



Analysis of the Schemes Risk Measurement Returns - 2015

Research and Monitoring Unit

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Table of Contents

Executive summary	1
1. Introduction	3
2. Purpose of the analysis	3
3. Methodology	3
3.1. Data source	3
3.2. Case definitions and benchmarks	4
3.3. Entry and verification criteria	5
3.4. Estimation of expected values	7
3.5. Categorisation	7
4. Scheme evaluation results	8
4.1. SRM data submitted for analysis	8
4.2. Data quality	8
4.2.1. Evaluation of clinical credibility	10
4.2.2. SRM health risk factors with financially significant deviations from expected levels	14
4.3. Reported CDL conditions count analysis	17
4.3.1. Asthma (AST)	17
4.3.2. Bipolar Mood Disorder (BMD)	18
4.3.3. Cardiomyopathy (CMY)	20
4.3.4. Chronic Obstructive Pulmonary Disease (COPD)	21
4.3.5. Chronic Renal Disease (CRF)	23
4.3.6. Diabetes Mellitus Type 1 (DM1)	24
4.3.7. Diabetes Mellitus Type 2 (DM2)	26
4.3.8. Human Immunodeficiency Virus (HIV/AIDS) cases on antiretroviral therapy	27
4.3.9. Hyperlipidaemia (HYL)	29
4.3.10. Hypertension (HYP)	30
4.3.11. Maternity (MAT)	32
4.3.12. Two simultaneous conditions (CC2)	33
4.3.13. Three simultaneous conditions (CC3)	35
4.3.14. Four or more simultaneous conditions (CC4)	37
4.3.15. Multiple CDL conditions	38
4.3.16. SRM price by age and community rate analysis	40
4.4. Variation in the risk profiles by medical schemes	41
4.4.1. Analysis of the potential financial impact	41

4.5. Community rate trend analysis	49
5. Summary of findings	52
5.1. Scheme participation	52
5.2. Data quality and application of the Entry and Verification Criteria	52
5.3. Chronic disease prevalence	52
5.4. Variation in the risk profiles by medical schemes.....	52
5.5. Price by age and community rate analyses	53
5.6. Conclusion	53
6. References.....	54

Table of Figures

Figure 1: Data quality groups by number of schemes -2014 / 2015.....	10
Figure 2: Total CDL count per 1 000 lives per 1 000 lives (2014 / 2015).....	12
Figure 3: Distribution of chronic disease (December 2015)	12
Figure 4: Relative weight of the top 10 REF risk factors (December 2015)	13
Figure 5: Expected and reported AST rates by month (2014 / 2015).....	17
Figure 6: Expected and reported AST rates by age (December 2015)	18
Figure 7: Expected and reported BMD count rates by month (2014 / 2015).....	19
Figure 8: Expected and reported BMD rates by age (December 2015)	19
Figure 9: Expected and reported CMY count rates by month (2014 / 2015).....	20
Figure 10: Expected and reported CMY count rates by age (December 2015)	21
Figure 11: Expected and reported COPD count rates by month (2014 / 2015).....	22
Figure 12: Expected and reported COPD count rates by age (December 2015).....	22
Figure 13: Expected and reported CRF count rates by month (2014 / 2015).....	23
Figure 14: Expected and reported CRF count rates by age (December 2015).....	24
Figure 15: Expected and reported DM1 count rates by age (2014 / 2015)	25
Figure 16: Expected and reported DM1 count rates by age (December 2015).....	25
Figure 17: Expected and reported DM2 count rates by age (2014 / 2015)	26
Figure 18: Expected and reported DM2 count rates by age (December 2015).....	27
Figure 19: Expected and reported HIV count rates by age (2014 / 2015).....	28
Figure 20: Expected and reported HIV count rates by age (December 2014 / 2015)	28
Figure 21: Expected and reported HYL count rates by month (2014 / 2015).....	29
Figure 22: Expected and reported HYL count rates by age (December 2015)	30
Figure 23: Expected and reported HYP count rates by month (2014 / 2015).....	31
Figure 24: Expected and reported HYP count rates by age (December 2015)	31
Figure 25: Expected and reported MAT count rates by month (2014 / 2015).....	32
Figure 26: Expected and reported MAT count rates by age (December 2015)	33
Figure 27: Expected and reported two simultaneous CDL conditions count rates by month (2014 / 2015).....	34
Figure 28: Expected and reported two simultaneous CDL conditions count rates by age (December 2015)	35
Figure 29: Expected and reported three simultaneous CDL conditions count rates by month (2014 / 2015)	36
Figure 30: Expected and reported three simultaneous CDL conditions count rates by age (December 2015).....	36
Figure 31: Expected and reported four or more simultaneous CDL conditions count rates by month (2014 / 2015)	37
Figure 32: Expected and reported four or more simultaneous CDL conditions count rates by age (December 2015)	

.....	38
Figure 33: Expected and reported multiple CDL count rates by month (2014 / 2015)	39
Figure 34: Expected and reported multiple CDL count rates by age (December 2015)	39
Figure 35: Price by age: All medical schemes (2015)	40
Figure 36: Price by age: All medical schemes (2014)	41
Figure 37: Number of beneficiaries by scheme risk category	46
Figure 38: Number of beneficiaries by scheme risk category (December 2015)	47
Figure 39: Scheme community rate on the Full table (December 2015)	48
Figure 40: Benefit option rate on the Full table (December 2015)	49
Figure 41: Actual and expected industry community rate	50
Figure 42: Actual industry community rate (2015 prices)	50
Figure 43: Industry community rate for open and restricted medical schemes	51

List of Tables

Table 1: Categories and groups used in the analysis of SRM returns	7
Table 2: Schemes and beneficiaries included in 2015 SRM returns	8
Table 3: Beneficiaries included in 2015 SRM returns	9
Table 4: Medical schemes with serious data errors: December 2014 / 2015	11
Table 5: The 10 most frequently diagnosed and treated chronic diseases: December 2014 / 2015	14
Table 6: Expected and actual estimated SRM risk factor costs	16
Table 7: Scheme community rate and scheme risk rate analysis for 2014 /2015 financial years	42
Table 8: Benefit option community rate and scheme risk rate analysis for 2014 /2015 financial years	42
Table 9: Frequency distribution of the number of medical schemes versus the scheme risk intervals	44
Table 10: Changes in scheme risk categories	45

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, medical schemes submit consolidated monthly SRM returns to the Council for Medical Schemes (CMS) annually, as part of the Healthcare Utilisation Annual Statutory Return (ASR).

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 2015. By December 2015, 98.25% of beneficiaries (or 8 653 872) were represented in data submissions from schemes.

The current analysis reveals a decline in the quality of data submitted to the CMS over the last two years, 2014 and 2015. Data for several SMR risk factors was incorrect for a number of schemes, notwithstanding the possibility that expected count rates benchmark data for certain Chronic Disease List (CDL) conditions may be outdated. The approach in assessing the credibility of reported data has mainly been to observe CDL prevalence trends over time, as well as the epidemiological and clinical soundness of the reported data. Once the revision of the Prescribed Minimum Benefits (PMB) is completed, a new SRM benchmark study will be undertaken to establish the correct CDL benchmarks.

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, as well as the correct application of the guidelines for the identification of beneficiaries with risk factors in accordance with the entry and verification criteria.

The prevalence of diagnosed and treated CDL conditions has remained unchanged between 2014 and 2015. 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, asthma and hypothyroidism. Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) cases on antiretroviral therapy (ART), one of the most prevalent SRM risk factors, was relegated to the sixth spot due to non-reporting of HIV by a number of schemes representing significant number of beneficiaries.

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 understanding

the changes in the risk profiles of medical schemes.

The December 2015 calculations of the cost of the risk-adjusted community rate based on age distribution, CDLs, HIV and maternity data show that the scheme community rate of the most unfavourable risk profile is about R877.25 above the industry average (R646.81), whereas the cost for a scheme with the most favourable risk profile is about R388.64 below the industry average. The variation in the scheme risk have remained largely unchanged between 2014 and 2015. 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 medical schemes beneficiaries.

1. Introduction

Medical schemes participated in the voluntary Risk Equalisation Fund (REF) shadow period from January 2005 by submitting monthly risk profile data to the Council for Medical Schemes (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 process in December 2011 (Council for Medical Schemes [CMS] 2011). However, the CMS continues to collect risk profile data from medical schemes, similar to the REF process, albeit for a different purpose, which is to measure and report on the risk profiles of medical schemes. Risk factor data is now collected for the Scheme Risk Measurement (SRM) project as part of the Healthcare Utilisation Annual Statutory Return (ASR).

2. Purpose of the analysis

The purpose of this report is to illustrate the impact of age and chronic diseases on the risk profile of medical schemes. Medical schemes should consider this report to assist in the adjustment of processes and systems to meet the requirements of the SRM, before submitting SRM risk factor data in the future. The report contains high-level information, more details will be contained in the schemes' specific reports.

3. Methodology

3.1. Data source

Two types of SRM grids are collected to count the number of beneficiaries with CDL conditions, the "count" and "prevalence" grids.

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. Modifiers refer to beneficiaries with more than one CDL condition and maternity events. For the purposes of SRM, beneficiaries with two (CC2), three (CC3), or four (CC4) or more simultaneous CDL conditions are counted separately. This SRM grid count used in the calculation of the SRM contribution table does not reflect the prevalence of the disease; it is arrived at by taking into account the most expensive disease in any multiple disease combination. It therefore cannot be compared directly to prevalence in published medical literature.

The SRM **prevalence** grid contains the total number of beneficiaries in each cell for the period. Each beneficiary must be placed in as many cells as they have chronic conditions, in Columns 1 to 28 (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 number of beneficiaries for Columns 1 to 28 will amount to more than the total number of beneficiaries in the scheme for the period.

The 2014 SRM data analysis is restated in this report.

3.2. Case definitions and benchmarks

Version 9.1 of the *Guidelines for the Identification of Beneficiaries with Risk Factors in Accordance with the Entry and Verification Criteria (E&V)* (CMS 2015a) was used to identify qualifying beneficiaries for 2015. 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 E&V is intended for this purpose alone and is not to be construed as a limitation or expansion on the entitlements of medical scheme beneficiaries to Prescribed Minimum Benefits (PMB) in terms of the Medical Schemes Act 131 of 1998. 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 was 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 beneficiaries who were treated for CDL conditions. The guidelines are reviewed annually.

3.3. Entry and verification criteria

Changes made to version 9.1 (applicable from 1 January 2015) since the publication of version 8.1 of the guidelines in January 2014:

- The parts that relate to preparation and submission of data (part 3 and 4) have been amended to reflect the submission of SRM data via the Healthcare Utilisation Annual Statutory Returns (ASR) System.
- The provider type was changed from any registered medical practitioner to specialist ophthalmologist (Table 17).
- Glaucoma was added to the list of conditions that need specialist diagnosis as stated in paragraph 5.17.
- Rheumatoid Arthritis was removed from paragraph 5.17.
- The note on the Rheumatoid Arthritis table i.e. *“Where a patient is not using disease modifying anti-rheumatic medicines, the diagnosis must be verified by a specialist physician or rheumatologist”* has been updated to state *“Where a patient is using disease modifying anti-rheumatic medicines, the diagnosis must be verified by a specialist physician or rheumatologist.”*
- Paragraph 5.4 was updated to include that the E & V criteria has to rely on the proof of treatment information rather than on the diagnosis related information. Information of such members must be transferred from one scheme to another.
- ATC Code R03DX05 – Omalizumab has been added to the proof of treatment section of Asthma.
- ATC Codes N05AH03 - Olanzapine, N05AH04 – Quetiapine, N05AX08 – Risperidone and N05AX12 – Aripiprazole have been added to the proof of treatment section of Bipolar Mood Disorder.
- ATC code C01EB17 – Ivabradine has been added to the proof of treatment section of Cardiac Failure and Cardiomyopathy.
- ICD-10 code I27.9 - Pulmonary heart disease, unspecified has been deleted from the diagnostic criteria of Cardiac Failure and Cardiomyopathy.
- The following ATC codes have been added to the proof of treatment section of Chronic Renal Disease C03 Diuretics:

C07	Beta-blocking agents
C08	Calcium channel blockers
C09	Drugs acting on the renin-angiotensin system
B03AA	Oral iron
B03AC	Parenteral iron
B03BB01	Folic acid
A12AA04	Calcium carbonate
H05BX01	Cinacalcet

- The diagnostic criteria for Chronic Renal Disease was changed to GFR of <60 ml/min instead of GFR of <30 ml/min as indicated in the KDIGO and KDOQI guidelines.
- An Albumin-to-Creatinine Ratio (ACR) of \geq (equal to or greater than) 30mg/g, or ≥ 34.0 mg/mmol was added as an alternative to the diagnostic criteria for Chronic Renal Failure as indicated in the KDIGO and KDOQI guidelines.
- The following ATC codes have been added to the proof of treatment section of COPD:

C01EB17	Ivabradine has been added to the proof of treatment section of Coronary Artery Disease.
L01BB02	6-mercaptopurine has been added to the proof of treatment section of Crohn's Disease.
B01AF01	Rivaroxaban and B01AE07 – Dabigatran have been added to the proof of treatment section of Dysrhythmias.

- The following ATC codes have been added to the proof of treatment section of Multiple Sclerosis:

N06AA02	Imipramine
L04AA27	Fingolimod
G04BD	Drugs for urinary frequency
H02AB04	Parenteral methylprednisolone
L04AA31	Terflunomide

- ATC codes N06AA07 and D07AA01 have been removed from the proof of treatment section of Multiple Sclerosis as these drugs are not appropriate in the treatment of the condition.
- ATC code L04 has been removed from the proof of treatment section of Rheumatoid Arthritis as it is too vague.
- The following additional specific ATC codes have been added to the proof of treatment section of Rheumatoid Arthritis:

L04AX01	Azathioprine	L04AB01	Etanercept
L04AX03	Oral methotrexate	L04AB06	Golimumab
L04AA13	Leflunomide	L04AC07	Tocilizumab
L04AD01	Cyclosporine	L04AA24	Abatacept
L04AB02	Infliximab	L01XC02	Rituximab
L04AB04	Adalimumab		

- The following ATC codes have been added to the proof of treatment section of Systemic Lupus Erythematosus:

L04AX03	Oral methotrexate	R03DX07	Roflumilast
D07A	Topical corticosteroids	V03AN01	Oxygen
M04AC01	Colchicine	H02AB06	Prednisolone
H02AB07	Prednisone		

3.4. Estimation of expected values

In the evaluation of a scheme's data submissions for CDL conditions, as well as 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 compared to the submitted data. Large deviations from the expected values and inconsistent reporting of SRM risk factors from one period to the next are an indication of data errors.

3.5. 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". 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 the 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

4. Scheme evaluation results

4.1. SRM data submitted for analysis

Table 2 indicates that by December 2015, 98.25% 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 count was less than 2% for all the quarters of the year. The observed differences are mainly attributable to data quality issues.

Table 2: Schemes and beneficiaries included in 2015 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 2015	83	8 777 238	8 614 328	98.14%
Jun 2015	83	8 759 916	8 601 641	98.19%
Sep 2015	83	8 785 331	8 633 378	98.27%
Dec 2015	83	8 807 905	8 653 872	98.25%

4.2. Data quality

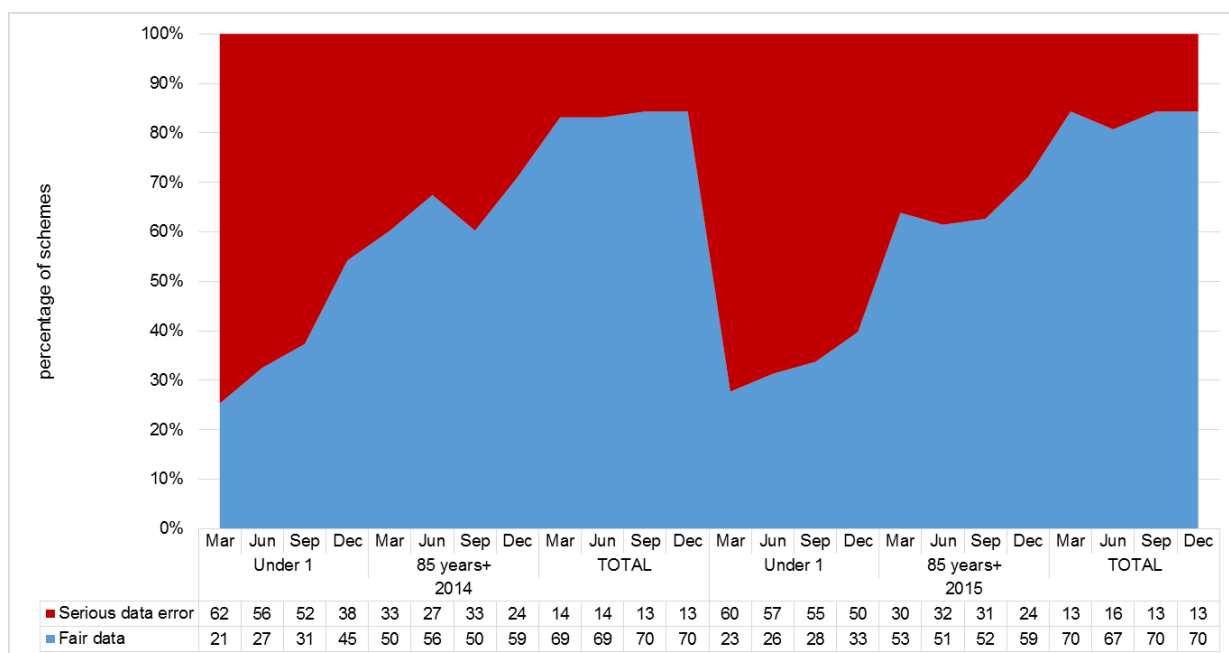
Table 3 overleaf indicates data inconsistencies in respect of inter-age differences between SR and SRM data submissions in December 2015. These differences are significant in the under-1 age band, a common factor contributing towards the poor data quality decision for many schemes. Observed differences 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 deteriorated significantly in the 2015 SRM submission. The difference in the number of beneficiaries aged less than 1 year between the SRM and SR submissions was 6 468 or 2.46% of SR in 2015 compared to 76,508 or 28.27% of SR in 2014. The deviation between SRM and SR was less than 2% in total.

Table 3: Beneficiaries included in 2015 SRM returns

Age band	Statutory Return Dec 2015	SRM Grid Count Dec 2015	Difference	Difference as % of Statutory Return
Under 1	263 395	269 863	-6 468	-2.46%
1-4	626 429	618 164	8 265	1.32%
5-9	789 018	769 333	19 685	2.49%
10-14	672 643	663 091	9 552	1.42%
15-19	624 721	617 111	7 610	1.22%
20-24	458 049	444 601	13 448	2.94%
25-29	615 376	603 360	12 016	1.95%
30-34	740 734	727 304	13 430	1.81%
35-39	694 696	680 078	14 618	2.10%
40-44	688 989	674 310	14 679	2.13%
45-49	616 020	602 739	13 281	2.16%
50-54	551 145	545 522	5 623	1.02%
55-59	457 718	447 221	10 497	2.29%
60-64	332 348	323 254	9 094	2.74%
65-69	250 176	247 543	2 633	1.05%
70-74	182 193	179 525	2 668	1.46%
75-79	124 626	123 236	1 390	1.12%
80-84	71 849	70 925	924	1.29%
85+	47 780	46 692	1 088	2.28%
Total	8 807 905	8 653 872	154 033	1.75%

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 for the total number of beneficiaries for over 80% of schemes. Major differences were observed in the data submitted for SR and SRM for the under 1 age group with between 60% and 72% of schemes reporting unreliable data for this age group. Between 29% and 39% of schemes reported unreliable data for the 85+ age group.

Figure 1: Data quality groups by number of schemes -2014 / 2015



4.2.1. Evaluation of clinical credibility

Table 4 below lists benefit options that were removed in the prevalence and community rate analysis. This led to the total removal of some medical schemes while other medical schemes were only partially excluded (not all medical scheme benefit options were removed) in the analysis.

Table 4: Medical schemes with serious data errors: 2014 / 2015

Administrator	Scheme name	Benefit option name
2014		
Methealth (Pty) Ltd	Metropolitan Medical Scheme	Classic
Agility Global Health Solutions Africa (Pty) Ltd	Spectramed	Spectra Cyan
		Spectra Cobalt
		Spectra Capri
Self-Administered	Rand Water Medical Scheme	Option A
	Platinum Health	PlatComprehensive
		PlatCcap
		PlatSave
2015		
Eternity Private Health Fund Administrators (Pty) Ltd	Chartered Accountants (SA) Medical Aid Fund	Vital Benefit Option
		Double Plus Benefit Option
		Alliance Benefit Option
		First Choice Benefit Option
		Network Choice Benefit Option
		Essential Plus Benefit Option
Self-Administered	Rand Water Medical Scheme	Option A
		Option B Plus
Metropolitan Health Corporate (Pty) Ltd	Transmed Medical Fund	State Plus Network
Self-Administered	Platinum Health	PlatComprehensive
		PlatCap
		PlatSave

Figure 2 below demonstrates reporting of CDL conditions at levels higher than expected, ranging from 20% to 32% more than expected in 2014 and 16% to 27% in 2015. Previous reports on SRM / REF have shown smaller differences between the expected and reported CDL count.

Figure 2: Total CDL count per 1 000 lives per 1 000 lives (2014 / 2015)

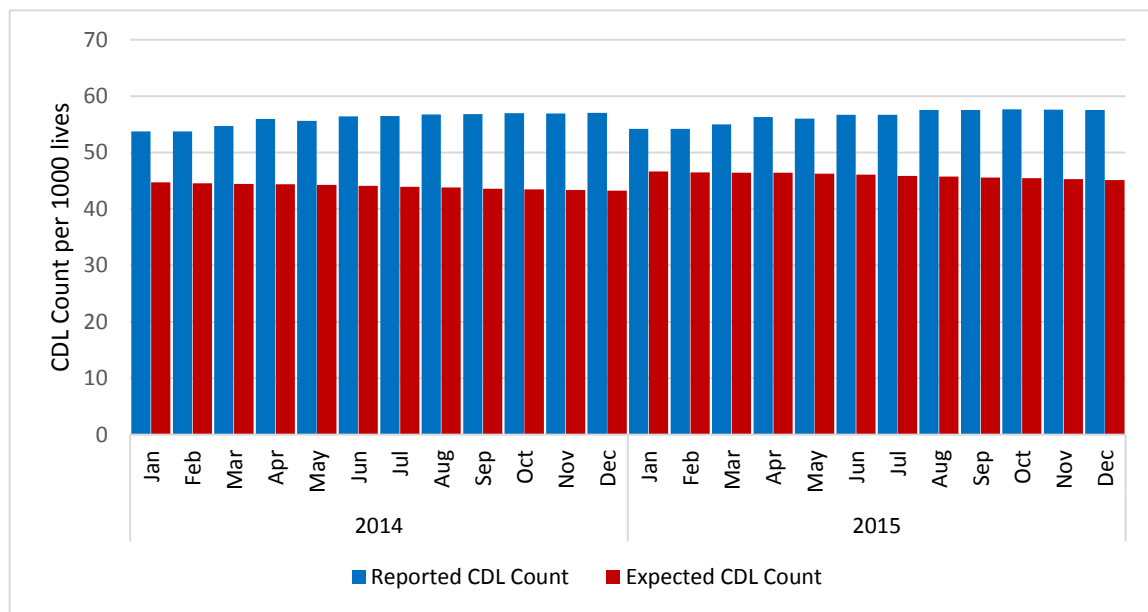


Figure 3 below shows the burden of cardiac associated conditions (hypertension, cardiac failure & cardiomyopathy and coronary artery disease). This highlights the huge impact of lifestyle diseases on medical schemes and beneficiaries.

Figure 3: Distribution of chronic disease (December 2015)

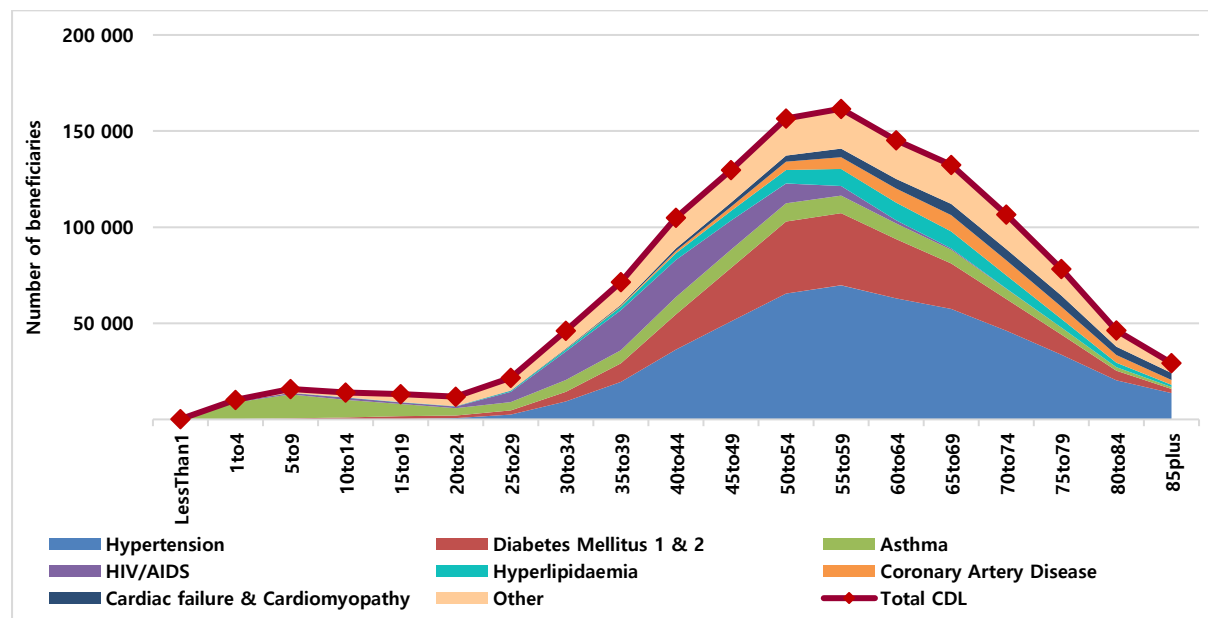
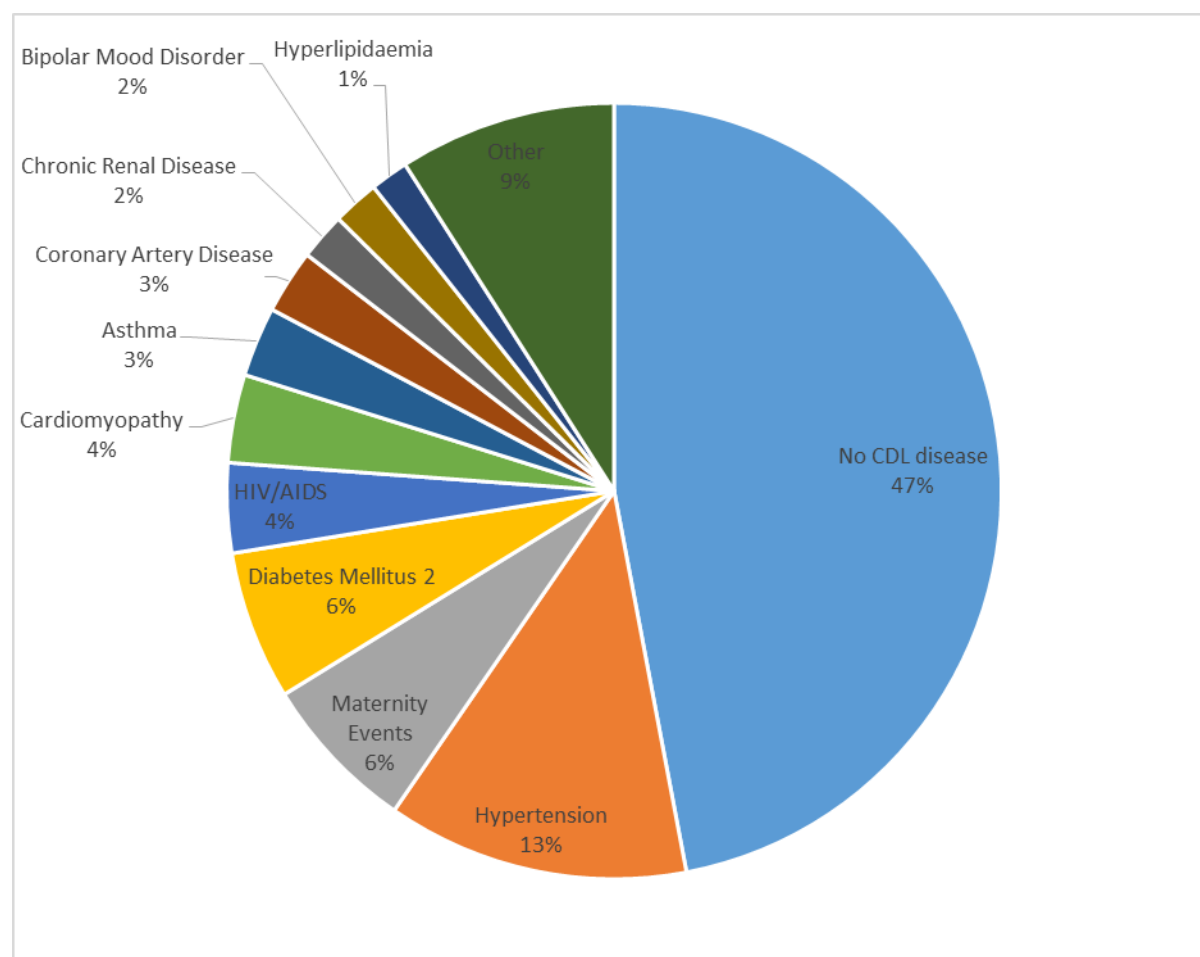


Figure 4 shows that nearly half of the total SRM risk factor costs¹ (CMS 2015b) are included in the NON (No CDL disease) column. This shows the importance of age as a significant risk factor for schemes. Hypertension is responsible for 13% of SRM costs, more than double the costs attributable to “maternity”.

Figure 4: Relative weight of the top 10 REF risk factors (December 2015)



The top ten most commonly treated chronic conditions are shown in Table 5. Hypertension has retained its position as the most prevalent condition with a prevalence of 10.02% in 2015. Hyperlipidaemia, diabetes mellitus type 2, asthma and hypothyroidism complete the list of top 5 most common conditions. HIV/AIDS (beneficiary on ART in accordance with the National Antiretroviral Treatment Guidelines (CMS 2014a)) has been relegated to the sixth most prevalent condition in 2015 from position 4 in 2014 due to non-reporting by a number of medical schemes.

¹ Note that SRM risk factor costs are based on the weights published in the SRM weighting tables, and that the weight of a specific risk factor (E.g. Hypertension), includes the costs included in the “NON” column. The cost estimates published here are the numbers of actual cases reported in the industry in December 2015, multiplied by the values in the SRM weighting table.

By December 2015, 14% of all beneficiaries were treated for at least one CDL condition.

Table 5: The 10 most frequently diagnosed and treated chronic diseases: December 2014 / 2015

CDL condition	2015				2014			
	Order	Prevalence ²	% of CDL	% of population	Order	Prevalence	% of CDL	% of population
Hypertension	1	867 163	71.54%	10.02%	1	838 892	71.30%	9.61%
Hyperlipidaemia	2	319 671	26.37%	3.69%	2	337 783	28.71%	3.87%
Diabetes Mellitus 2	3	287 072	23.68%	3.32%	3	263 176	22.37%	3.01%
Asthma	4	153 383	12.65%	1.77%	5	150 268	12.77%	1.72%
Hypothyroidism	5	146 380	12.08%	1.69%	6	138 825	11.80%	1.59%
HIV/AIDS	6	118 643	9.79%	1.37%	4	199 315	16.94%	2.28%
Coronary Artery Disease	7	71 950	5.94%	0.83%	7	69 047	5.87%	0.79%
Cardiomyopathy	8	50 724	4.18%	0.59%	8	48 638	4.13%	0.56%
Epilepsy	9	42 190	3.48%	0.49%	9	40 985	3.48%	0.47%
Bipolar Mood Disorder	10	36 427	3.01%	0.42%	10	33 036	2.81%	0.38%
Other*		166 796	13.76%	1.93%		158 494	13.5%	1.82%
Two simultaneous conditions		343 586		3.97%		341 708		3.91%
Three simultaneous conditions		126 393		1.46%		130 988		1.50%
Four or more simultaneous conditions		45 530		0.53%		28 008		0.32%
Count ³ of beneficiaries with at least 1 CDL Condition		1 212 057	100%	14.00%		1 176 616	100%	13.48%

*Other: dysrhythmias, glaucoma, rheumatoid arthritis, diabetes mellitus 1, chronic obs. pulmonary disease, ulcerative colitis, Parkinson's disease, chronic renal disease, schizophrenia, systemic le, multiple sclerosis, Crohn's disease, bronchiectasis, Addison's disease, diabetes insipidus and haemophilia.

4.2.2. SRM health risk factors with financially significant deviations from expected levels

This section reviews conditions that are reported at levels significantly higher or lower than the expected levels. Table 6 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. Conditions which are reported at significantly lower- or higher-than-expected level are colour-coded blue or red, respectively.

² Prevalence in the SRM prevalence grids is defined in version 9.1 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 Count in the SRM prevalence grids is defined in version 9.1 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.

The results show that asthma, bipolar mood disorder, cardiac failure & cardiomyopathy, hypertension, HIV/AIDS and multiple conditions are reported at rates higher than expected in the population covered by medical schemes (CMS 2015b). This observation can be explained by poor application of entry and verification criteria by medical schemes. Alternatively, the expected “count” rates for the industry may be outdated and therefore an underestimate of the CDL prevalence amongst beneficiaries.

On the other hand, chronic obstructive pulmonary disease, chronic renal disease, diabetes mellitus 1, hyperlipidaemia and maternity events are under-reported by up to 36% percentage points less than the expected rate for these conditions. Same as with the over-reporting of CDLs, under-reporting of CDL might reflect the less than appropriate application of entry criteria or outdated expected rates.

Overall, the difference between the estimated actual and expected total risk-adjustment amounted to 5% or R 259 887 977.68.

Table 6: Expected and actual estimated SRM risk factor costs

(CDLs, Maternity & HIV/AIDS)	December 2015			
	Difference (A - E)*	Expected	Actual	A / E*
No CDL disease	-R 161,285,942.25	R 2,620,407,351.73	R 2,459,121,409.48	93.85%
Addison's Disease	-R 131,388.83	R 932,373.49	R 800,984.66	85.91%
Asthma	R 7,804,276.22	R 144,436,355.24	R 152,240,631.46	105.40%
Bronchiectasis	R 1,011,179.52	R 1,080,021.99	R 2,091,201.51	193.63%
Bipolar Mood Disorder	R 44,222,547.94	R 57,611,239.13	R 101,833,787.07	176.76%
Cardiac failure & Cardiomyopathy	R 32,856,131.12	R 159,377,867.83	R 192,233,998.95	120.62%
Chronic Obs. Pulmonary Disease	-R 13,638,193.48	R 76,041,491.64	R 62,403,298.16	82.06%
Chronic Renal Disease	-R 34,116,493.98	R 136,771,520.86	R 102,655,026.88	75.06%
Crohn's Disease	R 209,706.80	R 6,329,911.92	R 6,539,618.72	103.31%
Diabetes Insipidus	R 108,995.79	R 658,126.45	R 767,122.24	116.56%
Diabetes Mellitus 1	-R 40,633,870.26	R 97,625,563.67	R 56,991,693.41	58.38%
Diabetes Mellitus 2	R 152,565,105.81	R 172,408,844.32	R 324,973,950.13	188.49%
Dysrhythmias	R 24,740,378.21	R 57,151,010.12	R 81,891,388.33	143.29%
Epilepsy	R 14,624,358.22	R 63,351,194.08	R 77,975,552.30	123.08%
Glaucoma	R 2,618,624.25	R 12,325,480.91	R 14,944,105.16	121.25%
Haemophilia	-R 336,462.94	R 5,227,437.43	R 4,890,974.49	93.56%
Hyperlipidaemia	-R 145,687,859.92	R 229,042,653.76	R 83,354,793.84	36.39%
Hypertension	R 192,908,462.55	R 466,670,951.19	R 659,579,413.74	141.34%
Ulcerative Colitis	R 224,279.15	R 7,149,054.62	R 7,373,333.77	103.14%
Coronary Artery Disease	-R 6,167,491.17	R 145,906,018.79	R 139,738,527.62	95.77%
Multiple Sclerosis	R 6,728,392.01	R 16,321,134.65	R 23,049,526.66	141.23%
Parkinson's Disease	R 2,856,493.09	R 25,799,943.54	R 28,656,436.63	111.07%
Rheumatoid Arthritis	R 12,246,443.55	R 37,733,161.90	R 49,979,605.45	132.46%
Schizophrenia	R 685,215.16	R 10,116,488.62	R 10,801,703.78	106.77%
Systemic LE	R 1,189,195.55	R 5,082,451.13	R 6,271,646.68	123.40%
Hypothyroidism	R 5,265,696.94	R 33,979,323.06	R 39,245,020.00	115.50%
HIV/AIDS	R 108,626,530.32	R 86,836,894.61	R 195,463,424.93	225.09%
Maternity Events	-R 25,627,189.66	R 371,213,123.78	R 345,585,934.12	93.10%
Two simultaneous conditions	R 33,971,168.59	R 130,022,017.61	R 163,993,186.20	126.13%
Three simultaneous conditions	R 31,378,347.85	R 99,176,214.31	R 130,554,562.16	131.64%
4 or more simultaneous conditions	R 10,671,341.53	R 42,573,311.29	R 53,244,652.82	125.07%
Total CDL Conditions	R 262,153,721.30	R 1,969,129,620.34	R 2,231,283,341.64	113.31%
Multiple CDL Conditions	R 76,020,857.97	R 271,771,543.21	R 347,792,401.18	127.97%
Total	R 259,887,977.68	R 5,319,358,533.67	R 5,579,246,511.35	104.89%

* "Difference (A - E)" means the difference between actual and reported values while "A / E" means actual divided by expected

4.3. Reported CDL conditions count analysis

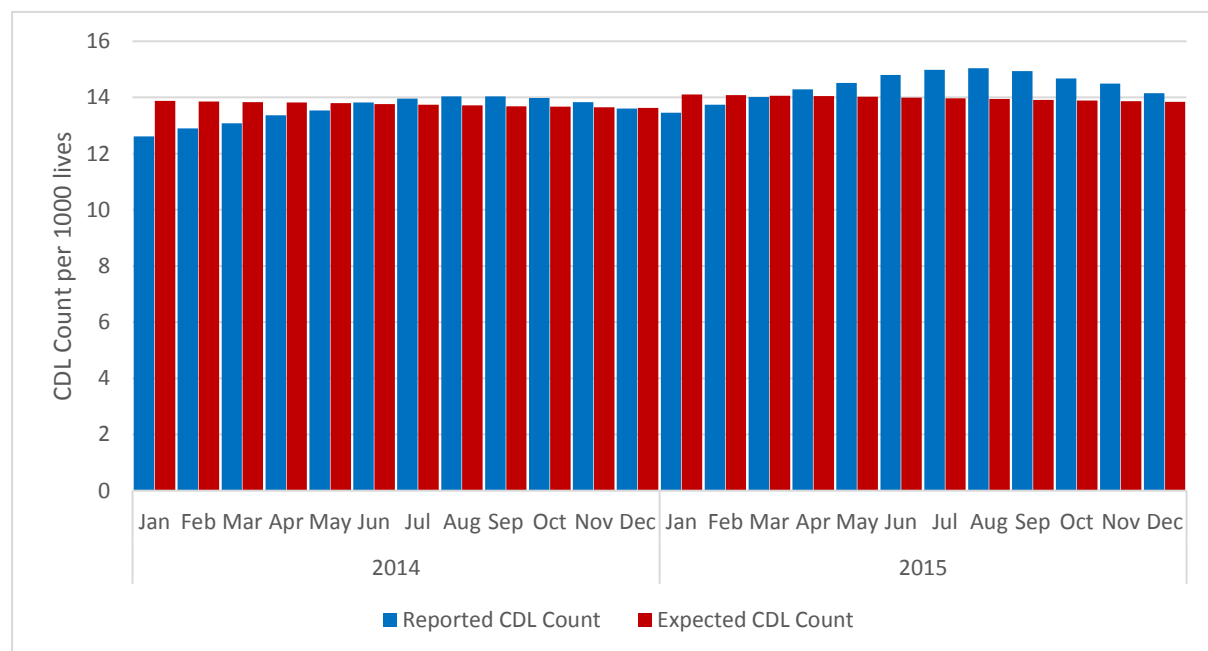
This section reviews the “count”⁴ for CDL conditions with financially significant deviations for 2015. Table 6 (page 16) lists these risk factors and deviations from the expected.

4.3.1. Asthma (AST)

The cases of Asthma were reported at rates lower than expected in the early months of 2014, and increased to levels higher than expected in the winter months of 2014 and throughout 2015 as demonstrated in Figure 5. The reporting of asthma seems to be seasonal for both 2014 and 2015.

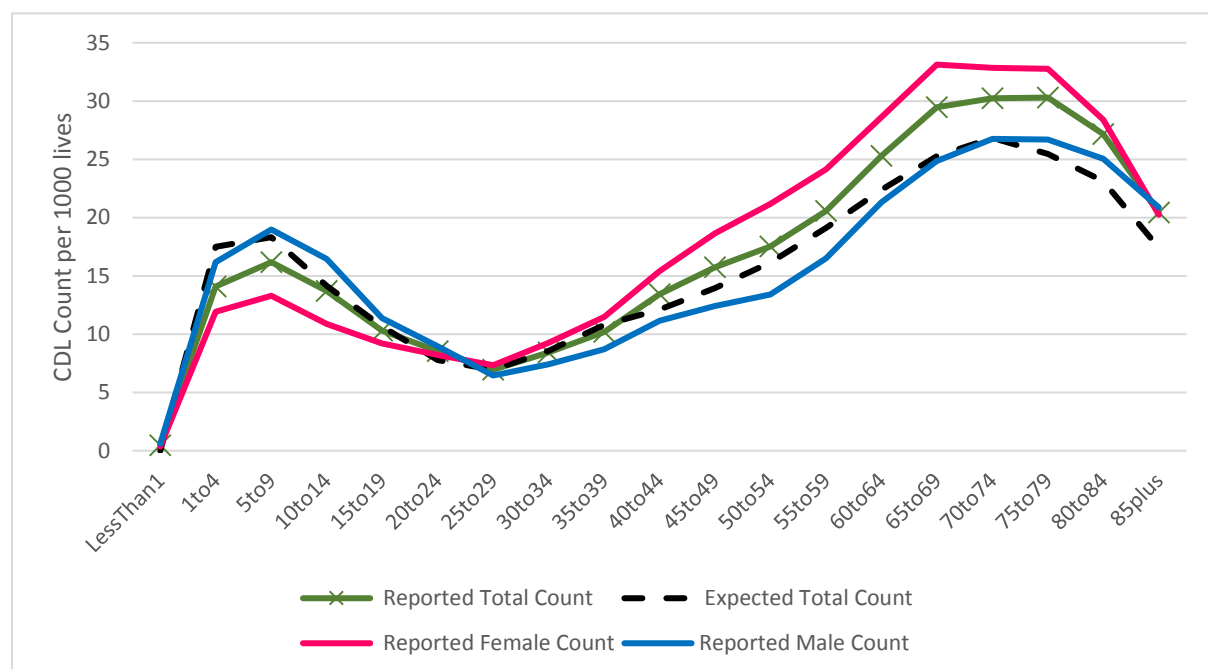
Figure 6 shows that asthma peaks at the young age bands (“1 to 4” to “15 to 19” years age bands) and in the older age bands (“65 to 69” to “80 to 84” years age bands). The peak is higher for male beneficiaries in the younger age bands and female beneficiaries have a higher count rate in the older age bands. The reported asthma rates are generally higher than expected in the older age bands.

Figure 5: Expected and reported AST rates by month (2014 / 2015)



⁴ Count in the SRM prevalence grids is defined in version 9.1 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.

Figure 6: Expected and reported AST rates by age (December 2015)



4.3.2. Bipolar Mood Disorder (BMD)

BMD is reported at count rates higher than expected levels starting from 139% of the expected levels in January 2014 to 176% of the expected levels in December 2015, as shown in Figure 7. Possible reasons for the observed over-reporting is likely related to be up-coding by providers in order to get access to PMB benefits for mental illnesses.

Figure 8 illustrates that BMD is spread across all age bands covering beneficiaries over the age of 10 years, and peaks at the “40 to 44” years age band. BMD is reported at count rates higher than expected levels across all age bands. Proportionally more female than male beneficiaries get diagnosed with BMD.

Figure 7: Expected and reported BMD count rates by month (2014 / 2015)

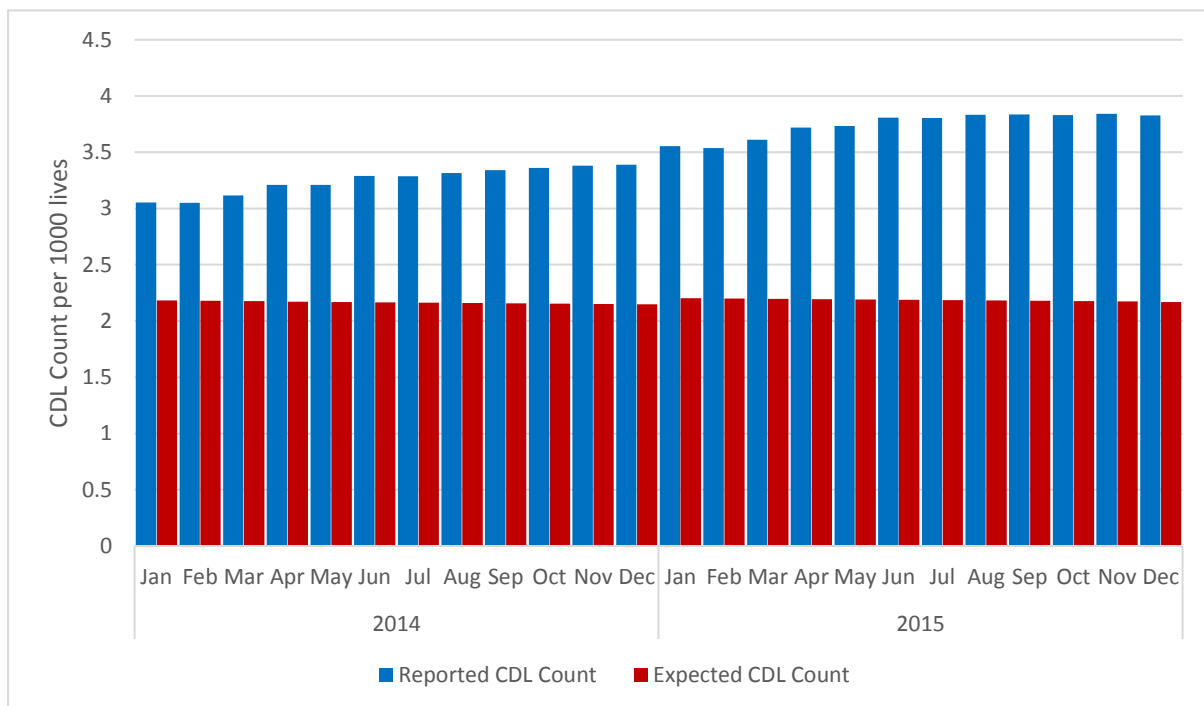
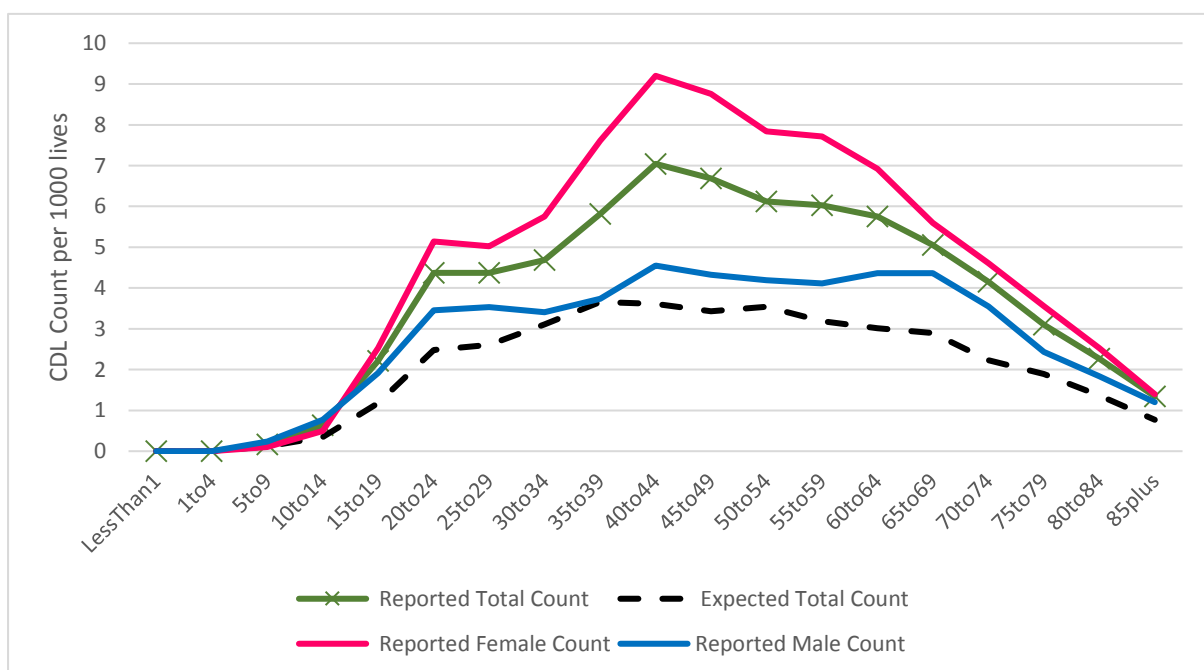


Figure 8: Expected and reported BMD rates by age (December 2015)



4.3.3. Cardiomyopathy (CMY)

CMY is reported at 110% to 122% of expected count rate levels between January 2014 and December 2015 as demonstrated in Figure 9. Table 6 (page 16) shows that the estimated CMY cost is R33m more than expected in December 2015.

Figure 10 shows that the CMY cases are reported or diagnosed in beneficiaries older than 40 years and peak in the “85 plus” year age band. Males have a higher count rate of CMY cases compared to females across all age bands. The reported cases of CMY seem to be a true reflection of the medical schemes’ risk profile.

Figure 9: Expected and reported CMY count rates by month (2014 / 2015)

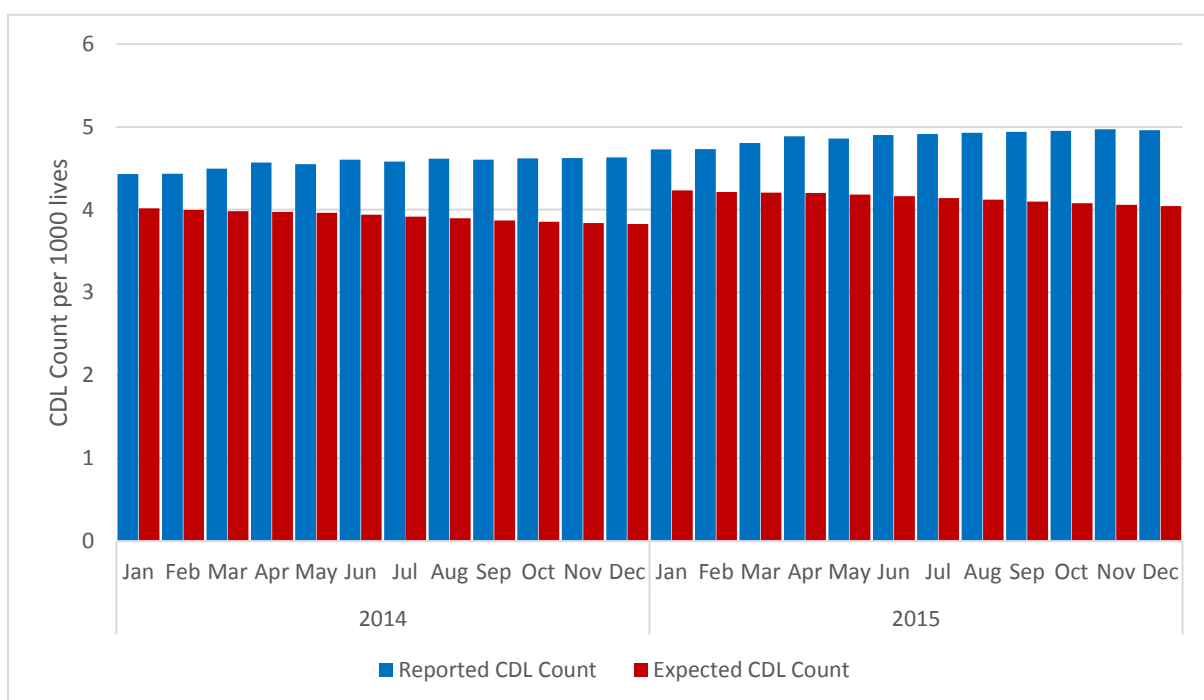
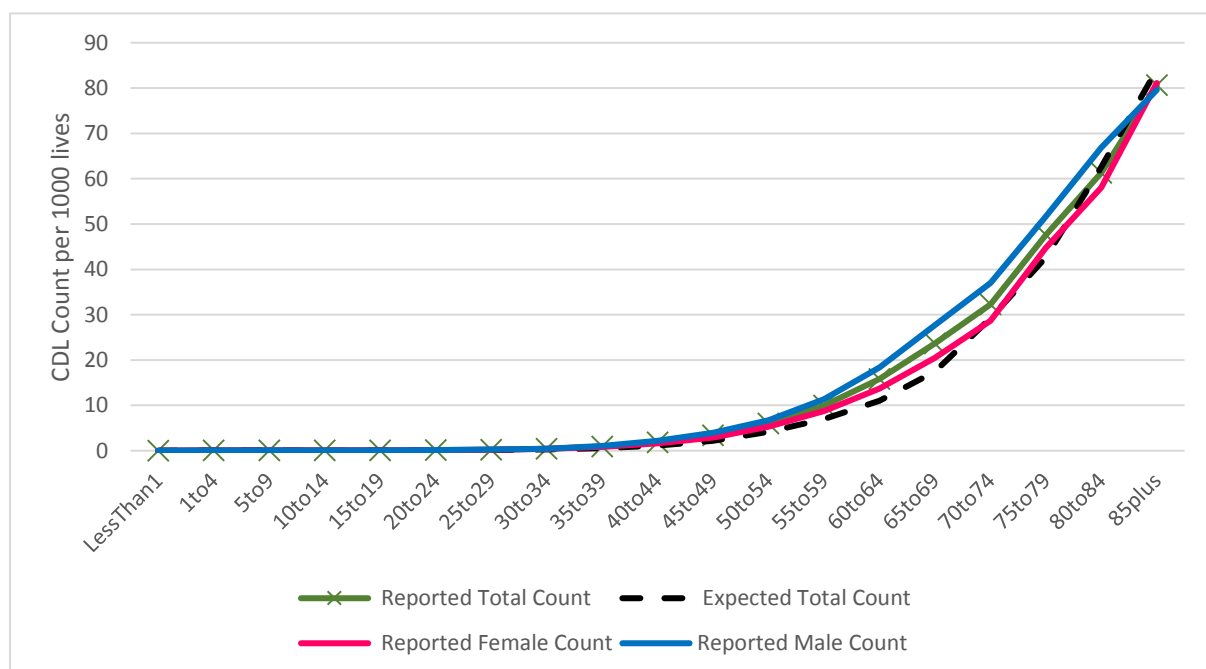


Figure 10: Expected and reported CMY count rates by age (December 2015)



4.3.4. Chronic Obstructive Pulmonary Disease (COPD)

COPD is consistently reported at rates lower than the expected count rates for both 2014 and 2015 as demonstrated in Figure 11. The explanation for the observed under-reporting might be the overestimated expected count rates in the 2009 SRM study, as was the case in the REF 2005 study. Figure 11 shows that low reported count rate in the female beneficiaries is responsible for the apparent lower than expected count rate levels.

Figure 11: Expected and reported COPD count rates by month (2014 / 2015)

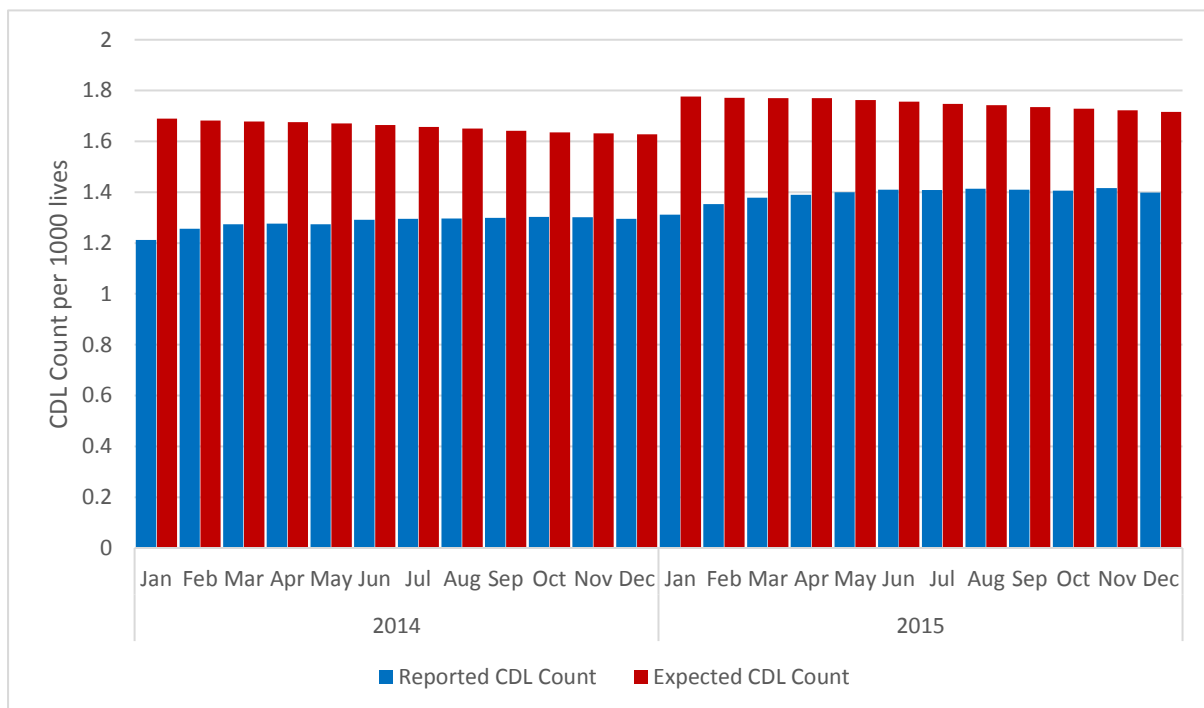
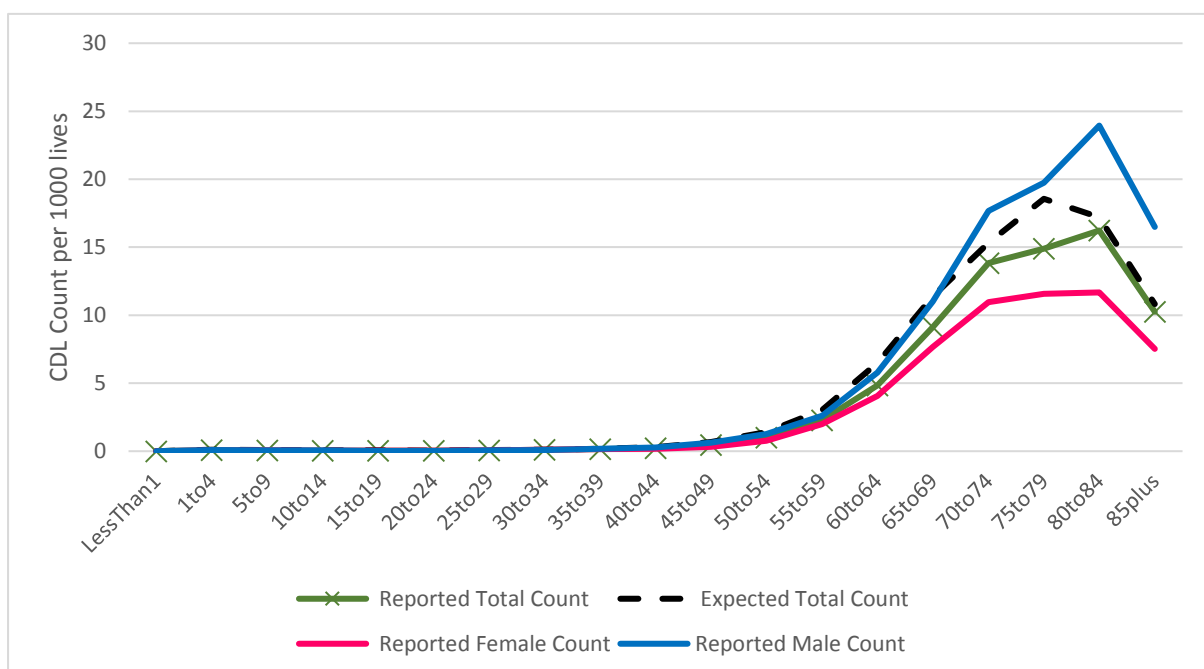


Figure 12: Expected and reported COPD count rates by age (December 2015)



4.3.5. Chronic Renal Disease (CRF)

Table 6 (page 16) shows that the estimated CRF cost is R34m lower than expected in December 2015. CRF is consistently reported at rates lower than the expected count rates for both 2014 and 2015 as demonstrated in Figure 13.

Figure 14 shows that low reported count rate in the female beneficiaries is responsible for the apparent lower than expected count rate levels.

Figure 13: Expected and reported CRF count rates by month (2014 / 2015)

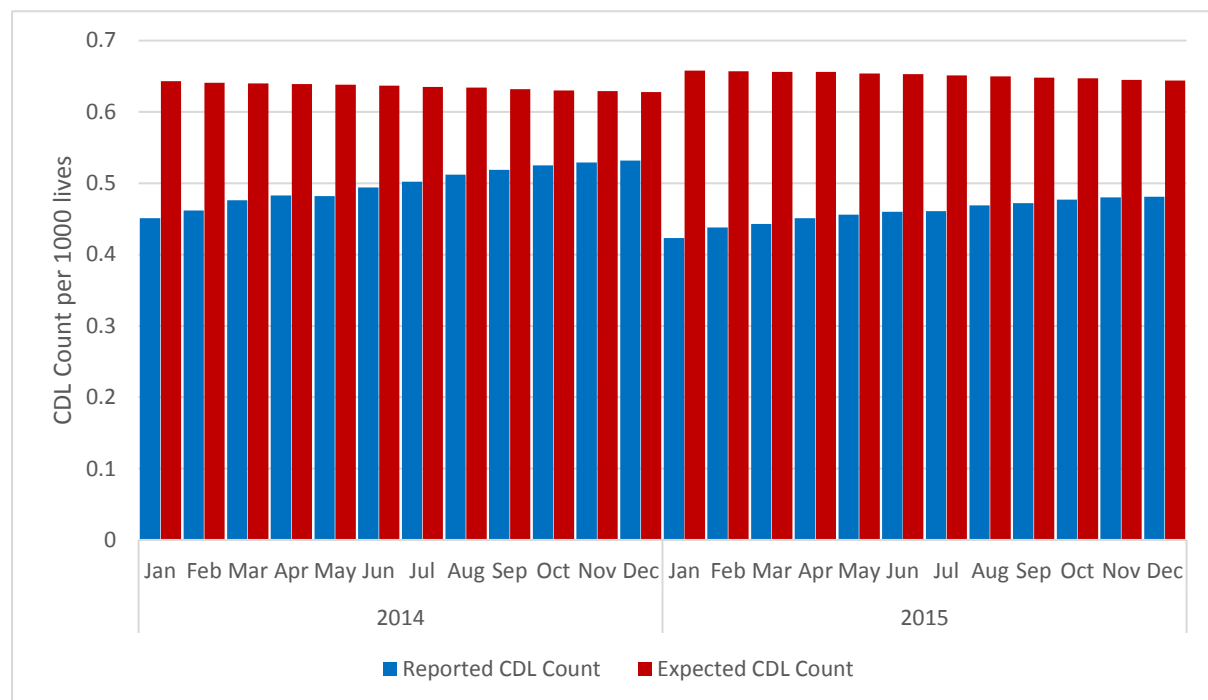
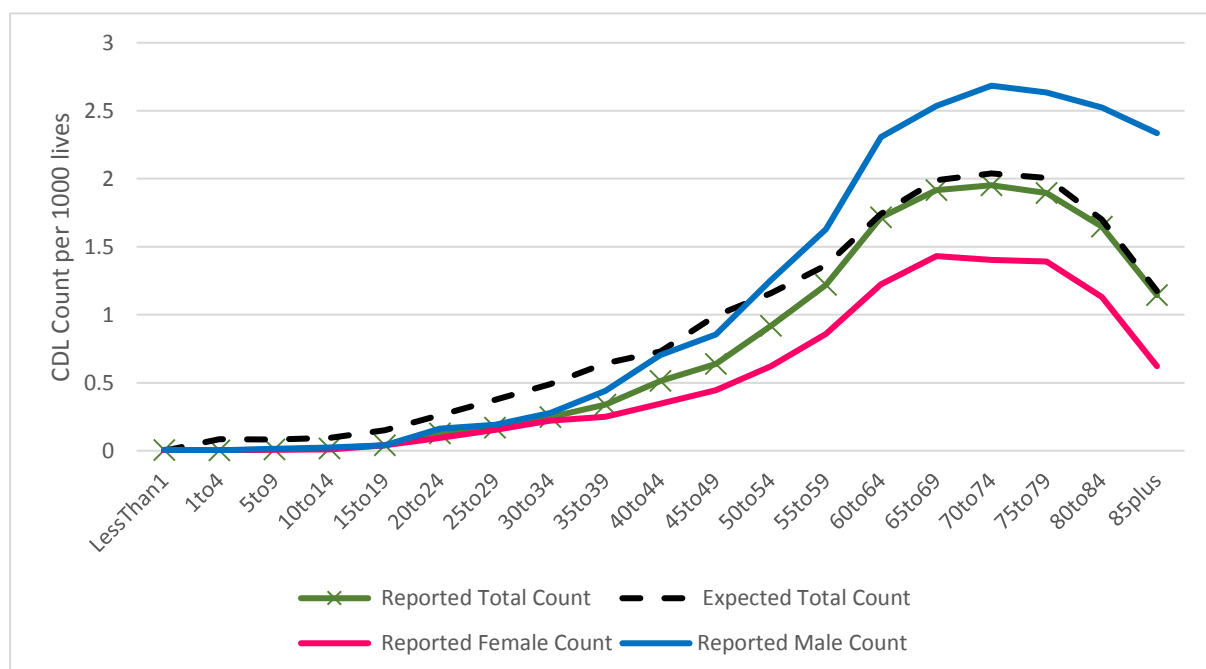


Figure 14: Expected and reported CRF count rates by age (December 2015)



4.3.6. Diabetes Mellitus Type 1 (DM1)

DM1 is consistently reported at rates lower than the expected count rates for both 2014 and 2015 as demonstrated in Figure 15. The observed under-reporting could be due to the poor application of the entry and verification criteria, or the overestimated expected count rates in the 2009 SRM study.

Figure 11 shows that low reported DM1 count rate has a different pattern from the expected count by age. Future pricing studies will have to confirm the rates for DM1 and DM2.

Figure 15: Expected and reported DM1 count rates by age (2014 / 2015)

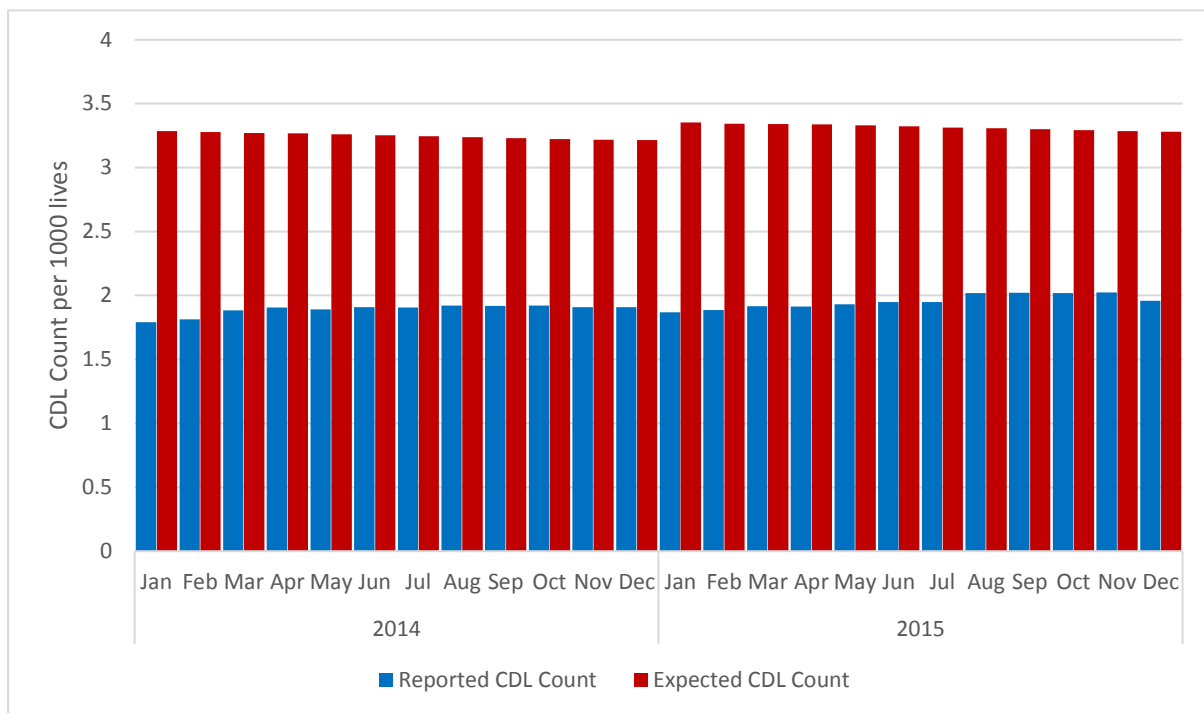
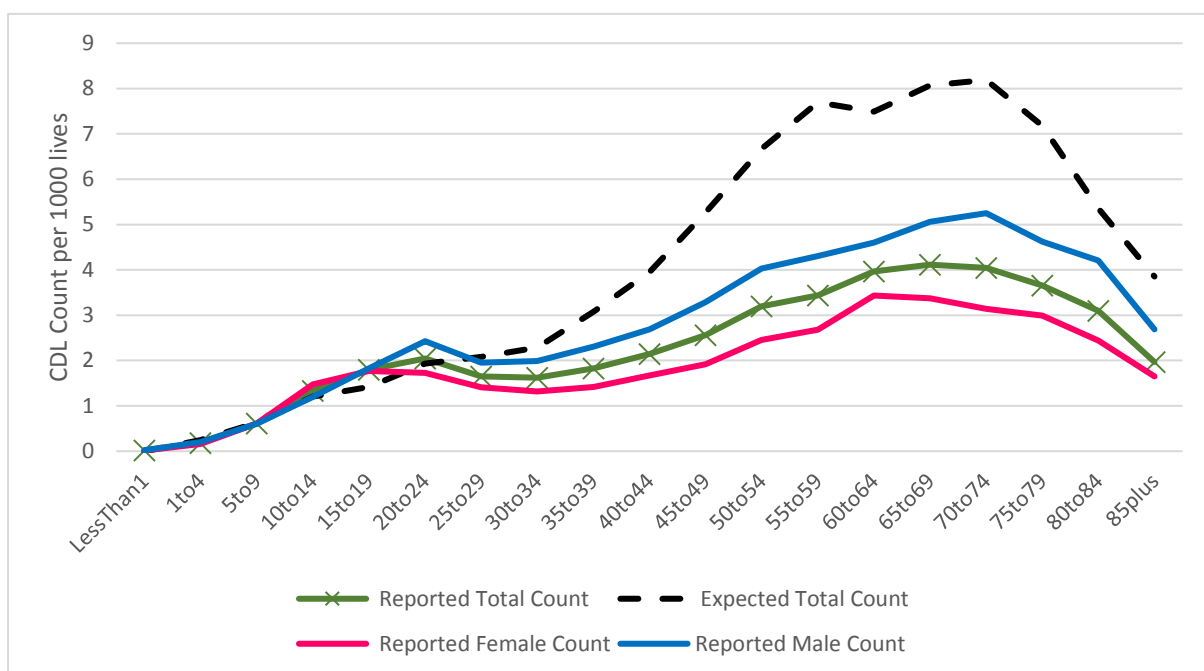


Figure 16: Expected and reported DM1 count rates by age (December 2015)



4.3.7. Diabetes Mellitus Type 2 (DM2)

Medical schemes consistently reported DM2 at rates higher than the expected count rates for both 2014 and 2015 as demonstrated in Figure 17 and Figure 18. The explanation for the observed over-reporting could be the poor application of the entry and verification criteria or the underestimated expected count rates in the 2009 SRM study. Additionally, there could be up-coding by providers to assist patients in obtaining PMB benefits for metabolic syndrome. Further studies are needed to clarify the epidemiology of metabolic syndromes in medical schemes beneficiaries.

Figure 17: Expected and reported DM2 count rates by age (2014 / 2015)

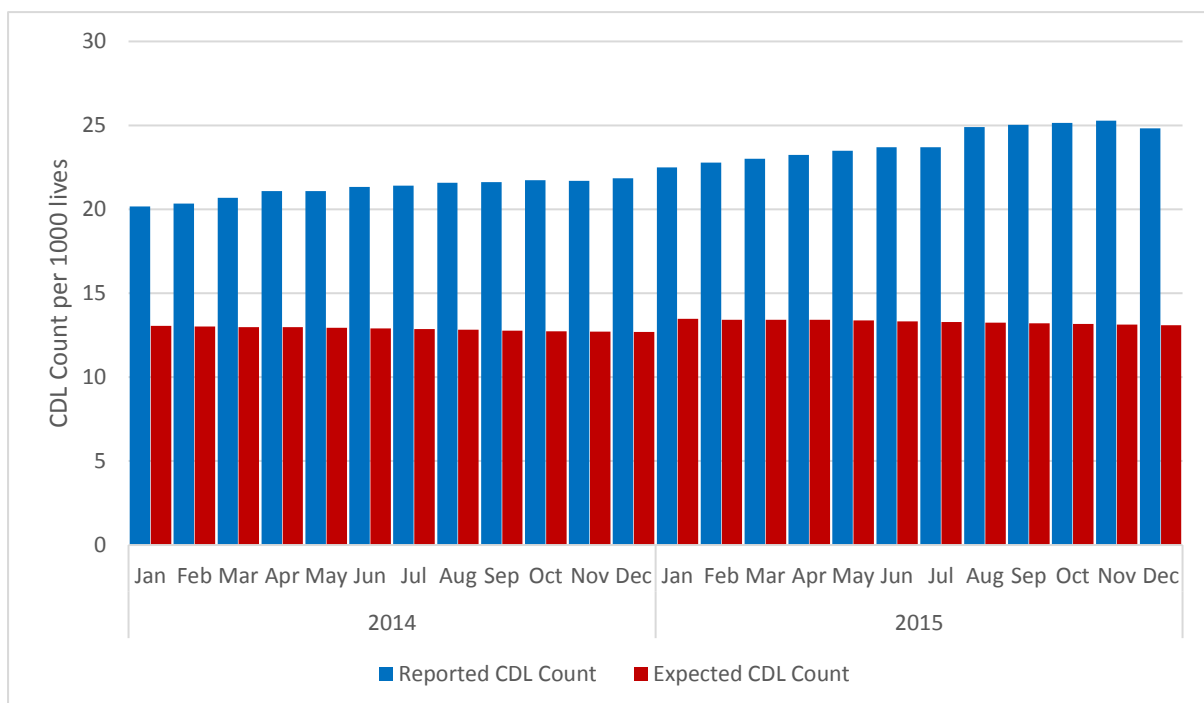
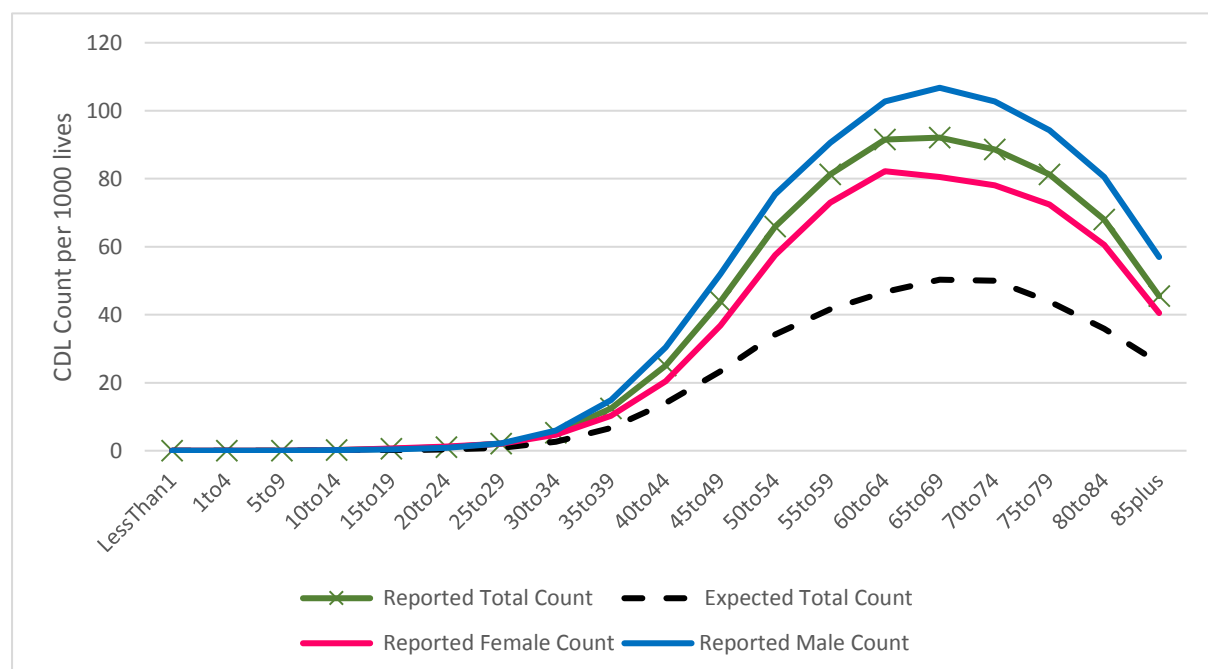


Figure 18: Expected and reported DM2 count rates by age (December 2015)



4.3.8. Human Immunodeficiency Virus (HIV/AIDS) cases on antiretroviral therapy

HIV was consistently reported at count rates higher than expected between 2014 and 2015 as demonstrated in Figure 19. The underestimation of HIV in the 2009 SRM study can be explained by the scantiness of HIV treatment data in the medical schemes industry. The sudden drop in the HIV count rates in 2015 is due to non-reporting of HIV cases by a number of medical schemes representing a significant population of medical schemes beneficiaries.

Figure 20 demonstrates the impact of the under-reporting of HIV cases by some medical schemes in 2015 on the age distribution of HIV cases. The 2014 count rate levels are likely to be a true reflection of the medical schemes risk profile.

Figure 19: Expected and reported HIV count rates by age (2014 / 2015)

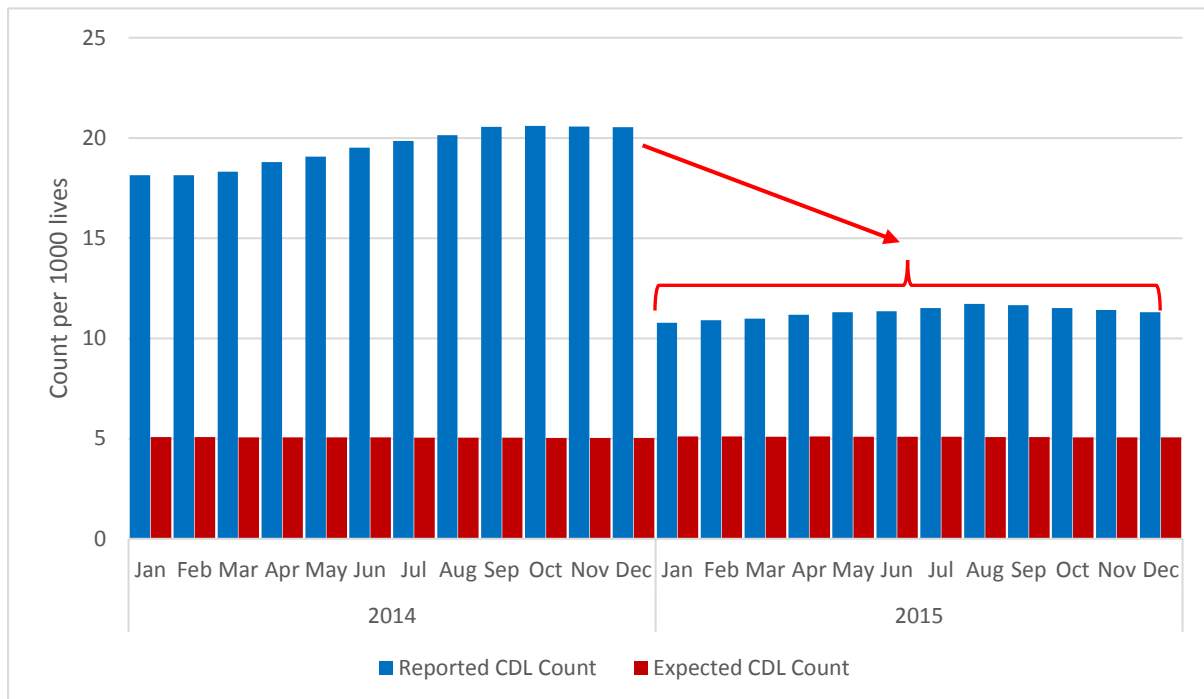
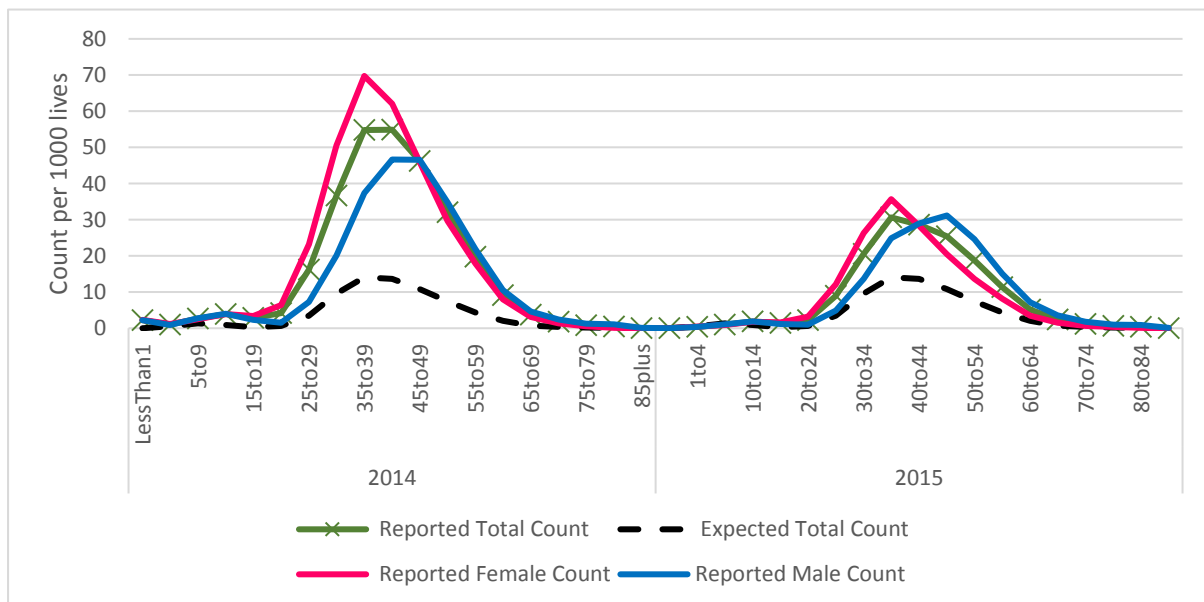


Figure 20: Expected and reported HIV count rates by age (December 2014 / 2015)



4.3.9. Hyperlipidaemia (HYL)

A significant number of medical schemes covering more than half of all medical schemes beneficiaries reported HYL at extremely lower than expected count rates. This gross under-reporting has resulted in the lower than expected HYL at the industry level, as demonstrated in Figure 21 and Figure 22. This under-reporting translates to over R145m under estimation of the HYL treatment cost. The 2014 and 2015 count rate levels are not likely to be a true reflection of the medical schemes' risk profile.

Figure 21: Expected and reported HYL count rates by month (2014 / 2015)

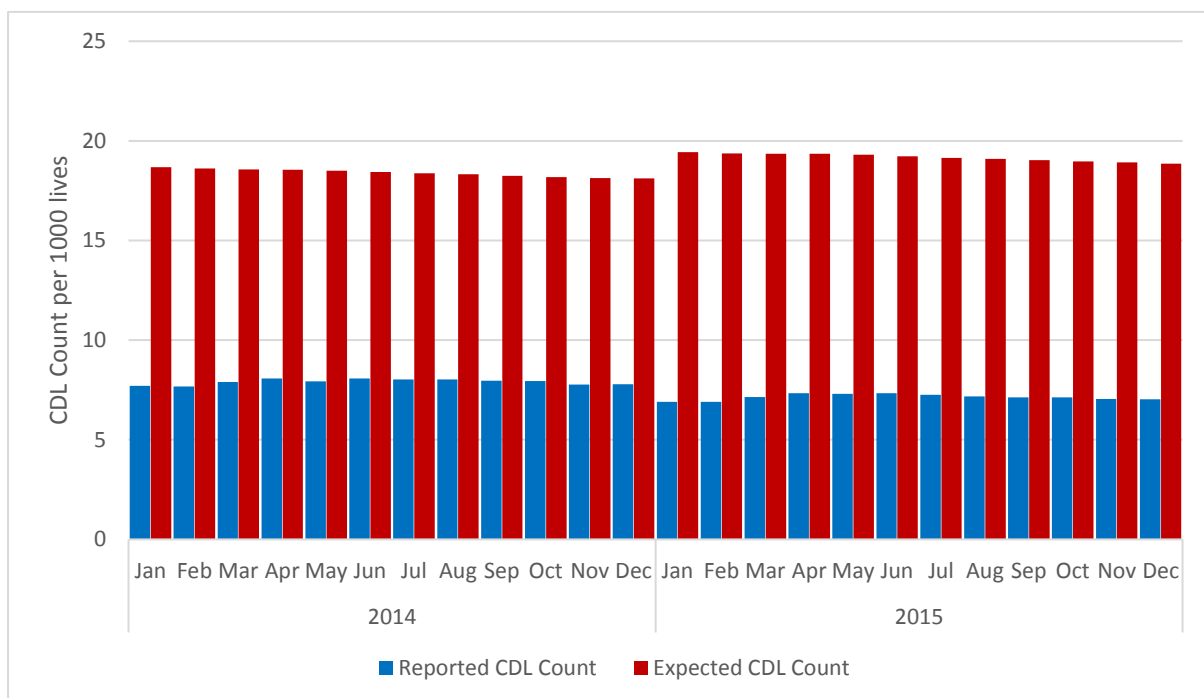
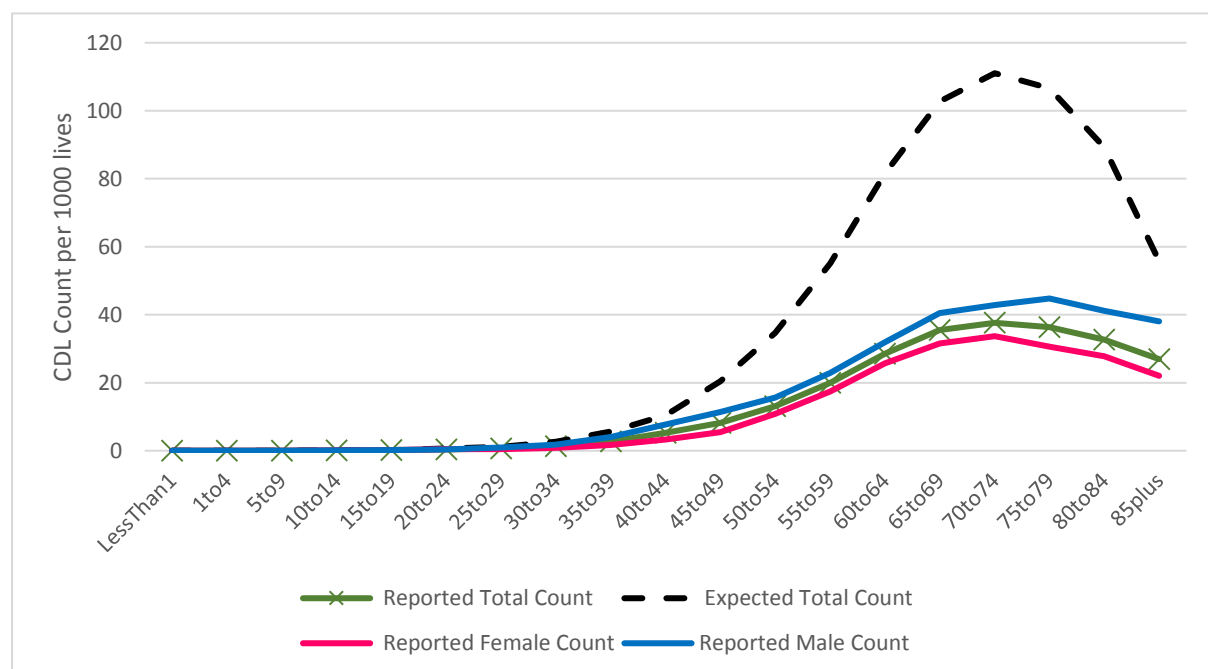


Figure 22: Expected and reported HYL count rates by age (December 2015)



4.3.10. Hypertension (HYP)

HYP was consistently reported at count rates higher than expected between 2014 and 2015 as demonstrated in Figure 23. The explanation for the observed over-reporting could be the poor application of the entry and verification criteria or the under-estimated expected count rates in the 2009 SRM study. It is also possible that the observed trends in hypertension is the reflection of the medical schemes' true risk profile.

The age distribution of HYP count cases by age follow the expected pattern as demonstrated in Figure 24. The count of HYP cases increases from the middle age bands and peaks at the oldest age band.

Figure 23: Expected and reported HYP count rates by month (2014 / 2015)

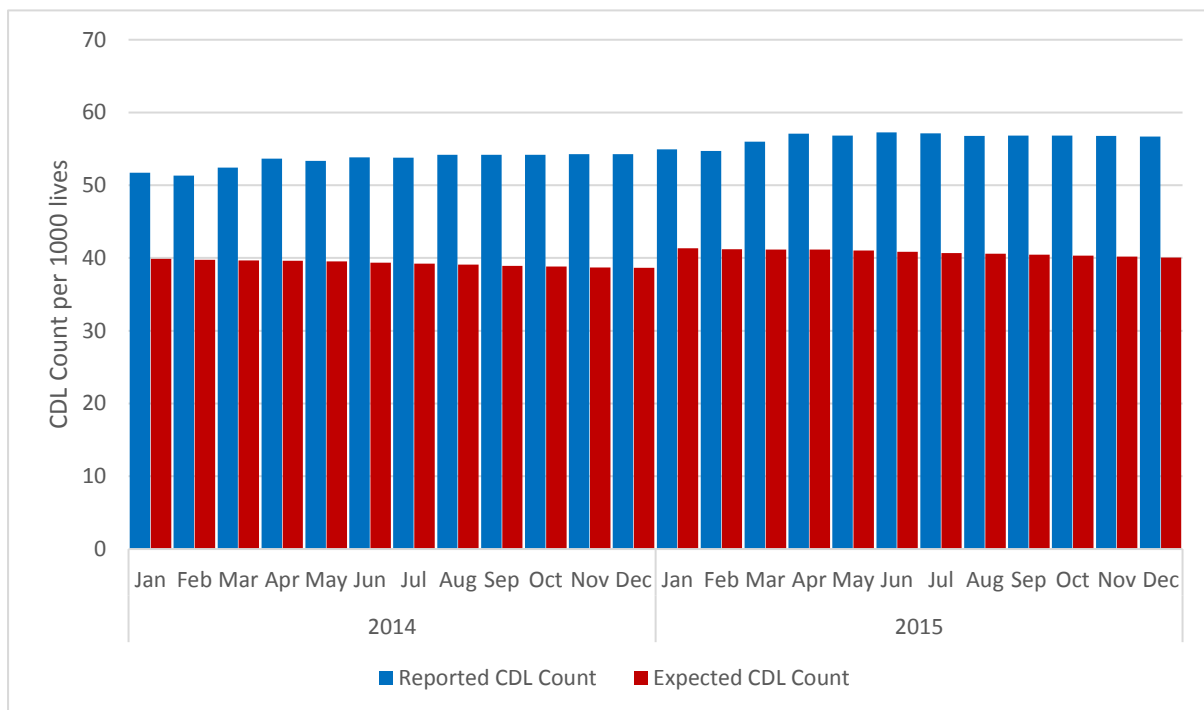
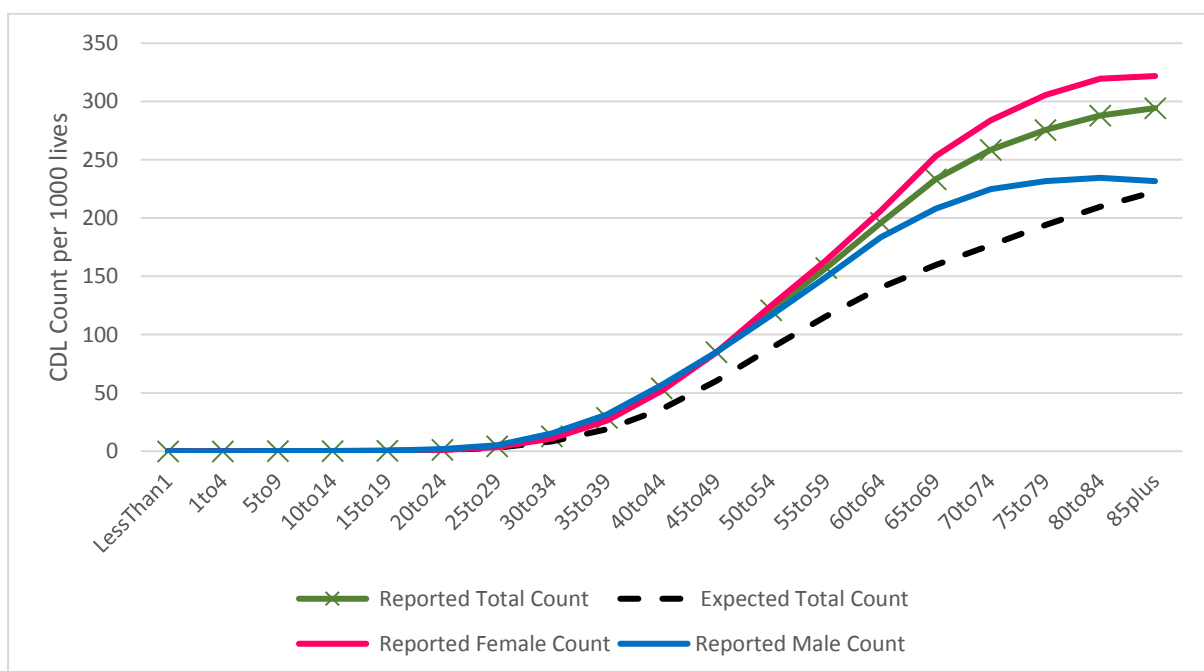


Figure 24: Expected and reported HYP count rates by age (December 2015)



4.3.11. Maternity (MAT)

Maternity cases were reported at rates similar to the expected levels for most of the months during 2014 and 2015. A very small number of maternity cases were reported for male beneficiaries, very young or very old female beneficiaries which were excluded from the analysis.

Figure 25: Expected and reported MAT count rates by month (2014 / 2015)

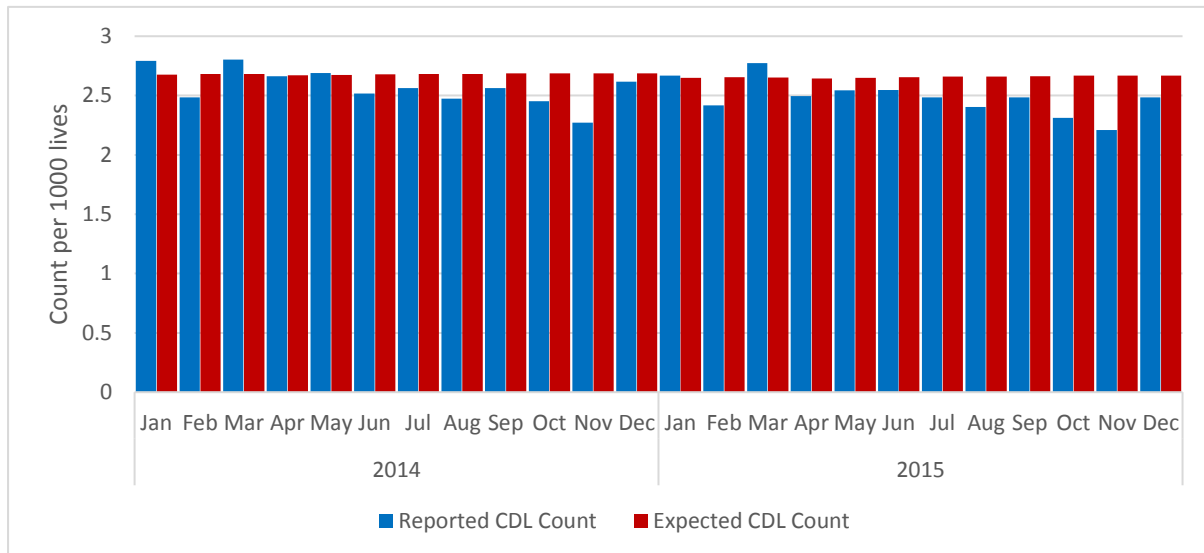
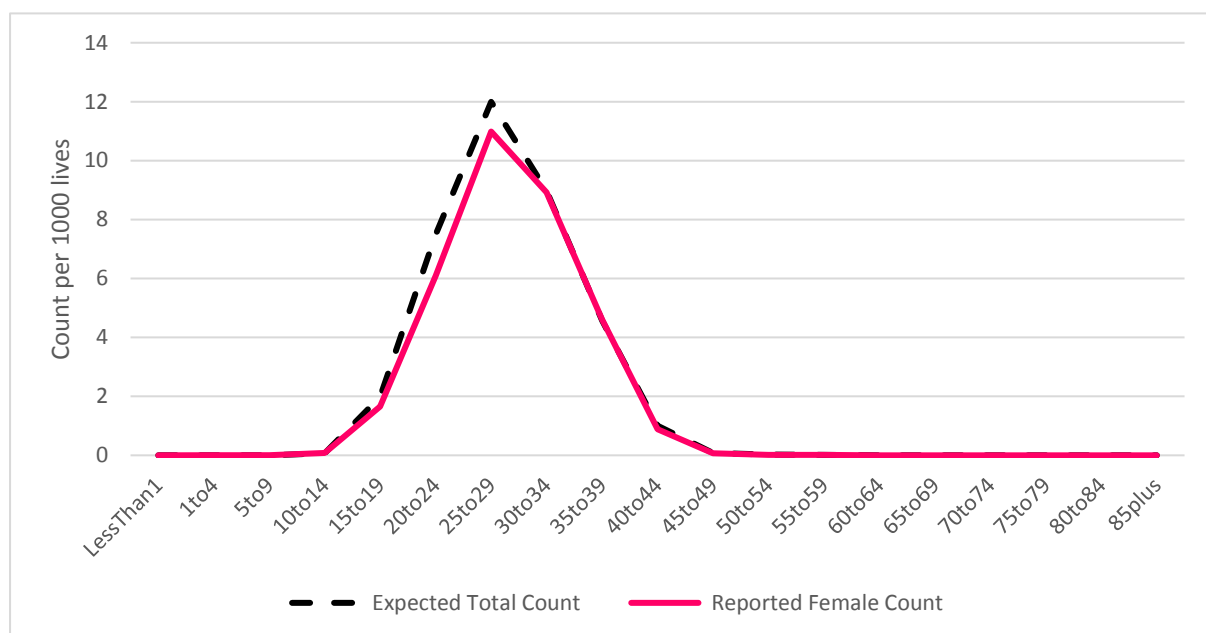


Figure 26: Expected and reported MAT count rates by age (December 2015)



4.3.12. Two simultaneous conditions (CC2)

Two simultaneous CDL conditions (CC2) count cases (beneficiaries treated for two CDL conditions at the same time) are reported at levels higher than expected levels as demonstrated in Figure 33. About 40 per 1 000 beneficiaries were treated for two simultaneous conditions in 2015 and 2014. This translates to R34m above the expected cost in 2015, as shown in Table 6 (page 16).

The 2015 prevalence of CC2 is consistently higher than the expected levels for all age bands above 30 – 34 years as depicted in Figure 34. The gap in the prevalence rates between males and females widens in older age bands, with males treated for CC2 at higher rates than females. The gender prevalence gap closes at ages greater than 84 years.

Figure 27: Expected and reported two simultaneous CDL conditions count rates by month (2014 / 2015)

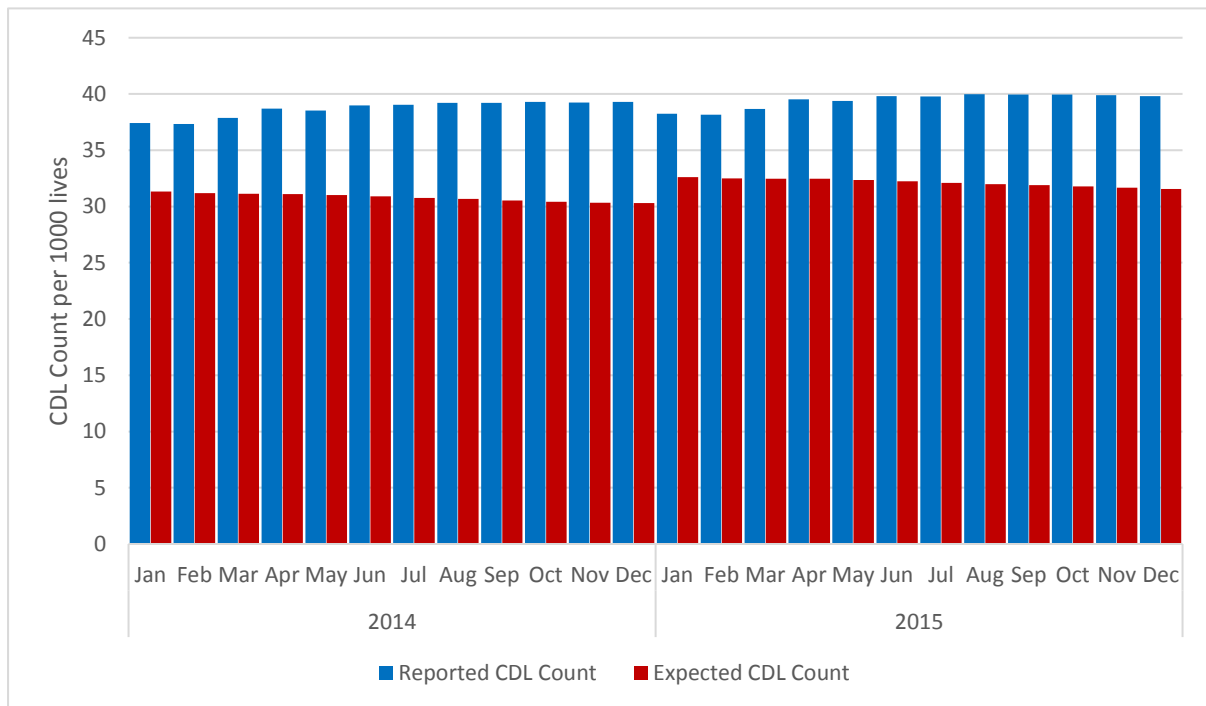
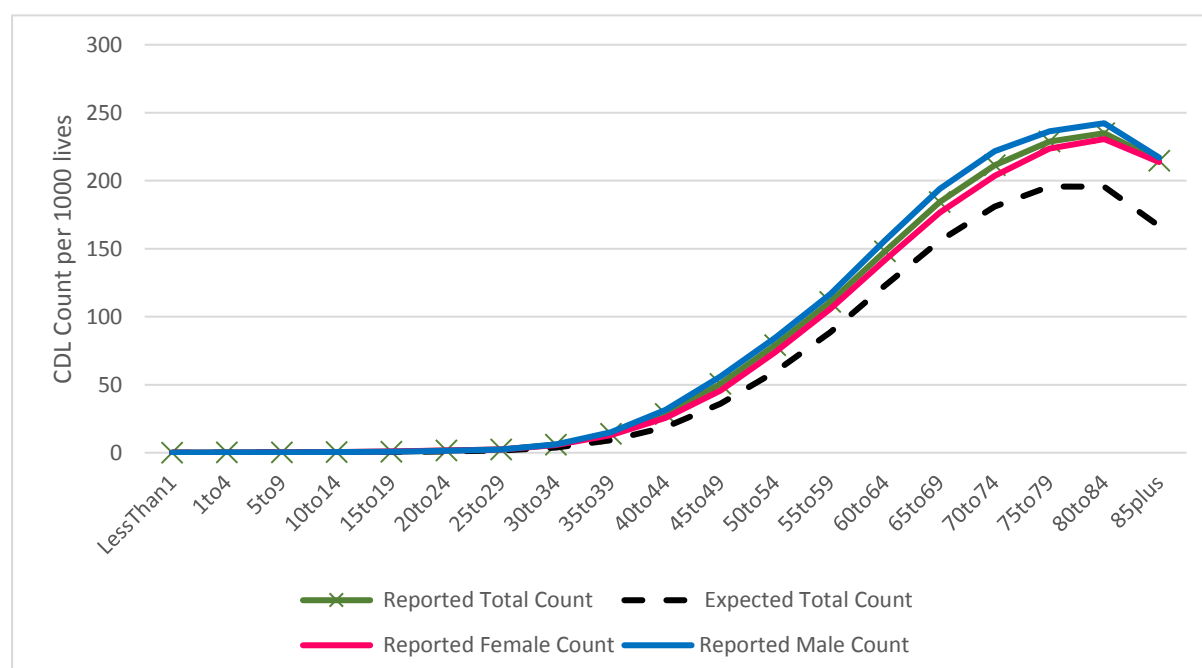


Figure 28: Expected and reported two simultaneous CDL conditions count rates by age (December 2015)



4.3.13. Three simultaneous conditions (CC3)

Three simultaneous CDL conditions (CC3) count cases (beneficiaries treated for three CDL conditions at the same time) are reported at levels higher than expected, as demonstrated in Figure 29. Nearly 14 out of every 1 000 medical schemes beneficiaries were treated for three simultaneous conditions during the period under review. This translates to R31m above the expected cost in 2015, as shown in Table 6 (page 16), nearly as much as the estimated treatment cost for two simultaneous conditions that occurred in about 40 per 1 000 beneficiaries.

Similar to CC2, the 2015 prevalence of CC3 is consistently higher than the expected levels for all age bands above 30 – 34 years as depicted in Figure 30. The gap in prevalence between males and females widens in the older age bands, with males treated for CC3 at higher rates than females. The gender prevalence gap closes at ages greater than 84 years.

Figure 29: Expected and reported three simultaneous CDL conditions count rates by month (2014 / 2015)

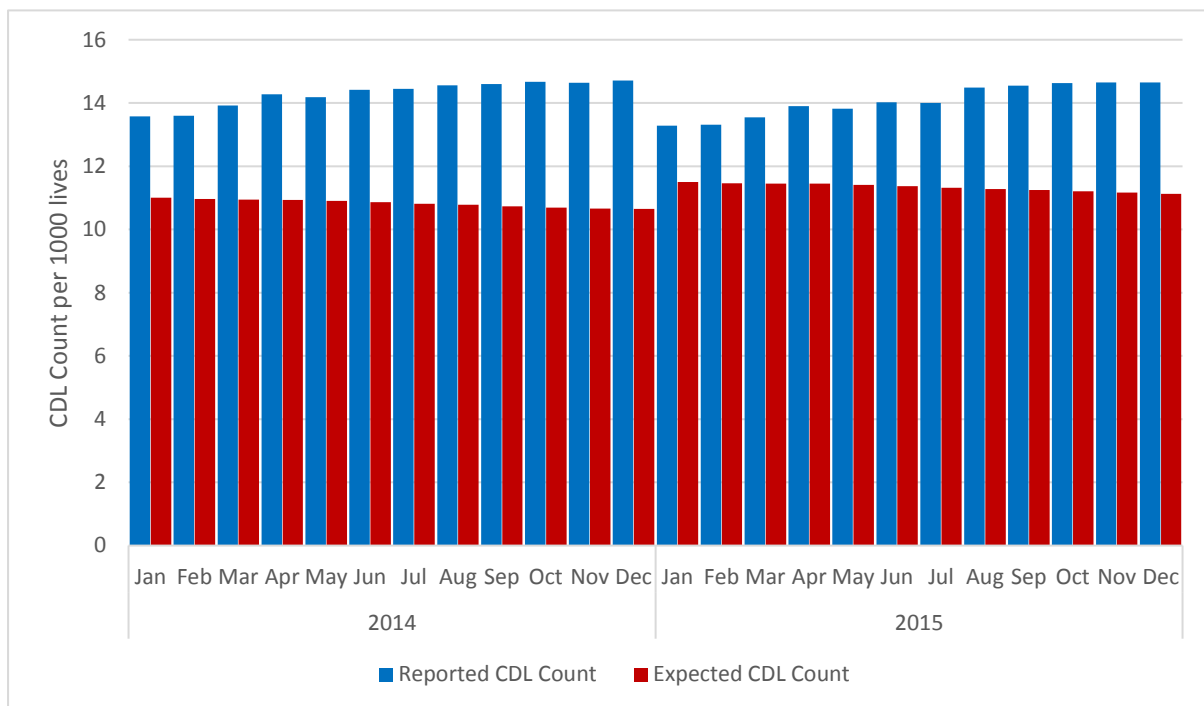
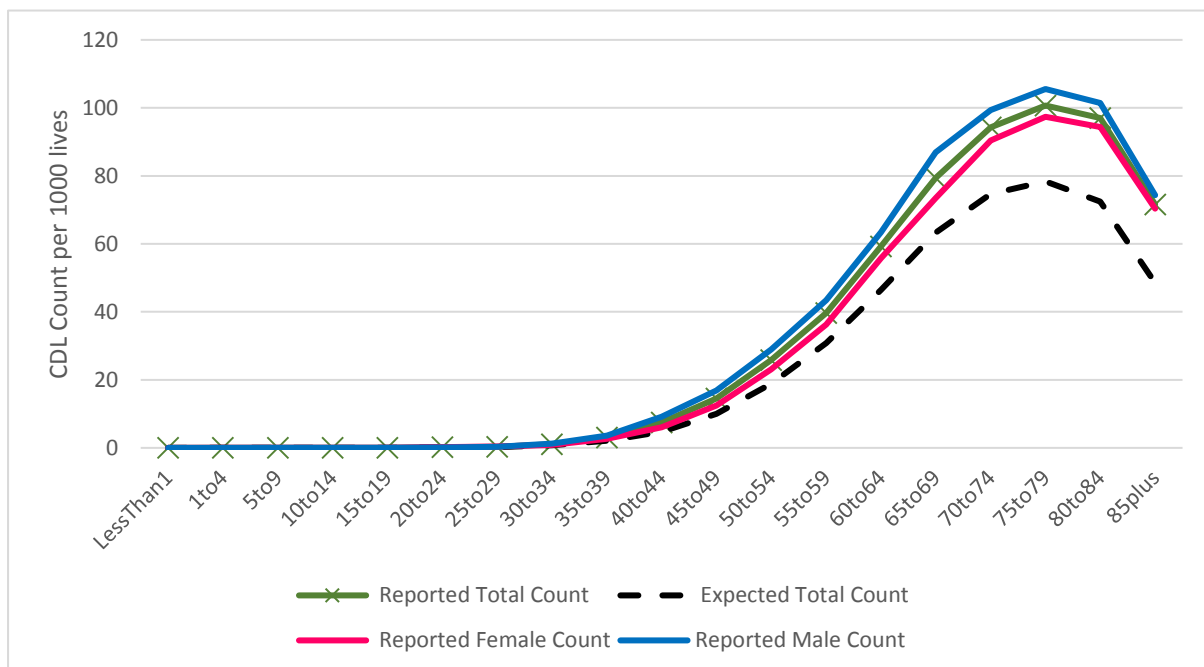


Figure 30: Expected and reported three simultaneous CDL conditions count rates by age (December 2015)



4.3.14. Four or more simultaneous conditions (CC4)

Four or more simultaneous CDL conditions (CC4) count cases (beneficiaries treated for four or more CDL conditions at the same time) are reported at levels higher than expected as demonstrated in

Figure 31. About 3 per 1 000 beneficiaries were treated for two simultaneous conditions in 2014 and 2015. This translates to R11m above the expected cost in 2015, as shown in Table 6 (page 16). The 2015 prevalence of CC4 is consistently higher than the expected levels for all age bands above 40 – 44 years as depicted in Figure 32.

Figure 31: Expected and reported four or more simultaneous CDL conditions count rates by month (2014 / 2015)

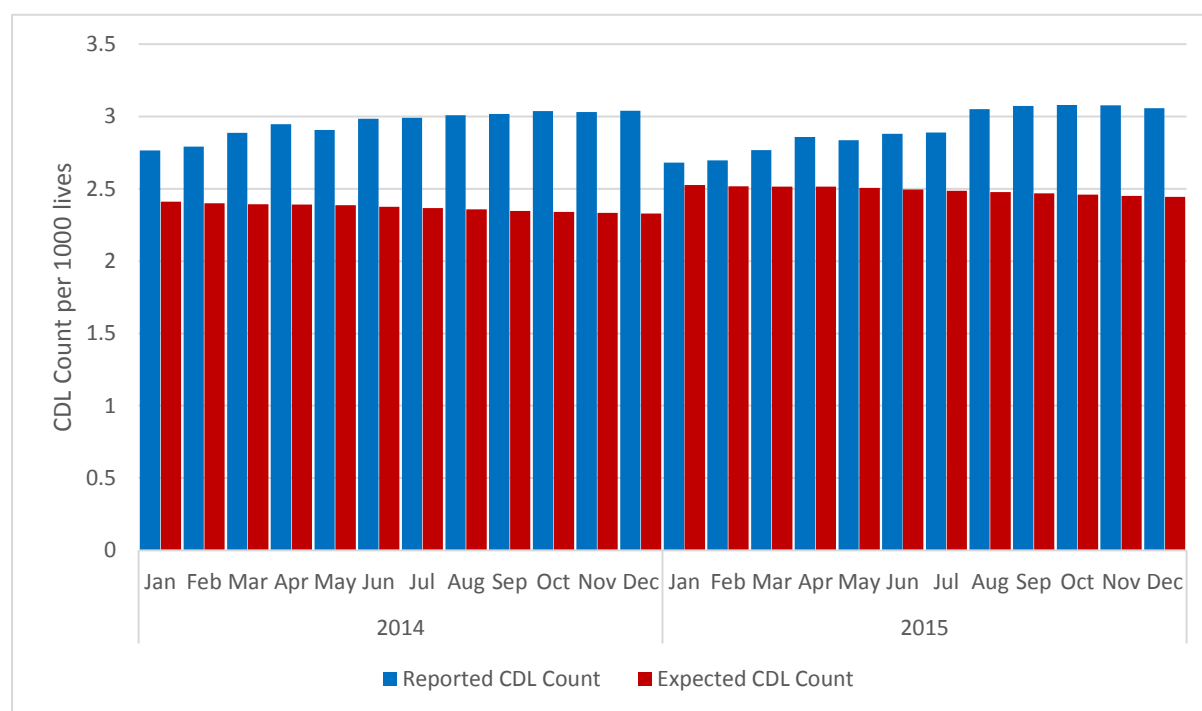
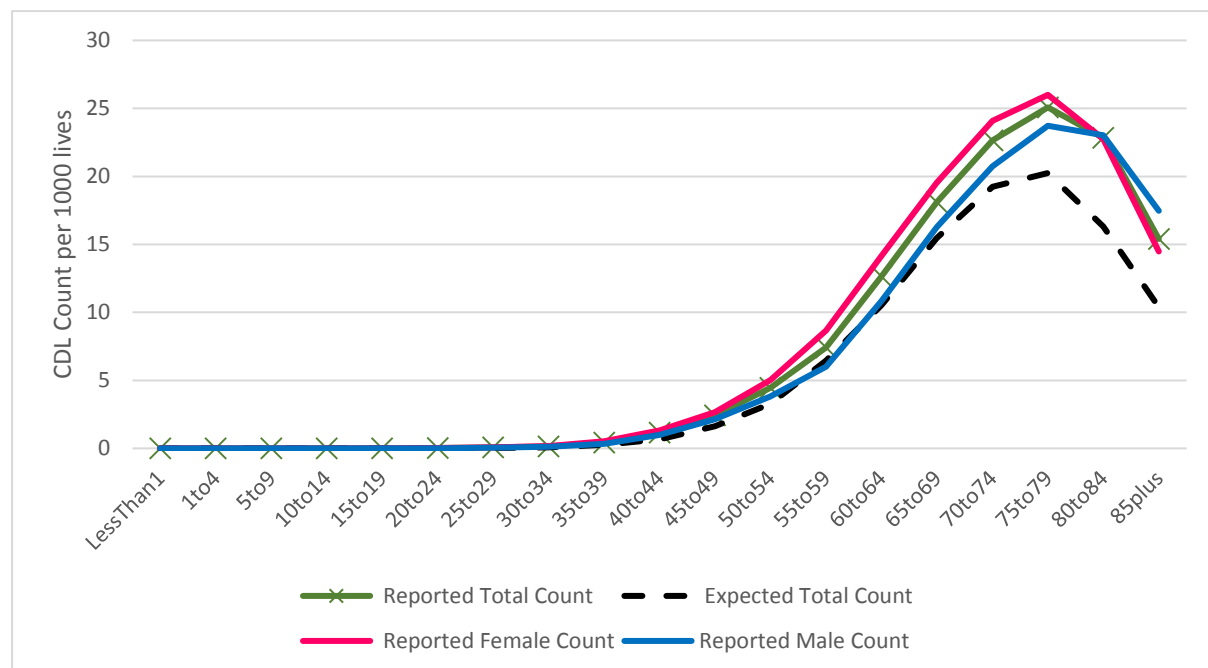


Figure 32: Expected and reported four or more simultaneous CDL conditions count rates by age (December 2015)



4.3.15. Multiple CDL conditions

As seen with CC2, CC3 and CC4, the total multiple CDL conditions count cases are reported at levels higher than expected, as demonstrated in Figure 33. This translates to R76m above expected cost. The reporting is consistent across all the months of 2014 and 2015. Figure 34 demonstrates the increase of multiple CDL cases by age, peaking between the 75 to 79 and 80 to 84 years age bands.

Figure 33: Expected and reported multiple CDL count rates by month (2014 / 2015)

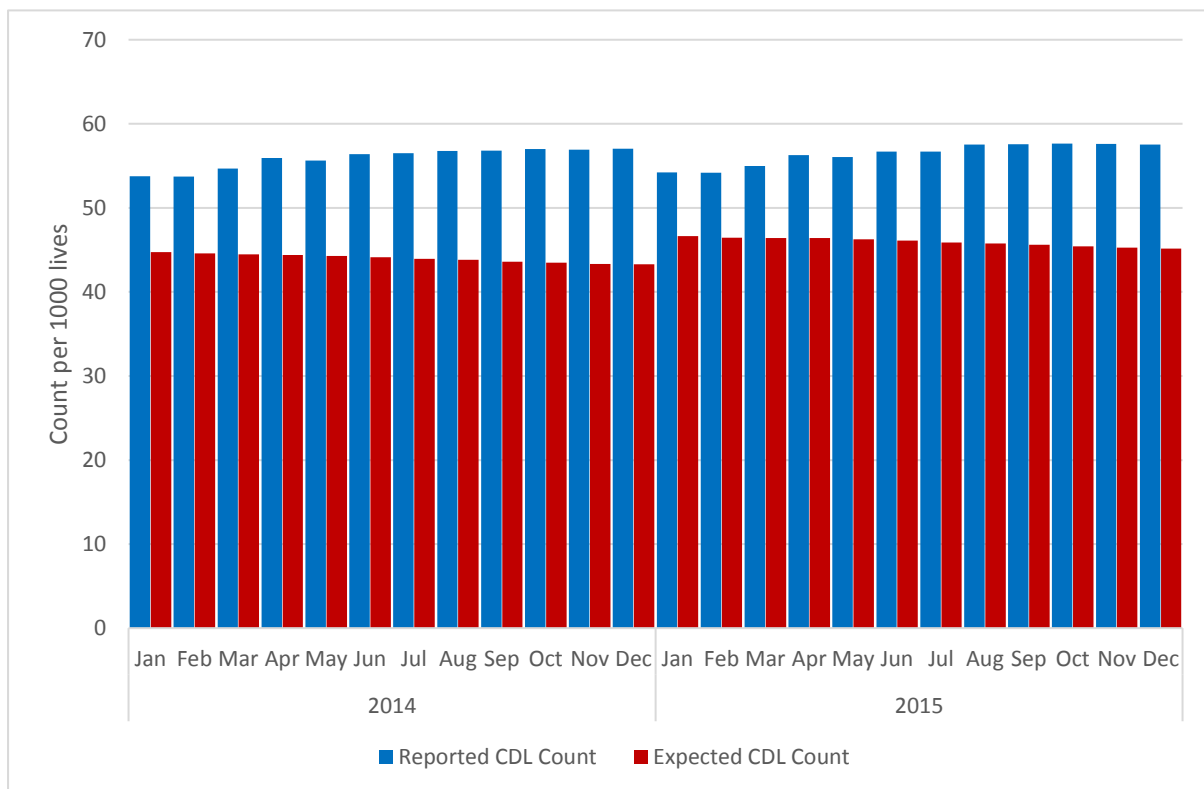
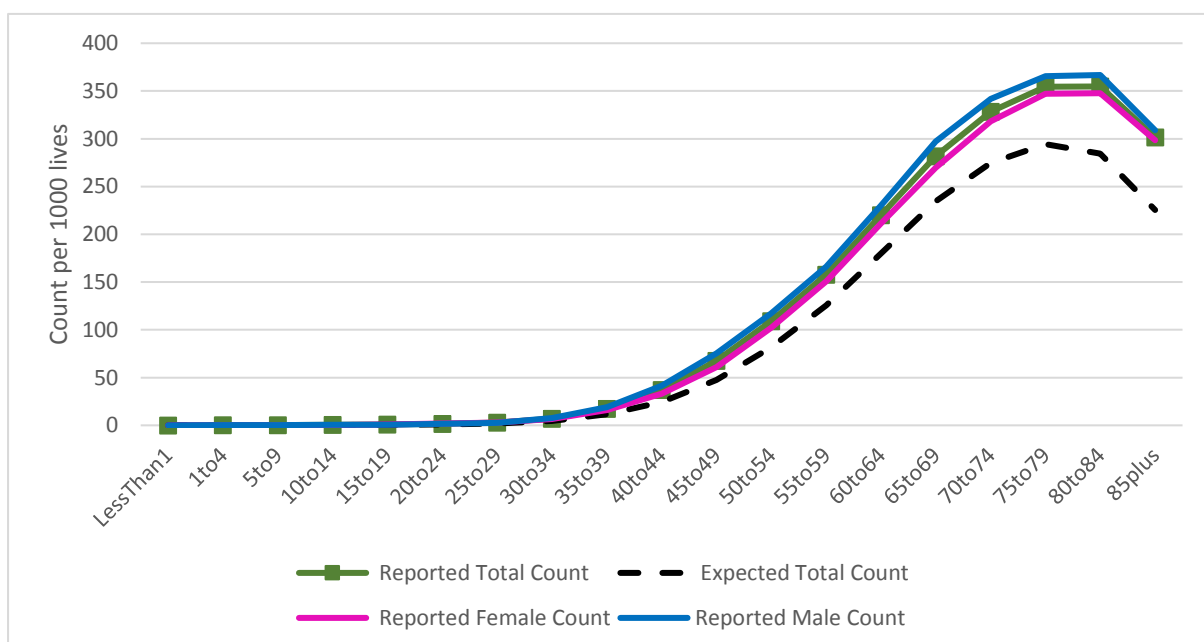


Figure 34: Expected and reported multiple CDL count rates by age (December 2015)



4.3.16. SRM price by age and community rate analysis

The SRM price by age curve demonstrates the combined risk of each of the reported SRM risk factors on medical schemes in comparison to the expected risk attributable to SRM risk factors.

Figure 35 demonstrates that the price by age curves of the submitted SRM returns closely follow the expected price by age curve for most age bands. In age bands above 65, the reported levels are higher than expected, and this trend is consistent over the four quarters of 2015.

The minor differences observed in the “less than 1” age band for 2014 (Figure 36), which is possibly due to over-reporting of lives in this age band, are not apparent in 2015.

Figure 35: Price by age: All medical schemes (2015)

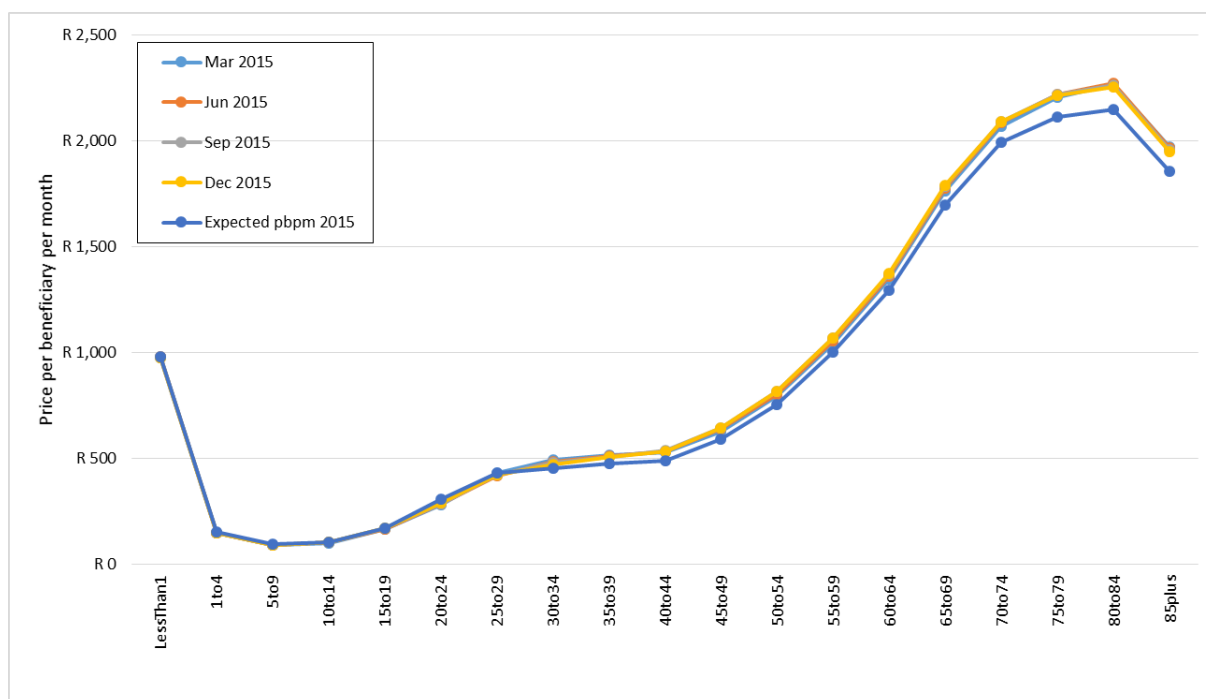
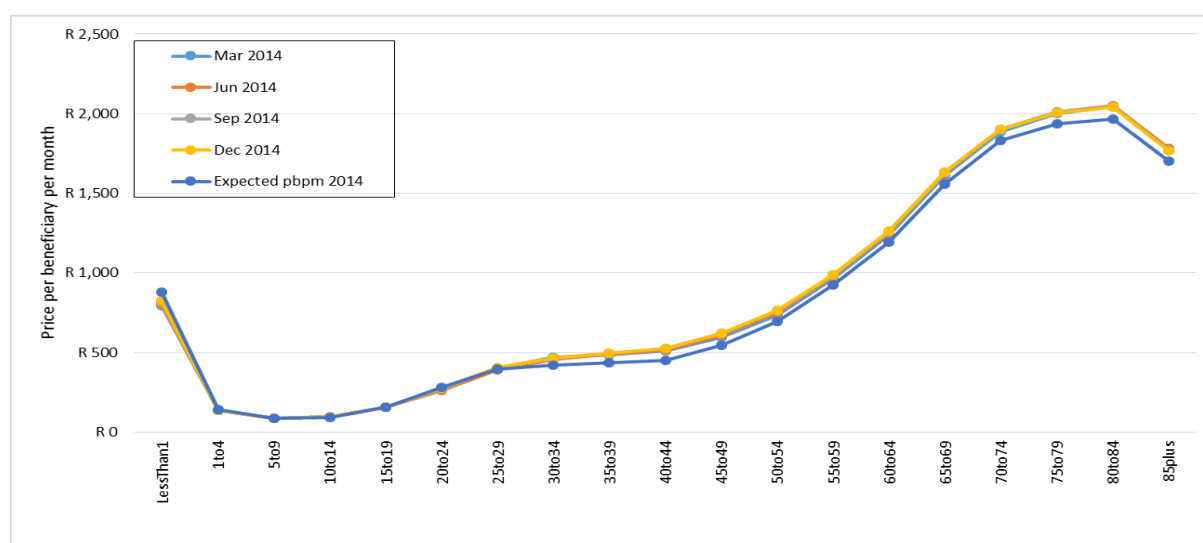


Figure 36: Price by age: All medical schemes (2014)



4.4. Variation in the risk profiles by medical schemes

The scheme's risk, difference between industry community rate and scheme community rate, was calculated for December in 2014 and 2015 based on the full contribution table (CMS 2014b, CMS 2015b). The scheme risk is a proxy to illustrate the differences in the risk profiles of medical schemes. All the medical schemes that submitted reasonable or fair quality SRM data were included in the calculation of the industry community rate.

4.4.1. Analysis of the potential financial impact

It is envisaged that a scheme risk adjustment system will involve transfers between medical schemes and not benefit options. The benefit option analysis in Table 8 demonstrates the variation in benefit option level community rate. A benefit option with the most favourable age structure and low disease burden will pay R388.64 into the theoretical risk adjustment system, while a benefit option with the most unfavourable risk profile will receive - R2,076.59 in terms of the December 2015 calculations.

Table 8 demonstrates the variation in the December 2014 and 2015 community rate for medical schemes and benefit options, respectively. The variation in the community rate amongst scheme has widened in 2015 compared to 2014. The variation in the community rate is larger between benefit options than it is for medical schemes. A scheme with the most favourable age structure and low disease burden will pay R360.33 into the theoretical risk adjustment system, while a scheme with the most unfavourable risk profile will receive -R 877.25 in terms of the December 2015 calculations as shown in Table 7.

The 2015 industry community rate of R646.81 is significantly higher than the reported average PMB cost of R608.00 (CMS 2016). The difference between the industry community rate and reported PMB costs is likely to be mainly as a result of lower than expected reporting of PMB costs in the Healthcare Utilisation Annual Statutory Returns (ASR) system. The level of compliance to the PMB Code of Conduct (CMS 2010), data quality and SRM risk factor definitions (CMS 2015a) account for some of the observed differences. The same is true for 2014, where the industry community rate was R595.00 (CMS 2016) versus the average PMB cost of R556.00.

Table 7: Scheme community rate and scheme risk rate analysis for 2014 /2015 financial years

Statistic		December 2015	December 2014
Industry community rate		R 646.81	R 595.00
Scheme community rate	Number of schemes	80*	82*
	25 th percentile	R 569.33	R 510.99
	50 th percentile	R 657.75	R 592.64
	75 th percentile	R 810.52	R 687.99
	Standard deviation	R 228.88	R 185.74
Scheme risk rate	Minimum	-R 877.25	-R 626.61
	Maximum	R 360.33	R 338.93

*Medical schemes removed in the 2014 (Platinum Health) and 2015 (Chartered Accountants (SA) Medical Aid Fund (CAMAF), Platinum Health and Rand Water Medical Scheme) analysis due to the unreasonably high community rate, respectively. Refer to Table 4 (page 11) for more details.

It is envisaged that a scheme risk adjustment system will involve transfers between medical schemes and not benefit options. The benefit option analysis in Table 8 demonstrates the variation in benefit option level community rate. A benefit option with the most favourable age structure and low disease burden will pay R388.64 into the theoretical risk adjustment system, while a benefit option with the most unfavourable risk profile will receive - R2,076.59 in terms of the December 2015 calculations.

Table 8: Benefit option community rate and scheme risk rate analysis for 2014 /2015 financial years

Statistic		December 2015	December 2014
Industry community rate		R 646.81	R 595.00
Benefit option community rate	Number of options	265*	265*
	25 th percentile	R 490.30	R 457.17
	50 th percentile	R 666.54	R 578.02
	75 th percentile	R 1,050.62	R 897.83
	Standard deviation	R 463.61	R 385.56
Benefit option risk rate	Minimum	-R 2,076.59	-R 1,871.75
	Maximum	R 388.64	R 349.82

*8 options in 2014 and 4 in 2015 were excluded in the benefit option community rate analysis because of the unreasonably high community rate or were part of the medical schemes which did not submit SRM data. Refer to Table 4 (page 11) for more details.

In a system of risk adjustment, medical schemes with a community rate lower than that of the industry community rate would be net payers (young and healthy) and medical schemes with a community rate higher than the industry community rate would be net receivers (older and sicker). In Table 9, the “Pay” category refers to medical schemes with a scheme community rate that is lower than the industry community rate and “Receive” category refers to medical schemes with a community rate that is higher than the industry community rate

About 74% and 73% of all beneficiaries were in medical schemes whose community rate was lower than that of the industry in December 2014 and 2015, respectively. The balance of the covered beneficiaries were in medical schemes that had a community rate higher than that of the industry as shown in Table 9.

Table 10 demonstrates the changes in scheme risk categories between 2014 and 2015. Changes in medical schemes risk might be due to changes in the medical schemes’ demographic of disease burden profile or poor data in one of the reporting periods. In 2014, Government Employees Medical Scheme was classified in the “Pay: R0 to R25.00 PBPM” payment category in terms of its risk profile, but moved to the more favourable community rate category of “Pay: R75.01 to R100.00 PBPM” in 2015 mainly due the non-reporting of HIV data.

Table 9: Frequency distribution of the number of medical schemes versus the scheme risk intervals

Scheme risk category	December 2015			December 2014		
	Number of medical schemes	Number of beneficiaries	% beneficiaries	Number of medical schemes	Number of beneficiaries	% beneficiaries
Pay: R0 to R25,00 PBPM	7	3 057 795	35.45%	9	3 173 131	36.56%
Pay: R25,01 to R50,00	5	414 035	4.80%	4	1 866 499	21.51%
Pay: R50,01 to R75,00	6	311 923	3.62%	8	388 968	4.48%
Pay: R75,01 to R100,00	5	2 311 958	26.80%	7	634 542	7.31%
Pay: R100,01 to R125,0	2	39 003	0.45%	1	7 561	0.09%
Pay: R125,01 to R150,0	1	16 045	0.19%	2	18 040	0.21%
Pay: More than R150,00	12	217 621	2.52%	11	200 878	2.31%
Sub-total: Pay category	38	6 368 380	73.83%	42	6 289 619	72.48%
Receive: R0,01 to R25,	7	848 532	9.84%	6	1 003 264	11.56%
Receive: R25,01 to R50	2	201 040	2.33%	4	166 428	1.92%
Receive: R50,01 to R75	2	13 530	0.16%	2	75 667	0.87%
Receive: R75,01 to R10	2	53 565	0.62%	5	301 110	3.47%
Receive: R100,01 to R1	2	14 414	0.17%	4	380 403	4.38%
Receive: R125,01 to R1	4	219 511	2.54%	1	25 317	0.29%
Receive: More than R15	23	906 843	10.51%	18	436 301	5.03%
Sub-total: Receive category	42	2 257 435	26.17%	40	2 388 490	27.52%
Total	80	8 625 815	100.00%	82	8 678 109	100.00%

Table 10: Changes in scheme risk categories

Scheme risk category in 2015	Scheme risk category in 2014 (Beneficiaries in 2015)										
	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM	Pay: R0 to R25.00 PBPM
Pay: R0 to R25.00 PBPM		12 838 (1)	85 409 (1)				215 842 (1)				
Pay: R25.01 to R50.00 PBPM	385 987 (2)		9 680 (1)								
Pay: R50.01 to R75.00 PBPM				24 665 (1)							
Pay: R75.01 to R100.00 PBPM		1 780 613 (1)			7 714 (1)						
Pay: R100.01 to R125.00 PBPM				21 289 (1)		17 714 (1)					
Pay: R125.01 to R150.00 PBPM			16 045 (1)								
Pay: More than R150.00 PBPM				16 214 (1)							
Receive: R0.01 to R25.00 PBPM	131 180 (3)							19 251 (1)			
Receive: R25.01 to R50.00 PBPM							75 680 (1)				
Receive: R50.01 to R75.00 PBPM								10 601 (1)		2 929 (1)	
Receive: R75.01 to R100.00 PBPM								2 994 (1)			50 571 (1)
Receive: R100.01 to R125.00 PBPM									1 650 (1)	12 764 (1)	
Receive: R125.01 to R150.00 PBPM										10 673 (1)	183 691 (2)
Receive: More than R150.00 PBPM							30 711 (1)		75 327 (1)	240 810 (2)	140 391 (1)

The financial impact by payment band on the beneficiaries is illustrated in Figure 37. The number of beneficiaries in “receiving” medical schemes increased from 436 301 in 2014 to 906 843 in 2015. The improvement in the risk profile in some of the medical schemes is mainly due to the non-reporting of HIV/AIDS cases.

Figure 37: Number of beneficiaries by scheme risk category

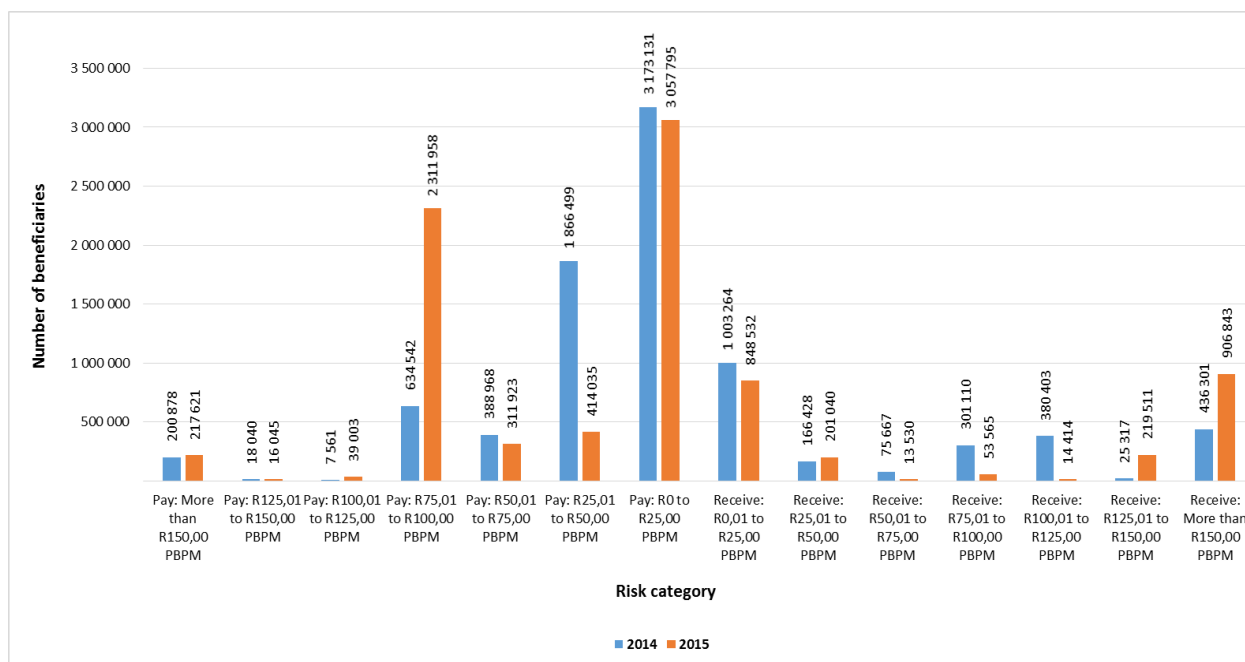


Figure 38 demonstrates the average age and distribution of beneficiaries over the age of 65 years between the risk categories. Beneficiaries in “paying” medical schemes are generally younger and have proportionally fewer beneficiaries, the opposite is true for the “receiving” medical schemes.

Figure 38: Number of beneficiaries by scheme risk category (December 2015)

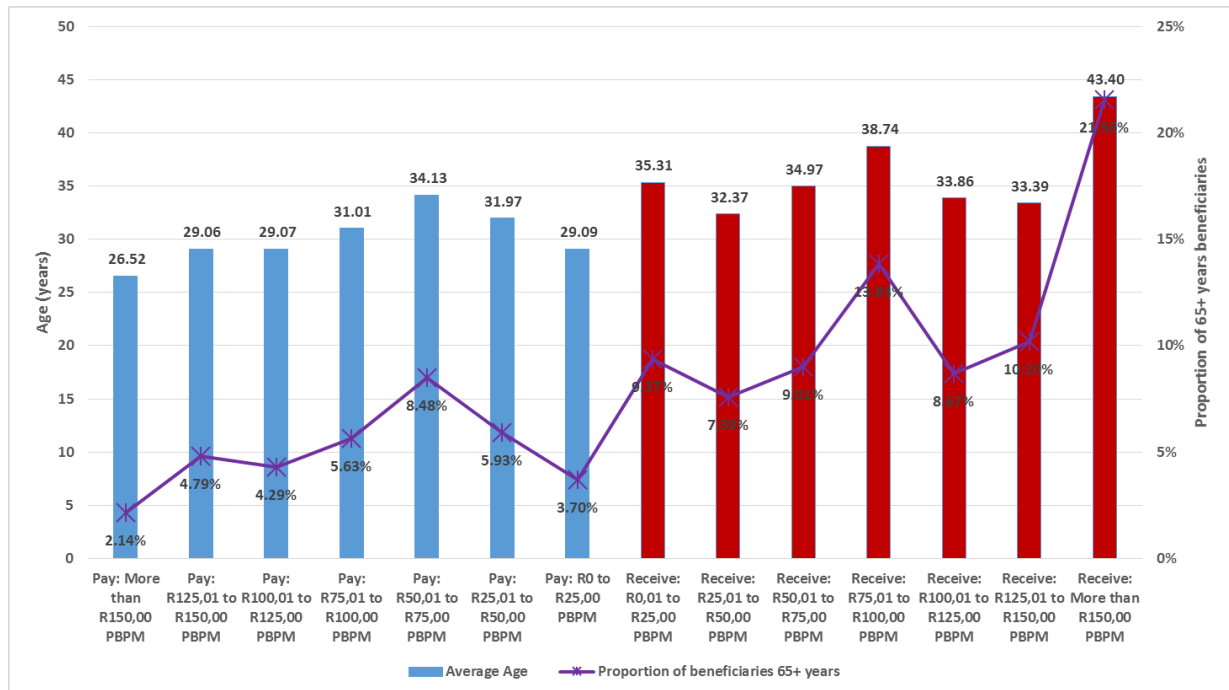


Figure 39 below illustrates the variation in the medical schemes' community rate for December 2015. The scheme community rate of the most unfavourable age structure is R1 527.05, whereas the cost for a scheme with the most favourable age structure is R286.48. Either way, the calculated community rate is influenced by the quality of risk factor data submitted. The under-reporting of risk factors may give an incorrect notion of a favourable risk profile, while on the other hand over-reporting of risk factors will result in the over-estimation of the community rate.

Figure 39: Scheme community rate on the Full table (December 2015)

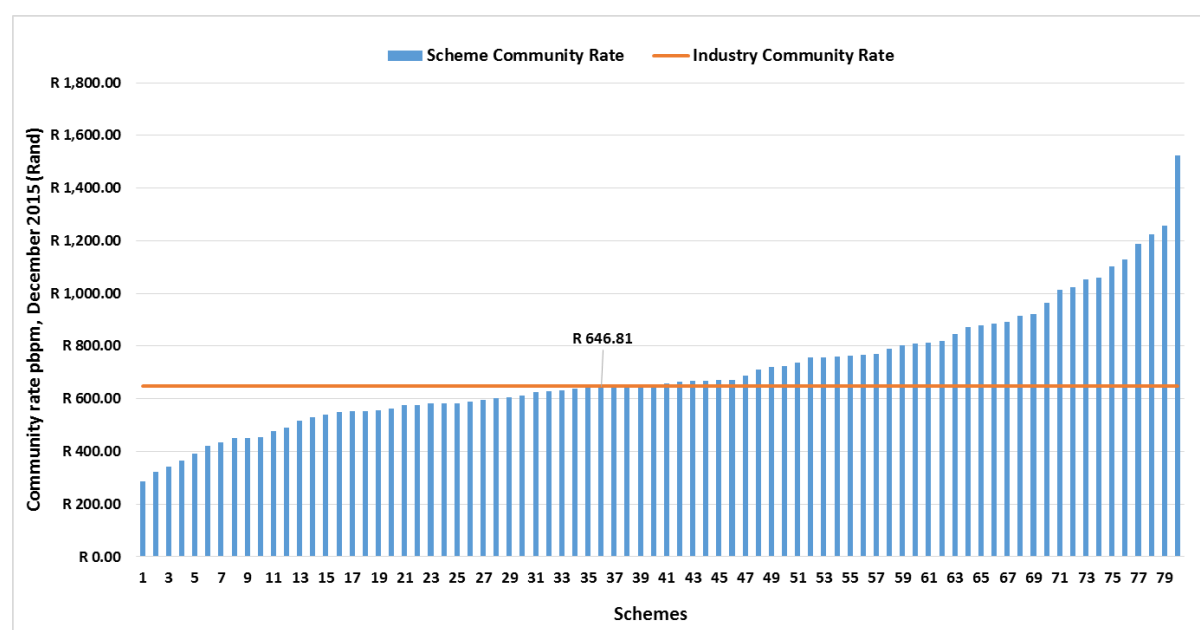
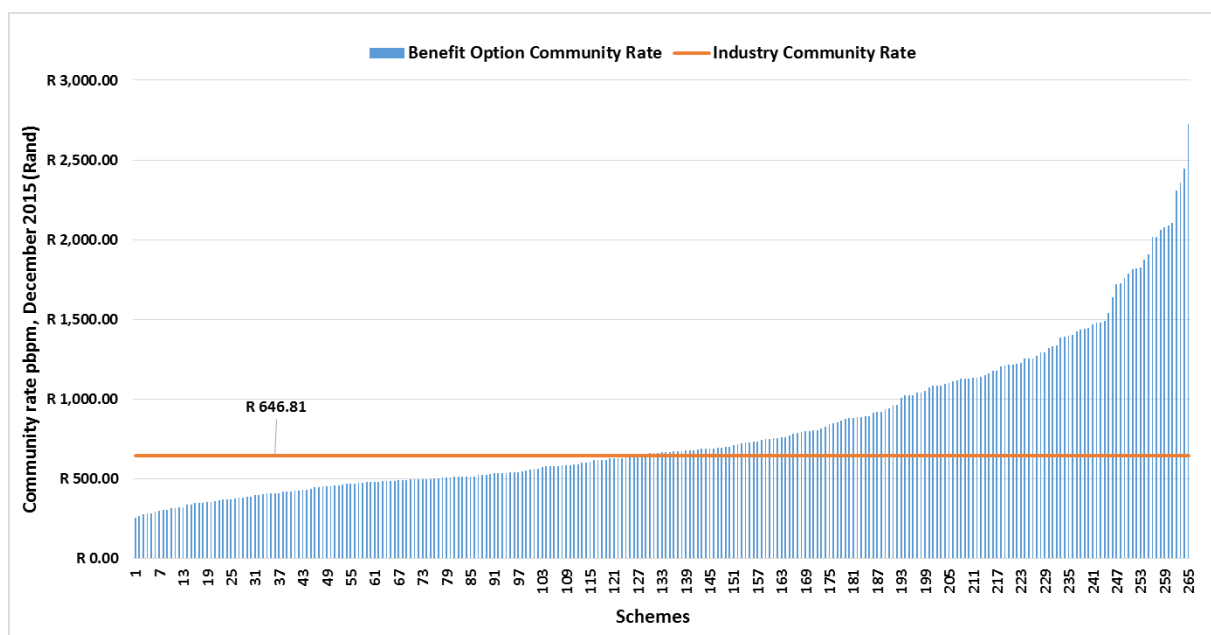


Figure 40 below illustrates the variation in the benefit options' community rate for December 2015. The benefit option community rate of the most unfavourable age structure is R2 723.40, whereas the cost for a benefit option with the most favourable age structure is R265.71. Similar to scheme community rate, the benefit option level community rate is also sensitive to data quality. The under-reporting of risk factors may give an incorrect notion of a favourable risk profile, while on the other hand over-reporting of risk factors will result in the over-estimation of the community rate.

The community rate variation is larger between benefit options than it is the case between medical schemes.

Figure 40: Benefit option rate on the Full table (December 2015)



4.5. Community rate trend analysis

There has been a gradual increase in the measured community rate between 2005 and 2015 owing to changes in the scheme risk profiles, healthcare utilisation and inflation as depicted in Figure 41. The 2005 – 2011 industry community rate analysis was based on the 2005 PMB costing study, while the 2009 PMB costing study was used with effect from 2012. This explains the sharp increase in the community rate between 2011 and 2012. It is also worth noting that the expected industry community rate is lower than the actual community rate in all the years of collecting medical schemes' risk factor data. This could be attributed to the fast changing scheme demographics, utilisation patterns and improved identification of beneficiaries with SRM risk factors.

Figure 42 demonstrates the impact of risk factor variables and probable changes in utilisation behaviour when prices are kept constant. The industry community rate, which constitutes the indirect measure for PMB costs, increased by 60% from R404 in 2005 to R647 in 2015 (2015 prices). This significant increase from 2005 to 2015, can be attributed to changing scheme demographics (e.g. aging), increased utilisation of healthcare services (e.g. hospitals and specialists), as well as improved identification of beneficiaries with SRM risk factors. Further studies are needed to unpack the contribution of each of the aforementioned factors to the changes in estimated costs between 2005 and 2015. The industry community rate is expected to continue to increase at levels above inflation as risk profiles of medical schemes continue to deteriorate.

Figure 41: Actual and expected industry community rate

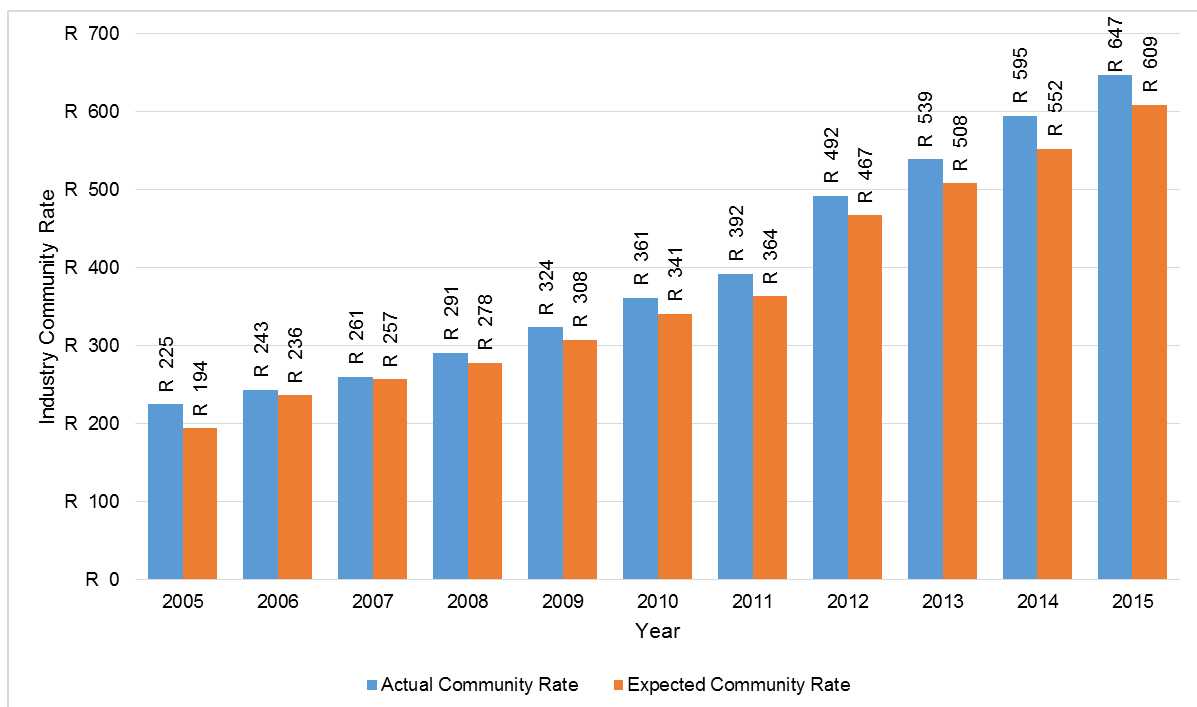


Figure 42: Actual industry community rate (2015 prices)

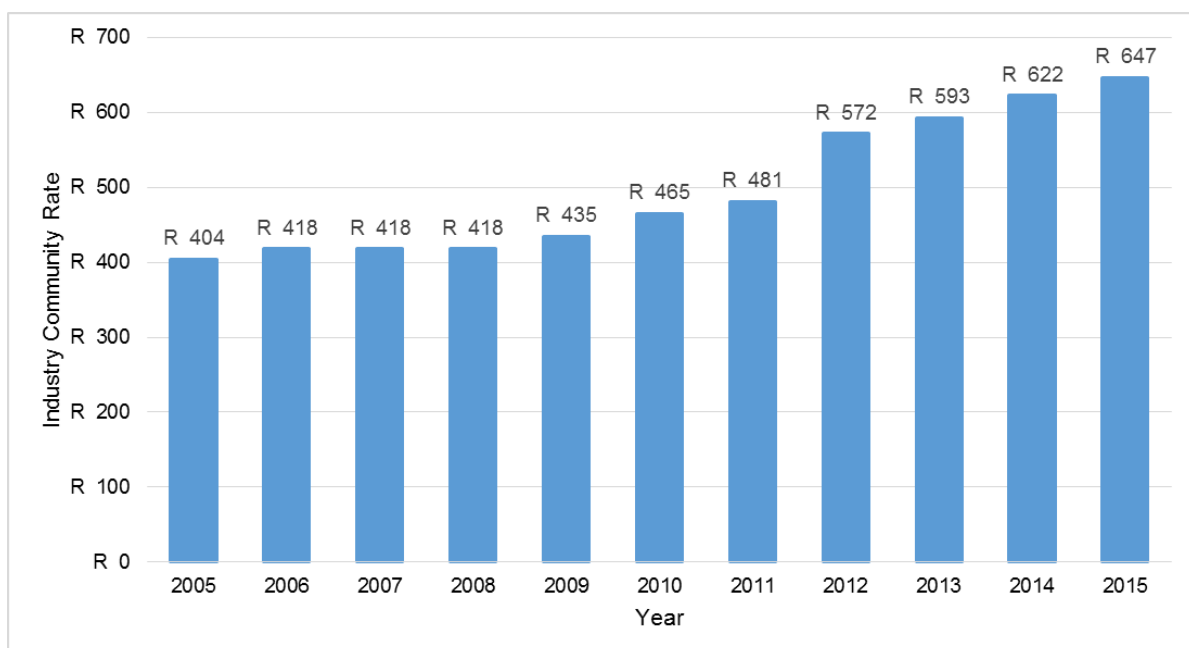
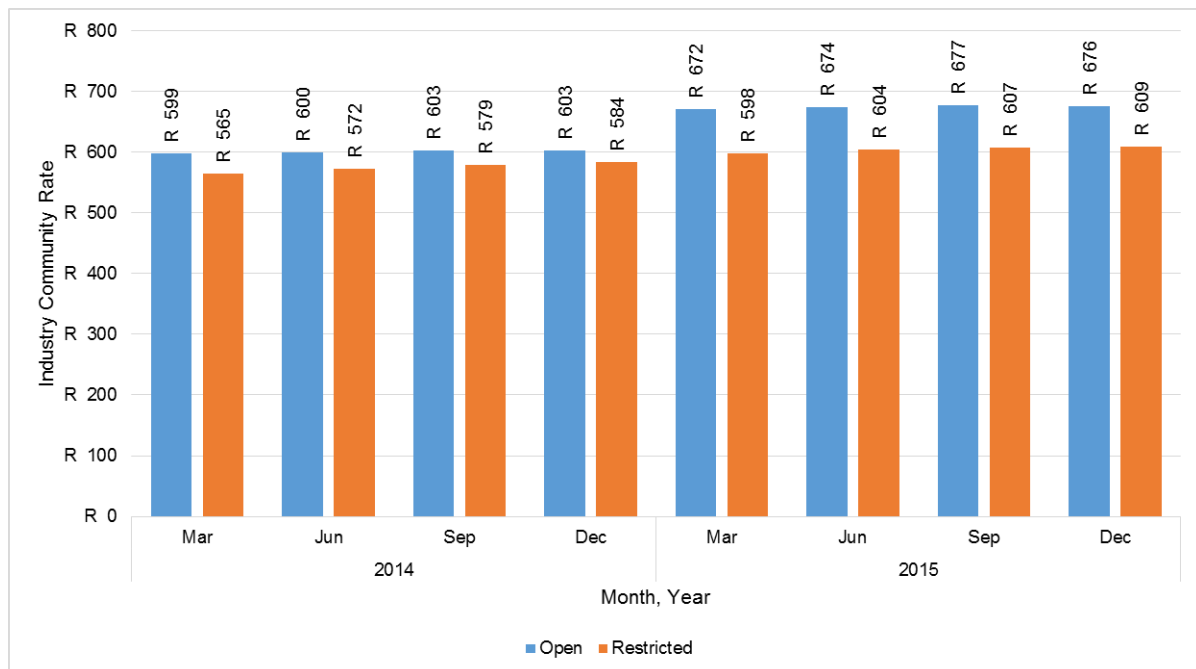


Figure 43 demonstrates the trends in the measured community rate for open and restricted medical schemes in 2014 and 2015. The community rate for open medical schemes is higher than that of restricted medical schemes

for the period under review. The difference in community rate between open and restricted medical schemes has increase from 3% in December 2014 to 10% in December 2015. This finding suggests that, on average, restricted medical schemes have a more favourable risk profile compared to open medical schemes.

Figure 43: Industry community rate for open and restricted medical schemes



5. Summary of findings

5.1. Scheme participation

The shift from the voluntary submission of SRM risk factors via e-mailed excel grids to the Annual Statutory Returns Healthcare Utilisation System has guaranteed full participation of medical schemes in the SRM process. This change is likely to reduce the administrative burden on the part of medical schemes with regards to submitting data to the CMS.

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

There has been a significant deterioration of risk factor data submitted to the CMS over the last few years. Many medical schemes failed to correctly apply the Entry and Verification Criteria in 2014 and 2015. 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 as a result of a change in the risk profiles of medical schemes. Nevertheless, these tools remain useful as a standard in comparing differences in risk profiles between medical schemes. Individual reports will be sent to medical 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. The calculated community rate data is not likely to be accurate because of the large number of medical schemes that submitted poor demographic data.

5.3. Chronic disease prevalence

The prevalence of diagnosed and treated CDL conditions has remained unchanged between 2014 and 2015. Hypertension remains the most prevalent CDL condition, followed by hyperlipidaemia, diabetes mellitus type 2, hypothyroidism 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 for 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.

5.4. Variation in the risk profiles of medical schemes

The findings indicate that a large degree in the variation in risk between medical schemes is directly attributable to the true differences in the risk profile of individual medical schemes. The increase in the reported industry community rate is possibly a result of a change in the risk profile of medical schemes' beneficiaries. The inflation

adjusted 2009 weighting table is likely to be outdated and the cause of a possible underestimation 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.

5.5. 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, and diabetes mellitus type 2, HIV/AIDS and occurrence of multiple concurrent condition explains higher costs in the older age bands.

5.6. Conclusion

The most significant area of concern in related to the SRM process is the quality of data submitted by medical schemes. The accurate analysis of scheme risk profiles is highly dependent on the quality of data. Poor data quality will invariably lead to unreliable estimates and wrong conclusions. The CMS will introduce more validation rules in the ASR in order to improve the quality of the submitted SRM data.

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