554	3	2.7%	229 346	3	2.7%
HIV/AIDS	145 966	4	1.7%	145 619	4	1.7%
Asthma	134 609	5	1.6%	136 711	5	1.6%
Hypothyroidism	133 496	6	1.6%	126 375	6	1.5%
Ischaemic heart disease	63 713	7	0.7%	60 366	7	0.7%
Cardiomyopathy	42 708	8	0.5%	35 797	8	0.4%
Epilepsy	37 687	9	0.4%	36 699	9	0.4%
Rheumatoid Arthritis	25 625	12	0.3%	23 392	10	0.3%
Other	133 503		1.6%	139 084		
Total CDL	**2 049 101**		**23.8%**	**1 985 843**		**23.3%**
Total population (SRM grids)	**8 628 813**		**100.00%**	**8 515 343**		

[1] Prevalence in the SRM prevalence grids is defined in version 7.1 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.

Table 5 overleaf shows the relationship between actual and expected cases 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 cost. Diseases that were reports at more than 5% of the total cost are shown in red. The risk adjustment amount estimated from the SRM grids was 5% higher than expected. The observed differences between expected and actual costs may be due to a number of factors including, data quality and outdated benchmarks. The deviations below or above 5% of the expected industry profile may be attributed to worsening data quality and outdated CDL benchmarks.

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

CDL	Estimated risk adjustment amount			
	Difference (A-E)	Expected	Actual	A/E
No CDL disease	-R 144 777 995.52	R 2 163 051 465.35	R 2 018 273 469.83	93.3%
Addison's Disease	-R 214 695.73	R 765 539.21	R 550 843.48	72.0%
Asthma	R 1 537 754.18	R 120 288 263.21	R 121 826 017.38	101.3%
Bronchiectasis	R 406 827.27	R 880 358.34	R 1 287 185.61	146.2%
Bipolar Mood Disorder	R 16 305 988.94	R 48 634 428.14	R 64 940 417.08	133.5%
Cardiac failure	R 0.00	R 0.00	R 0.00	0.0%
Cardiomyopathy	-R 471 822.15	R 128 254 327.66	R 127 782 505.52	99.6%
CHF&CMY	-R 471 822.15	R 128 254 327.66	R 127 782 505.52	99.6%
Chronic Obs. Pulmonary Disease	-R 14 420 034.02	R 61 123 127.05	R 46 703 093.03	76.4%
Chronic Renal Disease	-R 26 983 355.05	R 113 842 332.66	R 86 858 977.61	76.3%
Crohn's Disease	-R 391 644.34	R 5 263 244.04	R 4 871 599.69	92.6%
Diabetes Insipidus	-R 185 833.10	R 554 692.73	R 368 859.63	66.5%
Diabetes Mellitus 1	-R 29 314 513.71	R 81 400 094.31	R 52 085 580.60	64.0%
Diabetes Mellitus 2	R 89 160 937.65	R 141 289 490.35	R 230 450 428.00	163.1%
Dysrhythmias	R 6 269 079.44	R 45 784 460.07	R 52 053 539.52	113.7%
Epilepsy	R 10 737 340.68	R 52 898 266.61	R 63 635 607.29	120.3%
Glaucoma	R 2 018 128.07	R 9 929 336.90	R 11 947 464.98	120.3%
Haemophilia	-R 681 351.33	R 4 448 111.81	R 3 766 760.48	84.7%
Hyperlipidaemia	-R 105 330 999.87	R 185 340 702.84	R 80 009 702.97	43.2%
Hypertension	R 162 022 458.79	R 379 718 294.64	R 541 740 753.43	142.7%
Ulcerative Colitis	-R 390 719.12	R 5 912 472.17	R 5 521 753.05	93.4%
Coronary Artery Disease	-R 10 130 398.02	R 117 815 874.45	R 107 685 476.43	91.4%
Multiple Sclerosis	R 8 016 907.07	R 13 778 306.60	R 21 795 213.67	158.2%
Parkinson's Disease	R 1 567 967.76	R 20 617 436.74	R 22 185 404.50	107.6%
Rheumatoid Arthritis	R 7 053 257.65	R 30 827 707.83	R 37 880 965.49	122.9%
Schizophrenia	R 407 793.74	R 8 439 532.11	R 8 847 325.85	104.8%
Systemic LE	R 502 288.68	R 4 248 855.28	R 4 751 143.96	111.8%
Hypothyroidism	R 27 511 483.79	R 27 810 161.16	R 55 321 644.96	198.9%
HIV/AIDS	R 192 677 471.51	R 73 998 697.38	R 266 676 168.90	360.4%
Two simultaneous conditions	R 29 882 883.84	R 106 220 415.82	R 136 103 299.66	128.1%
Three simultaneous conditions	R 26 801 312.87	R 80 654 370.87	R 107 455 683.75	133.2%
Four or more simultaneous conditions	R 11 049 306.20	R 34 454 823.37	R 45 504 129.56	132.1%
Maternity Events	-R 39 974 643.16	R 314 524 133.61	R 274 549 490.45	87.3%
Total CDL Conditions	R 145 002 847.26	R 1 609 865 416.93	R 1 754 868 264.19	109.0%
Multiple CDL Conditions	R 67 733 502.91	R 221 329 610.06	R 289 063 112.97	130.6%
Total	**R 220 661 183.01**	**R 4 382 769 323.33**	**R 4 603 430 506.34**	105.0%

5.4. Variation in the risk profiles by medical schemes

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

5.4.1. Analysis of the financial impact

Eighty two schemes were included in the analysis for March and June and eighty for September and December. For March the scheme risk varies from -R794,06 to R275,62 as depicted in Table 6. The variation in the scheme risk is significantly higher than previously noted. The reason is probably the inclusion of the PMB exempted schemes in the analysis and schemes with data concerns can also further skew the data.

Table 6: Industry community and risk rates per month

Statistic	Full Contribution Table (Amount in rand)			
	March 2013	June 2013	September 2013	December 2013
Industry community rate	526,07	533,50	536,29	539,15
Minimum risk rate	-794,06	-759,35	-599,63	-611,24
Maximum risk rate	275,62	244,52	275,89	229,17
Standard deviation	194,22	195,38	184,54	181,09

The industry community rate is higher than the estimated amount of R508,20. The increase in the reported industry community rate is probably a result of:

- A change in the risk profile of the industry
- The maternity and HIV data for the PMB Costing Study 2009 was suspect for two of the participating administrators and CMS had to manually adjust the regression results for the weighting table and the rates for the NON, HIV and MAT columns in the count tables

In a system of risk adjustment, schemes with a community rate lower than 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 word “Pay” refers to schemes with a scheme community rate that is lower than the Industry community rate and “Receive” refers to schemes with a community rate that is higher than the Industry community rate.

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

Scheme risk	March 2013		June 2013		September 2013		December 2013	
	Schemes	%	Schemes	%	Schemes	%	Schemes	%
Pay: R0 to R25,00 PBPM	7	8,54	9	10,98	6	7,50	10	12,50
Pay: R25,01 to R50,00 PBPM	7	8,54	6	7,32	10	12,50	7	8,75
Pay: R50,01 to R75,00 PBPM	8	9,76	6	7,32	2	2,50	0	0
Pay: R75,01 to R100,00 PBPM	4	4,88	9	10,98	9	11,25	10	12,50
Pay: R100,01 to R125,00 PBPM	3	3,66	1	1,22	4	5,00	4	5,00
Pay: R125,01 to R150,00 PBPM	4	4,88	1	1,22	3	3,75	1	1,25
Pay: More than R150,00 PBPM	7	8,54	9	10,98	7	8,75	9	11,25
Sub-total	40	48,78	41	50,00	41	51,25	41	51,25
Receive: R0,01 to R25,00 PBPM	5	6,10	6	7,32	5	6,25	4	5,00
Receive: R25,01 to R50,00 PBPM	4	4,88	3	3,66	5	6,25	7	8,75
Receive: R50,01 to R75,00 PBPM	3	3,66	2	2,44	2	2,50	1	1,25
Receive: R75,01 to R100,00 PBPM	3	3,66	4	4,88	5	6,25	4	5,00
Receive: R100,01 to R125,00 PBPM	4	4,88	3	3,66	1	1,25	2	2,50
Receive: R125,01 to R150,00 PBPM	2	2,44	2	2,44	3	3,75	1	1,25
Receive: More than R150,00 PBPM	21	25,61	21	25,61	18	22,50	20	25,00
Total	82	100	82	100	80	100	80	100

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

Scheme risk	March 2013		June 2013		September 2013		December 2013	
	Beneficiaries	%	Beneficiaries	%	Beneficiaries	%	Beneficiaries	%
Pay: R0 to R25,00 PBPM	3 222 439	38,46	3 406 991	40,53	3 320 466	39,41	3 588 693	42,47
Pay: R25,01 to R50,00 PBPM	2 053 553	24,51	1 912 302	22,75	2 047 136	24,29	1 917 923	22,70
Pay: R50,01 to R75,00 PBPM	184 781	2,21	149 373	1,78	60 622	0,72	0	0
Pay: R75,01 to R100,00 PBPM	602 531	7,19	758 587	9,02	718 610	8,53	783 351	9,27
Pay: R100,01 to R125,00 PBPM	123 865	1,48	17 524	0,21	143 007	1,70	129 622	1,53
Pay: R125,01 to R150,00 PBPM	54 595	0,65	17 159	0,20	25 379	0,30	7 247	0,09
Pay: More than R150,00 PBPM	127 602	1,52	145 195	1,73	125 666	1,49	144 357	1,71
Sub-total	6 369 366	72,01	6 407 131	76,22	6 440 886	76,44	6 571 193	77,76
Receive: R0.01 to R25.00 PBPM	386 868	4,62	407 642	4,85	386 485	4,59	199 511	2,36
Receive: R25.01 to R50.00 PBPM	274 814	3,28	437 249	5,20	449 097	5,33	538 590	6,37
Receive: R50.01 to R75.00 PBPM	344 941	4,12	8 690	0,10	150 904	1,79	13 010	0,15
Receive: R75.01 to R100.00 PBPM	43 469	0,52	192 864	2,29	449 903	5,34	573 003	6,78
Receive: R100.01 to R125.00 PBPM	395 364	4,72	400 947	4,77	12 548	0,15	22 517	0,27
Receive: R125.01 to R150.00 PBPM	20 022	0,24	15 848	0,19	39 104	0,46	7 117	0,08
Receive: More than R150,00 PBPM	544 772	6,50	535 698	6,37	497 410	5,90	525 311	6,22
Total	8 379 616	100	8 406 069	100	8 642 6227	100	8 450 252	100

The financial impact by payment band on the beneficiaries is illustrated in Figure 5 overleaf. For December, 525 311(6,22%) beneficiaries would have benefitted R150,00 pbpm or more in a system of risk adjustment. Only 144 357 (1,71%) would have to pay in more than R150,00. (Theoretically, 77,76% beneficiaries will be net payers into a system of risk adjustment.)

Figure 5: Number of beneficiaries by payment band (December 2013)

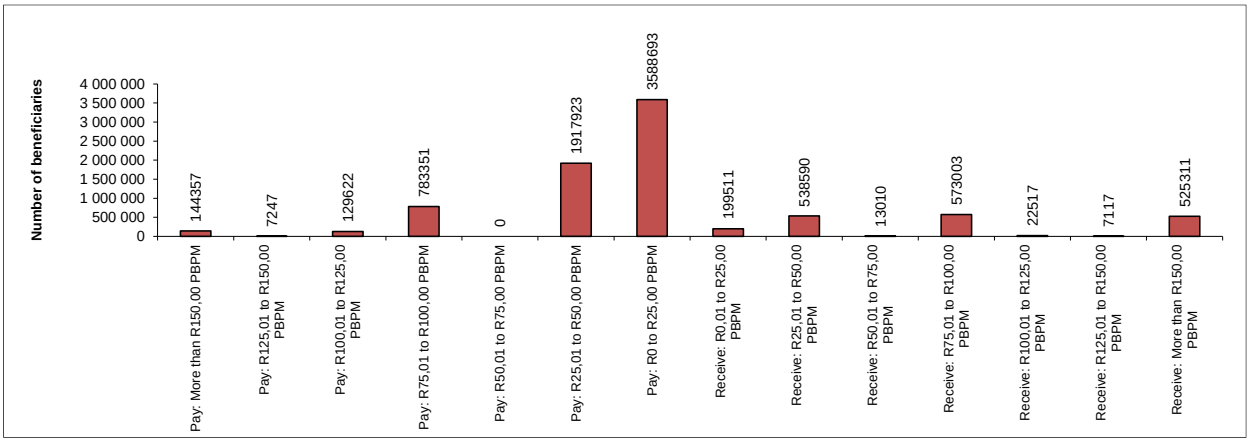
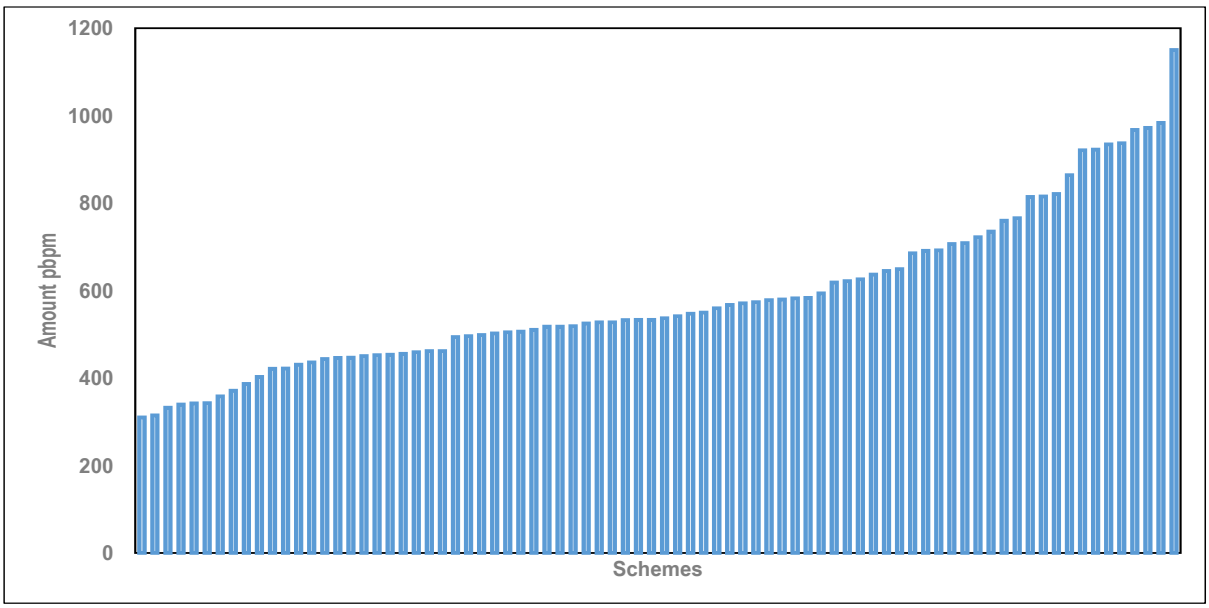


Figure 6 below illustrates the variation in the scheme community rates for December 2013. The variation is a function of the risk profiles of the schemes and it is clear that the schemes are facing different risks and a system of risk adjustment is still applicable in the private medical scheme industry.

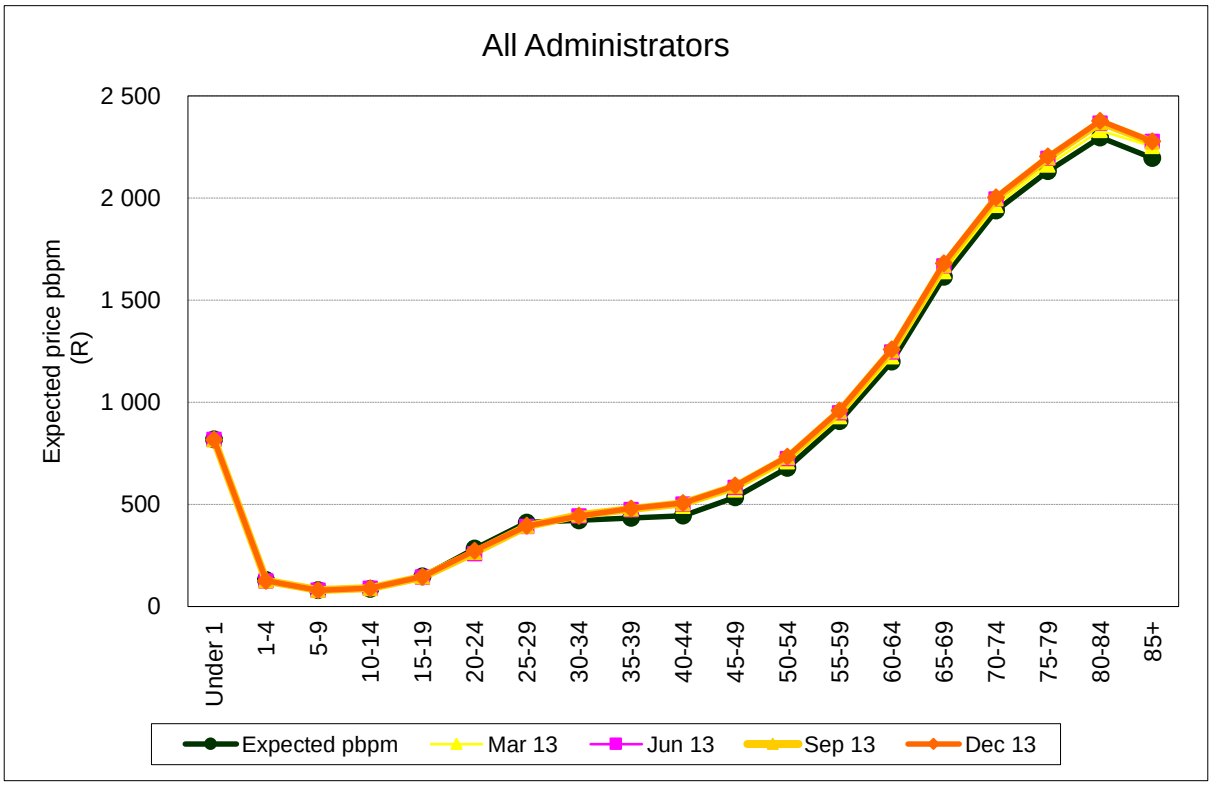
Figure 6: Scheme community rate on the Full table (December 2013)



5.5. Price by age and community rate analyses

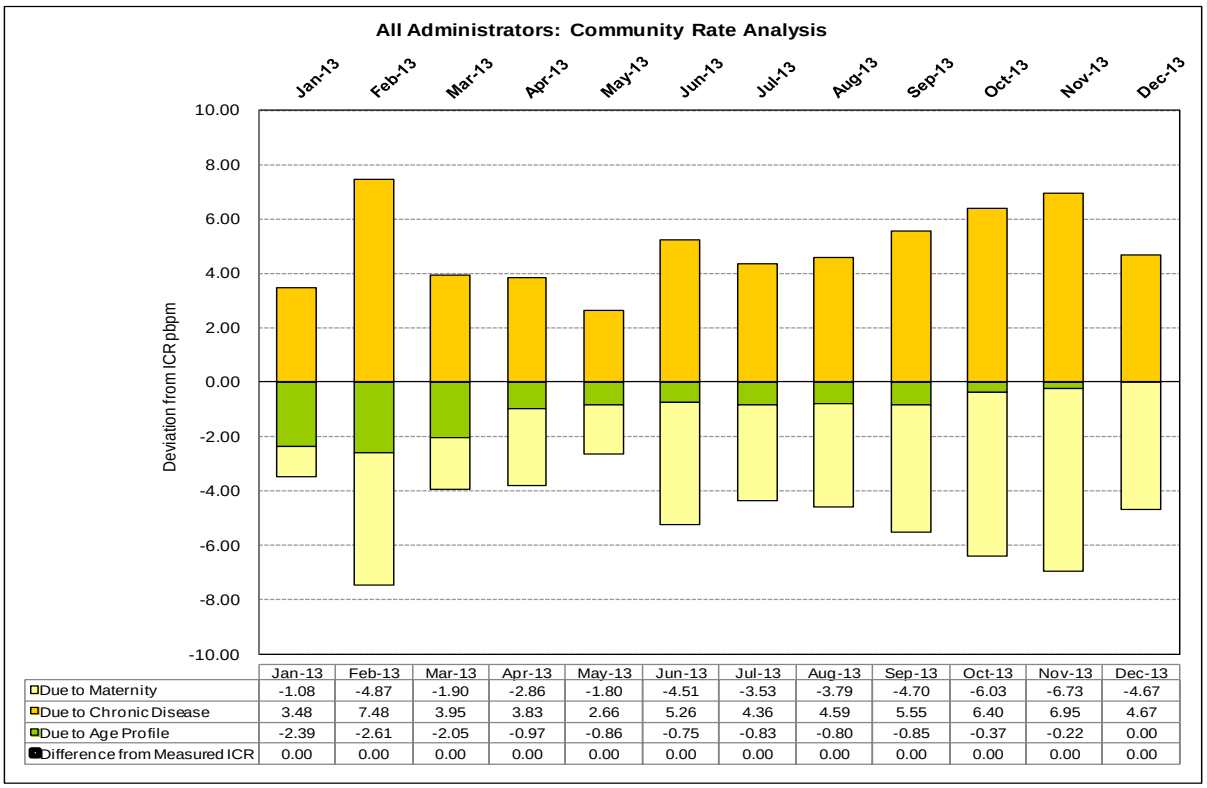
The price by age for the industry closely resembles the curve of the expected industry profile, but drops slightly below the expected for the ages between 20 and 29, then rises above the expected for all the ages over 30 years, as depicted in Figure 7. The differences between the age bands 20 - 29 years could be explained by the lower than expected reporting of maternity events, the rise above the expected for age bands above 30 years could be due to the higher than expected reporting of HYP, BMD, DM2, HIV and Multiple CDLs.

Figure 7: All Administrators Price by Age



The SRM price by age curve demonstrates the combined risk of each of the reported SRM risk factors on schemes in comparison to the expected risk attributable to the SRM risk factors. Figure 8 below shows the industry reported maternity rates at R1.08 pbpm lower than expected industry profile for January to R4.67 pbpm lower than expected for December; the chronic disease rates were reported at between R2.66 to R7.48 pbpm higher than the expected. This observation is as a result of schemes reporting most CDL conditions at rates higher than expected levels. The industry reported data with an age profile that is lower than the expected industry profile for 2013. The actual community rate due to the industry age profile was R2.39 and R0.00 pbpm below expected for January and December respectively.

Figure 8: All Administrators Community Rate Analysis



	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Due to Maternity	-1.08	-4.87	-1.90	-2.86	-1.80	-4.51	-3.53	-3.79	-4.70	-6.03	-6.73	-4.67
Due to Chronic Disease	3.48	7.48	3.95	3.83	2.66	5.26	4.36	4.59	5.55	6.40	6.95	4.67
Due to Age Profile	-2.39	-2.61	-2.05	-0.97	-0.86	-0.75	-0.83	-0.80	-0.85	-0.37	-0.22	0.00
Difference from Measured ICR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

6. Summary of findings on data quality

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 timing of the submission is not likely to be responsible for the observed deterioration in the quality of data as this is the second time data is submitted once a year. The first once-a-year in 2012 did not have an impact on data quality. The number of schemes that seem to have applied the Entry and Verification criteria incorrectly reduced to 1 by the end of December 2013. The observed differences between the SR and SRM submissions are not likely to have a significant impact on the estimation of the industry and schemes' community rate. Schemes are nevertheless urged to review the count and prevalence data grids before submitting SRM returns to the CMS. This will help reduce the number of errors in the submitted data.

7. References

COUNCIL FOR MEDICAL SCHEMES 2013. Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria Version 7.1 Applicable from 1 January 2013 Pretoria: Council for Medical Schemes.