A longitudinal analysis of the prescribing patterns of anti-epileptic medicine by using a medicine claims database

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ABSTRACT

Title: A longitudinal analysis of the prescribing patterns of anti-epileptic medicine by using a medicine claims database.

Keywords: Epilepsy, seizure, pharmacoeconomics, adherence, compliance, anti-epileptic medicine, seizure severity, employment, partial-onset seizures, generalised-onset seizures, treatment, status epilepticus, generic.

The prevalence of epilepsy in society is general knowledge; however the impact on social activity as well as other daily factors are not always fully recognised. Epilepsy frequently poses a problem with regard to work-related activities (Heaney, 1999:44). Moran *et al.* (2004:425) indicated that the major impacts of epilepsy on life were work and school difficulties, driving prohibition, psychological and social life of which restriction of work or schooling has the greatest impact on epileptic's life. In all cases the type, severity, and frequency of the seizures as well as the age would be relevant.

Davis *et al*. (2008:451) established that 39% of all epileptics were not adherent to their therapy and in patients over 65 this was even higher at 43 %. Non-adherence with anti-epileptic medicine appears to be related to increased health care utilisation and costs and may also lead to an increased probable accidents or injuries

The general objective was to investigate anti-epileptic medicine prescribing patterns and treatment cost in a section of the private health care sector by using a medicine claims database.

A retrospective drug utilisation study was done on the data claims from a pharmacy benefit management company for the study period 1 January 2005 to 31 December 2008.

Firstly epilepsy was investigated in order to understand the disease and to determine the prevalence and treatment thereof. It was found that epilepsy is still one of the most common neurological conditions and according to the findings, 2 out of every hundred patients were using anti-epileptic medicine in this section of the private health care sector. To make this condition socially more acceptable and understandable, public education for special target groups concerning the disorder must be conducted as well as employment training programmes for people with epilepsy themselves.

The utilisation patterns of anti-epileptic drugs were reviewed, analysed and interpreted. It was determined that anti-epileptic medicine items are relatively expensive with regards to other medicine items on the total database. With regard to gender, more females are using anti-epileptic medicine than males on the database. The largest age group of patients using anti-epileptic medicine, is between > 40 years and ≤ 64 years of age. It was also clear that prevalence increase as age increase.

With regard to the different prescribers, the number of items prescribed by a general practitioner was almost double that of the other prescribers. It was further established that newer anti-epileptic medicines are more expensive than older anti-epileptic medicine according to the cost per tablet in this section of the private health care sector.

Carbamazepine and valproate were the two active ingredients that were most frequently prescribed as a single item on a prescription. After a cost-minimisation analysis was done, R134 685.66 could have been saved when generic substitution was implemented.

The refill-adherence rate decreased as age increased. Only 30.46% of the trade names was refilled according to acceptable refill-adherence rates. The refill-adherence rate according to active ingredient showed that medicine items containing, phenobarbitone/vit B or gabapentin had the lowest unacceptable refill-adherence rate.

The limitations for this study was stipulated and recommendations for further research regarding anti-epileptic medicine were also made.

OPSOMMING

Titel: ‘n Longitudinale analise van die voorskryfpatrone van anti-epileptiese medikasie deur van ‘n databasis van medisyne-eise gebruik te maak

Sleutelwoorde: Epilepsie, aanvalle, farmako-ekonomie, meewerkendheid, anti-epileptiese medikasie, graad van aanval, indiensneming, gedeeltelike aanvalle, gegeneraliseerde aanvalle, behandeling, status epilepticus, generies

Die voorkoms van epilepsie in die samelewing is algemene kennis, hoewel die impak op sosiale aktiwiteite en ook die ander daaglikse faktore nie altyd in ag geneem word nie. Epilepsie veroorsaak dikwels probleme by die werk. Die belangrikste impak van epilepsie op die lyer se lewe is by die werk en skool, op psigologiese en sosiale lewe en die verbod op motorbestuur. In al die gevalle is die tipe, die graad en die frekwensie van die aanvalle relevant, terwyl ouderdom ook ‘n rol kan speel.

Davis *et al.* (2008:451) het aangetoon dat 39% van alle epilepsiepasiënte nie meewerkend in hulle behandeling is nie en dat hierdie persentasie by pasiënte ouer as 65 nog hoër is (43%). Dit lyk asof pasiënte vanweë hoë gebruik van gesondheidsorg en hoë koste nie meewerkend is nie, en dit kan ook tot ‘n groter voorkoms van ongelukke of beserings lei.

Die algemene doelwit van hierdie studie was om die voorskryfpatrone van anti-epileptiese medisyne en die koste van die behandeling in ‘n gedeelte van die private gesondheidsorgsektor te ondersoek deur ‘n databasis van medisyne-eise te gebruik.

‘n Retrospektiewe studie van besteding aan medisyne in die periode vanaf 1 Januarie 2005 tot 31 Desember 2008 is gedoen op die data van ‘n farmaseutiese voordelebestuursmaatskappy.

Eerstens is epilepsie as toestand uit die literatuur bestudeer om dit te verstaan en om te bepaal wat die voorkomssyfer daarvan is. Dit is gevind dat epilepsie steeds een van die algemeenste neurologiese toestande is en dat twee uit elke honderd pasiënte, in hierdie gedeelte van die private gesondheidsorgsektor, anti-epilpetiese medikasie gebruik. Om hierdie toestand sosiaal meer aanvaarbaar en verstaanbaar te maak, moet daar vir spesiale teikengroepe opvoedingsessies oor die siekte asook indiensnemingsopleiding vir epilepsiepasiënte self aangebied word.

Die verbruikspatrone van anti-epileptiese medikasie is nagegaan, ontleed en geïnterpreteer. Dit is gevind dat anti-epilpetiese medikasie vergeleke met ander medikasie op die totale databasis relatief duur was. Meer vrouens as mans gebruik anti-epileptiese medikasie. Die ouderdomsgroep wat die meeste anti-epileptiese medikasie gebruik, is van ≥40 tot ≤64 jaar. Dit was ook duidelik dat die voorkoms toeneem soos wat die ouderdom toeneem.

As daar gekyk word na die verskillende voorskrywers, is die aantal medisyne-items wat deur algemene praktisyns voorgeskryf word, ongeveer dubbeld dié van die ander voorskrywers. Dit is verder vasgestel dat die nuwer anti-epileptiese medikasie duurder as die ouer middels is, as die koste per tablet in hierdie spesifieke gedeelte van die gesondheidsorgsektor in ag geneem word.

Karbamaasepien en valproaat was die twee aktiewe bestanddele wat die meeste voorgekom het op voorskrifte wat slegs een produk bevat het. Nadat ‘n ontleding van koste-minimalisering gedoen is, is gevind dat R134 685.66 gespaar kon gewees het indien die oorspronklike produk met ‘n generiese produk vervang was.

Die hervulmeewerkendheidskoers neem af soos wat die ouderdom toeneem. Die hervulling van slegs 30.46% van die handelsname was binne die aanvaarbare grense. Die hervulmeewerkendheidskoers ten opsigte van die aktiewe bestanddeel het getoon dat die medisyne-items wat fenobarbitoon/vit B of gabapentien bevat die laagste onaanvaarbare hervulmeewerkendheidskoers gehad het.

Die tekortkominge van die studie word gegee en aanbevelings vir verdere navorsing aangaande anti-epilpetiese medikasie word ook gemaak.

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CHAPTER 1

Introduction and problem statement

1.1 Introduction

This chapter focuses on the background, motivation, research objectives, methods and research questions as would apply to this study.

1.2 Background and motivation for study

The prevalence of epilepsy in society is general knowledge. The impact on social activity as well as on other daily factors is not always fully recognised.

Fisher *et al*. (2005:470) defined epileptic seizure as: "*a transient occurrence of signs and/or symptoms due to abnormal excessive or synchronous neural activity in the brain, while epilepsy is defined as a disorder of the brain characterised by an enduring predisposition to generate epileptic seizures and by the neurobiological, cognitive, psychological, and social consequences of this condition.*"

According to the World Health Organization (WHO) (2009a) the projected proportion of people suffering from active epilepsy at a given time is between 4 to 10 per 1 000 people. The proportion is between 6 to 10 per 1 000 especially in developed countries. Worldwide about 50 million people suffer from epilepsy (WHO, 2009a).

New cases reported annually are between 40 to 70 per 100 000 people. This figure almost doubles because of the higher risk of conditions that could lead to permanent brain damage (WHO, 2009a).

According to the World Health Organization (WHO, 2004) the mortality rate of epilepsy is the highest in South Africa presenting with a total of 1383 reported deaths in a specific time (WHO, 2004).

Epilepsy is the most common condition of neurological dysfunctioning. More males have epilepsy than females (Epilepsy South Africa, 2008).

Epilepsy frequently poses a problem with regard to work-related activities (Heaney, 1999:44). Moran *et al.* (2004:425) indicated that the major impact of epilepsy on life would include difficulties at work and school, driving prohibition, psychological and social life of which restriction of work or schooling would have the greatest impact on an epileptic's life. In all cases the type, severity and frequency of the seizures as well as the age would be relevant.

Adverse effects of anti-epileptic medicine may also play a role (Heaney, 1999:44; Moran *et al*., 2004:425). There are higher probabilities of patients being unemployed, underemployed, the rates of absenteeism may be higher, limitation of choice or advancement in the workplace. People with epilepsy have higher mortality rates. The principle need to improve arises from the desire to achieve economic and social independence (Heaney, 1999:44).

More effective medical and surgical treatment for epilepsy have led to an increasing interest in the condition and to a drive to improve the quality of services for people with epilepsy (Moran *et al.*, 2004:426). Up to 80% of epileptics should have their epilepsy controlled by medicine (Epilepsy South Africa, 2008).

Davis *et al*. (2008:451) established that 39% of all epileptics were not adherent to their therapy and in patients over 65 this was even higher at 43%. Non-adherence with anti-epileptic medicine (AEDs) appears to be related to increased health care utilisation and costs and may also lead to an increased probability of accidents or injuries (Davis *et al*., 2008:451). Efforts to advance adherence to anti-epileptic medicine may therefore lead to cost savings for managed care systems and improved health outcomes for epileptics (Davis *et al*., 2008:451).

In South Africa (RSA), epilepsy is one of the 27 chronic diseases defined in the Chronic Disease List (CDL) which is part of the Prescribed Minimum Benefits (PMB). PMB form a facet of the Medical Schemes Act (Act no. 131 of 1998). The Medical Schemes Act (Act no. 131 of 1998) indicates that the medical schemes have to cover the costs related to the diagnosis of a chronic disease on the list (Council for Medical Schemes, 2009).

Mediscor's Medicines review indicated that the therapeutic expenditure on anti-epileptic medicine is still among the highest in South Africa. According to the review's annual expenditure and utilisation per therapeutic group, the top 25 therapeutic groups represents 74% of overall medicine expenditure and 70% of the total number of items dispensed, for 2007. Anti-epileptic medicine is ranked number 15 out of the 25 therapeutic groups (Bester & Hammann, 2008:9).

The treatment of epilepsy has changed considerably during the last few years due to the introduction of a number of new medicines. Importance in economic evaluation has developed, because the new AEDs are much more expensive than standard treatment (Levy, 2002:550).

Carriere and Huang (2001:19) said that pharmacoeconomics was developed to describe and analyse the costs of medicine therapy to health care systems and societies. Additionally they stated that pharmacoeconomics identifies, measures, and compares the costs and consequences of services and pharmaceutical products, with its research methods associated to cost-minimisation, cost-effectiveness, cost-benefit, cost-of-illness, cost-utility, decision analysis and quality of life assessments (Carriere & Huang, 2001:19). According to Levy (2002:551) a series of methodologic problems emerges from a critical pharmacoeconomic analysis. Heterogeneity of concepts and estimating methods are often cited as the most critical problems and other issues that may be identified in cost-effectiveness analyses and cost-utility analyses. Information also fails to incorporate the patient's point of view in outcome measurement (Levy, 2002:551).

According to the information above it is clear why it is important to investigate the utilisation and prescribing patterns of anti-epileptic medicine taking in consideration the annual expenditure, the development of more recent medicine, the reasonably high prevalence and mortality as well as the relatively high rate of non-adherence.

1.3 Research questions

The following research questions can be asked:

- What is the prevalence of epilepsy nationally and internationally?
- What is the current prescribing patterns of anti-epileptic medicine in the private health care sector and does it differ according to age and gender?
- What is the medicine treatment cost of epilepsy?
- What is the current refill-adherence rate of patients in the private health care sector of South Africa?

1.4 Research objectives

In this section attention will be given to the nature and extend of the research objectives that can be divided into general and specific objectives.

1.4.1 General objective

The general objective was to investigate anti-epileptic medicine prescribing patterns and treatment cost in a section of the private health care sector by using a medicine claims database.

1.4.2 Specific objectives

The specific research objectives included the following:

- To make use of the available literature and conceptualise epilepsy and its treatment.
- To explain anti-epileptic medicine as applied to different types of epilepsy.
- To investigate the usage patterns of the different anti-epileptic medicines (AEDs).
- To investigate the general prescribing patterns and cost of anti-epileptic medication according to different demographic variables (e.g. age, gender and prescriber).
- To determine the direct medicine treatment cost for different anti-epileptic protocols.
- To investigate the influence of generic substitution on the possible lowering of direct medicine cost of anti-epileptic medication.
- To evaluate the refill-adherence rate of individual anti-epileptic medicines by using a medicine claim database.

1.5 Research methods

The research method was divided into a literature phase and an empirical phase.

1.5.1 Literature phase

The literature review entails an overview on the seizure severity, adverse treatment effects of anti-epileptic medicine and the social acceptability of this condition. The classification of epilepsy and the management of epilepsy, pathophysiology and anti-epileptic medicine interactions were also included.

The literature review also focused on the adherence rate to anti-epileptic medication and the different ways of health economic analysis. A cost analysis was done in this study in order to determine the cost saving if an innovator medicine was replaced with a generic equivalent, this will be further discussed in chapter 3.

1.5.2 Empirical phase

This phase of the investigation contains the results. The treatments and population were selected over a three-year period from 2005 to 2008 by making use of a medicine claims database of a pharmacy benefit management company.

1.5.2.1 Research design

A retrospective drug utilisation study was done on medicine claims from a database of a pharmacy benefit management company for the study period 1 January 2005 to 31 December 2008. No experiments, e.g. clinical trials were done, therefore the research design can be described as a non-experimental, retrospective, quantitative research.

1.5.2.2 Data source and study population

Data in this study were obtained from a PBM (Pharmacy Benefit Management Company) in South Africa. The MIMS® classification system was used to identify all the anti-epileptic medicine, therefore section 1.2.2 and 1.6 in the MIMS® were used.

Table 1.1: Compilation of the total database

	2005	2006	2007	2008
Total database: Total number of patients	1 509 621	1 558 090	1 178 596	974 497
Total database: Total number of prescriptions	8 391 836	8 906 348	7 911 096	6 775 873
Total database: Total number of medicine items	19 500 774	21 113 422	19 075 724	16 439 253

The database consisted of the following information:

- Date of dispensing the prescription
- NAPPI (National Approved Product Pricing Index) codes
- NAPPI code extension
- NAPPI code description
- Quantity of the medicine items prescribed
- Final amount paid by the medical scheme
- Patient contribution
- Total cost
- Date of birth of patient
- Gender of the patient
- The prescriber type
- The provider type

1.5.2.3 Data analysis

The data were analysed by using the Statistical Analysis System® SAS for windows 9.1.3® (SAS institute Inc., 2009-2010). Microsoft (MS) Excel® and Microsoft (MS) Word® were used to illustrate results through various graphs and tables throughout this dissertation.

1.5.2.4 Reliability and validity

The data for this study was obtained from a medicine claims database and therefore no direct manipulation from the researcher was possible. The research conducted was done in this way with assumption that all data obtained from the database were correct and accurate.

1.5.2.5 Ethical considerations

Ethical consent for this study was given by the North-West University (ethical application number: NWU – 0046-08-S5) and the directors of the pharmaceutical benefit management company.

1.6 Division of chapters

The division of chapters are as follow:

Chapter 1: Introduction

Chapter 2: An overview on anti-epileptic medication

Chapter 3: Empirical investigation and methodology

Chapter 4: Results and discussion

Chapter 5: Conclusion and recommendation

1.7 Chapter summary

In this chapter the background and motivation for this study were given. The research questions, general objectives and the literature study phase and the empirical phase were discussed. In the next chapter the literature review will follow. The treatment and all other clinical aspects as well as the economic analysis regarding epilepsy will be discussed.

CHAPTER 3

Empirical investigation and methodology

3.1 Introduction

This chapter contains information concerning the empirical investigation and methodology used. This will be based on the research objectives as set out in chapter one.

3.2 Research objectives

The research objectives can be further divided into general objectives and specific objectives. In this chapter only the specific objectives that relate to the empirical investigation will be discussed.

3.2.1 General objective

The general objective was to investigate anti-epileptic medicine prescribing patterns and treatment cost in a section of the private health care sector by using a medicine claims database.

3.2.2 Specific objectives

The specific objectives were divided into a literature overview, as discussed in chapter two, and the empirical phase that will follow. The specific objectives for the empirical phase include the following:

- To investigate the general prescribing patterns and cost of anti-epileptic medication according to different demographic variables (e.g. age, gender and prescriber).
- To determine the direct medicine treatment cost for the different anti-epileptic protocols.
- To investigate the influence of generic medicine substitution on the possible lowering of direct medicine cost of anti-epileptic medication.
- To evaluate the refill-adherence rate of individual anti-epileptic medicines by using a medicine claim database.

3.3 Research methodology

3.3.1 Research design

The main focus of the research was to identify the prescribing patterns of anti-epileptic medicine in the private health care sector of South Africa. A retrospective drug utilisation study was done on medicine claims from a database of a pharmacy benefit management company for the study period 1 January 2005 to 31 December 2008. No experiments, e.g. clinical trials, were done, therefore the research design can be described as a non-experimental, retrospective, quantitative research.

Drug utilization review (DUR) can be defined according to Blackburn *et al*. (2001:6) as "*a one-time study to assess the appropriateness of medicine therapy. The purpose is to identify whether current patterns of prescribing, dispensing, and use of medicine therapy are consistent with criteria and standards. These criteria and standards demonstrate that medicine therapy is effective, safe, appropriate and cost-effective and support optimal patient outcomes*."

According to Peterson *et al.* (2007:218-221) a assessment of medicine use can be performed by using a retrospective, prospective or concurrent approach. A prospective DUR takes place before a patient receives the medication, whilst a concurrent DUR takes effect in interviewing while the patient is receiving the medication (Radloff & Jones, 2007:32).

A retrospective medicine utilisation review programme is a structured ongoing plan that interprets patterns of medicine use in relation to predetermined criteria and attempt to minimize inappropriate prescribing. This takes place after a prescription has been dispensed (Hennessy *et al*., 2003:1494). According to this definition a retrospective approach was followed for the purpose of this study.

3.3.2 Data source and study population

The data were based on private health care medication claims obtained from the central database of a pharmacy benefit management company. This PBM see themselves as a specialist pharmaceutical benefit management organisation who are dedicated to the effective management of medicine benefits. The data were extracted over a four year period as already mentioned.

The total database consisted of all the medicine items claimed and recorded by the database mentioned in Table 3.4. A total number of N= 76 129 173 medicine items were claimed during the study period from 2005 to 2008. The database consisted of a collection of prescriptions and medicine items claimed over the 4 year period as mentioned. The study population extracted consisted of all medicine items in the pharmacological group 1.2.2 and 1.6 of the MIMS (Snyman, 2010:5,34). For discussion purposes a patient who uses one or more of the medicine items listed in the above group, were classified as an epileptic or an anti-epileptic patient.

Table 3.1 gives an indication of the total number of patients, prescriptions and medicine items claimed during 2005 to 2008.

Table 3.1. Compilation of the study population

	2005	2006	2007	2008
Total database: Total number of patients	1 509 621	1 558 090	1 178 596	974 497
Total database: Total number of prescriptions	8 391 836	8 906 348	7 911 096	6 775 873
Total database: Total number of medicine items	19 500 774	21 113 422	19 075 724	16 439 253
Total number of anti-epileptic patients	30 284	32 367	28 961	28 459
Total number of anti-epileptic prescriptions	139 297	153 202	142 821	141 261
Total number of anti-epileptic medicine items	174 942	193 369	182 833	179544

The following fields were used in the study:

- Date of dispensing the prescription
- NAPPI (National Approved Product Pricing Index) codes
- NAPPI code extension
- NAPPI code description
- Quantity of the medicine items prescribed
- Final amount paid by the medical scheme
- Patient contribution
- Total cost
- Date of birth of patient
- Gender of the patient
- The prescriber type
- The provider type

3.3.3 Data analysis

The data were analysed by using the Statistical Analysis System® SAS for Windows 9.1.3® (SAS institute Inc., 2009-2010). Microsoft (MS) Excel® and Microsoft (MS) Word® were used to illustrate results through various graphs and tables throughout this dissertation.

3.3.4 Classification systems used in this study

The classification system for this study was divided into the medicine used to treat the disease and demographic parameters.

3.3.4.1 Medicine classification system

For the purpose of the empirical study the AEDs were classified according to their active ingredients, such as gabapentin and lamotrigene, as in section 1.6 and 1.2.2 of the MIMS (Snyman, 2010:5, 34) classification.

The NAPPI (National Approved Product Pricing Index) code is a series of numbers, which is unique for every medicine item and which also distinguishes between different dosage forms of the same active ingredient (Medikredit, 2010). The NAPPI codes have been used to obtain the data from the central database and to distinguish between the different dosage forms by using SAS for Windows 9.1.3® (SAS institute Inc., 2009-2010).

Generic or innovator products, were already classified in the data received from the pharmacy benefit management company. The symbols Y, N, M, O were assembled for the different products as summarised in Table 3.2.

Table 3.2: Generic indicator acronyms

Symbol	Acronyms
Y	Generic product
M	The original with a patent
N	Original without a generic
O	Original with a generic

3.3.4.2 Demographic parameters classification system

The three demographic parameters that were used in this study will be shortly discussed.

3.3.4.2.1 Gender

In the literature (see section 1.2) it was indicated that more males have epilepsy than females. For this reason the prescribing patterns were analysed according to gender.

3.3.4.2.2 Age

In this study the age of patients of the total database were divided into five categories as follow:

- 0 ≤ 12 years
- > 12 years ≤ 18 years
- > 18 years ≤ 40 years
- > 40 years ≤ 65 years
- > 65 years

The age was determined according to the date of birth and the patient's age as on the 1st of January the following year when the claim was submitted.

The reason for this division was to compare children (0 ≤ 12 years) and adolescents (> 12 years ≤ 18 year) with the age group where the patients are more likely to be employed (> 18 years ≤ 40 years and > 40 years ≤ 65 years) and then the age group that was classified as elderly and at the age where most of the people retire (> 65 years).

The age division for the prescribed daily dosage were divided differently. The age division as discussed above was too wide to evaluate the medicine usage accurately according to age. The age division during the analysis of the prescribed daily dosage were done according to the recommended dosages of a specific active ingredient for a specific age.

A table was compiled from Snyman (2010:34-42) to evaluate the prescribed daily dosage for the different active ingredients according to specific age groups. In Table 3.3 the age groups as for the different active ingredients are summarised.

Table 3.3: Age groups according to active ingredients (Snyman, 2010:34-42)

Active ingredient	Age group
Topiramate	0 ≥ 4 >4
Lamotrigine	0 ≥ 2 2 ≥ 12 >12
Carbamazepine	0 ≥ 1 1 ≥ 5 5 ≥ 10 10 ≥ 15 >15
Phenytoin	0 ≥ 6 >6
Valproate	According to weight
Gabapentin	0 ≥ 12 >12
Levetiracetam	0 ≥ 16 >16
Pregabalin	0 ≥ 18 >18
Primidone metabolites	0 ≥ 2 2 ≥ 5 5 ≥ 9 >9
Clonazepam	0 ≥ 10 10 ≥ 16 >16
Vigabatrin	According to weight
Oxcarbazepine	0 ≥ 18 >18
Ethosuximide	0 ≥ 3 3 ≥ 6 >6
Phenobarbitone	0 ≥ 2 2 ≥ 5 5 ≥ 12 >12
Valproic acid	According to weight

3.3.4.2.3 Prescriber

For the purpose of this study the four groups of prescribers that were used to evaluate the different prescribing patterns were neurologist (N), general practitioner (GP), psychiatrists (P) and a group classified as other (O). The reason for this division was mainly because of the fact that epilepsy is a neurological condition and these are the health professionals who were most likely to prescribe medicine for this condition. The group classified as other (O), are all the other prescribers, except those mentioned, who prescribed anti-epileptic medicine.

3.3.5 Descriptive measures and statistical analysis

The descriptive measures and statistical analysis will be discussed in the following sections.

3.3.5.1 Descriptive measures

The following descriptive measures were used throughout the empirical investigation phase:

3.3.5.1.1 Prevalence

According to Myers (2006:1523) prevalence in terms of medication usage is the number of all new and old cases of a disease or occurrences of an event during a particular period. This definition is second by Pugh (2000:1443) that states prevalence is the number of cases of a disease existing in a given population at a specific period of time.

The prevalence of medicines was determined for the following categories.

- The prevalence of anti-epileptic medicine according demographic parameters such as age, gender and prescriber.
- The prevalence of anti-epileptic medicine according to active ingredient.
- The prevalence of anti-epileptic medicine combinations for the year 2005 to 2008.

3.3.5.1.2 Cost analysis

Vogenberg (2001:3) defined cost as the value of resources consumed.

The cost on the database has been divided into three cost categories e.g. "**total cost**," **medical scheme contribution**" and "**patient contribution**." The total cost represents the total cost of the prescription or medicine item. The medical scheme contribution amount illustrates the total cost contribution by a medical scheme and the patient contribution represents the amount which the patient needed to pay for the prescription or medicine item.

The cost of medicine were analysed according to the following:

- The total cost of all medicines claimed in the database from 2005 to 2008.
- The total cost for anti-epileptic medicine from 2005 to 2008.
- The total cost of anti-epileptic medicine according to age, gender and provider.
- The total cost of anti-epileptic medicine according to active ingredient.
- The total cost per yearly treatment

3.3.5.1.3 Estimated refill-based adherence

In this research project, the following equation by Ren *et al*. (2002:50) was used to estimate the refill-based adherence rate (AR) for anti-epileptic medicine.

$$AR = \frac{(total\ days\ of\ anti{-}epileptic\ items\ supplied{-}days\ supplied\ at\ the\ last\ refill)}{(last\ dispensing\ date - first\ dispensing\ date)}$$

The different methods to determine adherence is described in paragraph 2.11.1. For the purpose of this study the refill-adherence will be measured.

The following table illustrates the number of individual anti-epileptic medicines according to trade name that were used in order to determine the refill adherence rate for the study period 2005 to 2008.

Table 3.4: Number of individual anti-epileptic medicines according to trade name used for refill-adherence rate calculations

	Number of medicine items
Number of anti-epileptic medicine items that were repeated more than once to a specific patient.	64 457
Anti-epileptic medicine items that were claimed only once to a specific patient	66 336
All anti-epileptic medicine items	130 793

The equation that was used to determine the cost implications of the refill-adherence rate can be stipulated as follow:

Final cost = Cost per medicine item (1) – Cost per medicine item (2)

(1) : Cost per medicine item received + cost of medicine item for all the refills that follow

(2) : Cost per medicine item of the last refill

The refill-adherence rate criteria as discussed in section 2.11, was a clear indication that there is no set criteria to determine the refill-adherence rate. For the purpose of this study the refill- adherence rate criteria was stipulated as follow:

Table 3.5: Refill-adherence rate criteria

Adherence rate category	Refill-adherence rate (%)
1	AR ≤ 90%
2	90% < AR ≤ 110%
3	AR > 110%

The following table summarise the number of days supply criteria that were used in this study.

Table 3.6: Days supply criteria

Total days supply	Criteria (number of days)
1	≤ 60
2	>60 ≤ 90
3	>90 ≤ 120
4	>120 ≤ 180
5	>180 ≤ 360
6	>360 ≤ 720
7	>720 ≤ 1080
8	>1080

3.3.5.1.4 Potential cost savings

Cost-minimisation analysis (CMA) can be used when two or more interventions are evaluated and demonstrated or assumed to be equivalent in terms of a given outcome or consequence, costs associated with each intervention may be evaluated and compared (Bootman *et al*., 2005:7). A cost-minimisation analysis was implemented as a measuring instrument in order to determine the possible amount saved when an innovator medicine was substituted by a generic medicine by assuming that the outcomes are the same.

The following equation will be used to determine the potential cost saving if an innovator medicine is substituted by a generic equivalent.

$$\text{Cost savings} = \text{Total cost}_I - (\text{Average cost}_G \times n_I)$$

Total cost$_I$ = the total cost of the innovator product

Average cost$_G$ = the average cost per tablet according to the weighted average

n_I = the frequency of the innovator product

When the cost savings method was used, it is important to take into account that there is a list of non-substitutable medicine that may not be replaced with a generic medicine (Matsoso, 2003). This list was still used in the study period of this study.

On this list compiled by the Medicines Control Council (MCC) two of the active ingredients was applicable for the purpose of this study, namely phenytoin (tablets and capsules) and carbamazepine (tablets) (Matsoso, 2003). For this reason it was not included in the results regarding generic substitution.

3.3.5.1.5 Prescribed daily dosage (PDD)

"The average dose prescribed according to a representative sample of prescriptions." This define PDD according to the WHO (2003:39). The average daily amount of a medicine prescribed can be determined through the PDD. The PDD is important when dosages differs from one indication to another. The fact that not all prescribed medications are dispensed and that the patient does not always take all the dispensed medication, make PDD not the most accurate method of medicine utilisation (WHO, 2003:39). For the purpose of this study the assumption was made that all medication was taken by the patient as prescribed.

The following table will be used as a guideline to measure the PDD in the analysis of the data (see section 4.5).

Table 3.7 : Prescribed daily dosage (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453)

Active ingredient	*Trade name*	*Prescribed daily dosage*
LAMOTRIGINE	ARROW-LAMOTRIGINE® ASPEN LAMOTRIGINE® DYNA-LAMOTRIGINE® EPITEC® LAMICTIN® LAMIDUS® LAMITOR® SANDOZ LAMOTRIGINE® LAMEPTIL®	**Adults** **The initial dose in monotherapy**: 25 mg once daily for 2 weeks followed by 50 mg once daily for 2 weeks; thereafter the dose is increased by a maximum of 50 to 100 mg every 1 to 2 weeks. **Maintenance dose:** 100 to 200 mg daily, given as a single dose or in 2 divided doses. Some patients have required up to 500 mg daily. **The initial oral dose as an *adjunct* to therapy with enzyme-inducing antiepileptics (but *not with valproate*)**: 50 mg once daily for 2 weeks followed by 50 mg twice daily for 2 weeks; thereafter the dose is increased by a maximum of 100 mg every 1 to 2 weeks **Maintenance dose :** 200 to 400 mg daily given in 2 divided doses. Some patients have required up to 700 mg daily. **With valproate the initial dose :** 25 mg every other day for 2 weeks followed by 25 mg once daily for 2 weeks; thereafter the dose is increased by a maximum of 25 to 50 mg every 1 to 2 weeks. **Maintenance doses:** 100 to 200 mg daily given as a single dose or in 2 divided doses.

Table 3.7 : Prescribed daily dosage (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453) contd.

Active ingredient	*Trade name*	*Prescribed daily dosage*
LAMOTRIGINE	ARROW-LAMOTRIGINE® ASPEN LAMOTRIGINE® DYNA-LAMOTRIGINE® EPITEC® LAMICTIN® LAMIDUS® LAMITOR® SANDOZ LAMOTRIGINE® LAMEPTIL®	**Children** **Children 2 to 12 years:** **In those taking enzyme-inducing antiepileptics (but *not with valproate*) the initial dose**: 600 micrograms/kg daily in 2 divided doses for 2 weeks followed by 1.2 mg/kg daily for 2 weeks; thereafter the dose is increased by a maximum of 1.2 mg/kg every 1 to 2 weeks **Maintenance dose:** 5 to 15 mg/kg daily given in 2 divided doses. **Maximum daily dose**: 400 mg in two divided doses must not be exceeded **In those *taking valproate* the initial dose:** 150 micrograms/kg once daily for 2 weeks followed by 300 micrograms/kg once daily for 2 weeks; thereafter the dose is increased by a maximum of 300 micrograms/kg every 1 to 2 weeks **Maintenance dose:** 1 to 5 mg/kg daily, given as a single dose or in 2 divided doses. **Maximum daily dose:** 200 mg daily **In those taking *oxcarbazepine* but no enzyme-inducing or -inhibiting antiepileptics the initial dose:** 300 micrograms/kg daily for 2 weeks, followed by 600 micrograms/kg daily for 2 weeks; thereafter the dose is increased by a maximum of 600 micrograms/kg every 1 to 2 weeks **Maintenance doses:** 1 to 10 mg/kg daily, to a maximum of 200 mg daily. Lamotrigine should not be given if the calculated daily dose is less than 1 mg.

Table 3.7 : Prescribed daily dosage (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453) contd.

Active ingredient	*Trade name*	*Prescribed daily dosage*
CARBAMAZEPINE	DEGRANOL® SANDOZ CARBAMAZEPINE® TEGRETOL®	**Adults** **The initial dose:** 100 to 200 mg once or twice daily gradually increased by increments of up to 200 mg daily every week **Maintenance dose:** 0.8 to 1.2 g daily in divided doses; up to 2 g daily may be necessary. **Children** **Recommended dose:** 10 to 20 mg/kg daily in divided doses. **Alternatively the daily dose may be given according to age as follows:** up to 1 year: 100 to 200 mg 1 to 5 years: 200 to 400 mg 5 to 10 years: 400 to 600 mg 10 to 15 years: 0.6 to 1 g
TOPIRAMATE	ADCO TOPIRAMATE® EPITOZ® PIRAMAX® SANDOZ TOPIRAMATE® TOPAMAX® TOPLEP®	**Adults** **For both adjunctive and monotherapy the initial dose:** 25 mg at night for 1 week increased thereafter by increments of 25 or 50 mg at intervals of 1 to 2 weeks until the effective dose is reached. Daily doses of more than 25 mg should be taken in 2 divided doses. **The daily dose for adjunctive therapy:** 200 to 400 mg although some patients may require up to 800 mg daily. **As monotherapy**: 100 mg daily to a maximum of 400 mg daily. **Children** **Children 4 years and older** **Initial dose:** 25 mg daily for 1 week , increasing dose at weekly intervals by 1-3 mg/kg/day Recommended dose thereafter 5-9 mg/kg/day.
CLONAZEPAM	RIVOTRIL®	**Adults** **Initial dosage**: Not more than 1.5 mg/day in 3 divided doses. Increasing by 0.5 mg every third day until seizures is controlled. **Maintenance dose**: 3 to 6 mg /day **Max dose:** 20 mg daily

Table 3.7 : Prescribed daily dosage (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453) contd.

Active ingredient	*Trade name*	*Prescribed daily dosage*
CLONAZEPAM	RIVOTRIL®	**Children** **Children up to 10 years:** Initial 0.01-0.03 mg/kg in 2-3 divided dosages. Increase dose by no more than 0.25-0.5 mg every 3rd day. **Maintenance dose:** 0.1-0.2 mg/kg. **Maximum dose:** 0.2 mg/kg **Children 10 – 16 years:** **Initial dose:** 1-1.5 mg/day in 2-3 divided dosages. Increase dose by 0.25-0.5 mg every 3rd day **Maintenance dose:** 3-6 mg/day **Other recommended dosages:** 1 to 5 years: 1 to 3 mg daily 5 to 12 years: 3 to 6 mg daily
GABAPENTIN	EPLEPTIN® NEUREXAL® NEURONTIN® RAN-GABAPENTIN®	**Adults** **Initial dose**: 300 mg on the first day of treatment, 300 mg twice daily on the second day, and 300 mg three times daily on the third day; thereafter the dose may be increased in increments of 300 mg every 2 to 3 days until effective antiepileptic control. **Maintenance dose:** 0.9 to 3.6 g daily. Higher doses up to a maximum of 4.8 g daily have been reported to be well tolerated. **Children** **Not recommended under the age of 12 years**
ETHOSUXIMIDE	ZARONTIN®	**Adults** **The initial dose:** 500 mg daily. The dosage is then adjusted in steps of 250 mg every 4 to 7 days, according to response. **Maintenance dose:** 1 to 1.5 g, although some patients may require doses of up to 2 g; strict supervision is necessary when the dose exceeds 1.5 g. Daily doses at the higher end of the range should be given in 2 divided doses.
	ZARONTIN SYRUP®	**Children** **Initial dose: 3-6 years:** 5 ml daily – 250 mg daily **6 years and older:** 10 ml daily – 500 mg daily **Optimum dose for children:** 20 mg/kg/day **Maximum dose:** 1.5 g /daily

Table 3.7 : Prescribed daily dosage (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453) contd.

Active ingredient	*Trade name*	*Prescribed daily dosage*
LEVETIRACETAM	KEPPRA®	**Adults**
		The initial adult used as adjunct : 1 g on the first day of treatment; thereafter, the daily dose may be increased in steps of 1 g every 2 to 4 weeks until effective antiepileptic control is achieved **Maximum dose**: 3 g daily. **In monotherapy the initial dose:** 500 mg daily, increased after 2 weeks to 1 g daily. Further increases may be made in steps of 500 mg every 2 weeks. **Maximum dose**: 3 g daily. A modified-release preparation is available for once-daily dosing *as an adjunct* in the treatment of partial seizures in patients aged 16 years and over.
		Children
		Not recommended under the age of 16
OXCARBAZEPINE	TRILEPTAL®	**Adults**
		The initial dose for monotherapy and adjunctive therapy: 600 mg daily, given in 2 divided doses. The daily dose may be increased thereafter, if necessary, in maximum increments of 600 mg at about weekly intervals until the desired clinical response has been achieved. **Maintenance dose:** 600 mg to 1.2 g daily or up to 2.4 g daily
		Children
		Not recommended under the age of 18 years
PHENOBARBITONE / VIT B	ADCO-PHENOBARBITONE®	**Adults**
		Dosage: 10 ml two to three times daily
		Children
		Dosage: 5-10 ml three times a day
PHENOBARBITONE	LETHYL® SEDABARB®	**Adults**
		Dosage: 30 to 120 mg three times daily **Maximum dosage**: 180 - 300 mg
		Children
		Children 2-5 years: 15-30 mg three times a day **Children 6-12 years**: 15-120 mg three times a day
PREGABALIN	LYRICA®	**Adults**
		The initial dose: 150 mg daily increased after 1 week according to response to 300 mg daily and then to 600 mg daily after another week.
		Children
		Not recommended under the age of 18 years
PRIMIDONE	MYSOLINE®	**Adults**
		Initial oral dose: 125 mg increased, if necessary, by 125 mg every 3 days to a total of 500 mg daily given in 2 divided doses. If necessary, the daily dose may be increased further every 3 days by 250 mg **Maximum dose**: 1.5 g daily in divided dosages **Maintenance dose:** 0.75 to 1.5 g daily; maintenance doses are usually given as 2 divided doses.

Table 3.7 : Prescribed daily dosage (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453) contd.

Active ingredient	*Trade name*	*Prescribed daily dosage*
PRIMIDONE	MYSOLINE®	**Children** **Children up to 2 years:** 250-500 mg daily **2-5 years:** 500-750 mg daily **6-9 years:** 750-1000 mg daily
VALPROIC ACID	CONVULEX® EPILIM®	**Adults** **Initial daily dose of sodium valproate:** 600 mg given in 2 divided doses. The daily dose may be increased by 200 mg every 3 days **Maintenance dose:** 1 to 2 g daily (20 to 30 mg/kg daily) **Maximum dose:** 2.5 g daily may be necessary **Initial dose of valproic acid:** 10 to 15 mg/kg daily increased at one-week intervals by 5 to 10 mg/kg. **Maximum dose of valproic acid**: 60 mg/kg daily. Valproic acid may be given in 2 to 4 divided doses.
VALPROATE		**Children** The dosage is according to weight. Therefore the dosages will be divided according to age as in paragraph 3.7.2.1.3 **Children over 20 kg:** **Initial dose:** 400 mg/day **Children under 20 kg:** **Dose:** 20 mg/kg/day **Maximum dose**: 35 mg/kg/day
VIGABATRIN	SABRIL®	**Adults** **Initial oral dose for adjunctive therapy:** 1 g daily, increased, in increments of 500 mg at weekly intervals **Maximum dose:** 3 g daily. **Children** **Paediatric dose :** **Initial dose:** 40 mg/kg/day increased to 80 – 100 mg/kg/day The dosage is according to weight. Therefore the dosages will be divided according to age as in paragraph 3.7.2.1.3
PHENYTOIN	EPANUTIN®	**Adults** **Initial dose:** 3 to 4 mg/kg daily or 150 to 300 mg daily progressively increased with care to 600 mg daily if necessary **Maintenance dose:** 200 to 500 mg daily. **Children** **Paediatric maximum dose:** 300 mg daily

3.3.5.2 Statistical analysis

The methods used in analysing the data were:

3.3.5.2.1 Standard deviation

The standard deviation is a statistic that is used to explain how tightly a set of values is clustered around the mean in a set of data (Niles, 2005). The standard deviation is the square root of the variance and produces a good descriptive measure of variability (Cohen & Lea, 2004:14).

Variance:

$$S^2_x = \frac{\Sigma(x_i - x)^2}{(n - 1)}$$

Standard deviation:

$$S_x = \sqrt{S^2_x}$$

Where:

s=standard deviation

n=the number of observations

x=the mean

x_i=any value in the data set

The standard deviation will be used in the determination of the average cost of medicine items or average number of medicine items per prescription.

3.3.5.2.2 Cost prevalence index (CPI)

The following equation is used for the calculation of the cost prevalence index (Serfontein, 1989:180):

$$\text{Cost prevalence index} = \frac{\text{Cost \%}}{\text{prevalence \%}}$$

In the context of this study, the cost index can be interpreted as follows:

- If the cost prevalence index is greater than 1, then the therapy utilised is relatively expensive
- If the cost prevalence index is equal to 1, then there is equilibrium between the costs and prevalence of the therapy
- If the cost prevalence index is less than 1, then the therapy utilised is relatively inexpensive.

The cost prevalence index was used to determine whether the anti-epileptic medicine products were expensive according to the other medicine products on the total database or if the anti-epileptic medicine products were relatively inexpensive according to other medicines on the total database.

3.3.5.2.3 Arithmetic mean (average)

Brase and Brase (1999:94) define the arithmetic mean as an average that uses the exact value of each entry for the arithmetic mean. The arithmetic mean was calculated as follows:

$$\text{Mean} = \frac{\text{sum of all the entries}}{\text{number of entries}}$$

3.3.5.2.4 Effect sizes/"*d*"-value

According to Talheimer and Cook (2002) an effect size is the difference between two means divided by the standard deviation.

$$d = \frac{x_t - x_c}{S_{max}}$$

d=effect size

x_t=average cost of treatment (mean)

x_c=average cost of comparison treatment (mean)

S_{max}= maximum standard deviation

For practical significance, Steyn (1999:3) recommends the following guidelines:

d= 0.2 : small effect – no significant difference.

d=0.5 : medium effect – observable and can be significant

d=0.8 : large effect – significant and of practical importance

The effect sizes were used to compare the cost of the anti-epileptic medicine items in comparison to the cost of all the medicine items of the total database. The *d*-value were determined for all the age groups as well as the genders.

3.3.5.2.5 Direct medicine cost

As described in section 2.12 the medicine cost will be used for the cost analysis.

3.3.5.2.6 Weighted average

Steyn *et al.* (2000:102) define the weighted average as follow:

Given a set of data $X=(x_1, x_2, ..., x_n)$ and corresponding weights, $W=(w_1, w_2, ..., w_n)$ the weighted average is calculated as:

$$\overline{x} = \frac{\sum_{i=1}^{n} w_i x_i}{\sum_{i=1}^{n} w_i}$$

The weighted average was used in the calculation of the possible cost saving with generic substitution.

3.4 Reliability and validity

The data were obtained directly from a pharmaceutical management benefit database and no direct manipulation of the data by the researcher was possible. The research was conducted assuming that all the data would be correct and accurate.

3.5 Ethical considerations

Ethical consent for this study was given by the North-West University (ethical application number: NWU – 0046-08-S5) and the board of directors of the pharmaceutical benefit management company.

3.6 Results and discussion

The results of the empirical investigation will be discussed in Chapter 4.

3.7 Conclusion and recommendations

In Chapter 5 the conclusion and recommendations will be discussed according to the literature review and the empirical investigation.

3.8 Chapter summary

In this chapter the empirical investigation was discussed. The research objectives, study population, data source, database, research design and data analysis were described.

Chapter 4

Results and discussion

4.1 Introduction

In this chapter the results obtained from the empirical investigation through the analysis of a South African Pharmaceutical Benefit Management company's (PBM) data for the periods 1 January 2005 to 31 December 2005, 1 January 2006 to 31 December 2006, 1 January 2007 to 31 December 2007 and 1 January 2008 to 31 December 2008 will be discussed.

4.1.1 Annotations concerning the analysis of the data

- Data were analysed according to the following four-year period: 01 January 2005 to 31 December 2005, 01 January 2006 to 31 December 2006, 01 January 2007 to 31 December 2007 and 01 January 2008 to 31 December 2008. The purpose of this division was to analyse the different years and to identify the yearly trends and prescribing patterns.

- For the purpose of this study a "trade name product" refers to a medicine item or a registered medicine product that is used to treat an illness or condition. In this study specific reference is made to the identification of individual anti-epileptic medicine items.

- For the purpose of this study an epileptic or an anti-epileptic patient refers to a patient who uses anti-epileptic medication.

- The terms "average" and "mean" will be used as synonyms throughout this study.

- For discussion purposes only summarised tables will be given in this chapter. Data of the total database will be given in Appendix A. The data based on the epilepsy patients will be summarised in Appendix B.

- For the purpose of this study only the *d*-values greater than 0.5 will be mentioned.

- The medicine item cost does not include expenses such as latex gloves and other medicine-related instruments (refer to section 2.12.1).

- Amounts in the data have been rounded off to the nearest two decimal places, therefore the cumulative sum will not always add up to 100 %.

- As the term “days supply” with reference to adherence calculations is used in the database by the PBM, the term will also be used here. However, the terms days supply and days supplied and days prescribed are used interchangeably.

- The cost on the database has been divided into three cost categories e.g. “**total cost**,” **medical scheme contribution**” and “**patient contribution**.” The total cost represents the total cost of the prescription or medicine item. The medical scheme contribution amount illustrates the total cost contribution by a medical scheme and the patient contribution represents the amount which the patient needed to pay for the prescription or medicine item.

- Ages were categorised according to five age groups as explained in paragraph 3.3.4.2.2 and the numbers 1 to 5 were assigned to the various groups to portray them in tables.

- Gender was categorised according to three groups; i.e. F (female), M (male) and U (unidentified). The gender groups were explained in 3.3.4.2.1.

4.1.2 Presentation of data analysis

Figure 4.1 shows the order in which the results of the study are presented.

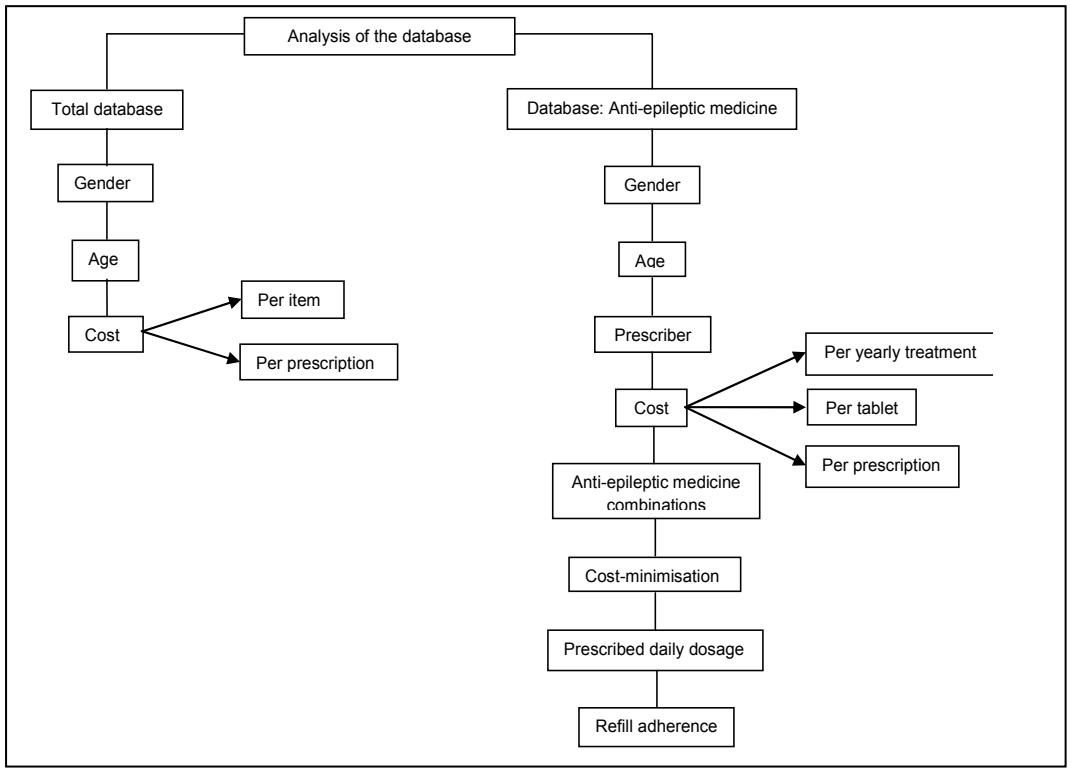

Figure 4.1 : Diagramme illustrating the analysis of the data

4.2 General analysis of the database

In this section, a general analysis of the total database in comparison with data of the epilepsy patients will be conducted. This overview will entail a brief discussion regarding the analysis according to demographic and geographic parameters.

The total cost in this section is divided into three variables namely: total cost that represents the total cost of the medicine provided, the medical scheme contribution indicating the amount payable by the medical scheme and then the patient contribution to show the amount that is payable by the patient.

4.2.1 General analysis of the total database in comparison with anti-epileptic medicine (all medicine items)

Table 4.1 was summarised by making use of tables A.1, A.5, A.9 and A.13 in Appendix A. The tables mentioned in Appendix A, refer to the total database. Table 4.2 was summarised by making use of tables B.1, B.6, B.22 and B.26 in Appendix B.

Table 4.1: Analysis of the total medicine claims database for study period 2005 - 2008

Average cost per medicine item				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	19 500 774	Total cost	93.32 ±166.36	1 819 865 251.63
		Medical scheme contribution	82.17 ±159.21	1 602 447 649.43
		Patient contribution	11.15 ± 42.24	217 417 602.20
2006	21 113 422	Total cost	92.82 ± 196.42	1 959 738 734.09
		Medical scheme contribution	80.46 ± 189.99	1 698 709 951.36
		Patient contribution	12.36 ± 45.28	261 028 782.73
2007	19 075 724	Total cost	100.56 ± 324.11	1 918 284 176.66
		Medical scheme contribution	84.66 ± 304.10	1 615 007 032.92
		Patient contribution	15.90 ± 101.24	303 277 143.74
2008	16 439 253	Total cost	108.63 ± 436.75	1 785 871 013.85
		Medical scheme contribution	89.94 ± 419.97	1 478 548 228.92
		Patient contribution	18.69 ± 107.16	307 322 784.93
Average cost per prescription				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	8 391 836	Total cost	216.86 ± 342.30	1 819 865 251.63
		Medical scheme contribution	190.95 ± 323.66	1 602 447 649.43
		Patient contribution	25.91 ± 81.07	217 417 602.20
2006	8 906 348	Total cost	220.04 ± 395.22	1 959 738 734.09
		Medical scheme contribution	190.73 ± 377.73	1 698 709 951.36
		Patient contribution	29.31 ± 88.47	261 028 782.73
2007	7 911 096	Total cost	242.48 ± 600.31	1 918 284 176.66
		Medical scheme contribution	600.31 ± 564.37	1 615 007 032.92
		Patient contribution	38.34 ± 171.45	303 277 143.74
2008	6 775 873	Total cost	263.56 ± 789.01	1 785 871 013.85
		Medical scheme contribution	218.21 ± 756.95	1 478 548 228.92
		Patient contribution	45.36 ± 181.31	307 322 784.93
Average number of medicine items per prescription				
Year	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	8 391 836		2.32 ± 1.52	19 500 774
2006	8 906 348		2.37 ± 1.55	21 113 422
2007	7 911 096		2.41 ± 1.59	19 075 724
2008	6 775 873		2.43 ± 1.64	16 439 253
Average number of prescriptions per patient per year				
Year	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	1 509 621		5.56 ± 6.75	8 391 836
2006	1 558 090		5.72 ± 6.96	8 906 344
2007	1 178 596		6.71 ± 7.55	7 911 084
2008	974 497		6.95 ± 7.85	6 775 863

Table 4.2: Analysis of anti-epileptic medicine provided for study period 2005-2008

Average cost per anti-epileptic medicine item				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	174 942	Total cost	219.39 ± 167.80	38 380 575.35
		Medical scheme contribution	196.10 ± 161.70	34 305 875.17
		Patient contribution	23.29 ± 61.62	4 074 700.18
2006	193 369	Total cost	207.12 ± 159.34	40 051 071.67
		Medical scheme contribution	182.70 ± 152.96	35 327 948.62
		Patient contribution	24.43 ± 62.57	4 723 123.05
2007	182 833	Total cost	210.69 ± 164.89	38 521 744.48
		Medical scheme contribution	181.94 ± 155.77	33 264 475.73
		Patient contribution	28.75 ± 66.08	5 257 268.75
2008	179 544	Total cost	215.94 ± 168.00	38 771 102.86
		Medical scheme contribution	180.63 ± 157.32	32 430 454.42
		Patient contribution	35.32 ± 73.36	6 340 648.44
Average cost per anti-epileptic prescription				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	139 297	Total cost	275.53 ± 259.79	38 380 575.35
		Medical scheme contribution	246.28 ± 248.02	34 305 875.17
		Patient contribution	29.25 ± 78.02	4 074 700.18
2006	153 202	Total cost	261.43 ± 245.19	40 051 071.67
		Medical scheme contribution	230.60 ± 232.72	35 327 948.62
		Patient contribution	30.83 ± 78.23	4 723 123.05
2007	143 821	Total cost	267.85 ± 254.34	38 521 744.48
		Medical scheme contribution	231.29 ± 237.92	33 264 475.73
		Patient contribution	36.55 ± 82.16	5 257 268.75
2008	141 261	Total cost	274.46 ± 255.60	38 771 102.86
		Medical scheme contribution	229.58 ± 237.00	32 430 454.42
		Patient contribution	44.89 ± 89.93	6 340 648.44
Average number of anti-epileptic medicine items per prescription				
Year	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	139 297		1.26 ± 0.59	174 942
2006	153 202		1.26 ± 0.60	193 369
2007	143 821		1.27 ± 0.61	182 833
2008	141 261		1.27 ± 0.60	179 544
Average number of anti-epileptic prescriptions per patient per year				
Year	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	30 284		4.60 ± 4.64	139 297
2006	32 367		4.73 ± 4.73	153 202
2007	28 961		4.97 ± 4.83	143 821
2008	28 459		4.96 ± 4.83	141 261

There were 1 509 621 patients represented in the total database for the year 2005, 1 558 090 in 2006, 1 178 596 in 2007 and 974 497 in 2008. The patients that used anti-epileptic medicine represented 2% of the total patient population in 2005 (n = 30 284), 2.07% in 2006 (n = 32 367), 2.46% in 2007 (n = 28 961) and 2.92% in 2008 (n = 28 459) (refer to Tables. 4.1 and 4.2). It is clear that there was a marginal increase in the prevalence percentage of patients that used anti-epileptic medicine. However, the results must be viewed in the context that the total population may not necessarily have remained the same for the study period due to changes in medication and/or membership at the medical scheme.

As mentioned in section 2.8, it seems that the prevalence of epilepsy in South Africa has not been accurately established, although the estimate according to neurologists was 1% of the total population (see chapter 1). According to the data analysis discussed in the previous paragraph, the findings of this study indicate that the prevalence may be twice as high (2%) as the assumption of 1% by the neurologists in this section of the private health care sector.

This was further stipulated when looking at the number of prescriptions claimed in the total database of the PBM. In 2005, 8 391 836 prescriptions were claimed, 8 906 348 in 2006, 7 911 096 in 2007 and 6 775 873 in 2008. The anti-epileptic prescriptions are therefore representative of 1.66%, 1.72%, 1.82% and 2.08% of the total number of prescriptions respectively for 2005 to 2008 (refer to Tables 4.1 and 4.2).

The average cost per anti-epileptic medicine item stayed relatively the same across the four-year period with a minimum of R207.12 ± R159.34 to a maximum of R219.39 ± R167.80. This, however, was almost double the average cost of medicine items on the total database. On the total database the lowest average cost per medicine item was R92.82 ± R196.42 during 2006 and the highest was R108.63 ± R436.75 per medicine item during 2008. This is a clear indication that on average the anti-epileptic medicine is relatively more expensive when compared to the total database. When taking the CPI (see section 3.3.5.2.2) of 2.35, when anti-epileptic medicine was compared to the medicine items of total database, into account, the anti-epileptic medicine is relatively expensive.

The average cost per prescription on the total database increased with 21.53% from 2005 to 2008, while the average prescription cost for anti-epileptic medicine stayed relatively the same.

When taking the *d*-value into account for all four study periods (all smaller than 0.2), there were no significant differences between the total database and the anti-epileptic medicine according to the average values.

The annual expenditure regarding the medical scheme contribution and the patient's contribution is clearly stipulated in Tables 4.1 and 4.2.

In 2005 the medical scheme contribution for the average cost per medicine item for the total database was 89.38% of the total cost, whilst the difference of 10.62% was payable by the patient. In 2006 the medical scheme contribution was lower with an 88.21% contribution on the total cost, thus 11.79% of the total cost was payable by the member. In 2007 the medical scheme contribution was 86.35% of the total cost, whilst the patient needed to pay 13.65% of the total cost. The medical scheme contribution in 2008 was the lowest of the four years, showing an 83.65% contribution. The patients then needed to pay 16.35% of the total cost.

In 2005 the patients that used anti-epileptic medicine contributed R 4 074 700.18 of the total anti-epileptic medicine cost, whilst the medical scheme contribution was R 34 305 875.17. The conclusion is that the medical scheme's contribution was 89.38% of the average cost per anti-epileptic medicine item, whilst the patients needed to pay 10.62% of the total anti-epileptic medicine cost. This, however, changed in 2006 with an 88.21% medical scheme contribution for anti-epileptic medicine and an 11.79% patient contribution. Further in 2007 the medical scheme's contribution on anti-epileptic medicine was even lower with only 86.35% of the total anti-epileptic medicine cost and the patient was liable for 13.65% of the cost. The decrease in medical scheme contributions continued in 2008, showing an 83.65% contribution for anti-epileptic medicine, which was the result of the 16.35% patient contribution that was needed to be paid. This amounted for a total decrease in the medical scheme contribution of 5.73% of the total medication cost of anti-epileptic medicine.

There was thus a 53.47% increase in the patient's contribution for anti-epileptic medicine from 2005 to 2008 taking the average cost of an anti-epileptic prescription into consideration. On the total database there was a 75.07% increase on the patient's contribution on the average prescription cost. The reason for this increase may have been that the medical aid schemes are shifting the cost burden to patients in response to accelerating health care costs. However, this aspect is outside the scope of this study and it will not be further investigated in this study. Further studies may focus on this issue to investigate the trends of lower medical scheme contributions over a certain period.

Table 4.3: *d*-value of the comparison between the average cost per anti-epileptic medicine item and medicine items of the total database

Year	*d*-value
2005	0.75
2006	0.58
2007	< 0.5
2008	< 0.5

The *d*-value was a clear indication that the cost per anti-epileptic medicine item in comparison to the cost per medicine item of the total database was of practical importance in 2005, whilst in 2006 it was observable. In 2007 and 2008 this value was below 0.5 and indicated that there were no difference of practical significant importance in the cost as mentioned (refer to Table 4.3).

The *d*-value further indicated that the average cost of anti-epileptic prescriptions had a relatively small value throughout this study period in comparison to the average cost of prescriptions of the total database (value lower than 0.5).

For the total database, the total number of medicine items for 2005 amounted to 19 500 774, this however increased in 2006 to 21 113 422. From 2006 to 2007 (19 075 724) there was a decrease and even a further decrease from 2007 to 2008 (16 439 253). To the epileptics, however, it was different. In 2005 the total number of anti-epileptic medicine items was 174 942, 0.9% of the total medicine items on the total database, whilst this percentage increased from 2006 to 2007, with 0.92% and 0.96% respectively. In 2008 the anti-epileptic medicine items escalated to 1.09% of the total number of medicine items on the total database (refer to Tables 4.1 and 4.2).

The average number of prescriptions per patient per year on the total database varied from 5.56 ± 6.75 to 6.95 ± 7.85 from 2005 to 2008. This, however, was more constant over the four-year period for the anti-epileptic patients, since the average number of prescriptions per anti-epileptic patient varied from 4.60 ± 4.64 and 4.96 ± 4.83 from 2005 to 2008 (refer to Tables 4.1 and 4.2).

4.3 Analysis according to demographic parameters

The two demographic parameters that were used in this section were gender and age. These two parameters were further divided into sub-categories as explained in sections 3.3.4.2.1 and 3.3.4.2.2 respectively.

Firstly the two gender groups will be discussed and then the focus will be on the different age groups.

4.3.2.1 Analysis according to the first demographic parameter: gender

The section to follow will contain a discussion on the two different genders, male and female. Although the gender of the study population had been divided into three groups namely, male, female and unidentified, only the male and female data will be discussed.

Table 4.4: Analysis of the total medicine claims database according to the female gender

Average cost per medicine item for females				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	11 750 190	Total cost	92.31 ± 158.69	1 084 626 865.29
		Medical scheme contribution	80.65 ± 151.40	947 688 793.44
		Patient contribution	80.65 ± 41.24	136 938 071.85
2006	12 699 707	Total cost	91.52 ± 188.12	1 162 254 536.29
		Medical scheme contribution	78.66 ± 181.38	999 015 475.00
		Patient contribution	12.85 ± 45.46	163 239 061.29
2007	11 509 346	Total cost	98.89 ± 300.67	1 138 188 991.29
		Medical scheme contribution	82.46 ± 286.55	949 029 333.61
		Patient contribution	16.44 ± 83.42	189 159 657.25
2008	9 893 928	Total cost	106.86 ± 416.84	1 057 274 454.63
		Medical scheme contribution	87.52 ± 397.36	865 959 792.23
		Patient contribution	19.34 ± 116.02	191 314 661.40
Average cost per prescription for females				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	5 036 494	Total cost	215.35 ± 330.75	1 084 626 865.29
		Medical scheme contribution	188.16 ± 310.90	947 688 793.44
		Patient contribution	27.19 ± 80.87	136 938 071.85
2006	5 336 203	Total cost	217.81 ± 380.43	1 162 254 536.29
		Medical scheme contribution	187.21 ± 361.56	999 015 475.00
		Patient contribution	30.59 ± 89.95	163 239 061.29
2007	4 754 911	Total cost	239.37 ± 559.98	1 138 188 991.29
		Medical scheme contribution	199.59 ± 530.41	949 029 333.61
		Patient contribution	39.78 ± 148.33	189 159 657.25
2008	4 062 385	Total cost	260.26 ± 752.96	1 057 274 454.63
		Medical scheme contribution	213.17 ± 716.56	865 959 792.23
		Patient contribution	47.09 ± 195.17	191 314 661.40
Average number of medicine items per prescription for females				
Year	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	5 036 494		2.33 ± 1.54	11 750 190
2006	5 336 203		2.38 ± 1.58	12 699 707
2007	4 754 911		2.42 ± 1.62	11 509 346
2008	4 062 385		2.44 ± 1.67	9 893 928
Average number of prescriptions per patient for females				
Year	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	842 386		5.98 ± 7.16	5 036 494
2006	868 891		6.14 ± 7.37	5 336 203
2007	654 348		7.27 ± 7.99	4 754 911
2008	538 254		7.55 ± 8.32	4 062 385

Table 4.5: Analysis of anti-epileptic medicine usage and cost according to the female gender

Average cost per anti-epileptic medicine item for females				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	102 362	Total cost	215.36 ± 163.33	22 044 738.13
		Medical scheme contribution	190.35 ± 156.88	19 484 323.01
		Patient contribution	25.01 ± 63.38	2 560 415.12
2006	114 639	Total cost	202.85 ± 154.76	23 254 899.70
		Medical scheme contribution	176.66 ± 147.96	20 252 335.79
		Patient contribution	26.19 ± 64.98	3 002 562.91
2007	109 415	Total cost	205.42 ± 160.49	22 476 108.03
		Medical scheme contribution	175.04 ± 150.71	19 152 332.26
		Patient contribution	30.38 ± 66.47	3 323 775.77
2008	108 868	Total cost	209.79 ± 161.45	22 839 287.20
		Medical scheme contribution	172.88 ± 149.90	18 821 086.23
		Patient contribution	36.91 ± 73.73	401 820.97
Average cost per anti-epileptic prescription for females				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	82 360	Total cost	267.66 ± 245.81	22 044 738.13
		Medical scheme contribution	236.58 ± 234.36	19 484 323.01
		Patient contribution	44.89 ± 89.93	2 560 415.12
2006	91 798	Total cost	253.33 ± 234.03	23 254 899.70
		Medical scheme contribution	220.62 ± 221.53	20 252 335.79
		Patient contribution	32.71 ± 79.76	3 002 562.91
2007	86 934	Total cost	258.54 ± 243.02	22 476 108.03
		Medical scheme contribution	220.31 ± 226.04	19 152 332.26
		Patient contribution	38.23 ± 82.07	3 323 775.77
2008	86 259	Total cost	264.78 ± 242.69	22 839 287.20
		Medical scheme contribution	218.19 ± 223.54	18 821 086.23
		Patient contribution	46.58 ± 90.57	401 820.97
Average number of items per anti-epileptic prescriptions for females				
Year	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	82 360		1.24 ± 0.57	102 362
2006	91 798		1.25 ± 0.58	114 639
2007	86 934		1.26 ± 0.59	109 415
2008	86 259		1.26 ± 0.59	108 868
Average number of anti-epileptic prescriptions per patient for females				
Year	**Number of patients**		**Number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	17 946		4.59 ± 4.62	82 360
2006	19 482		4.71 ± 4.74	91 798
2007	17 603		4.94 ± 4.84	86 934
2008	17 427		4.95 ± 4.84	86 259

The following discussion will be based on the female gender of the total database in comparison with the female patients using anti-epileptic medicine.

Of the total number of patients on the database for 2005, 55.80% (n = 842 386) were females. This remained the same in 2006 where the female gender was represented by 55.77% (n = 868 891) on the total database. In 2007, this percentage was 55.52% and in 2008, 55.23%. It was further found that 2.13% of all female patients on the total database used anti-epileptic medication in 2005. This increased to 2.24% in 2006, 2.69% in 2007 and was the highest in 2008 with 3.24%. This concluded that although the representation of females on the total database stayed more or less the same, there was an increase in the percentage of female patients using anti-epileptic medication (refer to Tables 4.1, 4.3 and 4.4).

When the female anti-epileptic patients were compared to the total number of patients that used anti-epileptic medicine, female anti-epileptic patients represented 59.26% in 2005 (n = 17 946), 60.19% in 2006 (n = 19 482), 60.78% in 2007 (n = 17 603) and 61.24% in 2008 (n = 17 427). This is a clear indication that the prevalence of female patients using anti-epileptic medicine, was higher than the male gender in this section of the private health care section in South Africa (refer to Tables 4.2, 4.3 and 4.4).

The total number of prescriptions claimed on the total database for female patients accounted for 60.02% (n = 5 036 494) in 2005 (n = 8 391 836). This stayed relatively the same in 2006, 2007 and 2008 with 59.91% (n = 5 336 203), 60.01% (n = 4 754 911) and 59.95% (n = 4 062 385) respectively.

Table 4.6: *d*-value of the differences between the average cost of anti-epileptic medicine and all medicine items on the total database according to female gender

Year	*d*-value
2005	0.75
2006	0.59
2007	< 0.5
2008	< 0.5

The *d*-value for the difference between the average cost per anti-epileptic medicine item in comparison to the average cost per medicine item on the total database indicated that there was a practical significance in 2005 and that the value was observable in 2006. The rest of the *d*-values were lower than 0.5, and therefore not mentioned.

Of the total number of prescriptions claimed by female patients, 1.64% (n = 82 360) were prescriptions containing anti-epileptic medicine items in 2005 and 1.72% (n = 91 798) in 2006. In 2007 and 2008 there was a further increase to 1.83% (n = 86 934) and 2.12% (n = 86 259) respectively (refer to Tables 4.2, 4.3 and 4.4). This can be explained by taking the increase of female patients using anti-epileptic medicine as previously discussed into account (see section 4.3.2.1).

The total costs per prescription for a female patient in 2005 represented 59.60% (n = R 1 084 626 865.29) of the total prescription cost of the total database (n = R 1 819 865 251.63). The total costs per prescription for 2006, 2007 and 2008 were fairly similar with 59.31%, 59.33% and 59.20% respectively.

Table 4.7: Analysis of the total medicine claims database according to the male gender

Average cost per medicine item for males				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	7 734 461	Total cost	94.87 ± 176.88	733 769 633.85
		Medical scheme contribution	84.48 ± 169.85	653 370 941.06
		Patient contribution	10.39 ± 43.72	80 398 692.79
2006	8 403 158	Total cost	94.77 ± 208.10	796 360 401.04
		Medical scheme contribution	83.15 ± 202.04	698 682 181.29
		Patient contribution	11.62 ± 45.01	97 678 219.75
2007	7 562 466	Total cost	103.08 ± 356.74	779 508 488.81
		Medical scheme contribution	88.00 ± 328.91	665 466 500.10
		Patient contribution	15.08 ± 123.54	114 041 988.71
2008	6 545 325	Total cost	111.32 ± 465.21	728 596 560.22
		Medical scheme contribution	93.59 ± 451.99	612 588 436.69
		Patient contribution	17.72 ± 92.16	116 008 123.53
Average cost per prescription for males				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	3 348 219	Total cost	219.15 ± 358.17	733 769 633.85
		Medical scheme contribution	195.14 ± 341.05	653 370 941.06
		Patient contribution	24.01 ± 81.38	80 398 692.79
2006	3 565 331	Total cost	223.36 ± 416.16	796 360 401.04
		Medical scheme contribution	195.97 ± 400.43	698 682 181.29
		Patient contribution	27.40 ± 86.20	97 678 219.75
2007	3 154 367	Total cost	247.12 ± 656.34	779 508 488.81
		Medical scheme contribution	210.97 ± 611.87	665 466 500.10
		Patient contribution	36.15 ± 201.38	114 041 988.71
2008	2 713 488	Total cost	268.51 ± 840.07	728 596 560.22
		Medical scheme contribution	225.76 ± 813.62	612 588 436.69
		Patient contribution	42.75 ± 158.27	116 008 123.53
Average number of medicine items per prescription for males				
Year	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	3 348 219		2.31 ± 1.47	7 734 461
2006	3 565 331		2.36 ± 1.50	8 403 158
2007	3 154 367		2.40 ± 1.55	7 562 466
2008	2 713 488		2.41 ± 1.59	6 545 325
Average number of prescription per patient for males				
Year	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	665 505		5.03 ± 6.15	3 348 219
2006	688 091		5.18 ± 6.35	3 565 331
2007	523 841		6.02 ± 6.90	3 154 367
2008	436 243		6.22 ± 7.15	2 713 478

Table 4.8: Analysis of anti-epileptic medicine according to the male gender

Average cost per anti-epileptic medicine item for males				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	72 443	Total cost	225.03 ± 173.83	16 301 986.78
		Medical scheme contribution	204.15 ± 168.00	14 789 255.35
		Patient contribution	20.88 ± 59.00	1 512 731.43
2006	78 563	Total cost	213.25 ± 165.70	16 753 592.77
		Medical scheme contribution	191.36 ± 159.65	15 034 160.90
		Patient contribution	21.89 ± 58.83	1 719 431.87
2007	73 319	Total cost	218.51 ± 171.01	16 020 615.78
		Medical scheme contribution	192.16 ± 162.52	14 089 254.32
		Patient contribution	26.34 ± 65.45	1 931 361.46
2008	70 676	Total cost	225.42 ± 177.20	15 937 815.66
		Medical scheme contribution	192.56 ± 167.41	13 609 368.19
		Patient contribution	32.86 ± 72.71	2 322 447.47
Average cost per anti-epileptic prescription for males				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	56 834	Total cost	286.84 ± 278.47	16 301 986.78
		Medical scheme contribution	260.22 ± 265.98	14 789 255.35
		Patient contribution	26.62 ± 75.38	1 512 731.43
2006	61 315	Total cost	273.24 ± 260.34	16 753 592.77
		Medical scheme contribution	245.20 ± 247.54	15 034 160.90
		Patient contribution	28.04 ± 75.85	1 719 431.87
2007	56 829	Total cost	281.91 ± 270.01	16 020 615.78
		Medical scheme contribution	247.92 ± 254.00	14 089 254.32
		Patient contribution	33.99 ± 82.27	1 931 361.46
2008	55 002	Total cost	289.66 ± 273.94	15 937 815.66
		Medical scheme contribution	247.43 ± 255.68	13 609 368.19
		Patient contribution	42.22 ± 88.86	2 322 447.47
Average number of anti-epileptic medicine items per prescription for males				
Year	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	56 834		1.27 ± 0.61	72 443
2006	61 315		1.28 ± 0.61	78 563
2007	56 829		1.29 ± 0.63	73 319
2008	55 002		1.28 ± 0.62	70 676
Average number of anti-epileptic prescriptions per patient for males				
Year	**Number of patients**		**Number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	12 308		4.62 ± 4.66	56 834
2006	12 862		4.77 ± 4.71	61 315
2007	11 349		5.01 ± 4.82	56 829
2008	11 032		4.99 ± 4.81	55 002

The following discussion will be based on the male gender of the total database in comparison with the male anti-epileptic patients.

Of the total number of patients on the database for 2005, 44.08% (n = 665 505) were males. This stayed the same in 2006 where the male gender was represented by 44.16% (n = 688 091) on the total database. In 2007, this percentage was 44.44% (n = 523 841) and in 2008, 44.77% (n = 436 243). It further can be seen that 0.82% (n = 12 308) of the total males on the total database used anti-epileptic medication in 2005, increasing slightly to 0.83% (n = 12 862) in 2006. In 2007 this percentage was 0.96% (n = 11 349), whilst there was a further increase to 1.13% (n = 11 032) in 2008. This indicated that although the representation of males on the total database stayed more or less the same, there was a marginal increase in the percentage of male patients that used anti-epileptic medication (refer to Tables 4.1, 4.5 and 4.6).

When looking at the male patients who used anti-epileptic medicine in comparison to the total number of patients using anti-epileptic medicine, the male gender accounted for 40.64% in 2005 (n = 12 308), 39.74% in 2006 (n = 12 862) , 39.187% in 2007 (n = 11 349) and 38.76% in 2008 (n = 11 032). When compared to the female gender the decrease in the male gender can be explained, because there was an increase in female patients on the total database (refer to Tables 4.2, 4.7 and 4.8).

Prescriptions claimed on the total database for male patients accounted for 39.90% (n = 3 348 219) in 2005 (n = 8 391 836). This stayed relatively the same in 2006 with 40.03% (n = 3 565 331) and in 2007 and 2008 with, 39.87% (n = 3 154 367) and 40.04% (n = 2 713 488) of the total database respectively.

Table 4.9: *d*-value of the differences between the average cost of anti-epileptic medicine and all medicine items on the total database according to male gender

Year	*d*-value
2005	0.74
2006	0.57
2007	< 0.5
2008	< 0.5

The *d*-value for the male gender for the cost per anti-epileptic medicine item in comparison to the cost per medicine item on the total database indicated that there was a practical significant difference in 2005 and that the value was observable in 2006. The rest of the *d*-values were lower than 0.5, and therefore not mentioned.

Of the total number of prescriptions claimed by male patients, 1.70% (n = 56 834) was for anti-epileptic medicine in 2005 and in 2006, 1.72% (n = 61 315) was claimed. In 2007 and 2008 there was a further increase to 1.80% (n = 56 829) and 2.03% (n = 55 002) respectively (refer to Tables 4.2, 4.7 and 4.8).

The total prescription cost for a male patient on the total database in 2005 was 40.32% (n = R 733 769 633.85) of the total prescription cost of the total database (n = R 1 819 865 251.63). The average total prescription costs for 2006, 2007 and 2008 were fairly similar with 43.76%, 42.83% and 40.04% respectively.

4.3.2.1.1. Summary of the gender groups

The following discussion will contain a short summary of the comparison between male and female patients.

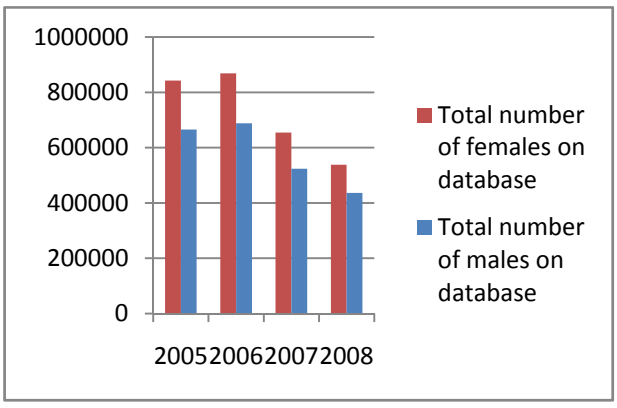

Figure 4.1: Comparison of male and female on total database

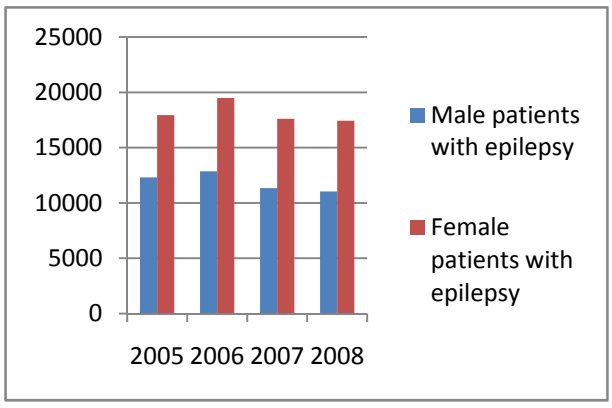

Figure 4.2: Comparison of male and female patients using anti-epileptic medicine

On the total database over the four-year period the female patients accounted for 55.62% of the total population, whilst the male patients represented 44.38%. This calculated as a male: female ratio of 1:1.25. With regard to the anti-epileptic patients, the male: female ratio was 1:1.5. In summary it is clear that more females than males were using anti-epileptic medicine in this section of the private health care sector of South Africa.

According to Statistics South Africa (2001) the 2001 census indicated that there were more females (52%) than males (48%) in the population of South Africa. In 2009, 52% of the population were still females (Statistics South Africa, 2009) and in 2010, 51% (Statistics South Africa, 2010). This indicated that the anti-epileptic patients for the study period of 2005 to 2008 was representative of the total database. Although the majority of the study population formed part of the higher income group, the assumption was made that all the patients had an equal chance of being diagnosed. Therefore it may be liable to assume that the results as represented in percentage form, are correct and may be used to draw a conclusion.

The results of this study are in contrast to Epilepsy South Africa (Epilepsy South Africa, 2008) and the study conducted by Christianson *et al*. (2000:264). As the data indicated it is clear that the results of this study population indicated that more females were using anti-epileptic medicine than males.

With regard to the cost per anti-epileptic medicine item the CPI was calculated between male and female with values of 0.95, 0.95, 0.94 and 0.93 respectively over the four-year study period. This is an indication that the therapy utilised for male and female patients was in equilibrium.

4.3.2.2 Analysis according to the second demographic parameter: age

The section to follow will contain a discussion on the different age groups. The age groups of the population were divided into five groups (refer to paragraph 3.3.4.2.1).

Table 4.10: Analysis of the prescribing patterns of age group 1 (≤ 12 years)

Average cost per medicine item for age group 1					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	1	1 916 485	Total cost	57.02 ± 74.80	109 272 908.88
			Medical scheme contribution	51.68 ± 145.72	99 052 149.94
			Patient contribution	5.33 ± 23.23	10 220 758.94
2006	1	2 005 107	Total cost	56.78 ± 84.56	113 854 950.76
			Medical scheme contribution	49.91 ± 78.77	100 065 457.14
			Patient contribution	6.88 ± 28.89	13 789 493.62
2007	1	1 658 615	Total cost	59.50 ± 111.25	98 691 776.23
			Medical scheme contribution	49.87 ± 86.59	82 711 452.81
			Patient contribution	9.63 ± 65.34	15 980 323.42
2008	1	1 085 511	Total cost	65.20 ± 97.50	70 776 260.18
			Medical scheme contribution	53.65 ± 88.33	58 237 347.71
			Patient contribution	11.55 ± 33.88	12 538 912.47
Average cost per prescription for age group 1					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	1	764 918	Total cost	142.86 ± 147.32	109 272 908.88
			Medical scheme contribution	129.49 ± 139.48	99 052 149.94
			Patient contribution	13.36 ± 44.81	10 220 758.94
2006	1	790 184	Total cost	144.09 ± 165.71	113 854 950.76
			Medical scheme contribution	126.64 ± 154.83	100 065 457.14
			Patient contribution	17.45 ± 57.03	13 789 493.62
2007	1	652 869	Total cost	151.17 ± 222.26	98 691 776.23
			Medical scheme contribution	126.69 ± 168.79	82 711 452.81
			Patient contribution	24.48 ± 134.85	15 980 323.42
2008	1	435 452	Total cost	162.54 ± 192.85	70 776 260.18
			Medical scheme contribution	133.74 ± 173.95	58 237 347.71
			Patient contribution	28.80 ± 67.75	12 538 912.47
Average number of medicine items per prescription for age group 1					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	1	764 918		2.51 ± 1.36	1 916 485
2006	1	790 184		2.54 ± 1.38	2 005 107
2007	1	652 869		2.54 ± 1.39	1 658 615
2008	1	435 452		2.49 ± 1.39	1 085 511
Average number of prescriptions per patient for age group 1					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	1	197 323		3.88 ± 3.75	764 918
2006	1	193 346		4.09 ± 3.90	790 184
2007	1	142 047		4.60 ± 4.15	652 869
2008	1	124 440		3.53 ± 3.61	435 452

Table 4.11: Analysis of the prescribing patterns of age group 1 (≤ 12 years) with epilepsy

Average cost per anti-epileptic medicine item for age group 1					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	1	7 657	Total cost	202.33 ± 116.52	1 549 252.28
			Medical scheme contribution	190.65 ± 113.65	1 459 770.52
			Patient contribution	11.69 ± 39.16	89 481.76
2006	1	8 490	Total cost	192.80 ± 108.70	1 636 843.63
			Medical scheme contribution	180.67 ± 107.56	1 533 912.05
			Patient contribution	12.12 ± 35.39	102 931.58
2007	1	7 429	Total cost	202.60 ± 127.75	1 505 115.53
			Medical scheme contribution	186.50 ± 118.06	1 385 480.34
			Patient contribution	16.10 ± 46.50	119 635.19
2008	1	6 069	Total cost	207.71 ± 133.85	1 260 589.85
			Medical scheme contribution	187.98 ± 125.41	1 140 834.46
			Patient contribution	19.73 ± 51.35	119 755.39
Average cost per prescription for anti-epileptic medicine for age group 1					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	1	6 014	Total cost	257.61 ± 202.85	1 549 252.28
			Medical scheme contribution	242.73 ± 197.19	1 459 770.52
			Patient contribution	14.88 ± 47.56	89 481.76
2006	1	6 778	Total cost	241.49 ± 190.12	1 636 843.63
			Medical scheme contribution	226.31 ± 185.84	1 533 912.05
			Patient contribution	15.19 ± 43.08	102 931.58
2007	1	5 885	Total cost	255.75 ± 206.68	1 505 115.53
			Medical scheme contribution	235.43 ± 190.96	1 385 480.34
			Patient contribution	20.33 ± 60.20	119 635.19
2008	1	4 654	Total cost	270.86 ± 228.31	1 260 589.85
			Medical scheme contribution	245.13 ± 207.45	1 140 834.46
			Patient contribution	25.73 ± 69.00	119 755.39
Average number of anti-epileptic medicine items per prescription for age group 1					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	1	6 014		1.27 ± 0.62	7 657
2006	1	6 778		1.25 ± 0.60	8 490
2007	1	5 885		1.26 ± 0.61	7 429
2008	1	4 654		1.30 ± 0.67	6 069
Average number of anti-epileptic prescriptions per patient for age group 1					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	1	1 418		4.24 ± 4.49	6 014
2006	1	1 436		4.72 ± 4.52	6 778
2007	1	1 100		5.35 ± 4.78	5 885
2008	1	831		5.60 ± 4.77	4 654

Age group one included all the patients that were 12 years and younger. In the study period as indicated the total number of patients of the total database that were part of this group amounted to 197 323 in 2005, 193 346 in 2006, 142 047 in 2007 and 124 440 in 2008. Of this total 0.72% were patients that used anti-epileptic medication in 2005, 0.74% in 2006, 0.77% in 2007 and 0.67% in 2008 (refer to Tables 4.1, 4.10 and 4.11).

The number of prescriptions claimed on the total database as used by this age group added up to 764 918 in 2005, 790 184 in 2006, 652 869 in 2007 and 435 452 in 2008. The patients using anti-epileptic medicine claimed 0.79% (n = 6 014) of this total in 2005. This increased in 2006, indicating that 0.85% (n = 6 778) anti-epileptic prescriptions were claimed in 2007, and 0.90% (n = 5 885) were claimed and in 2008 showing that it was even higher with 1.07% (n = 4 654) anti-epileptic prescriptions that were claimed (refer to Tables 4.10 and 4.11).

With regard to prescription expenditure of age group one, the prescription cost of epileptic patients in 2005 accounted for 1.42% (n = R 1 549 252.30) of the total cost of the same age group on the total database. In 2006 this stayed relatively the same with 1.43% (n = R 1 636 843.60). In 2007 there was a slight increase, when the anti-epileptic prescription cost accounted for 1.53% (n = R 1 505 115.50) of the total and in 2008 it was even higher with 1.78% (n = R1 260 589.90). The medical scheme contribution was interesting, given that in 2005 schemes were liable for 94.22% of the final anti-epileptic prescription cost, 93.7% in 2006, 92.05% in 2007 and 90.5% in 2008. This indicated that the anti-epileptic patients needed to pay more for their medicine and this is clear when looking at the patient contribution. The patient contribution for anti-epileptic medicine increased from 2005 to 2008. In 2005, 5.78% of the final anti-epileptic prescription cost was payable by a patient, in 2006, 6.29%, 7.95% in 2007 and 9.50% in 2008 (refer to Tables 4.10 and 4.11).

Table 4.12: *d*-value of the differences between the average cost of anti-epileptic medicine and all medicine items on the total database for age group one

Year	*d*-value
2005	1.25
2006	1.25
2007	1.12
2008	1.06
d-value: Total cost per anti-epileptic prescription in comparison with cost per prescription of the total database	
2005	0.56
2006	0.52
2007	0.51
2008	Lower than 0.5

According to Table 4.12 the cost per anti-epileptic medicine item in comparison to the cost per item of the total database was of practical significance since the *d*-value from 2005 to 2008 was larger than 0.8. The *d*-value of the average cost per anti-epileptic prescription in comparison to the average cost per prescription of the total database was observable from 2005 to 2007, but in 2008 the *d*-value was lower than 0.5.

The medicine items that were claimed in 2005 by patients using anti-epileptic medicine were 0.4% (n = 7 657) of all medicine items claimed by this age group on the total database. In 2006 this stayed relatively the same with 0.42% (n = 8490). In 2007 it increased to 0.45% (n = 7 429), whilst the total number of anti-epileptic items even increased more in 2008 to 0.56% (n = 6 069).

This age group received between 1.27 ± 0.62 and 1.30 ± 0.67 anti-epileptic medicine items per prescription from 2005 to 2008, whilst the number of anti-epileptic prescriptions per year varied from 4.24 ± 4.49 and 5.60 ± 4.77 for the study period 2005 to 2008. This indicates that both the number of anti-epileptic medicine items and the number of anti-epileptic prescriptions per patient increased from 2005 to 2008.

Table 4.13: Analysis of the prescribing patterns of age group 2 (> 12 years ≤ 18 years)

Average cost per medicine item for age group 2					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	2	817 362	Total cost	70.27 ± 111.58	57 433 580.15
			Medical scheme contribution	62.83 ± 105.46	51 356 057.08
			Patient contribution	7.44 ± 30.43	6 077 523.07
2006	2	882 991	Total cost	69.31 ± 122.17	61 197 176.43
			Medical scheme contribution	60.93 ± 116.27	53 800 142.91
			Patient contribution	8.38 ± 33.13	73 97 033.52
2007	2	766 228	Total cost	73.21 ± 195.48	56 093 654.59
			Medical scheme contribution	61.51 ± 178.23	47 130 531.53
			Patient contribution	11.70 ± 71.48	8 963 123.06
2008	2	602 822	Total cost	78.99 ± 203.89	47 616 435.55
			Medical scheme contribution	65.13 ± 192.14	39 262 480.64
			Patient contribution	13.86 ± 51.51	8 353 954.91
Average cost per prescription for age group 2					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	2	347 931	Total cost	165.07 ± 204.21	57 433 580.15
			Medical scheme contribution	147.60 ± 193.95	51 356 057.08
			Patient contribution	17.47 ± 55.11	6 077 523.07
2006	2	367 516	Total cost	166.52 ± 225.42	61 197 176.43
			Medical scheme contribution	146.39 ± 215.69	53 800 142.91
			Patient contribution	20.13 ± 61.49	7 397 033.52
2007	2	320 639	Total cost	174.94 ± 331.79	56 093 654.59
			Medical scheme contribution	146.99 ± 304.44	47 130 531.53
			Patient contribution	27.95 ± 117.07	8 963 123.06
2008	2	257 151	Total cost	185.17 ± 342.16	47 616 435.55
			Medical scheme contribution	152.68 ± 321.04	39 262 480.64
			Patient contribution	32.49 ± 89.79	8 353 954.91
Average number of medicine items per prescription for age group 2					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	2	347 931		2.35 ± 1.33	817 362
2006	2	367 516		2.40 ± 1.36	882 991
2007	2	320 639		2.39 ± 1.37	766 228
2008	2	257 151		2.34 ± 1.37	602 822
Average number of prescriptions per patient for age group 2					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	2	103 279		3.37 ± 3.42	347 931
2006	2	103 746		3.54 ± 3.56	367 516
2007	2	84 776		3.78 ± 3.75	320 639
2008	2	169 159		3.52 ± 3.90	257 151

Table 4.14: Analysis of the prescribing patterns of age group 2 (> 12 years ≤ 18 years) with epilepsy

Average cost per anti-epileptic medicine item for age group 2					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	2	8 093	Total cost	242.21 ± 149.06	1 960 226.75
			Medical scheme contribution	224.47 ± 145.46	1 816 660.13
			Patient contribution	17.74 ± 50.35	143 566.62
2006	2	8 885	Total cost	216.24 ± 136.88	1 921 297.15
			Medical scheme contribution	201.55 ± 136.23	1 790 760.98
			Patient contribution	14.69 ± 41.91	130 536.17
2007	2	8 388	Total cost	223.45 ± 149.60	1 874 312.53
			Medical scheme contribution	202.52 ± 145.87	1 698 731.59
			Patient contribution	20.93 ± 47.50	175 580.94
2008	2	7 152	Total cost	233.98 ± 167.21	1 673 399.94
			Medical scheme contribution	206.66 ± 157.91	1 478 003.11
			Patient contribution	27.32 ± 62.49	195 396.83
Average cost per prescription for anti-epileptic medicine for age group 2					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	2	6 035	Total cost	324.81 ± 284.55	1 960 226.75
			Medical scheme contribution	301.02 ± 273.55	1 816 660.13
			Patient contribution	23.79 ± 65.88	143 566.62
2006	2	6 486	Total cost	296.22 ± 255.39	1 921 297.15
			Medical scheme contribution	276.10 ± 250.56	1 790 760.98
			Patient contribution	20.13 ± 54.40	130 536.17
2007	2	5 942	Total cost	315.43 ± 285.34	1 874 312.53
			Medical scheme contribution	285.89 ± 273.51	1 698 731.59
			Patient contribution	29.55 ± 63.94	175 580.94
2008	2	5 048	Total cost	331.50 ± 295.87	1 673 399.94
			Medical scheme contribution	292.79 ± 275.09	1 478 003.11
			Patient contribution	38.71± 84.86	195 396.83
Average number of anti-epileptic medicine items per prescription for age group 2					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	2	6 035		1.34 ± 0.71	8 093
2006	2	6 486		1.37 ± 0.71	8 885
2007	2	5 942		1.41 ± 0.76	8 388
2008	2	5 048		1.42 ± 0.72	7 152
Average number of anti-epileptic prescriptions per patient for age group 2					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	2	1 299		4.65 ± 4.62	6 035
2006	2	1 341		4.84 ± 4.53	6 486
2007	2	1 115		5.33 ± 4.83	5 942
2008	2	948		5.32 ± 4.92	5 048

Age group two included all the adolescents that were older than 12 years and all adolescents that were equal and younger than 18 years. In the study period, as indicated the total number of patients of the total database that were part of this group, were 103 279 in 2005, 103 746 in 2006, 84 776 in 2007 and 169 159 in 2008. Of this total 1.26% were patients using anti-epileptic medicine in 2005, 1.29% in 2006, 1.32% in 2007 and then in 2008 it almost was half of 2005 with 0.56% (refer to tables 4.13 and 4.14).

The number of prescriptions claimed on the total database as used by this age group added up to 347 931 in 2005, 367 516 in 2006, 320 639 in 2007 and 257 151 in 2008. The patients using anti-epileptic medicine claimed 1.73% (n = 6 035) prescriptions in 2005 when compared to the same age group of the total database. This increased in 2006, when 1.76% (n = 6 486) prescriptions were claimed, in 2007, when 1.85% (n = 5 942) were claimed and in 2008 it was even higher with 1.96% (n = 5 048) anti-epileptic prescriptions that were claimed (refer to Tables 4.13 and 4.14).

With regards to prescription expenditure of age group two, the prescription cost for patients using anti-epileptic medicine accounted for 3.41% (n = R 1 960 226.80) in 2005 of the same age group of the total database. In 2006 there was a slight decrease in the anti-epileptic prescription cost and accounted for 3.14% (n = R 1 921 297.20) of the total database. In 2007 there was a slight increase compared to 2006, when the anti-epileptic prescription cost accounted for 3.34% (n = R 1 874 312.50) of the total database and in 2008 it was even higher with 3.5% (n = R 1 673 399.90). The medical aid was liable for 92.67% of the total anti-epileptic medicine cost in 2005, 93.21% in 2006, 90.63% in 2007 and 88.32% in 2008. This indicated that the epileptics needed to pay 11.68% more for their medicine from 2005 to 2008. In 2005, 7.32% of the total anti-epileptic medicine cost was payable by a patient, in 2006, 6.79%, 9.37% in 2007 and 11.68% in 2008 (refer to Tables 4.13 and 4.14).

Table 4.15: *d*-value of the differences between the average cost of anti-epileptic medicine and all medicine items on the total database for age group two.

***d*-value: Total cost per anti-epileptic medicine item in comparison to total cost per medicine item for total database**	
Year	**d-value**
2005	1.15
2006	1.07
2007	1.00
2008	0.93
d-value: Total cost per anti-epileptic prescription in comparison with cost per prescription of the total database	
2005	0.56
2006	0.51
2007	Lower than 0.5
2008	Lower than 0.5

According to the *d*-value the average anti-epileptic medicine item cost differed practically significantly from the average medicine items cost on the total database for the entire study period from 2005 to 2008. The *d*-value with regard to anti-epileptic prescription cost was observable in 2005 and 2006. In 2007 and 2008 the values were lower than 0.5 (refer to table 4.15).

Anti-epileptic medicine items claimed in 2005 represented 0.99% (n = 8 093) of all the medicine items claimed by the same age group in the total database. In 2006 this stayed relatively the same with 1% (n = 8 885). In 2007 it increased relatively to 1.09% (n = 8 388), whilst the total number of anti-epileptic items even increased more in 2008 to 1.19% (n = 7 152).

This age group received between 1.34 ± 0.71 and 1.42 ± 0.72 anti-epileptic medicine items per prescription for 2005 to 2008, whilst the number of anti-epileptic prescriptions per year varied from 4.65 ± 4.62 and 5.33 ± 4.83 for the study period 2005 to 2008. This indicates that both the number of anti-epileptic medicine items and the number of anti-epileptic prescriptions per patient increased from 2005 to 2008.

Table 4.16: Analysis of the prescribing patterns of age group 3 (> 18 years ≤ 40 years)

Average cost per medicine item for age group 3					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	3	4 185 718	Total cost	77.93 ± 74.80	326 172 969.89
			Medical scheme contribution	70.20 ± 139.88	293 838 995.51
			Patient contribution	7.72 ± 36.11	32 333 974.38
2006	3	4 449 232	Total cost	76.81 ± 164.51	341 753 256.88
			Medical scheme contribution	67.83 ± 157.96	301 793 065.19
			Patient contribution	8.98 ± 41.44	39 960 191.69
2007	3	3 767 436	Total cost	81.54 ± 244.79	307 198 230.45
			Medical scheme contribution	69.09 ± 233.88	260 298 977.44
			Patient contribution	12.45 ± 64.88	46 899 253.01
2008	3	2 855 035	Total cost	89.70 ± 341.38	256 086 187.17
			Medical scheme contribution	74.85 ± 325.08	213 699 666.80
			Patient contribution	14.85 ± 87.82	42 386 520.37
Average cost per prescription for age group 3					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	3	1 865 346	Total cost	174.86 ± 285.44	326 172 969.89
			Medical scheme contribution	157.53 ± 273.68	293 838 995.51
			Patient contribution	17.33 ± 66.31	32 333 974.38
2006	3	1 957 587	Total cost	174.58 ± 306.61±	341 753 256.88
			Medical scheme contribution	154.17 ± 292.98	301 793 065.19
			Patient contribution	20.41 ± 75.33	39 960 191.69
2007	3	1 637 457	Total cost	187.61 ± 436.99	307 198 230.45
			Medical scheme contribution	158.97 ± 415.80	260 298 977.44
			Patient contribution	28.64 ± 112.48	46 899 253.01
2008	3	1 257 884	Total cost	203.58 ± 593.79	256 086 187.17
			Medical scheme contribution	169.89 ± 563.22	213 699 666.80
			Patient contribution	33.70 ± 145.93	42 386 520.37
Average number of medicine items per prescription for age group 3					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	3	1 865 346		2.24 ± 1.36	4 185 718
2006	3	1 957 587		2.27 ± 1.38	4 449 232
2007	3	1 637 457		2.30 ± 1.40	3 767 436
2008	3	1 257 884		2.27 ± 1.40	2 855 035
Average number of prescriptions per patient for age group 3					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	3	359 809		5.18 ± 5.76	1 865 346
2006	3	370 653		5.28 ± 5.97	1 957 587
2007	3	254 800		6.43 ± 6.37	1 637 457
2008	3	170 231		5.53 ± 5.94	1 257 884

Table 4.17: Analysis of the prescribing patterns of age group 3 (> 18 years ≤ 40 years) with epilepsy

Average cost per anti-epileptic medicine item for age group 3					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	3	44 111	Total cost	262.66 ± 188.11	11 586 198.39
			Medical scheme contribution	236.84 ± 183.49	10 447 453.21
			Patient contribution	25.82 ± 71.34	1 138 745.18
2006	3	48 804	Total cost	243.74 ± 180.31	11 895 360.37
			Medical scheme contribution	218.43 ± 174.49	10 660 476.19
			Patient contribution	25.30 ± 68.12	1 234 884.18
2007	3	45 831	Total cost	240.98 ± 177.51	11 044 425.61
			Medical scheme contribution	209.87 ± 169.57	9 618 639.55
			Patient contribution	31.11 ± 72.60	1 425 786.06
2008	3	42 801	Total cost	245.91 ± 181.26	10 525 075.80
			Medical scheme contribution	211.29 ± 171.22	9 043 514.12
			Patient contribution	34.62 ± 70.07	1 481 561.68
Average cost per prescription for anti-epileptic medicine for age group 3					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	3	32 591	Total cost	355.50 ± 307.12	11 586 198.39
			Medical scheme contribution	320.56 ± 295.13	10 447 453.21
			Patient contribution	34.94 ± 95.13	1 138 745.18
2006	3	35 641	Total cost	333.75 ± 295.14	11 895 360.37
			Medical scheme contribution	299.11 ± 281.36	10 660 476.19
			Patient contribution	34.65 ± 92.74	1 234 884.18
2007	3	33 259	Total cost	332.07 ± 296.27	11 044 425.61
			Medical scheme contribution	289.20 ± 279.60	9 618 639.55
			Patient contribution	42.87 ± 95.08	1 425 786.06
2008	3	30 558	Total cost	344.43 ± 307.26	10 525 075.80
			Medical scheme contribution	295.95 ± 286.68	9 043 514.12
			Patient contribution	48.48 ± 93.56	1 481 561.68
Average number of anti-epileptic medicine items per prescription for age group 3					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	3	32 591		1.35 ± 0.67	44 111
2006	3	35 641		1.37 ± 0.69	48 804
2007	3	33 259		1.38 ± 0.70	45 831
2008	3	30 558		1.40 ± 0.72	42 801
Average number of anti-epileptic prescriptions per patient for age group 3					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient**	**Total number of prescriptions**
2005	3	7 855		4.15 ± 4.44	32 591
2006	3	8 336		4.28 ± 4.59	35 641
2007	3	7 081		4.70 ± 4.72	33 259
2008	3	6 048		5.05 ± 4.95	30 558

Age group three included all the patients that were older than 18 years and all the patients that were equal to and younger than 40 years. As indicated the total number of patients of the total database that formed part of this group added up to 359 809 in 2005, 370 653 in 2006, 254 800 in 2007 and 170 231 in 2008. Of this total number of patients, 2.18% were patients using anti-epileptic medicine in 2005, 2.25% in 2006, 2.78% in 2007 and increased even more to 3.55% in 2008 (refer to tables 4.16 and 4.17).

The number of prescriptions claimed on the total database as used by this age group accounted for 1 865 346 in 2005, 1 957 587 in 2006, 1 637 457 in 2007 and 1 257 884 in 2008. The patients using anti-epileptic medicine claimed 1.75% (n = 32 591) of this total number in 2005. This increased in 2006, when 1.82% (n = 35 641) anti-epileptic prescriptions were claimed, in 2007, 2.03% (n = 33 259) were claimed and in 2008 it was even higher with 2.43% (n = 30 558) anti-epileptic prescriptions that were claimed (refer to Tables 4.16 and 4.17).

With regard to the prescription expenditure of age group three, the anti-epileptic prescription cost in 2005 accounted for 3.55% (n = R 11 586 198.39) of the prescription cost of the same age group on the total database. In 2006 there was a slight decrease, in the anti-epileptic prescription cost (3.48%, n = R 11 895 360.37), whilst in 2007 there was a slight increase compared to 2006, when the anti-epileptic prescription cost accounted for 3.60% (n = R 11 044 425.61) of the total and in 2008 it was even higher with 4.11% (n = R 10 525 075.80). The medical scheme contribution in 2005 was 90.17% of the final anti-epileptic prescription cost, 89.62% in 2006, 87.09% in 2007 and 85.92% in 2008. This indicated that the patients using anti-epileptic medicine needed to pay more for their medicine and this is clear when looking at the patient contribution. The patient contribution increased from 2005 to 2008. In 2005, 9.83% of the final anti-epileptic prescription cost was payable by a patient, in 2006 it was 10.38%, 12.91% in 2007 and 14.08% in 2008 (refer to Tables 4.16 and 4.17).

Table 4.18: *d*-value of the differences between the average cost of anti-epileptic medicine and all medicine items on the total database for age group three

***d*-value: Total cost per anti-epileptic medicine item in comparison to total cost per medicine item for total database**	
Year	**d-value**
2005	0.98
2006	0.93
2007	0.90
2008	0.86
d-value: Total cost per anti-epileptic prescription in comparison with cost per prescription of the total database	
2005	0.59
2006	0.52
2007	Lower than 0.5
2008	Lower than 0.5

The *d*-value with regard to the anti-epileptic medicine items in comparison to the medicine item cost of the total database was of practical significance from 2005 to 2008. The *d*-value of the average cost per anti-epileptic prescription was observable in comparison to the prescription cost of the total database in 2005 and 2006, in 2007 and 2008 this value was lower than 0.5.

The anti-epileptic medicine items that were claimed in 2005 were 1.05% (n = 44 111) of all the medicine items claimed by the same age group in the total database. In 2006 this stayed relatively the same with 1.10 % (n = 48 804). In 2007 it increased relatively to 1.22 % (n = 45 831), whilst the total number of anti-epileptic medicine items even increased more in 2008 to 1.50 % (n = 42 801).

This age group received between 1.35 ± 0.67 anti-epileptic medicine items per prescription for 2005 and 2008, whilst the number of anti-epileptic prescriptions per year varied from 4.15 ± 4.44 and 5.05 ± 4.95 for the study period 2005 to 2008. This showed an increase in both the number of anti-epileptic medicine items and the number of anti-epileptic prescriptions per patient from 2005 to 2008.

Table 4.19: Analysis of the prescribing patterns of age group 4 (> 40 years ≤ 64 years)

Average cost per medicine item for age group 4					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	4	8 302 493	Total cost	98.46 ± 178.24	817 439 834.55
			Medical scheme contribution	87.31 ± 171.09	724 905 923.70
			Patient contribution	11.15 ± 45.99	92 533 910.85
2006	4	9 197 629	Total cost	97.52 ± 212.03	896 942 443.58
			Medical scheme contribution	85.42 ± 206.06	785 663 445.92
			Patient contribution	12.10 ± 46.75	111 278 997.66
2007	4	8 439 370	Total cost	104.93 ± 361.17	885 537 204.39
			Medical scheme contribution	89.643 ± 41.83	756 502 198.52
			Patient contribution	15.29 ± 102.61	129 035 005.87
2008	4	7 658 730	Total cost	111.00 ± 482.81	850 128 557.09
			Medical scheme contribution	93.16 ± 463.75	713 491 690.16
			Patient contribution	17.84 ± 124.42	136 636 866.93
Average cost per prescription for age group 4					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	4	3 588 703	Total cost	227.78 ± 364.87	817 439 834.55
			Medical scheme contribution	202.00 ± 346.93	724 905 923.70
			Patient contribution	25.78 ± 86.56	92 533 910.85
2006	4	3 883 707	Total cost	230.95 ± 427.19	896 942 443.58
			Medical scheme contribution	202.30 ± 411.19	785 663 445.92
			Patient contribution	28.65 ± 90.49	111 278 997.66
2007	4	3 490 196	Total cost	253.72 ± 667.50	885 537 204.39
			Medical scheme contribution	216.75 ± 634.30	756 502 198.52
			Patient contribution	36.97 ± 170.94	129 035 005.87
2008	4	3 132 007	Total cost	271.43 ± 871.99	850 128 557.09
			Medical scheme contribution	227.81 ± 837.67	713 491 690.16
			Patient contribution	43.63 ± 206.43	136 636 866.93
Average number of medicine items per prescription for group 4					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	4	3 588 703		2.31 ± 1.52	8 302 493
2006	4	3 883 707		2.37 ± 1.56	9 197 629
2007	4	3 490 196		2.42 ± 1.60	8 439 370
2008	4	3 132 007		2.45 ± 1.63	7 658 730
Average number of prescriptions per patient for age group 4					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	4	425 806		8.43 ± 8.42	3 588 693
2006	4	452 910		8.58 ± 8.63	3 883 707
2007	4	325 186		10.73 ± 8.94	3 490 196
2008	4	392 341		8.09 ± 8.09	3 132 007

Table 4.20: Analysis of prescribing patterns for age group 4 (> 40 years ≤ 64 years) with epilepsy

Average cost per anti-epileptic medicine item for age group 4					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	4	75 378	Total cost	218.46 ± 169.50	16 467 386.82
			Medical scheme contribution	194.82 ± 162.69	14 684 950.38
			Patient contribution	23.65 ± 63.27	1 782 436.44
2006	4	83 202	Total cost	206.48 ± 159.91	17 179 524.29
			Medical scheme contribution	181.27 ± 153.36	15 081 830.20
			Patient contribution	25.21 ± 64.12	2 097 694.09
2007	4	78 862	Total cost	212.60 ± 170.11	16 765 885.03
			Medical scheme contribution	183.08 ± 160.20	14 438 051.04
			Patient contribution	29.52 ± 67.74	2 327 833.99
2008	4	79 032	Total cost	216.35 ± 170.91	17 098 323.19
			Medical scheme contribution	180.43 ± 160.33	14 259 590.73
			Patient contribution	35.92 ± 76.15	2 838 732.46
Average cost per prescription for anti-epileptic medicine for age group 4					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	4	61 989	Total cost	272.57 ± 256.99	16 467 386.82
			Medical scheme contribution	243.05 ± 244.41	14 684 950.38
			Patient contribution	29.52 ± 80.01	1 782 436.44
2006	4	68 247	Total cost	259.54 ± 239.93	17 179 524.29
			Medical scheme contribution	227.55 ± 226.25	15 081 830.20
			Patient contribution	31.99 ± 81.20	2 097 694.09
2007	4	64 523	Total cost	267.73 ± 251.25	16 765 885.03
			Medical scheme contribution	230.51 ± 233.72	14 438 051.04
			Patient contribution	37.22 ± 84.09	2 327 833.99
2008	4	64 764	Total cost	272.69 ± 248.46	17 098 323.19
			Medical scheme contribution	227.05 ± 229.99	14 259 590.73
			Patient contribution	45.64 ± 93.06	2 838 732.46
Average number of anti-epileptic medicine items per prescription for age group 4					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	4	61 989		1.26 ± 0.60	75 378
2006	4	68 247		1.26 ± 0.59	83 202
2007	4	64 523		1.26 ± 0.60	78 862
2008	4	64 764		1.27 ± 0.60	79 032
Average number of anti-epileptic prescriptions per patient for age group 4					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	4	13 891		4.46 ± 4.59	61 989
2006	4	14 917		4.58 ± 4.71	68 247
2007	4	13 589		4.75 ± 4.82	64 523
2008	4	13 791		4.70 ± 4.76	64 764

Age group four included all patients that were equal to and older than 40 years and all the patients that were equal to and younger than 64 years. The total number of patients on the total database that formed part of this group added up to 425 806 in 2005, 452 910 in 2006, 325 186 in 2007 and 392 341 in 2008. Of this total 3.26% were patients using anti-epileptic medicine in 2005, 3.29% in 2006, 4.18% in 2007, decreasing slightly to 3.52% in 2008 (refer to Tables 4.19 and 4.20).

The total number of prescriptions claimed on the database as used by this age group accounted for 3 588 703 in 2005, 3 883 707 in 2006, 3 490 196 in 2007 and 3 132 007 in 2008. Patients using anti-epileptic medicine claimed 1.73% (n = 61 989) anti-epileptic prescriptions in 2005 when compared with the same age group of the total database. This increased slightly in 2006, when 1.76% (n = 68 247) anti-epileptic prescriptions were claimed, in 2007, 1.85% (n = 64 523) were claimed and in 2008 it was even higher with 2.07% (n = 64 764) anti-epileptic prescriptions that were claimed (refer to tables 4.19 and 4.20).

With regard to prescription expenditure of age group four, the anti-epileptic prescription cost in 2005 accounted for 2.01% (n = R 16 467 386.82) of the same age group of the total database. In 2006 there was a slight decrease to 1.91% (n = R 17 179 524.29). In 2007 the anti-epileptic prescription cost decreased even more, when the prescription cost accounted for 1.89% (n = R 16 765 885.03) of the total cost of all medicine items and in 2008 it was the highest with 2.01% (n = R 17 098 323.19). The medical aid contribution in 2005 was 89.17% of the final prescription cost, whilst in 2006 it was 87.67% In 2007 86.10% was payable by the medical scheme and 83.26% in 2008. This indicated that patients using anti-epileptic medicine needed to pay more for their medicine and this is clear when looking at the patient contribution. The patient contribution on anti-epileptic medicine increased from 2005 to 2008. In 2005, 10.83% of the final anti-epileptic prescription cost was payable by a patient, in 2006, 12.33%, 13.90% in 2007 and 16.74% in 2008 (refer to Tables 4.19 and 4.20).

Table 4.21: *d*-value of the differences between the average cost of anti-epileptic medicine and all medicine items on the total database for age group four.

Total cost per anti-epileptic medicine item in comparison to total cost per medicine item for total database	
Year	***d*-value**
2005	0.67
2006	0.51
2007	< 0.5
2008	< 0.5

In age group 4, the *d*-value was of intermediate practical significance in 2005 and 2006 with regard to the average anti-epileptic medicine item cost in comparison to the average cost per medicine item of the total database. The *d*-value for the rest of the study period and for the anti-epileptic prescription cost was lower than 0.5.

Anti-epileptic medicine items that were claimed in 2005 represented 0.91% (n = 75 378) of all the medicine items claimed by the same age group in the total database. In 2006 this stayed relatively the same with 0.90% (n = 83 202). In 2007 it increased relatively to 0.93% (n = 78 862), whilst the total number of anti-epileptic items even increased more in 2008 to 1.03% (n = 79 032).

Age group four received between 1.26 ± 0.59 and 1.27 ± 0.60 anti-epileptic medicine items per prescription from 2005 to 2008, whilst the number of prescriptions per year that contained anti-epileptic medicine varied from 4.46 ± 4.59 and 4.75 ± 4.82 for the study period 2005 to 2008. This indicated that the number of anti-epileptic medicine items per prescription stayed relatively the same over the four years, whilst the number of anti-epileptic prescriptions varied over the four-year period, with the most prescriptions received per patient in 2007.

Table 4.22: Analysis of the prescribing patterns of age group 5 (> 64 years)

Average cost per medicine item for age group 5					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	5	4 278 716	Total cost	119.09 ±192.84	509 545 958.16
			Medical scheme contribution	101.27 ± 184.91	433 294 523.20
			Patient contribution	17.82 ± 47.53	76 251 434.96
2006	5	4 578 463	Total cost	119.25 ± 231.58	545 990 906.44
			Medical scheme contribution	99.90 ± 224.76	457 387 840.20
			Patient contribution	19.35 ± 52.36	88 603 066.24
2007	5	4 444 075	Total cost	128.43 ± 373.23	570 763 311.00
			Medical scheme contribution	105.39 ± 345.23	468 363 872.62
			Patient contribution	23.04 ± 133.71	102 399 438.30
2008	5	4 237 155	Total cost	132.46 ± 480.01	561 263 573.86
			Medical scheme contribution	107.11 ± 464.99	453 857 043.61
			Patient contribution	25.35 ± 103.12	107 406 530.25
Average cost per prescription for age group 5					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	5	1 725 902	Total cost	295.23 ± 419.62	509 545 958.16
			Medical scheme contribution	251.05 ± 393.96	433 294 523.20
			Patient contribution	44.18 ± 98.83	76 251 434.96
2006	5	1 809 963	Total cost	301.66 ± 490.89	545 990 906.44
			Medical scheme contribution	252.71 ± 468.12	457 387 840.20
			Patient contribution	48.95 ± 110.05	88 603 066.24
2007	5	1 723 841	Total cost	331.10 ± 718.27	570 763 311.00
			Medical scheme contribution	271.70 ± 667.04	468 363 872.62
			Patient contribution	59.40 ± 232.23	102 399 438.30
2008	5	1 619 311	Total cost	346.61 ± 904.86	561 263 573.86
			Medical scheme contribution	280.28 ± 872.75	453 857 043.61
			Patient contribution	66.33 ± 188.57	107 406 530.25
Average number of medicine items per prescription for age group 5					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	5	1 725 902		2.48 ± 1.84	4 278 716
2006	5	1 809 963		2.53 ± 1.88	4 578 463
2007	5	1 723 841		2.58 ± 1.92	4 444 075
2008	5	1 619 311		2.62 ± 1.90	4 237 155
Average number of prescriptions per patient for age group 5					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescriptions**
2005	5	132 140		13.06 ± 10.71	1 725 902
2006	5	138 438		13.07 ± 10.96	1 809 963
2007	5	104 402		16.51 ± 10.63	1 723 841
2008	5	118 326		13.76 ± 11.00	1 619 311

Table 4.23: Analysis of the prescribing patterns of age group 5 (> 64 years) with epilepsy

Average cost per anti-epileptic medicine item for age group 5					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	5	39 703	Total cost	171.71 ± 136.18	6 817 511.11
			Medical scheme contribution	148.53 ± 128.36	5 897 040.93
			Patient contribution	23.18 ± 51.26	920 470.18
2006	5	43 988	Total cost	168.64 ± 134.47	7 418 046.23
			Medical scheme contribution	142.33 ± 124.47	6 260 969.20
			Patient contribution	26.30 ± 60.29	1 157 077.03
2007	5	42 323	Total cost	173.24 ± 140.25	7 332 005.78
			Medical scheme contribution	144.69 ± 129.89	6 123 573.21
			Patient contribution	28.55 ± 61.09	1 208 432.57
2008	5	44 490	Total cost	184.62 ± 146.86	8 213 714.08
			Medical scheme contribution	146.29 ± 132.91	6 508 512.00
			Patient contribution	38.33 ± 75.17	1 705 202.08
Average cost per prescription for anti-epileptic medicine for age group 5					
Year	**Age**	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	5	32 668	Total cost	195.57 ± 180.38	6 817 511.11
			Medical scheme contribution	168.84 ± 170.26	5 897 040.93
			Patient contribution	26.72 ± 58.99	920 470.18
2006	5	36 050	Total cost	190.97 ± 177.24	7 418 046.23
			Medical scheme contribution	161.26 ± 165.40	6 260 969.20
			Patient contribution	29.72 ± 63.66	1 157 077.03
2007	5	34 212	Total cost	199.44 ±192.26	7 332 005.78
			Medical scheme contribution	166.27 ± 177.98	6 123 573.21
			Patient contribution	33.17 ± 69.40	1 208 432.57
2008	5	36 237	Total cost	211.16 ± 193.02	8 213 714.08
			Medical scheme contribution	167.33 ± 175.70	6 508 512.00
			Patient contribution	43.83 ± 83.61	1 705 202.08
Average number of anti-epileptic medicine items per prescription for age group 5					
Year	**Age**	**Number of prescriptions**		**Average number of items per prescription Mean ± Std Dev**	**Total number of items**
2005	5	32 668		1.14 ± 0.41	39 703
2006	5	36 050		1.15 ± 0.44	43 988
2007	5	34 212		1.17 ± 0.45	42 323
2008	5	36 237		1.15 ± 0.44	44 490
Average number of anti-epileptic prescriptions per patient for age group 5					
Year	**Age**	**Number of patients**		**Average number of prescriptions per patient Mean ± Std Dev**	**Total number of prescription**
2005	5	5 821		5.61 ± 4.91	32 668
2006	5	6 337		5.69 ± 4.90	36 050
2007	5	6 076		5.63 ± 4.94	34 212
2008	5	6 841		5.30 ± 4.81	36 237

Age group five included all the patients that were older than 64 years. In the study period as indicated the total number of patients of the total database that formed part of this group added up to 132 140 in 2005, 138 438 in 2006, 104 402 in 2007 and 118 326 in 2008. Of this total 4.41% were epileptics in 2005, 4.58% in 2006, 5.82% in 2007 and decreased slightly to 5.78% in 2008 (refer to Tables 4.22 and 4.23).

The number of prescriptions claimed on the total database as used by this age group accounted for 1 725 902 in 2005, 1 809 963 in 2006, 1 723 841 in 2007 and 1 619 311 in 2008. The anti-epileptic patients claimed 1.89% (n = 32 668) anti-epileptic prescriptions in 2005 when compared with the same age group of the total database. This increased slightly in 2006, when 1.99% (n = 36 050) anti-epileptic prescriptions were claimed. In 2007 it stayed relatively the same with 1.98% (n = 34 212) and in 2008 it was the highest with 2.24% (n = 36 237) anti-epileptic prescriptions that were claimed (refer to tables 4.22 and 4.23).

With regard to the prescription expenditure of this age group, the anti-epileptic prescription cost in 2005 accounted for 1.33% (n = R 6 817 511.11) of the total cost of the same age group on the total database. In 2006 it stayed relatively the same with 1.35% (n = R 7 418 046.23) of the total database. In 2007 there was a decrease, the anti-epileptic prescription cost accounted for 1.28% (n = R 7 332 005.78) of the total cost on the total database and in 2008 it was the highest with 1.46% (n = R 8 213 714.08). Interesting was the medical aid contribution. In 2005 medical schemes were liable for 86.34% of the final anti-epileptic prescription cost, 84.43% in 2006, 83.37% in 2007 and 79.24% in 2008. This indicated that the anti-epileptic patients needed to pay more for their anti-epileptic medicine and this is clear when looking at the patient contribution. The patient contribution increased from 2005 to 2008. In 2005, 13.66% of the final anti-epileptic prescription cost was payable by a patient, in 2006, 15.56%, 16.63% in 2007 and 20.76% in 2008 (refer to Tables 4.22 and 4.23).

The *d*-value for this age group with regard to both the anti-epileptic medicine item cost and the anti-epileptic prescription cost was of no practical significance since all the values were lower than 0.5.

Anti-epileptic medicine items in 2005 represented 0.93% (n = 39 703) of all the medicine items claimed by the same age group in the total database. In 2006 this increased relatively to 0.96% (n = 43 988).

In 2007 it stayed relatively the same, when 0.95% (n = 42 323) anti-epileptic medicine items were claimed. However, the total number of anti-epileptic medicine items increased in 2008 to 1.05% (n = 44 490).

This age group received between 1.14 ± 0.41 and 1.17 ± 0.45 anti-epileptic medicine items per prescription from 2005 to 2007, whilst the number of prescriptions per patient using anti-epileptic medicine per year varied from 5.61 ± 4.91 and 5.69 ± 4.90 for the study period 2005 to 2006. This indicated that both the number of anti-epileptic medicine items and the number of anti-epileptic prescriptions per patient stayed relatively the same over the four-year period.

4.3.2.2.1 Summary of the age groups

The following paragraphs will contain a summary on the prescribing patterns for the different age groups.

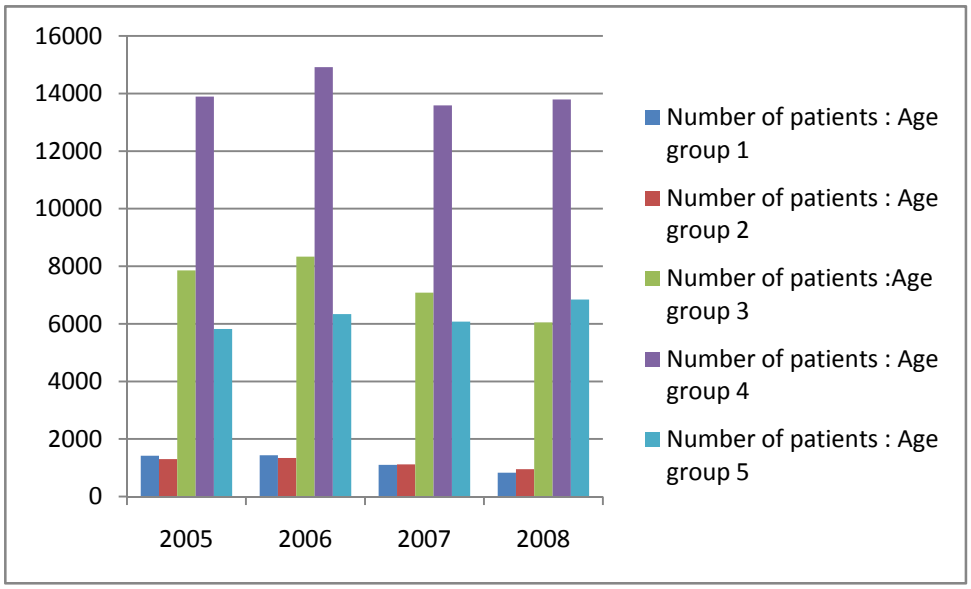

Figure 4.4: Number of patients using anti-epileptic medicine for different age groups over the four-year study period

In Figure 4.4 the largest age group is > than 40 years and ≤ 64 years, whilst the smallest group shifted between age groups 1 and 2. In 2005 and 2006, the number of patients using anti-epileptic medicine in age group 1 was higher than age group 2, however in 2007 and 2008 the opposite was true, when group 2 had more patients. Taking the number of anti-epileptic prescriptions into account, the number claimed for age group 2 in 2005, 2007 and 2008 exceeded that of age group 1, although there were fewer patients in 2005.

When looking at groups 3 and 5, it is clear that from 2005 to 2007 the number of epileptics in group 3 was higher than the number in group 5, but in 2008, the number of epileptics in group 5 was higher. The number of anti-epileptic prescriptions showed a different pattern. In 2005, 2006 and 2008 the number of prescriptions for group 5 was higher than for group 3.

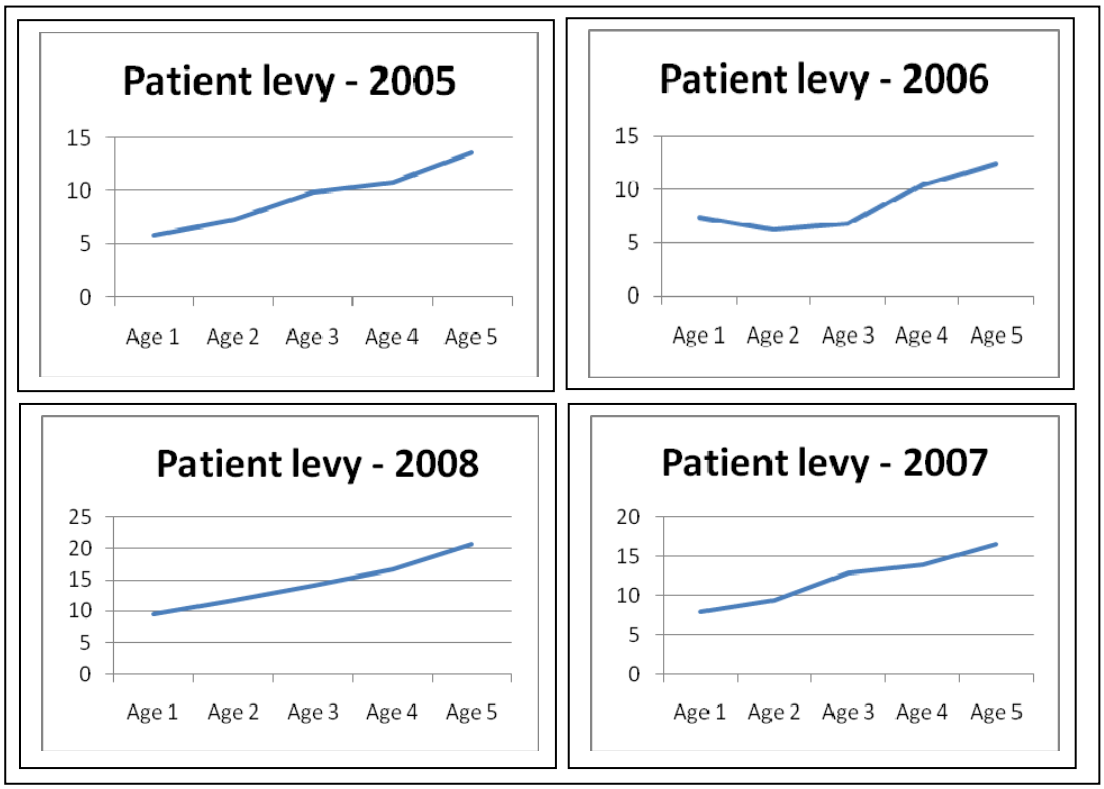

Figure 4.5: Percentage patient contribution to anti-epileptic prescription cost for the different age groups over the four-year study period.

As summarised in Figure 4.4 there was an increase in the patient contribution for anti-epileptic medicine as the age groups advanced in age. This indicates that the medical scheme contribution was less for older patients.

In section 2.2.1 it was indicated that the prevalence of epilepsy increased as age increased. The prevalence of the different age groups was expressed in percentage form with regard to the total database in the previous discussions.

When these percentages were compared from age group 1 to 5, the average percentages were, 0.73%, 1.11 %, 2.69%, 3.56% and 5.15% of the total database respectively. This, however, was a clear indication that prevalence of patients using anti-epileptic medicine increased as age increased.

Table 4.24: Average cost per medicine item according to different prescribers of anti-epileptic medicine

Average cost per item				
General practitioners				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	92 117	Total cost	195.74 ± 158.09	18 030 988.32
		Medical scheme contribution	176.94 ± 151.87	16 299 541.62
		Patient contribution	18.80 ± 52.77	1 731 446.70
2006	99 955	Total cost	188.38 ± 150.23	18 829 839.56
		Medical scheme contribution	167.26 ± 143.10	16 718 455.06
		Patient contribution	21.12 ± 57.16	2 111 384.50
2007	91 078	Total cost	194.55 ± 160.24	17 719 059.38
		Medical scheme contribution	169.72 ± 150.47	15 457 893.66
		Patient contribution	24.83 ± 61.12	2 261 165.72
2008	88 776	Total cost	197.28 ± 162.39	17 513 835.85
		Medical scheme contribution	165.65 ± 150.10	14 705 432.23
		Patient contribution	31.63 ± 69.61	2 808 403.62
Neurologists				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	26 301	Total cost	287.00 ± 193.93	7 548 324.34
		Medical scheme contribution	262.31 ± 190.11	6 899 022.51
		Patient contribution	24.69 ± 69.11	649 301.83
2006	27 888	Total cost	267.76 ± 191.35	7 467 206.91
		Medical scheme contribution	240.93 ± 185.45	6 718 918.23
		Patient contribution	26.83 ± 72.87	748 288.68
2007	27 573	Total cost	262.45 ±192.86	7 236 620.55
		Medical scheme contribution	231.09 ±183.39	6 371 830.53
		Patient contribution	31.36 ± 70.50	864 790.02
2008	25 958	Total cost	267.76 ± 200.76	6 950 540.10
		Medical scheme contribution	230.26 ± 189.47	5 976 995.71
		Patient contribution	37.50 ± 76.42	973 544.39
Other prescribers				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	31 136	Total cost	213.86 ± 152.26	6 658 807.73
		Medical scheme contribution	190.75 ± 147.63	5 939 201.54
		Patient contribution	23.11 ± 59.83	719 606.19
2006	34 874	Total cost	206.00 ± 150.18	7 184 161.46
		Medical scheme contribution	181.29 ± 144.34	6 322 352.22
		Patient contribution	24.71 ± 60.61	861 809.24
2007	32 513	Total cost	207.18 ± 156.99	6 735 941.62
		Medical scheme contribution	176.91 ± 147.33	5 751 811.67
		Patient contribution	30.27 ± 69.41	984 129.95
2008	32 200	Total cost	221.46 ± 162.92	7 131 047.74
		Medical scheme contribution	179.86 ± 153.09	5 791 429.15
		Patient contribution	41.60 ± 82.77	1 339 618.59
Psychiatrists				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	25 388	Total cost	241.94 ± 169.25	6 142 454.96
		Medical scheme contribution	203.57 ± 162.32	5 168 109.50
		Patient contribution	38.38 ± 80.12	974 345.46
2006	30 652	Total cost	214.34 ± 151.86	6 569 863.74
		Medical scheme contribution	181.66 ± 148.24	5 568 223.11
		Patient contribution	32.68 ± 70.15	1 001 640.63
2007	31 669	Total cost	215.67 ± 149.41	6 830 122.93
		Medical scheme contribution	179.45 ± 144.34	5 682 939.87
		Patient contribution	36.22 ±71.29	1 147 183.06
2008	32 610	Total cost	220.05 ± 148.97	7 175 679.17
		Medical scheme contribution	182.66 ± 143.68	5 956 597.33
		Patient contribution	37.38 ± 70.28	1 219 081.84

Table 4.25: Average cost per prescription according to the different prescribers of anti-epileptic medicine

Average cost per prescription				
General Practitioners				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	76 263	Total cost	236.43 ± 229.97	18 030 988.32
		Medical scheme contribution	213.73 ± 219.30	16 299 541.62
		Patient contribution	22.70 ± 65.12	1 731 446.70
2006	82 443	Total cost	228.40 ± 219.20	18 829 839.56
		Medical scheme contribution	202.79 ± 206.96	16 718 455.06
		Patient contribution	25.61 ± 69.30	2 111 384.50
2007	74 466	Total cost	237.95 ± 236.40	17 719 059.38
		Medical scheme contribution	207.58 ± 220.11	15 457 893.66
		Patient contribution	30.37 ± 74.07	2 261 165.72
2008	72 843	Total cost	240.43 ± 233.62	17 513 835.85
		Medical scheme contribution	201.88 ± 214.15	14 705 432.23
		Patient contribution	38.55 ± 83.45	2 808 403.62
Neurologists				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	17 280	Total cost	436.82 ± 365.08	7 548 324.34
		Medical scheme contribution	399.25 ± 353.02	6 899 022.51
		Patient contribution	37.58 ± 100.06	649 301.83
2006	18 416	Total cost	405.47 ± 345.51	7 467 206.91
		Medical scheme contribution	364.84 ± 330.39	6 718 918.23
		Patient contribution	40.63 ±103.06	748 288.68
2007	18 075	Total cost	400.37 ± 347.11	7 236 620.55
		Medical scheme contribution	352.52 ± 329.63	6 371 830.53
		Patient contribution	47.84 ± 97.30	864 790.02
2008	16 990	Total cost	409.10 ± 355.04	6 950 540.10
		Medical scheme contribution	351.79 ± 335.33	5 976 995.71
		Patient contribution	57.30 ± 103.55	973 544.39
Other prescribers				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	25 515	Total cost	260.98 ± 234.14	6 658 807.73
		Medical scheme contribution	232.77 ± 224.75	5 939 201.54
		Patient contribution	28.20 ± 74.04	719 606.19
2006	28 599	Total cost	251.20 ± 228.52	7 184 161.46
		Medical scheme contribution	221.07 ± 218.43	6 322 352.22
		Patient contribution	30.13 ± 72.50	861 809.24
2007	26 882	Total cost	250.57 ± 232.57	6 735 941.62
		Medical scheme contribution	213.97 ± 217.00	5 751 811.67
		Patient contribution	36.61 ± 82.58	984 129.95
2008	26 734	Total cost	266.74 ± 236.74	7 131 047.74
		Medical scheme contribution	216.63 ± 219.51	5 791 429.15
		Patient contribution	50.11 ± 96.65	1 339 618.59
Psychiatrists				
Year	**Frequency (N)**	**Variable**	**Mean ± Std Dev (R)**	**Total Cost (R)**
2005	20 239	Total cost	303.50 ± 230.89	6 142 454.96
		Medical scheme contribution	255.35 ± 218.63	5 168 109.50
		Patient contribution	48.14 ± 99.38	974 345.46
2006	23 744	Total cost	276.70 ± 212.92	6 569 863.74
		Medical scheme contribution	234.51 ± 204.45	5 568 223.11
		Patient contribution	42.18 ± 89.13	1 001 640.63
2007	24 398	Total cost	279.95 ± 213.78	6 830 122.93
		Medical scheme contribution	232.93 ± 201.26	5 682 939.87
		Patient contribution	47.02 ± 90.55	1 147 183.06
2008	24 694	Total cost	290.58 ± 221.64	7 175 679.17
		Medical scheme contribution	241.22 ± 208.93	5 956 597.33
		Patient contribution	49.37 ± 89.22	1 219 081.84

4.3.3 Analysis of the different prescribers of anti-epileptic medicine

In the section that follows the four different prescribers namely, General Practitioner (GP), Neurologist (N), Other (O) and Psychiatrist (P) will be discussed as summarised with regard to the anti-epileptic medicine item cost (Table 4.24) and cost per anti-epileptic prescription (Table 4.25).

The number of anti-epileptic medicine items as prescribed by a GP calculated as 52.66% (N = 92 117) in 2005, 51.69% (N = 99 955) in 2006, 49.81% (N = 91 078) in 2007 and 49.46% (N = 88 776) in 2008 of all the medicine items prescribed for epileptics. The other three groups were relatively the same with the group that refers to all "other" (O) prescribers with a percentage in 2005 of 17.80% (N = 31 136) of the total anti-epileptic medicine items, 18.03% (N = 34 874) in 2006, 17.78% (N = 32 513) in 2007 and 17.93% (N = 32 200) in 2008. The neurologists and psychiatrists were also more or less the same with 15.03% (N = 26 301) in 2005, 14.42% (N = 27 888) in 2006, 15.08% (N = 27 573) in 2007, 14.46% (n = 25 958) in 2008 and 14.51% (N = 25 388) in 2005, 15.85% (N = 30 652) in 2006, 17.32% (N = 31 669) in 2007 and 18.16% (N = 32 610) in 2008 respectively (refer to tables 4.2 and 4.24).

The expenditures as per prescriber were measured by enclosing the total cost per anti-epileptic medicine item per prescriber in comparison to the total cost per anti-epileptic item of all anti-epileptic medicine items that were prescribed for that specific year. The total cost for anti-epileptic medicine prescribed by a GP was consistently higher than the rest of the prescribers. In 2005, the total cost for anti-epileptic medicine as prescribed by a GP was 46.98% (n = R 18 030 988.22) of the total cost for all anti-epileptic medicine prescribed in that year, in 2006 this percentage increased to 47.01% (n = R 18 829 839.56), whilst in 2007 it decreased to 46.0% (n = R 17 719 059.38) and in 2008 it was the lowest at 45.17% (n = R 17 513 835.85). The total cost of anti-epileptic medicine as prescribed by a neurologist (N) was on average, 18.76% of the total cost of all the anti-epileptic medicine prescribed over the four- year study period, whilst the O group prescribed on average, 17.79% from 2005 to 2008 and the P group's percentage expenditure was the lowest with an average of 17.16% over the four-year study period (refer to Tables 4.2 and 4.25).

Comparing the medical scheme contribution and patient contribution of anti-epileptic medicine as prescribed by a GP, it can be summarised that the medical scheme contribution of 90.40% (n = R 16 299 541.62) decreased from 2005 to 2008 to 83.96% (n = R 14 705 432.23), thus there is an increase in the patient contribution.

The same conclusion can be made with the N group, where the medical scheme contribution also decreased with 5.41% from 91.40% (n = R 6 899 022.51) in 2005 to 85.99% (n = R 5 976 995.71) in 2008.

The O group's medical scheme contribution also decreased from 89.19% (n = R 5 939 201.54) in 2005 to 81.21% (n = R 5 791 429.15) in 2008 and resulted in the increase in patient levy. The medical scheme contribution of group P was 84.14% (n = R 5 168 109.50) in 2005, 84.74% (n = 5 569 863) in 2006, 83.20% (n = 5 682 939) in 2007 and 83.01% (n = R 5 956 597.33) in 2008 (refer to Tables 4.24 and 4.25).

The average prescription cost for anti-epileptic medicine as prescribed by general practitioners and other prescribers, increased with 1.69 % (R 236.43 ± R 229.97 to R 240.43 ± R 233.62) and 2.21% (R 260.98 ± R 234.14 to R 266.74 ± R 236.74) respectively from 2005 to 2008. The average prescription cost for anti-epileptic medicine as prescribed by neurologists and psychiatrists, decreased with 6.35% (R 436.82 ± 365.08 to R 409.10 ± R 355.04) and 4.26% (R 303.50 ± R 230.89 to R 290.58 ± R 221.64) respectively over the four year study period (refer to Table 4.25).

4.3.4 Analysis of medicine products according to cost per tablet

The discussion that follows will contain the different anti-epileptic medicines as classified in Table 2.1, section 2.4. The MIMS classification system was used to categorise the medicine (See section 3.3.4.1).

Table 4.26: Analysis of top ten trade names according to average cost per tablet

Position	Year	Medicine	Active ingredient	Number of prescriptions	Mean ± Std Dev (R)
1	2005	EPILIM ® IV 400MG INJ®	Valproate	2	253.34 ± 14.51
2		EPANUTIN ® READY 5ML INJ®	Phenytoin	8	183.88 ± 42.57
3		RIVOTRIL ® 1MG/ML INJ®	Clonazepam	15	29.90 ± 5.06
4		KEPPRA ® 1000MG TABS®	Levetiracetam	20	18.34 ± 4.30
5		TOPAMAX ® 200MG TAB®	Topiramate	716	16.28 ± 0.87
6		KEPPRA ® 750MG TABS®	Levetiracetam	386	14.97 ± 0.81
7		RIVOTRIL ® DRP®	Clonazepam	174	12.91 ± 3.68
8		LAMICTIN ® P 200MG DISP TAB	Lamotrigine	45	12.14 ± 0.17
9		LAMICTIN ® 200MG TAB	Lamotrigine	4872	12.13 ± 0.83
10		TOPAMAX ® 100MG TAB	Topiramate	3568	11.03 ± 0.74
Position	**Year**	**Medicine**	**Active ingredient**	**Number of prescriptions**	**Mean ± Std Dev (R)**
1	2006	EPILIM IV ® 400MG INJ	Valproate	3	246.37 ± 5.06
2		EPANUTIN ® READY 5ML INJ	Phenytoin	13	178.20 ± 54.07
3		RIVOTRIL ® 1MG/ML INJ	Clonazepam	16	26.34 ± 7.47
4		KEPPRA ® 1000MG TABS	Levetiracetam	4	19.30 ± 0.00
5		TOPAMAX ® 200MG TAB	Topiramate	801	16.05 ± 1.51
6		KEPPRA ® 750MG TABS	Levetiracetam	782	14.90 ± 0.73
7		RIVOTRIL ® DRP	Levetiracetam	174	12.62 ± 0.82
8		TOPAMAX ® 100MG TAB	Topiramate	4175	10.97 ± 1.04
9		GARDENAL ® SOD 200MG/ML INJ	Phenobarbital	1	10.45 ± 0.00
10		LAMICTIN ® 200MG TAB	Lamotrigine	4064	10.04 ± 1.18
Position	**Year**	**Medicine**	**Active ingredient**	**Number of prescriptions**	**Mean ± Std Dev (R)**
1	2007	EPANUTIN ® 5ML 250MG INJ	Valproate	1	209.81 ± 0.00
2		RIVOTRIL ® 1MG/ML INJ	Clonazepam	11	28.26 ± 4.59
3		TOPAMAX ® 200MG TAB	Topiramate	663	16.77 ± 2.66
4		KEPPRA ® 750MG TABS	Levetiracetam	924	14.81 ± 1.71
5		RIVOTRIL ® DRP	Clonazepam	181	12.34 ± 2.44
6		SANDOZ TOPIRAMATE ® 200MG TAB	Topiramate	2	12.31 ± 0.81
7		TOPLEP ® 200MG TAB	Topiramate	89	12.04 ± 0.43
8		TOPAMAX ® 100MG TAB	Topiramate	3215	11.22 ± 2.10
9		PIRAMAX ® 200MG TAB	Topiramate	2	10.30 ± 0.00
10		LAMICATIN ® 200MG DISP TAB	Lamotrigine	28	10.21 ± 0.33

Table 4.26: Analysis of top ten trade names according to average cost per tablet contd.

Position	Year	Medicine	Active ingredient	Number of prescriptions	Mean ± Std Dev (R)
1	2008	EPILIM IV ® 400MG INJ	Valproate	2	266.10 ± 7.29
2		EPANUTIN ® 5ML 250MG INJ	Phenytoin	2	107.44 ±127.57
3		RIVOTRIL ® 1MG/ML INJ	Clonazepam	13	26.07 ± 8.36
4		TOPAMAX ® 200MG TAB	Topiramate	337	17.47 ± 2.43
5		KEPPRA ® 750MG TABS	Levetiracetam	1083	14.59 ± 2.23
6		RIVOTRIL ® DRP	Clonazepam	156	12.77 ± 2.04
7		TOPLEP ® 200MG TAB	Topiramate	278	12.26 ± 0.68
8		TOPAMAX ® 100MG TAB	Topiramate	2008	11.39 ± 2.19
9		SANDOZ TOPIRAMATE ® 200MG TAB	Topiramate	27	11.17 ± 2.96
10		PIRAMAX ® 200MG TAB	Topiramate	49	10.77 ± 0.44

4.3.4.1 Valproate (Epilim® IV 400 mg)

In 2005, 2006 and 2008 this item was the most expensive. In 2007 this item was not dispensed. The average cost amounted to R253.34 ± R14.51 in 2005, whilst it decreased slightly to R246.37 ± R5.06 in 2006 and increased again to R266.10 ± R7.29 in 2008.

4.3.4.2 Phenytoin (Epanutin ® Ready 5 ml INJ and Epanutin ® 5ml 250mg INJ)

In 2005 the average cost for this specific medicine was R183.88 ± R42.57. This average cost per decreased to R178.20 ± R54.07 in 2006. In 2007 there was a relatively high increase to R209.81 ± R0.00 and in 2008 R107.44 ± R 127.57.

4.3.4.3 Clonazepam (Rivotril 1 mg/ml Inj)

The average cost of this item stayed relatively constant throughout the study period. The average cost in 2005 amounted to R29.90 ± R5.06, in 2006 to R26.34 ± R7.47, 2007 to R28.26 ± R4.59 and in 2008 to R26.07 ± R8.36.

4.3.4.4 Levetiracetam (Keppra ® 1000 mg and 750 mg)

The product Keppra ® comes in different strengths and both the 750 mg as well as the 1000 mg tablets were among the top ten most expensive prescribed items according to cost per tablet. The 1000 mg tablets were dispensed in 2005 and 2006 and with an average cost per tablet of R18.34 ± R4.30 and R19.30 ± R0.00 respectively. In 2007 and 2008 none of this specific strength was prescribed.

The 750 mg tablets, however, were prescribed every year from 2005 to 2008 and showed a very consistent average cost per tablet. In 2005 the average cost per tablet was R14.97 ± R0.81 and in 2006 it was R14.90 ± R0.73. This average cost per tablet remained more or less the same at R14.81 ± R1.71 in 2007 and R14.59 ± R2.23 in 2008.

4.3.4.5 Topiramate (Topamax ® 200 mg and 100 mg, Toplep ®, Piramax ®, Sandoz Topiramate ®)

This active ingredient represented five of the top ten most expensive medicines.

- **Topamax ® 200mg**

In 2005 and 2006, Topamax ® 200 mg tablets were number five on the list of most expensive tablets, whilst in 2007 and 2008 the same was ranked number 4. The average cost per tablet fluctuated from 2005 from R16.28 ± R0.87 to R16.05 ± R1.51 in 2006. In 2007 the average cost per tablet was R16.77 ± R2.66 and increased in 2008 to R17.47 ± R2.43.

- **Topamax ® 100mg**

The 100 mg tablets of Topamax ® shifted position every year over the four-year study period, but remained between 8th and 10th on the list. At tenth position in 2005 the average cost per tablet was R11.03 ± R0.74 per tablet. In 2006 it moved to eighth position with an average cost per item of R10.97 ± R1.04, whilst in 2007 with an average cost per tablet of R11.22 ± R2.10 it moved back to ninth position. In 2008 it was number eight on the list again with an average cost per tablet of R11.39 ± R2.19.

- **Toplep ® 200 mg tablets**

This has been a new product on the market since 2007 and it has already made its appearance as one of the most expensive tablets. In 2007 the average cost per tablet amounted to R12.04 ± R0.43 per tablet, whilst there was a slight increase to R12.26 ± R0.68 in 2008.

- **Piramax ® 200 mg**

Piramax ® is also recent (2007) and also took the number ten positions in both 2007 and 2008. The average cost per tablet for 2007 was R10.30 ± R0.00 and in 2008 it was relatively more expensive at R10.77 ± R0.44 per tablet.

- **Sandoz Topiramate® 200mg**

As for Piramax® and Toplep®, the Sandoz Topiramate® was a new product that started being marketed in 2007. The only difference is the average cost per tablet for this product decreased from R12.31 ± R0.81 in 2007 to R11.17 ± R2.96 in 2008.

4.3.4.6 Phenobarbital (Gardenal Sodium ® 200mg/ml inj)

Gardenal Sodium ® 200mg/ml injection was in ninth position in 2006 with an average cost of R10.45 ± R0.00. This product was discontinued in 2007.

4.3.4.7 Lamotrigine (Lamictin ® P 200mg Disp Tab and Lamictin ® 200mg Tab)

The dispersible tablets were on the top ten list in 2005 and 2007 with an average cost per tablet of R12.14 ± R0.17 and R10.21 ± R0.33 respectively. The 200 mg tablets amounted to R12.13 ± R0.83 in 2005 and R10.04 ± R1.18 in 2006 per tablet and therefore took the ninth and tenth positions on the list for the two respective years.

4.3.4.8 Summary of the medicine products according to cost per tablet

Levy (2002:550) made the statement that more recent anti-epileptic medicine was more expensive than standard treatment (refer to chapter 1). Although the cost for the entire anti-epileptic treatment was not available in the data, the average cost per tablet, which is part of the treatment, showed that according to the top ten trade names this statement might be true. The top two products were injections, but when the other dosage forms were compared, it was clear that the more-recent anti-epileptic medicine like lamotrigine, topiramate and levetiracetam were among the top ten most expensive products according to the average cost per tablet, whilst the previous medicine items like carbamazepine were not even among the top ten. This indicated that more recent AEDs were more expensive than previous AEDs according to the average cost per tablet in this section of the private health care sector in South Africa.

4.3.5 Analysis of the average treatment cost per yearly of anti-epileptic treatment

The following section will contain a brief discussion on the average cost per yearly treatment of a patient that uses anti-epileptic medicine and the comparison between the medical scheme contribution and patient levy.

Table 4.27: Average cost per yearly anti-epileptic treatment over the four-year study period

Year	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	30 284	Total cost	1 267.35 ± 2336.79	38 380 575.35
		Medical scheme contribution	1 132.81 ± 2153.22	34 305 875.17
		Patient contribution	134.55 ± 407.12	4 074 700.18
2006	32 367	Total cost	1 237.40 ± 2254.69	40 051 071.67
		Medical scheme contribution	1 091.48 ± 2054.27	35 327 948.62
		Patient contribution	145.92 ± 434.69	4 723 123.05
2007	28 961	Total cost	1 330.12 ± 2431.19	38 521 744.48
		Medical scheme contribution	1 148.60 ± 2186.75	33 264 475.73
		Patient contribution	181.53 ± 509.02	5 257 268.75
2008	28 459	Total cost	1 362.35 ± 2403.44	38 771 102.86
		Medical scheme contribution	1 139.55 ± 2149.10	32 430 454.42
		Patient contribution	222.80 ± 530.31	6 340 648.44

From 2005 to 2008 there was a 7.5% increase in the average yearly anti-epileptic treatment cost for epilepsy patients. This means that the patient needed to pay more for the medication. This, however, became worse when the medical scheme contribution decreased from 2005 to 2008. In 2005 the medical scheme was liable for 89.38% of the total treatment, whilst in 2006 it decreased to 88.21%. In 2007 this was even lower with an 86.35% contribution. In 2008 it was the lowest with an 83.65% contribution, which meant that the patients were liable for 16.35% of the total cost. This indicated that the patients needed to pay more, because of the decrease in medical scheme contribution.

4.3.6 Analysis of the anti-epileptic medicine combinations according to active ingredient

Due to the complexity of the combination therapy and the large number of combinations, this section will focus on the prevalence of the different combinations only. For the purpose of this discussion a combination can be seen as any product on a prescription, alone or together with other products with different active ingredients and in the cases where the active ingredients are the same, the strength or dosage form may differ.

The following table is a summary of the active ingredients that was most frequently prescribed on prescriptions that contain one medicine item only.

Table 4.28: Active ingredients in order of frequency as prescribed

2005				2007			
Active ingredient	Frequency	Mean ± Std dev.	Total	Active ingredient	Frequency	Mean ± Std dev.	Total
CARBAMAZEPINE	29 251	153.00 ± 100.45	4475321.60	CARBAMAZEPINE	24 429	152.56 ± 102.05	3726875.30
CLONAZEPAM	14 444	75.10 ± 52.62	1084715.40	CLONAZEPAM	15 443	70.20 ± 51.56	1084100.39
ETHOSUXIMIDE	80	301.75 ± 160.14	24139.66	ETHOSUXIMIDE	49	362.95 ± 138.02	17784.42
GABAPENTIN	7 807	217.42 ± 143.83	1697413.25	GABAPENTIN	10 510	198.90 ± 154.17	2090437.95
LAMOTRIGINE	15 494	305.03 ± 167.33	4726144.41	LAMOTRIGINE	19 642	224.06 ± 129.10	4400904.71
LEVETIRACETAM	540	607.92 ± 292.06	328277.28	LEVETIRACETAM	744	608.26 ± 285.84	452543.83
OXCARBAZEPINE	1 443	293.73 ± 151.03	423852.56	OXCARBAZEPINE	1 291	294.98 ± 161.03	380816.72
PHENOBARBIRONE/ VIT B1/	121	95.23 ± 58.84	11522.81	PHENOBARBIRONE/ VIT B1/	76	124.90 ± 70.56	9492.27
PHENOBARBITONE	2 448	9.89 ± 9.65	24209.32	PHENOBARBITONE	1 737	9.43 ± 7.88	16375.22
PHENYTOIN	11 359	138.47 ± 62.40	1572916.09	PHENYTOIN	9 194	146.24 ± 65.58	1344567.81
PRIMIDONE METABOLITES	76	78.15 ± 67.48	5939.52	PRIMIDONE METABOLITES	264	111.79 ± 72.76	29512.19
TOPIRAMATE	7 263	350.19 ± 218.15	2543463.84	TOPIRAMATE	7 939	315.35 ± 211.47	2503530.53
VALPROATE	19 156	269.85 ± 132.36	5169308.55	VALPROATE	20 750	278.13 ± 142.86	5771192.15
VALPROIC ACID	2 782	276.41 ± 137.56	768982.95	VALPROIC ACID	2 285	298.20 ± 181.02	681393.13
VIGABATRIN	36	419.39 ± 171.16	15098.03	VIGABATRIN	46	579.82 ± 225.03	26671.75
2006				2008			
Active ingredient	Frequency	Mean ± Std dev.	Total	Active ingredient	Frequency	Mean ± Std dev.	Total
CARBAMAZEPINE	29 662	148.74 ± 96.94	4411990.00	CARBAMAZEPINE	20 912	151.45 ± 102.82	3167196.69
CLONAZEPAM	15 621	72.50 ± 51.88	1132565.39	CLONAZEPAM	13 998	74.68 ± 58.54	1045302.60
ETHOSUXIMIDE	79	324.50 ± 166.12	25635.21	ETHOSUXIMIDE	50	365.03 ± 150.54	18251.74
GABAPENTIN	10 020	210.73 ± 143.71	2111516.04	GABAPENTIN	8 763	186.04 ± 150.46	1630252.98
LAMOTRIGINE	18 404	229.36 ± 131.97	4221140.11	LAMOTRIGINE	18 517	226.54 ± 130.89	4194796.59
LEVETIRACETAM	665	623.75 ± 324.08	414795.31	LEVETIRACETAM	797	611.56 ± 343.77	487416.13
OXCARBAZEPINE	1 528	288.07 ± 145.28	440171.89	OXCARBAZEPINE	1 098	295.82 ± 186.34	324806.56
PHENOBARBIRONE/ VIT B1/	119	98.93 ± 51.22	11772.35	PHENOBARBIRONE/ VIT B1/	31	105.68 ± 81.58	3276.10
PHENOBARBITONE	2 201	9.79 ± 8.48	21552.89	PHENOBARBITONE	1 430	10.32 ± 8.77	14763.83
PHENYTOIN	11 041	135.76 ± 62.98	1498883.28	PHENYTOIN	8 141	127.11 ± 74.56	1034775.93
PRIMIDONE METABOLITES	102	54.80 ± 59.54	5590.09	PREGABALIN	8 909	286.66 ± 155.43	2553872.93
TOPIRAMATE	8 461	334.03 ± 210.51	2826189.84	PRIMIDONE METABOLITES	252	110.80 ± 71.46	27922.54
VALPROATE	22 193	269.73 ± 135.40	5986103.34	TOPIRAMATE	7 596	280.22 ± 202.99	2128529.87
VALPROIC ACID	2 696	283.28 ± 144.74	763719.16	VALPROATE	20 103	289.73 ± 150.63	5824455.32
VIGABATRIN	42	489.27 ± 225.45	20549.31	VALPROIC ACID	1 738	296.59 ± 174.20	515473.63
				VIGABATRIN	18	480.60 ± 133.54	8650.73

According to figure 4.5 it was clear that carbamazepine, valproate and lamotrigine were the most frequently prescribed active ingredients over the four-year period. Clonazepam, gabapentin, phenytoin and topiramate were the other active ingredients that were relatively frequently prescribed. The other active ingredients had a relatively low frequency.

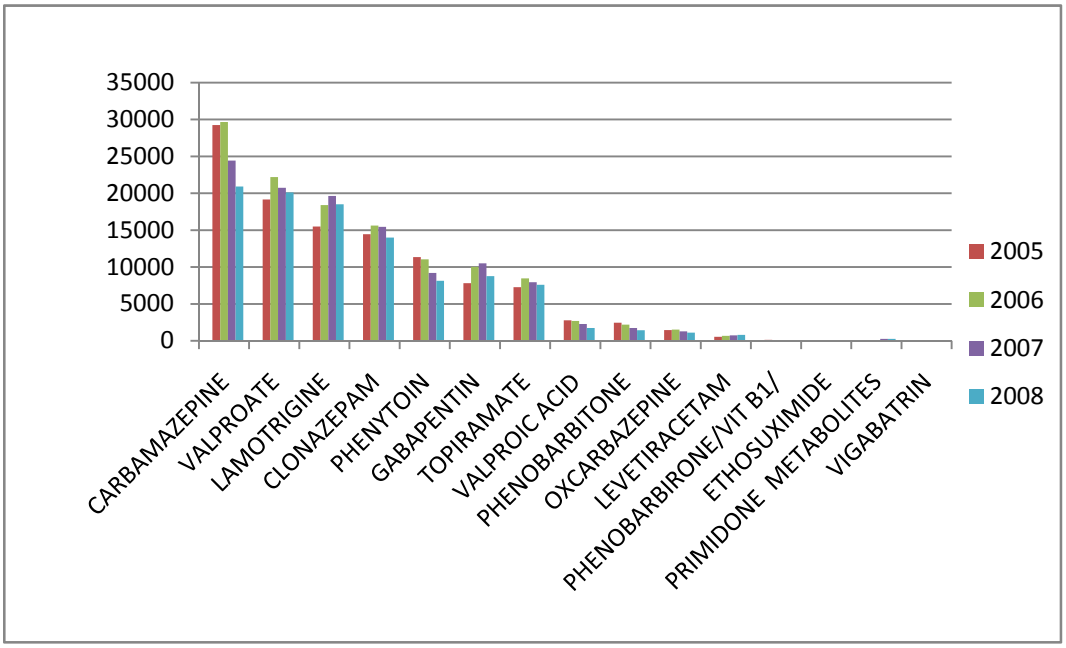

Figure 4.5: Most frequently prescribed pharmacological active ingredient on prescriptions with only one active ingredient over the four-year study period.

A statement made by Brodie and Kwan (2006:1823) indicated that with 15 AEDs available to treat partial seizures, 105 dual combinations were possible and it is quite clear that anti-epileptic combination therapy is still very complex. According to Kwan and Brodie (2000:467) combination therapy was more effective immediately after the first drug had failed, rather than substituting that drug. This may be a reason why there was still a relatively large number of combinations prescribed.

In figure 4.7 it was shown that most of the patients on anti-epileptic medicine were using one item only for their condition. The second most frequently prescribed number of medicine items per prescription included the combinations that contain two products. It can be concluded that the more items in combination the less their frequency. It further can be seen that almost a quarter of the total number of prescriptions revealed that combination therapy was used. The total frequency of the combination over the four-year study period was used to compile Figure 4.7 (refer to Appendix A for tables).

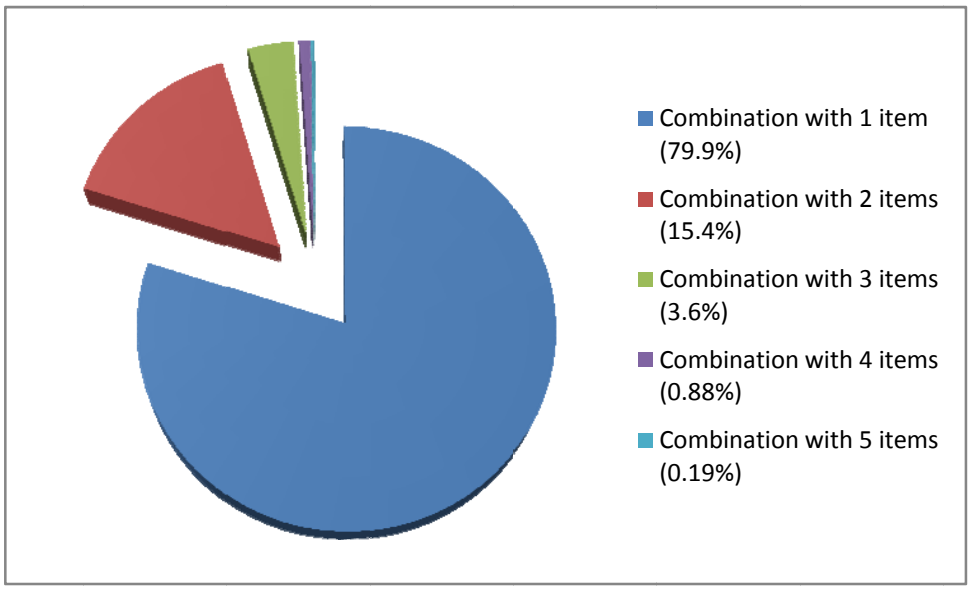

Figure 4.6: Number of anti-epileptic items in combination per prescription

According to section 2.2.2 the adverse effect profiles of AEDs differ greatly and play a crucial role to determine which medication will be suitable for the specific patient and condition. Schmidt (2009:58) concluded that the adverse effects of AED treatment can be minimised by slow-dose escalation up to average daily maintenance doses, by avoiding enzyme-inducing agents and polytherapy (see section 2.2.2). This might be a reason for the relatively low number of products in an anti-epileptic medicine combination and may be a proof of the results as stipulated in figure 4.5.

4.4 Cost minimisation with generic substitution

In table 4.29 the cost according to generic versus innovator medicine is summarised. Throughout the tables the symbols N, O and Y may occur. The N represents the innovator medicine without a generic, whilst the O represents the innovator medicine with a generic medicine. The Y is representative of the generic medicine. All the calculations were done over the four-year period.

Table 4.29: Cost of innovator versus generic medicine

Innovator with/without generic	*Frequency*	*Average cost per tablet Mean ± Std. Dev*	*Total cost (R)*	*% Frequency*	*Cost %*
N	361 827	4.16 ± 3.15	1 505 596.12	49.52	**51.93**
O	243 936	4.02 ± 3.32	980 518.69	33.38	**33.82**
Y	124 925	3.31 ± 2.63	413 198.05	17.10	**14.25**

The innovator medicine without a generic formed the largest group, whilst the total cost of the innovator medicine with a generic substitute (R980 518.69), amounted to almost double that of the generic medicine (R413 198.05) (refer to table 4.29). According to Bester and Hamann (2008), 14% of health care expenditures were for medicine in the private health care sector. Medicine expenditure in this sector increased in 2001, declined sharply until 2005, but increased again after that. The expenditure however can be declined when making use of generic substitution, if the assumption can be made that the outcome of the innovator and generic medicine would be the same according to the cost-minimisation approach.

The different groups were divided according to the active ingredients to assure that the same dosage form with the same strength were compared. The assumption was made that the outcome was the same and a cost-minimisation analysis could be applied. Further the weighted average of the cost per tablet was taken into account as the study was done on a study period of four years. This was necessary to incorporate all the generic medicine over the four-year period, especially if the generic had been only available since 2008 only. Also the section focused on a 100% substitution where possible.

4.4.1 Gabapentin

Table 4.30: Innovator versus generic medicine (Gabapentin: 100 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average (B)*	*Cost - minimisation (A-B)*
Neurontin®	**N**	**O (A)**	**Neurexal®**		**1.36 ± 0.046**	**0.39**
Mean ± Std. Dev	**1.79 ± 0.22**	**1.75 ± 0.54**	**Mean ± Std. Dev**	**1.22 ± 0.31**		
Frequency	**9 943**	**8 309**	**Frequency**	**270**		
Comment :			**Epleptin®**			
			Mean ± Std. Dev	**1.38 ± 6.80**		
According to the weighted average R 3 240.51 could be saved when innovator medication was substituted for the generic equivalent.			**Frequency**	**2 621**		
			Ran-Gabapentin®			
			Mean ± Std. Dev	**1.28 ± 0.09**		
			Frequency	**3**		

Table 4.31: Innovator versus generic medicine (Gabapentin: 300 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
Neurontin®	**N**	**O**	**Neurexal®**		**2.87 ± 0.052**	**1.26**
Mean ± Std. Dev	**4.12 ± 0.51**	**4.13 ± 1.13**	**Mean ± Std. Dev**	**2.72 ± 0.80**		
Frequency	**8 477**	**6 518**	**Frequency**	**308**		
Comment :			**Epleptin®**			
			Mean ± Std. Dev	**2.89 ± 0.63**		
According to the weighted average R 8 212.68 could be saved when innovator medication was substituted for the generic equivalent.			**Frequency**	**2 619**		
			Ran-Gabapentin®			
			Mean ± Std. Dev	**3.04 ± 0.00**		
			Frequency	**1**		

Table 4.32: Innovator versus generic medicine (Gabapentin: 400 mg tab)

<table>
<tr><th colspan="3">Innovator medicine (A)</th><th colspan="2">Generic medicine</th><th>Weighted average(B)</th><th>Cost - minimisation (A-B)</th></tr>
<tr><td>Neurontin®</td><td>N</td><td>O</td><td colspan="2">Neurexal®</td><td rowspan="8">2.88 ± 0.07</td><td rowspan="8">1.26</td></tr>
<tr><td>Mean ± Std. Dev</td><td>4.06 ± 0.40</td><td>4.14 ± 0.95</td><td>Mean ± Std. Dev</td><td>2.62 ± 0.97</td></tr>
<tr><td>Frequency</td><td>2 880</td><td>2 355</td><td>Frequency</td><td>92</td></tr>
<tr><td colspan="3" rowspan="5">Comment :

According to the weighted average R 2 967.30 could be saved when innovator medication was substituted for the generic equivalent.</td><td colspan="2">Epleptin®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>2.90 ± 0.52</td></tr>
<tr><td>Frequency</td><td>1 192</td></tr>
<tr><td colspan="2">Ran-Gabapentin®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>2.98 ± 0.12</td></tr>
<tr><td colspan="3"></td><td>Frequency</td><td>2</td></tr>
</table>

Of all the generic medicine, Epleptin® tablets were the most frequently prescribed, whilst Ran-Gabapentin® tablets have been available since 2008 only. When taking a look at the weighted average of the cost per tablet it was clear in Table 4.30 that R 3 240.51 could be saved when Neurontin® tablets were substituted for a generic. This, however, was true for the 300 mg tablets except for the fact that R 8 212.68 could be saved. With the 400 mg tablets R 2 967.30 could be saved (refer to Tables 4.30, 4.31 and 4.32).

4.4.2 Lamotrigine

Table 4.33: Innovator versus generic medicine (Lamotrigine: 25 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
Lamicitin®	O		Arrow-Lamotrigine®		2.35 ± 0.102	0.41
Mean ± Std. Dev	2.76 ± 0.62		Mean ± Std. Dev	2.28 ± 0.14		
Frequency	15 103		Frequency	21		
Comment : According to the weighted average R6 192.23 could be saved when innovator medication was substituted for the generic equivalent.			Aspen Lamotrigine®			
			Mean ± Std. Dev	2.07 ± 0.38		
			Frequency	595		
			Dyna-Lamotrigine®			
			Mean ± Std. Dev	2.21 ± 0.08		
			Frequency	7		
			Sandoz-Lamotrigine®			
			Mean ± Std. Dev	2.05 ± 0.46		
			Frequency	92		
			Austell-Lamotrigine®			
			Mean ± Std. Dev	2.28 ± 0.06		
			Frequency	7		
			Epitec®			
			Mean ± Std. Dev	2.40 ± 0.37		
			Frequency	6 230		
			Lamitor®			
			Mean ± Std. Dev	2.24 ± 0.40		
			Frequency	853		
			Lameptil®			
			Mean ± Std. Dev	2.26 ± 0.67		
			Frequency	14		
			Merck-Lamotrigine			
			Mean ± Std. Dev	1.86 ± 0.92		
			Frequency	6		

Table 4.34: Innovator versus generic medicine (Lamotrigine: 50 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
Lamicitin®	N	O	Arrow-Lamotrigine®		3.39 ± 0.127	0.55
Mean ± Std. Dev	5.16 ± 0.44	3.94 ± 0.90	Mean ± Std. Dev	2.90 ± 0.34		
Frequency	3 878	20 654	Frequency	16		
Comment : According to the weighted average R11 359.70 could be saved when innovator medication was substituted for the generic equivalent.			Aspen Lamotrigine®			
			Mean ± Std. Dev	3.01 ± 0.51		
			Frequency	1 059		
			Dyna-Lamotrigine®			
			Mean ± Std. Dev	2.63 ± 0.00		
			Frequency	9		
			Sandoz-Lamotrigine®			
			Mean ± Std. Dev	3.06 ± 0.61		
			Frequency	179		
			Austell-Lamotrigine®			
			Mean ± Std. Dev	3.38 ± 0.16		
			Frequency	15		
			Epitec®			
			Mean ± Std. Dev	3.43 ± 0.54		
			Frequency	11 368		
			Lamitor®			
			Mean ± Std. Dev	3.00 ± 0.38		
			Frequency	1 937		
			Lameptil®			
			Mean ± Std. Dev	3.46 ± 0.38		
			Frequency	28		
			Merck-Lamotrigine			
			Mean ± Std. Dev	3.48 ± 0.35		
			Frequency	15		

Table 4.35: Innovator versus generic medicine (Lamotrigine: 100 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
Lamicitin®	N	O	Arrow-Lamotrigine®			
Mean ± Std. Dev	8.37 ± 0.59	6.40 ± 1.33	Mean ± Std. Dev	4.73 ± 0.50		
Frequency	6 420	30 072	Frequency	22		
			Aspen Lamotrigine®			
			Mean ± Std. Dev	4.40 ± 2.10		
			Frequency	1 526		
			Dyna-Lamotrigine®			
			Mean ± Std. Dev	4.36 ± 0.30		
			Frequency	36		
			Sandoz-Lamotrigine®			
			Mean ± Std. Dev	4.98 ± 0.84		
			Frequency	195		
			Austell-Lamotrigine®			
Comment :			Mean ± Std. Dev	5.15 ± 0.51	5.18 ± 0.27	1.22
			Frequency	24		
According to the weighted average R36 687.84 could be saved when innovator medication was substituted for the generic equivalent.			Epitec®			
			Mean ± Std. Dev	5.32 ± 0.79		
			Frequency	17 526		
			Lamitor®			
			Mean ± Std. Dev	4.85 ± 0.83		
			Frequency	3 906		
			Lameptil®			
			Mean ± Std. Dev	5.31 ± 0.85		
			Frequency	113		
			Merck-Lamotrigine			
			Mean ± Std. Dev	5.39 ± 0.31		
			Frequency	9		

Table 4.36: Innovator versus generic medicine (Lamotrigine: 200 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
Lamicitin®	N	O	Arrow Lamotrigine®		8.15 ± 0.17	2.03
Mean ± Std. Dev	12.19 ± 0.70	10.18 ± 1.44	Mean ± Std. Dev	6.87 ± 0.9		
Frequency	2 944	14 787	Frequency	35		
Comment : According to the weighted average R30 017.61 could be saved when innovator medication was substituted for the generic equivalent.			Aspen Lamotrigine®			
			Mean ± Std. Dev	7.48 ± 1.41		
			Frequency	401		
			Dyna-Lamotrigine®			
			Mean ± Std. Dev	6.17 ± 0.29		
			Frequency	28		
			Sandoz-Lamotrigine®			
			Mean ± Std. Dev	8.08 ± 0.92		
			Frequency	156		
			Austell-Lamotrigine®			
			Mean ± Std. Dev	8.35 ± 0.48		
			Frequency	37		
			Epitec®			
			Mean ± Std. Dev	8.18 ± 1.00		
			Frequency	11 099		
			Lameptil®			
			Mean ± Std. Dev	8.15 ± 2.10		
			Frequency	34		
			Merck-Lamotrigine			
			Mean ± Std. Dev	7.84 ± 0.07		
			Frequency	5		

Lamotrigine tablets has four different strengths (25 mg, 50 mg, 100 mg, 200 mg). In all four tables it can be seen that Epitec® tablets were the most frequently prescribed generic. The fact however remain that medicine expenditure can decline when substitution takes place. In the case of lamotrigine 25 mg tablets, R 6 192.23 can be saved over the four year period. For the lamotrigine 50 mg tablets, it almost double to R 11 359.70 that can be saved. With lamotrigine 100 mg tablets the most can be saved with an amount of R 36 687.84, whilst lamotrigine 200 mg tablets can safe R 30 017.61 when substitution takes place (refer to Table 4.33, 4.34, 4.35 and 4.36).

4.4.3 Topiramate

Table 4.37: Innovator versus generic medicine (Topiramate 100 mg tab)

<table>
<tr><th colspan="3">Innovator medicine (A)</th><th colspan="2">Generic medicine</th><th>Weighted average(B)</th><th>Cost - minimisation (A-B)</th></tr>
<tr><td>Topamax®</td><td>N</td><td>O</td><td colspan="2">Adco-Topiramate®</td><td rowspan="12">8.22 ± 0.29</td><td rowspan="12">3.17</td></tr>
<tr><td>Mean ± Std. Dev</td><td>11.01 ± 1.31</td><td>11.39 ± 1.99</td><td>Mean ± Std. Dev</td><td>7.10 ± 0.32</td></tr>
<tr><td>Frequency</td><td>9 793</td><td>3 745</td><td>Frequency</td><td>24</td></tr>
<tr><td colspan="3" rowspan="11">Comment :

According to the weighted average R 11 871.65 could be saved when innovator medication was substituted for the generic equivalent.</td><td colspan="2">Piramax®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>7.49 ± 0.77</td></tr>
<tr><td>Frequency</td><td>182</td></tr>
<tr><td colspan="2">Sandoz-Topiramate®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>7.92 ± 1.09</td></tr>
<tr><td>Frequency</td><td>115</td></tr>
<tr><td colspan="2">Toplep®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>8.34 ± 1.29</td></tr>
<tr><td>Frequency</td><td>1 601</td></tr>
</table>

Table 4.38: Innovator versus generic medicine (Topiramate 25 mg tab)

<table>
<tr><th colspan="3">Innovator medicine (A)</th><th colspan="2">Generic medicine</th><th>Weighted average(B)</th><th>Cost - minimisation (A-B)</th></tr>
<tr><td>Topamax®</td><td>N</td><td>O</td><td colspan="2">Adco-Topiramate®</td><td rowspan="12">2.88 ± 0.25</td><td rowspan="12">1.70</td></tr>
<tr><td>Mean ± Std. Dev</td><td>4.56 ± 0.77</td><td>4.58 ± 1.19</td><td>Mean ± Std. Dev</td><td>2.31 ± 0.09</td></tr>
<tr><td>Frequency</td><td>11 478</td><td>4 686</td><td>Frequency</td><td>32</td></tr>
<tr><td colspan="3" rowspan="11">Comment :

According to the weighted average R 7 966.20 could be saved when innovator medication was substituted for the generic equivalent.</td><td colspan="2">Piramax®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>2.23 ± 0.68</td></tr>
<tr><td>Frequency</td><td>284</td></tr>
<tr><td colspan="2">Sandoz-Topiramate®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>2.86 ± 0.80</td></tr>
<tr><td>Frequency</td><td>148</td></tr>
<tr><td colspan="2">Toplep®</td></tr>
<tr><td>Mean ± Std. Dev</td><td>2.99 ± 0.54</td></tr>
<tr><td>Frequency</td><td>1 903</td></tr>
</table>

Table 4.39: Innovator versus generic medicine (Topiramate 50 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
Topamax®	**N**	**O**	**Adco-Topiramate®**		**4.8 ± 0.21**	**2.14**
Mean ± Std. Dev	**6.80 ± 1.03**	**6.94 ± 1.67**	**Mean ± Std. Dev**	**4.54 ± 0.35**		
Frequency	**12 781**	**5 194**	**Frequency**	**28**		
Comment : **According to the weighted average R11 115.16 could be saved when innovator medication was substituted for the generic equivalent.**			**Sandoz-Topiramate®**			
			Mean ± Std. Dev	**4.17 ± 1.16**		
			Frequency	**244**		
			Toplep®			
			Mean ± Std. Dev	**4.88 ± 0.90**		
			Frequency	**2 233**		

Table 4.40: Innovator versus generic medicine (Topiramate 200 mg tab)

Innovator medicine (A)			*Generic medicine*		*Weighted average(B)*	*Cost - minimisation (A-B)*
	N	**O**	**Adco-Topiramate®**		**11.98 ± 0.51**	**5.23**
Mean ± Std. Dev	**16.24 ± 1.62**	**17.21 ± 2.54**	**Mean ± Std. Dev**	**10.30 ± 0.00**		
Frequency	**1 939**	**713**	**Frequency**	**1**		
Comment : **According to the weighted average R3 728.99 could be saved when innovator medication was substituted for the generic equivalent.**			**Piramax®**			
			Mean ± Std. Dev	**10.75 ± 0.44**		
			Frequency	**51**		
			Sandoz-Topiramate®			
			Mean ± Std. Dev	**11.25 ± 2.87**		
			Frequency	**29**		
			Toplep®			
			Mean ± Std. Dev	**12.21 ± 0.63**		
			Frequency	**367**		

Topiramate tablets have four different strengths (25 mg, 50 mg, 100mg, 200 mg). In all four tables it can be seen that Toplep® tablets showed the most frequently prescribed generic. The fact, however, remains that medicine expenditure can decline when substitution takes place. In the case of topiramte 25 mg tablets, R 7 966.20 could have been saved over the four-year period. For the topiramate 50 mg tablets an amount of R 11 115.16 could have been saved. With topiramate 100 mg tablets R 11 871.65 could have been saved, whilst topiramate 200 mg tablets could save R 3 728.99 if substitution were to take place (refer to Tables 4.37, 4.38, 4.39 and 4.40).

4.4.4 Phenobarbitone

Table 4.41: Innovator versus generic medicine (Phenobarbitone 30 mg tab)

Innovator medicine (A)		*Generic medicine (B)*		*Cost - minimisation (A-B)*	*Comment*
Lethyl ®	**O**	**Sedabarb®**		**0.09**	**According to the weighted average R 1 325.79 could be saved when innovator medication was substituted for the generic equivalent**
Mean ± Std. Dev	**0.16 ± 0.11**	**Mean ± Std. Dev**	**0.07 ± 0.03**		
Frequency	**15 031**	**Frequency**	**2 160**		

In the case of phenobarbitone the innovator product, Lethyl®, has one generic product only namely Sedabarb®. The total cost that can be saved when substitution takes place is R1 325.25 (refer to Table 4.41).

4.4.5 Summary on cost minimisation

Table 4.42: Costs that can be saved with generic substitution according to weighted average generic substituttion

Active ingredient	*Strength*	*Cost Saving (R)*
Gabapentin	100 mg	3 240.51
	300 mg	8 212.68
	400 mg	2 967.30
Lamotrigine	200 mg	30 017.61
	100 mg	36 687.84
	50 mg	11 359.70
	25 mg	6 192.23
Topiramate	25 mg	7 966.20
	50 mg	11 115.16
	100 mg	11 871.65
	200 mg	3 728.99
Phenobarbitone	30 mg	1 325.79
Total		134 685.66

According to Mediscor's medicines review (refer to chapter 1), anti-epileptic medicine had a relatively high annual expenditure. The possibilities for substitution in innovator-generic medicine however can play a vital role in the lowering of the annual expenditure. According to Table 4.29, it can be seen that more innovator medicine were prescribed than generic medicine. From Table 4.42 it is evident that R 134 685.66 could have been saved if generic substitution had been implemented. Although not a relative large saving it must also take into consideration that a number of medications are not substitutable.

4.5 Prescribed daily dosage

The following section will contain a discussion on the prescribed daily dosage (PDD) as defined in paragraph 3.3.5.1.5. The discussion will be done according to the active ingredient under which the trade name of the products will be discussed. The PDD will be measured according to Table 3.7 (Sweetman, 2009; Snyman, 2010:34-42; Rossiter, 2010:440-453).

Table 4.43: Prescribed daily dosage of carbamazepine according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Average (mg)	Std Dev (mg)	Median (mg)
DEGRANOL 200MG TAB	0 ≥ 1	1	200.00	0.00	200.00
TEGRETOL 100MG/5ML SUSP		4	195.83	39.38	183.33
TEGRETOL CR 400MG TAB		1	400.00	0.00	400.00
DEGRANOL 200MG TAB	1 ≥ 5	40	5231.67	4601.17	1538.46
TEGRETOL 100MG/5ML SUSP		411	286.26	275.47	200.00
TEGRETOL 200MG TAB		10	387.14	583.70	150.00
TEGRETOL CR 200MG TAB		25	372.00	148.66	300.00
TEGRETOL CR 400MG TAB		14	457.14	213.81	400.00
DEGRANOL 200MG TAB	5 ≥ 10	124	2855.46	4005.71	800.00
SANDOZ CARBAMAZEPINE 200MG		3	533.33	416.33	400.00
SANDOZ CARBAMAZEPINE CR 200MG		25	440.00	76.38	400.00
SANDOZ CARBAMAZEPINE CR 400MG		1	800.00	0.00	800.00
TEGRETOL 100MG/5ML SUSP		674	330.63	244.74	333.33
TEGRETOL 200MG TAB		67	664.15	1168.22	400.00
TEGRETOL CR 200MG TAB		653	361.85	422.46	333.33
TEGRETOL CR 400MG TAB		112	689.29	238.37	800.00
DEGRANOL 200MG TAB	10 ≥ 15	319	965.98	1872.55	400.00
SANDOZ CARBAMAZEPINE 200MG		123	926.13	1296.33	400.00
SANDOZ CARBAMAZEPINE CR 200MG		64	383.98	186.20	400.00
SANDOZ CARBAMAZEPINE CR 400MG		11	802.60	354.67	800.00
TEGRETOL 100MG/5ML SUSP		283	341.07	334.38	300.00
TEGRETOL 200MG TAB		312	494.21	633.51	400.00
TEGRETOL CR 200MG TAB		1323	406.02	289.82	400.00
TEGRETOL CR 400MG TAB		511	699.61	402.30	800.00
CPL ALNCE CARBAMAZEPINE	>15	8	202.68	204.54	150.00
DEGRANOL 200MG TAB		32010	724.13	1334.04	400.00
SANDOZ CARBAMAZEPINE 200MG		5813	590.99	825.31	400.00
SANDOZ CARBAMAZEPINE CR 200MG		2589	459.05	361.22	400.00
SANDOZ CARBAMAZEPINE CR 400MG		1440	778.34	275.47	800.00
TEGRETOL 100MG/5ML SUSP		487	544.64	339.62	500.00
TEGRETOL 200MG TAB		18684	523.76	723.80	400.00
TEGRETOL CR 200MG TAB		44435	466.27	681.33	400.00
TEGRETOL CR 400MG TAB		29921	900.46	1259.49	800.00

For age group one, patients younger and equal to 1 year, Degranol® 200 mg tablets and Tegretol® 100 mg/5 ml suspension were prescribed within the recommended dosage, whilst the Tegretol® 400 mg CR was double the recommended dosage as summarised in Table 3.7.

In age group two, patients who were older than 1 year and younger and equal to 5 years, the dosages prescribed for the different products were well in ranged with the recommended daily dosage, except for Degranol® 200 mg tablets that were possibly over prescribed for this specific age group. Tegretol® CR 400 mg tablets on average were also over prescribed according to recommended dosages, however median dosage indicated that more than 50 % of the patients received the maximum daily dosage of 400 mg. In age group three (5 years ≥ 10 year), the daily dosage of Degranol® 200 mg tablets, Sandoz Carbamazepine® 400 mg CR, Tegretol® 200 mg and Tegretol® 400 mg CR indicated higher dosages than the recommended dosage of 400 – 600 mg daily as stipulated in Table 3.7. Due to the lack of clinical data e.g. weight and length it was difficult to draw an explanation for the cases which fell outside the recommended dosages. In age group four (10 years ≥ 15 years) there were only four products that were in the recommended range, whilst in age group five, all the products were in range, when taking into account that some patients only started with their therapy, whilst others had been on the medication for a longer time. Some of the patients may claim more than a month's supply of the medication, that then may have an influence on the average dosage. The other reason may be that the medication had been used in a combination with other medications. This may result in a higher or a lower dosage, depending on the combination therapy.

Table 4.44: Prescribed daily dosage of clonazepam according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
RIVOTRIL DRP	0 ≥ 10	403	1.61	1.12	0.83
RIVOTRIL 0.5MG TAB		199	1.29	0.87	1.25
RIVOTRIL 1MG/ML INJ		5	0.88	0.27	1.00
RIVOTRIL 2MG TAB		47	27.19	39.33	3.00
RIVOTRIL DRP	10 ≥ 16	248	1.92	1.36	1.67
RIVOTRIL 0.5MG TAB		419	1.02	0.84	0.60
RIVOTRIL 1MG/ML INJ		3	1.00	0.00	1.00
RIVOTRIL 2MG TAB		214	3.68	2.53	3.00
RIVOTRIL DRP	>16	34	5.13	12.91	1.73
RIVOTRIL 0.5MG TAB		59 206	1.04	1.78	0.75
RIVOTRIL 1MG/ML INJ		47	2.40	5.92	1.00

For age group 1 the recommended dosage is summarised in table one and the average daily dose can vary from approximately 1 - 6 mg daily and only the Rivotril® 2 mg tablets appeared to be out of range when looking at the average dose, whilst the median of 3 mg was still in range. Age group two was also in range depending on the phase of treatment the patient was in. The dosage can range from the initial 1 mg to the maintenance dose of 6 mg. The same as age group two was true for age group three. Reasons for the variation in dosages may also be a result of the dosage difference from initial dosages to maintenance dosages and the fact that this product is widely used in combination therapy.

Table 4.45: Prescribed daily dosage of ethosuximide according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
ZARONTIN SYR	0 ≥ 3	7	761.90	1133.89	333.33
ZARONTIN 250MG CAP	3 ≥ 6	2	250.00	0.00	250.00
ZARONTIN SYR		28	494.05	174.11	500.00
ZARONTIN 250MG CAP	>6	469	1282.03	3408.44	500.00
ZARONTIN SYR		395	699.78	327.39	666.67

According to Table 3.7, ethosuximide is not recommended for children under the age of three years and according to the data Zarontin® Syrup was prescribed on average in dosages of 761 mg daily. Age group two also varies from 250 mg to 494.05 mg which is higher than the recommended dosages in Table 3.7, but is still lower than the maximum dosage. Age group three is also well in range of the recommended dosages. The reason for the variation in dosages might be, because of the age group division in the data. Some doctors can view a child of two years and 10 months as a three-year-old, whilst the data work exactly on years. This may also be the reason for the frequency of 7 in age group one.

Table 4.46: Prescribed daily dosage of gabapentin according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
EPLEPTIN 100MG CAP	0 ≥ 12	3	357.60	386.07	300.00
NEUREXAL 100MG CAP		1	300.00		300.00
NEURONTIN 100MG CAP		9	248.15	91.46	200.00
NEURONTIN 300MG CAP		12	675.00	426.67	600.00
NEURONTIN 600MG TAB		2	900.00	0.00	900.00
EPLEPTIN 100MG CAP	>12	2 618	312.17	178.23	300.00
EPLEPTIN 300MG CAP		2 619	812.90	420.33	900.00
EPLEPTIN 400MG CAP		1 192	1 161.68	482.14	1200.00
NEUREXAL 100MG CAP		269	298.86	200.67	300.00
NEUREXAL 300MG CAP		308	747.51	377.32	600.00
NEUREXAL 400MG CAP		92	1 483.23	992.42	1200.00
NEURONTIN 100MG CAP		17 619	335.72	435.82	300.00
NEURONTIN 300MG CAP		14 416	887.12	1162.38	900.00
NEURONTIN 400MG CAP		5 037	1 402.78	3221.85	1200.00
NEURONTIN 600MG TAB		890	1 476.63	1471.90	1200.00
NEURONTIN 800MG TAB		227	1 709.96	638.86	1600.00
RAN-GABAPENTIN 100MG CAP		3	437.78	265.53	500.00
RAN-GABAPENTIN 300MG CAP		1	1 200.00		1200.00
RAN-GABAPENTIN 400MG CAP		2	1 200.00	0.00	1200.00

According to Table 3.7 age group one is supposed to have no patients, since gabapentin is not recommended for patients under the age of 12 years. The reason for prescribing these items might be explainable with clinical data e.g. weight and length, which was unavailable for this study. In age group two al the products were dispensed well within range and the dosages might differ because of the different dosages at certain stages of the treatment.

Table 4.47: Prescribed daily dosage of lamotrigine according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
LAMICTIN 25MG TAB	0 ≥ 2	5	33.67	11.87	25.00
LAMICTIN 100MG TAB		21	149.21	53.35	100.00
LAMICTIN 200MG TAB		1	200.00	0.00	200.00
LAMICTIN 50MG TAB		8	89.17	18.92	100.00
LAMICTIN P 100MG DISP TAB		1	200.00	0.00	200.00
LAMICTIN P 25MG DISP TAB		8	45.31	13.26	50.00
LAMICTIN P 2MG DISP TAB		8	4.48	2.69	3.07
LAMICTIN P 50MG DISP TAB		1	50.00	0.00	50.00
LAMICTIN P 5MG DISP TAB		21	14.36	10.29	10.00
ASPEN LAMOTRIGINE 100MG	2 ≥ 12	23	117.55	64.74	100.00
ASPEN LAMOTRIGINE 25MG		21	30.65	11.16	25.00
ASPEN LAMOTRIGINE 50MG		6	58.33	20.41	50.00
EPITEC 100MG TAB		219	126.88	44.18	100.00
EPITEC 200MG TAB		10	360.00	84.33	400.00
EPITEC 25MG TAB		453	42.08	29.23	45.00
EPITEC 50MG TAB		412	82.81	26.26	100.00
LAMEPTIL 25MG TAB		1	75.00	0.00	75.00
LAMEPTIL 50MG TAB		1	100.00	0.00	100.00
LAMICTIN 25MG TAB		1157	41.42	26.51	25.00
LAMICTIN 100MG TAB		879	136.71	50.91	100.00
LAMICTIN 200MG TAB		53	313.21	100.07	400.00
LAMICTIN 50MG TAB		1256	89.11	116.48	100.00
LAMICTIN P 100MG DISP TAB		257	131.32	45.08	100.00
LAMICTIN P 200MG DISP TAB		24	208.33	40.82	200.00
LAMICTIN P 25MG DISP TAB		923	50.38	40.40	50.00
LAMICTIN P 2MG DISP TAB		23	6.60	3.96	6.00
LAMICTIN P 50MG DISP TAB		592	92.56	90.15	100.00
LAMICTIN P 5MG DISP TAB		873	18.77	12.78	17.50
LAMITOR-100		33	227.27	83.94	300.00
LAMITOR-25		25	43.00	11.46	50.00
LAMITOR-50		29	84.48	23.54	100.00
SANDOZ LAMOTRIGINE 25MG		6	25.00	0.00	25.00
SANDOZ LAMOTRIGINE 50MG		7	50.00	0.00	50.00

Table 4.47: Prescribed daily dosage of lamotrigine according to age groups contd.

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
ARROW LAMOTRIGINE 100MG TABS	>12	22	140.91	73.41	100.00
ARROW LAMOTRIGINE 200MG TABS		35	325.71	98.05	400.00
ARROW LAMOTRIGINE 25MG TABS		21	48.02	7.86	50.00
ARROW LAMOTRIGINE 50MG TABS		16	59.38	27.20	50.00
ASPEN LAMOTRIGINE 100MG		1503	161.84	64.65	200.00
ASPEN LAMOTRIGINE 200MG		401	246.12	88.79	200.00
ASPEN LAMOTRIGINE 25MG		574	45.98	35.02	50.00
ASPEN LAMOTRIGINE 50MG		1053	76.83	37.90	50.00
AUSTELL-LAMOTRIGINE 100MG		24	233.33	137.26	200.00
AUSTELL-LAMOTRIGINE 200MG		37	324.32	98.33	400.00
AUSTELL-LAMOTRIGINE 25MG		7	35.71	13.36	25.00
AUSTELL-LAMOTRIGINE 50MG		15	73.33	25.82	50.00
DYNA-LAMOTRIGINE 100MG TAB		36	155.56	77.25	100.00
DYNA-LAMOTRIGINE 200MG TAB		28	285.71	100.79	200.00
DYNA-LAMOTRIGINE 25MG TAB		7	46.43	6.10	50.00
DYNA-LAMOTRIGINE 50MG TAB		9	56.35	19.05	50.00
EPITEC 100MG TAB		17307	148.48	112.16	100.00
EPITEC 200MG TAB		11089	279.89	310.76	200.00
EPITEC 25MG TAB		5777	43.78	42.10	48.33
EPITEC 50MG TAB		10956	76.11	57.59	50.00
LAMEPTIL 100MG TAB		113	193.99	281.81	100.00
LAMEPTIL 200MG TAB		34	229.61	67.77	200.00
LAMEPTIL 25MG TAB		13	35.26	14.59	25.00
LAMEPTIL 50MG TAB		27	113.37	71.00	100.00
LAMICTIN 25MG TAB		13358	48.85	62.23	37.50
LAMICTIN 100MG TAB		34145	165.87	190.43	100.00
LAMICTIN 200MG TAB		17036	290.06	441.47	200.00
LAMICTIN 25 MONO STARTER PK		3	45.00	26.46	35.00
LAMICTIN 25 VP STARTER PK-ADD		7	25.00	0.00	25.00
LAMICTIN 50MG TAB		22332	88.46	116.97	50.00
LAMICTIN P 100MG DISP TAB		264	150.89	66.77	100.00
LAMICTIN P 200MG DISP TAB		125	304.00	624.42	200.00
LAMICTIN P 25MG DISP TAB		250	57.90	43.96	50.00
LAMICTIN P 2MG DISP TAB		1	1.00	0.00	1.00
LAMICTIN P 50MG DISP TAB		257	102.60	110.57	100.00
LAMICTIN P 5MG DISP TAB		157	21.98	13.11	20.00
LAMITOR-100		3873	175.59	121.71	200.00
LAMITOR-25		828	50.12	77.21	50.00
LAMITOR-50		1908	87.48	110.86	75.00
MERCK-LAMOTRIGINE 100MG TAB		9	197.22	117.56	200.00

Table 4.47: Prescribed daily dosage of lamotrigine according to age groups contd.

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
MERCK-LAMOTRIGINE 200MG TAB	>12	5	360.00	89.44	400.00
MERCK-LAMOTRIGINE 25MG TAB		6	150.00	174.64	50.00
MERCK-LAMOTRIGINE 50MG TAB		15	85.00	85.46	50.00
SANDOZ LAMOTRIGINE 100MG		195	170.80	65.56	200.00
SANDOZ LAMOTRIGINE 200MG		156	231.16	79.12	200.00
SANDOZ LAMOTRIGINE 25MG		86	49.72	53.17	50.00
SANDOZ LAMOTRIGINE 50MG		172	94.67	158.82	50.00

For age group two the dosages as prescribed over the four-year period varied from 6.6 mg to 360 mg daily. This however is in range as recommended in Table 3.7, since the combination and weight of the patient plays a role. The maximum dosage may be up to 400 mg, but also depends on the combination it was used in. For the age group older than 12 years the maximum dosage that was prescribed amounted to 325.71 mg which was well within range of the maintenance dosage. The lowest dosage of 1 mg was only on one prescription and the reason might have been a combination of products, whilst the second lowest dosage of 25 mg can be explained since the initial dose is 25 mg once daily.

Table 4.48: Prescribed daily dosage of leviteracetam according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
KEPPRA 1000MG TABS	0 ≥ 16	2	2666.67	942.81	2666.67
KEPPRA 250MG TABS		539	760.25	466.73	600.00
KEPPRA 500MG TABS		17	955.88	333.49	1000.00
KEPPRA 750MG TABS		230	1392.93	375.30	1500.00
KEPPRA 1000MG TABS	>16	22	2000.00	0.00	2000.00
KEPPRA 250MG TABS		4648	895.31	936.91	750.00
KEPPRA 500MG TABS		386	1454.24	2192.32	1000.00
KEPPRA 750MG TABS		2945	1612.31	1512.31	1500.00

Leviteracetam is not recommended in patients younger than 16 years of age and therefore the reason for the high frequency in age group one, can be explained as earlier, regarding the lack of clinical data.

The dosages for both the age groups, if the assumption can be made that the patients in age group one are 16 years old, is well within range of the recommended dosage, since the maximum dosage is 3 000 mg daily. The variation in dosages also differ, depending on the time the patient had been on the medication.

Table 4.49: Prescribed daily dosage of oxcarbazepine according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
TRILEPTAL FCT 300MG	0 ≥ 18	618	585.07	241.92	600.00
TRILEPTAL FCT 600MG		239	966.80	410.43	1200.00
TRILEPTAL FCT 300MG	>18	5769	719.75	761.82	600.00
TRILEPTAL FCT 600MG		2397	1225.70	1223.23	1200.00

Oxcarbazepine is not recommended to patients under the age of 18 years. For the purpose of this discussion no valid clinical data e.g. weight and length was available, which might have had an effect on the prescribing of these items. The dosages for the two age groups, however, were well within range of the recommended dosage, since the maintenance dose can be from 600 mg to 2 400 mg daily.

Table 4.50: Prescribed daily dosage of phenobarbitone according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
ADCO-PHENOBARBITONE VITALET	0 ≥ 2	155	20.10	22.11	14.29
LETHYL 30MG TAB		101	231.97	148.49	200.00
SEDABARB 30MG TAB		10	79.50	40.65	75.00
ADCO-PHENOBARBITONE VITALET	2 ≥ 5	147	23.22	18.84	20.00
LETHYL 30MG TAB		369	237.56	217.84	200.00
SEDABARB 30MG TAB		27	228.29	160.60	180.00
ADCO-PHENOBARBITONE VITALET	5 ≥ 12	55	30.60	20.52	33.33
LETHYL 30MG TAB		573	427.72	644.84	300.00
SEDABARB 30MG TAB		112	251.92	247.54	171.82
ADCO-PHENOBARBITONE VITALET	>12	45	43.77	33.83	30.00
GARDENAL SOD 200MG/ML INJ		5	140.00	54.77	100.00
LETHYL 30MG TAB		13 682	363.82	726.02	300.00
SEDABARB 30MG TAB		2 011	314.29	504.42	225.00

Phenobarbitone is not recommended under the age of 2 years. Phenobarbitone is an active ingredient that is frequently used in *status epilepticus* and therefore the dosages may vary from small to very high. For adults the maximum dose can be as high as 1 500 mg daily. This then clarifies the reason for the higher dosages in age group four, whilst the dosages for age group three can on average be between 45 to 360 mg daily. The higher dosage that was prescribed for Lethyl® 30 mg, might be because of some patients who received more than a month's supply of medication and the median of 300 mg is a clear indication that most patients received the dosage as recommended. In age group two the dosages were very high when taking into account that the dosage should have been between 45 mg and 90 mg per day. A reason for the high dosages may also be because of this medication's use in status epilepticus. The dosages of Adco-Phenobarbitone Vitalet® were well within range according to all the age groups as summarised in Table 3.7.

Table 4.51: Prescribed daily dosage of phenytoin according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
EPANUTIN 100MG CAP	0 ≥ 6	6	255.56	88.61	300.00
EPANUTIN 125MG/5ML SUSP		67	211.12	87.11	197.50
EPANUTIN INFATAB 50MG		1	74.07	0.00	74.07
NORSTAN-PHENYTOIN SOD 100MG T		1	700.00	0.00	700.00
PHENYTOIN SOD 100MG TAB		3	133.33	57.74	100.00
EPANUTIN 100MG CAP	>6	47116	341.35	460.21	300.00
EPANUTIN 125MG/5ML SUSP		390	342.11	242.88	282.05
EPANUTIN 5ML INJ		33	78.03	50.30	50.00
EPANUTIN INFATAB 50MG		2996	92.60	177.41	50.00
NORSTAN-PHENYTOIN SOD 100MG T		367	924.78	1444.79	300.00
PHENYTOIN SOD 100MG TAB		7848	369.28	499.32	300.00

Phenytoin is not recommended to patients under the age of 6 years. The dosages in age group two are better explainable when looking at the median. The dosages range from 50 mg to 300 mg. The recommended dosages depends on the bodyweight of the patient and therefore the dosages prescribed are well within range, since dosages can be as high as 600 mg daily.

Table 4.52: Prescribed daily dosage of pregabalin according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
LYRICA 150MG CAP	0 ≥ 18	7	333.25	106.02	300.00
LYRICA 25MG CAP		2	37.50	17.68	37.50
LYRICA 75MG CAP		14	165.19	107.07	150.00
LYRICA 150MG CAP	>18	2317	297.63	96.85	300.00
LYRICA 25MG CAP		967	58.94	53.00	50.00
LYRICA 75MG CAP		6940	150.67	86.06	150.00

Products containing pregabalin as an ingredient are not recommended to patients under the age of 18 years. For this study no clinical data e.g. weight and length was available, which might have had an effect on the prescribing of these items. All the daily doses for both age groups, if the assumption was made that group one was 18 years and older, were within range of the recommended dosages as summarised in Table 3.7.

Table 4.53: Prescribed daily dosage of primidone metabolites according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
MYSOLINE 250MG TAB	>9	981	522.15	331.69	500.00

For this specific active ingredient, only patients older than the age of nine years received this medicine. This dosage was well within range of the specific recommended dosage as in Table 3.7

Table 4.54: Prescribed daily dosage of topiramate according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
TOPAMAX 100MG TAB	0 ≥ 4	1	100.00		100.00
TOPAMAX 25MG TAB		23	41.76	22.05	25.00
TOPAMAX 50MG TAB		1	100.00		100.00
TOPAMAX SC SPRIN 15MG		114	91.83	210.16	45.00
ADCO-TOPIRAMATE 100MG TABLET	>4	24	179.17	41.49	200.00
ADCO-TOPIRAMATE 200MG TABLET		1	200.00		200.00
ADCO-TOPIRAMATE 25MG TABLET		32	35.16	12.47	25.00
ADCO-TOPIRAMATE 50MG TABLET		28	83.93	23.78	100.00
PIRAMAX 100MG TAB		182	152.77	75.26	100.00
PIRAMAX 200MG TAB		51	313.73	170.90	200.00
PIRAMAX 25MG TAB		284	45.71	28.39	50.00
SANDOZ TOPIRAMATE 100MG TAB		115	143.48	49.79	100.00
SANDOZ TOPIRAMATE 200MG TAB		29	358.62	172.21	400.00
SANDOZ TOPIRAMATE 25MG TAB		148	43.48	21.63	50.00
SANDOZ TOPIRAMATE 50MG TAB		244	80.13	29.06	100.00
TOPAMAX 100MG TAB		12965	162.14	143.15	100.00
TOPAMAX 200MG TAB		2517	364.19	477.27	400.00
TOPAMAX 25MG TAB		15607	47.73	72.09	37.50
TOPAMAX 50MG TAB		17326	88.36	107.53	75.00
TOPAMAX SC SPRIN 15MG		638	39.23	38.42	30.00
TOPAMAX SC SPRIN 25MG		27	143.65	258.03	50.00
TOPAMAX SC SPRIN 50MG		36	118.45	94.92	100.00
TOPLEP 100MG TAB		1601	161.42	84.54	200.00
TOPLEP 200MG TAB		367	319.24	163.12	200.00
TOPLEP 25MG TAB		1903	40.18	27.91	25.00
TOPLEP 50MG TAB		2233	85.91	66.72	100.00

This active ingredient is not recommended to patients who are younger than 4 years and there are still a few patients in age group one who received medication. The reason might be as earlier discussed due to the lack of clinical data. Age group two had a minimum daily dosage of 35.16 mg and a maximum daily dosage of 364.19 mg. This dosages are well within range for adjunctive and monotherapy for this specific active ingredient.

Table 4.55: Prescribed daily dosage of valproate according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
EPILIM 200MG EC TAB	0 ≤ 12	22	644.85	456.41	500
EPILIM 200MG/5ML LIQ		6893	568.15	570.86	400
EPILIM 500MG EC TAB		1	1666.67		1666.67
EPILIM CR 200MG TAB		2515	487.31	393.37	400
EPILIM CR 300MG TAB		2108	569.51	317.02	600
EPILIM CR 500MG TAB		411	979.93	1465.69	1000
EPILIM 100MG CRUSH TAB		416	448.61	218.84	400
EPILIM 200MG EC TAB		22	644.85	456.41	500
CONVULEX 50MG/ML SYR		805	612.36	896.67	500
CONVULEX 150MG CAP		369	250.72	194.34	150
CONVULEX 300MG CAP		422	465.63	297.88	300
CONVULEX 500MG CAP		10	63.08	27.57	50
EPILIM 100MG CRUSH TAB	> 12 ≤ 18	73	424.76	454.29	200
EPILIM 200MG EC TAB		25	570.67	340.52	400
EPILIM 200MG/5ML LIQ		957	911.61	1365.61	800
EPILIM 500MG EC TAB		20	1000	0	1000
EPILIM CR 200MG TAB		3039	577.49	826.65	400
EPILIM CR 300MG TAB		3189	666.03	587.73	600
EPILIM CR 500MG TAB		2565	956.14	1054.3	1000
EPILIM IV 400MG INJ		1	800		800
CONVULEX 150MG CAP		203	314.48	351	300
CONVULEX 300MG CAP		419	1026.2	1742.6	600
CONVULEX 500MG CAP		185	79.21	33.02	100
CONVULEX 50MG/ML SYR		67	543.78	266.1	600
EPILIM 100MG CRUSH TAB	> 18 ≤ 40	107	1103.85	917.32	800
EPILIM 200MG EC TAB		89	1746.32	3001.13	600
EPILIM 200MG/5ML LIQ		523	1464.84	1084.12	1200
EPILIM 500MG EC TAB		78	2008.55	3601.24	1000
EPILIM CR 200MG TAB		9387	618.7	768.29	400
EPILIM CR 300MG TAB		9962	731.52	551.47	600
EPILIM CR 500MG TAB		13721	1226	1828.58	1000
EPILIM IV 400MG INJ		4	600	230.94	600
CONVULEX 150MG CAP		792	365.93	504.75	300
CONVULEX 300MG CAP		2616	1006.92	1367.02	600
CONVULEX 500MG CAP		1348	122.16	62.32	100
CONVULEX 50MG/ML SYR		50	1506.67	187.36	1500

Table 4.55: Prescribed daily dosage of valproate according to age groups contd.

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
EPILIM 100MG CRUSH TAB	> 40 ≤ 65	93	318.26	1051.67	150
EPILIM 200MG EC TAB		120	596.16	621.97	400
EPILIM 200MG/5ML LIQ		208	917.79	849.29	800
EPILIM 500MG EC TAB		140	1310.36	2743.03	1000
EPILIM CR 200MG TAB		13932	590.29	616.75	400
EPILIM CR 300MG TAB		14382	778.17	943.12	600
EPILIM CR 500MG TAB		20180	1228.56	1344.24	1000
EPILIM IV 400MG INJ		1	400		400
CONVULEX 150MG CAP		954	289.96	218.5	300
CONVULEX 300MG CAP		4863	905.15	1045.9	600
CONVULEX 500MG CAP		2230	129.79	126.71	100
CONVULEX 50MG/ML SYR		10	700	514	583.33
EPILIM 100MG CRUSH TAB	> 65	64	184.85	126.33	100
EPILIM 200MG EC TAB		66	1838.97	4349.22	600
EPILIM 200MG/5ML LIQ		524	1158.76	690.17	1043.48
EPILIM 500MG EC TAB		76	1223.68	478.85	1000
EPILIM CR 200MG TAB		8127	590.04	887.57	400
EPILIM CR 300MG TAB		7186	693.06	821.04	600
EPILIM CR 500MG TAB		7166	1148.06	1520.23	1000
EPILIM IV 400MG INJ		2	220	254.56	220
CONVULEX 150MG CAP		498	444.38	681.06	300
CONVULEX 300MG CAP		1727	766.54	708.18	600
CONVULEX 500MG CAP		582	107.57	36.52	100
CONVULEX 50MG/ML SYR		1	500		500

In the case of valproate it was difficult to analyse the prescribing dosages, because the bodyweight of the patient was not available in the data. The age groups were divided as seen in paragraph 3.3.4.2.2, therefore all the patients in age group 1 were younger than 12 years. The highest dosage that was prescribed for this age group was 1 666 mg daily. However, prescription of the maximum dosage was not impossible if taking into account that the average bodyweight of the patient should have been 47 kg. The dosages for age group two also seemed to be possible according to the range specified in Table 3.7. Age groups three to five were the patients older than 18 years and the dosage of 2 008 mg is still lower than the maximum dosage. The conclusion can be made that the dosages that were prescribed were possible and well within range of the recommended dosages.

Table 4.56: Prescribed daily dosage of vigabatrin according to age groups

Registered trade name	Age (years)	Frequency (N)	Daily dosage Mean (mg)	Std Dev (mg)	Median (mg)
SABRIL 500MG TAB	0 ≤ 12	314	944.77	556.18	750.00
SABRIL 500MG TAB	> 12 ≤ 18	11	818.18	419.69	750.00
SABRIL 500MG TAB	> 18 ≤ 40	78	1800.94	3412.73	1000.00

Age group one included patients up to the age of 12 years. The average dosage prescribed for this group was within range of the recommended dosage, since the dosage can be increased to 1 000 mg per day, for a 10 kg patient (see Table 3.7). The median indicated that 750 mg daily was prescribed to most of the patients. The same was true for age group two, whilst the adult dosage for age group three was also in range of the recommended dosage, since the maximum dosage can be up to 2.5 g daily and the initial dosage is 600 mg. The reason for the high frequency under the age group of 12 years, might be due to the fact that no clinical data was available in this study and might have had an effect on prescribing these medication.

4.6 Refill-adherence rate

Refill-based adherence rates were calculated for 64 457 (see Table 4.57) individual anti-epileptic medicine items that were prescribed to patients more than once during a four-year period (1 Jan. 2005 to 31 Dec. 2008). The refill-based adherence rate was calculated by using the equation as discussed in paragraph 3.3.5.1.3.

Table 4.57: Refill-adherence rate for individual anti-epileptic medicine items prescribed more than once during the four-year study period

Adherence rate category	Number of anti-epileptic items prescribed to patients	Percentage	Cumulative frequency (Items)
1	37 962	58.90	37 962
2	19 635	30.46	57 597
3	6 860	10.64	64 457

In Table 4.57 it was shown that only 30.46% of the trade names were refilled according to the acceptable refill-adherence rates, whilst 10.64% of the medicine items had unacceptable high refill-adherence rates and 58.90% had unacceptably low refill-adherence rates. According to paragraph 2.11, Davis *et al*. (2008:451) established in his study that the adherence rate was 39%, according to this data, the adherence rate was even 8.54% lower.

The following paragraphs will indicate the different refill-adherence rates according to gender and age group.

Table 4.58: Refill-adherence rate according to gender of individual trade name

Gender	Adherence rate category	Frequency	Average refill-adherence rate
Female	1	23465	59.54
	2	11722	29.74
	3	4222	10.71
Male	1	14486	57.90
	2	7896	31.56
	3	2636	10.54
Unidentified	1	11	36.67
	2	17	56.67
	3	2	6.67

According to Table 4.58 the refill-adherence rates of the specific anti-epileptic medicine according to gender (male and female), adherence rates were relatively the same with 31.56% and 29.74% respectively. When taking the average refill-adherence rate into account the *d*-value (d = 0.001) showed that there was no practical significant difference between the refill-adherence rates according to gender.

Table 4.59: Refill-adherence rate according to age groups of individual trade name

Age	***Adherence rate category***	***Frequency***	***Refill-adherence rate (%)***
1	1	1 706	62.61
	2	754	27.67
	3	265	9.72
2	1	1 759	58.99
	2	878	29.44
	3	345	11.57
3	1	10 170	58.79
	2	5 052	29.20
	3	2 077	12.01
4	1	16 436	59.86
	2	8 142	29.65
	3	2 880	10.49
5	1	7 891	56.39
	2	4 809	34.37
	3	1 293	9.24

The refill-adherence rates for the different age groups were relatively constant, except for age groups 1 and 5. For age group one, 27.67% of the patients had an acceptable rate between 90% and 110%. For this same age group 62.61% had unacceptably low rates of under 90%, whilst 9.72% were unacceptably high. The refill-adherence rates for anti-epileptic medicines prescribed to patients in the age groups 2, 3 and 4 were almost the same, with an acceptable refill-adherence rate of 29.44%, 29.20% and 29.65% respectively. The percentages of unacceptably low refill-adherence rates were also relatively the same with 58.99%, 58.79% and 59.86% for each of the respective age groups. For age group 5, this, however, was different with an acceptable refill-adherence rate of 34.37%, whilst 56.39% were under the 90% mark and 9.24% were higher than 110%.

When comparing the different age groups according to the average refill-adherence rates it is clear that the refill-adherence rate decreased with nearly 10% from 93.7% in age group 1 (0 ≤ 12 years) to 83.3% in age group 5 (older than 65 years). The refill-adherence rates of anti-epileptic medicine decreased with an increase in the age of patients. This is confirmed by paragraph 2.11, with the study conducted by Davis *et al*. (2008:451), also indicating that the patients older than 65 years had a lower adherence rate as the rest of the population, whilst Asadi-Pooya (2005:395), determined that the adherence rate in adolescents was relatively high according to other studies.

The following table will be divided into the refill-adherence rate categories as summarised in Table 3.5.

Table 4.60: Refill-adherence rate according to trade name of anti-epileptic medicines

Registered trade name	Total number of items	Refill-adherence category					
		Medicine items	1	Medicine items	2	Medicine items	3
PHENOBARBITONE/PHENOBARBITAL							
ADCO-PHENOBARB VITAL	50	39	78	10	20	1	2
GARDENAL SOD 200MG/ML INJ	1	1	100				
SEDABARB 30MG TAB	245	223	91.02	18	7.35	4	1.63
LETHYL 30MG TAB	859	504	58.67	308	35.86	47	5.47
TOPIRAMATE							
ADCO-TOPIRAMATE 100MG TABLET	5	1	20	2	40	2	40
ADCO-TOPIRAMATE 200MG TABLET							
ADCO-TOPIRAMATE 25MG TABLET	9	3	33.33	4	44.44	2	22.22
ADCO-TOPIRAMATE 50MG TABLET	6	4	66.67	1	16.67	1	16.67
SANDOZ TOPIRAMATE 100MG TAB	5	9	42.86	9	42.86	3	14.29
SANDOZ TOPIRAMATE 200MG TAB	4	1	25	3	75		
SANDOZ TOPIRAMATE 25MG TAB	3	11	44	13	52	1	4
SANDOZ TOPIRAMATE 50MG TAB	4	19	45.24	15	35.71	8	19.05
TOPAMAX 100MG TAB	1012	556	54.94	351	34.68	105	10.38
TOPAMAX 200MG TAB	176	92	52.27	66	37.50	18	10.23
TOPAMAX 25MG TAB	1845	1186	64.28	470	25.47	189	10.24
TOPAMAX 50MG TAB	1681	1012	60.20	514	30.58	155	9.22
TOPAMAX SC SPRIN 15MG	82	44	53.66	28	34.15	10	12.20
TOPAMAX SC SPRIN 25MG	3	1	33.33	2	66.67		
TOPAMAX SC SPRIN 50MG	9	2	22.22	2	22.22	5	55.56
TOPLEP 100MG TAB	205	86	41.95	86	41.95	33	16.10
TOPLEP 200MG TAB	42	18	42.86	15	35.71	9	21.43
TOPLEP 25MG TAB	271	119	43.91	107	39.48	45	16.61
TOPLEP 50MG TAB	302	128	42.38	119	39.40	55	18.21
PREGABALIN							
LYRICA 150MG CAP	415	223	53.73	120	28.92	72	17.35
LYRICA 25MG CAP	150	85	56.67	40	26.67	25	16.67
LYRICA 75MG CAP	1258	769	61.13	312	24.80	177	14.07
LAMOTRIGINE							
ARROW LAMOTRIGINE 100MG TABS	5	1	20	3	60	1	20
ARROW LAMOTRIGINE 200MG TABS	4	1	25	2	50	1	25
ARROW LAMOTRIGINE 25MG TABS	3			2	66.67	1	33.33
ARROW LAMOTRIGINE 50MG TABS	4	2	50	2	50		
ASPEN LAMOTRIGINE 100MG	190	69	36.32	69	36.32	52	27.37
ASPEN LAMOTRIGINE 200MG	56	25	44.64	22	39.29	9	16.07
ASPEN LAMOTRIGINE 25MG	83	34	40.96	24	28.92	25	30.12
ASPEN LAMOTRIGINE 50MG	134	54	40.30	56	41.79	24	17.91
AUSTELL-LAMOTRIGINE 100MG	4	33	75	1	25		
AUSTELL-LAMOTRIGINE 200MG	3	1	33.33	2	66.67		
AUSTELL-LAMOTRIGINE 25MG	1			1	100		
AUSTELL-LAMOTRIGINE 50MG	2			2	100		
DYNA-LAMOTRIGINE 100MG TAB	10	1	10	7	70	2	20
DYNA-LAMOTRIGINE 200MG TAB	7	3	42.86	4	57.14		
DYNA-LAMOTRIGINE 25MG TAB	1			1	100		
DYNA-LAMOTRIGINE 50MG TAB	2	2	100				
EPITEC 100MG TAB	1597	871	54.54	550	34.44	176	11.02
EPITEC 200MG TAB	852	404	47.42	347	40.73	101	11.85
EPITEC 25MG TAB	784	461	58.80	209	26.66	114	14.54
EPITEC 50MG TAB	1212	682	56.27	394	32.51	136	11.22
LAMEPTIL 100MG TAB	17	7	41.18	6	35.29	4	23.53
LAMEPTIL 200MG TAB	4			3	75	1	25
LAMEPTIL 25MG TAB	4	1	25	1	25	2	50
LAMEPTIL 50MG TAB	6	3	50	1	16.67	2	33.33
LAMICTIN 25MG TAB	1892	1218	64.38	442	23.36	232	12.26
LAMICTIN 100MG TAB	2961	1710	57.75	945	31.91	306	10.33
LAMICTIN 200MG TAB	1278	645	50.47	509	39.83	124	9.70
LAMICTIN 25 MONO STARTER PK							
LAMICTIN 25 VP STARTER PK-ADD	1			1	100		

Table 4.60: Refill-adherence rate according to trade name of anti-epileptic medicines contd.

Registered trade name	Total number of items	Refill-adherence category					
		Medicine items	1	Medicine items	2	Medicine items	3
LAMICTIN 50MG TAB	2467	1518	61.53	696	28.21	253	10.26
LAMICTIN P 100MG DISP TAB	32	9	28.13	19	59.38	4	12.50
LAMICTIN P 200MG DISP TAB	8	2	25	5	62.5	1	12.50
LAMICTIN P 25MG DISP TAB	95	52	54.74	34	35.79	9	9.47
LAMICTIN P 2MG DISP TAB	6	2	33.33	2	33.33	2	33.33
LAMICTIN P 50MG DISP TAB	55	27	49.09	24	43.64	4	7.27
LAMICTIN P 5MG DISP TAB	112	76	67.86	23	20.54	13	11.61
LAMOTRIGINE (Continue)							
LAMITOR-100	335	165	49.25	122	36.42	48	14.33
LAMITOR-25	101	54	53.47	30	29.70	17	16.83
LAMITOR-50	211	101	47.87	77	36.49	33	15.64
MERCK-LAMOTRIGINE 100MG TAB	2	1	50	1	50		
MERCK-LAMOTRIGINE 200MG TAB	1			1	100		
MERCK-LAMOTRIGINE 25MG TAB	1	1	100				
MERCK-LAMOTRIGINE 50MG TAB	3	1	33.33	1	33.33	1	33.33
PIRAMAX 100MG TAB	40	13	32.50	16	40	11	27.50
PIRAMAX 200MG TAB	12	5	41.67	4	33.33	3	25
PIRAMAX 25MG TAB	48	26	54.17	13	27.08	9	18.75
SANDOZ LAMOTRIGINE 100MG	29	9	31.03	11	37.93	9	31.03
SANDOZ LAMOTRIGINE 200MG	26	7	26.92	10	38.46	9	34.62
SANDOZ LAMOTRIGINE 25MG	14	6	42.86	3	21.43	5	35.71
SANDOZ LAMOTRIGINE 50MG	26	8	30.77	9	34.62	9	34.62
VALPROIC ACID							
CONVULEX 150MG CAP	234	147	62.82	69	29.49	18	7.69
CONVULEX 300MG CAP	556	294	52.88	214	38.49	48	8.63
CONVULEX 500MG CAP	218	105	48.17	98	44.95	15	6.88
VALPROATE							
EPILIM 100MG CRUSH TAB	69	34	48.28	19	27.54	16	23.19
EPILIM 200MG EC TAB	54	29	53.70	20	37.04	5	9.26
EPILIM 200MG/5ML LIQ	834	616	73.86	149	17.87	69	8.27
EPILIM 500MG EC TAB	40	17	42.50	19	47.50	4	10
EPILIM CR 200MG TAB	3251	1829	56.26	1051	32.33	371	11.41
EPILIM CR 300MG TAB	3186	1795	56.34	1051	32.99	340	10.67
EPILIM CR 500MG TAB	3219	1638	50.89	1200	37.28	381	11.84
EPILIM IV 400MG INJ							
CONVULEX 50MG/ML SYR	60	36	60	20	33.33	4	6.67
CARBAMAZEPINE							
CPL ALNCE CARBAMAZEPINE							
DEGRANOL 200MG TAB	2719	1901	69.62	633	23.28	185	6.80
SANDOZ CARBAMAZEPINE 200MG	581	271	46.64	211	36.32	99	17.04
SANDOZ CARBAMAZEPINE CR 200MG	288	127	44.10	105	36.46	56	19.44
SANDOZ CARBAMAZEPINE CR 400MG	155	62	40	68	43.87	25	16.13
TEGRETOL 100MG/5ML SUSP	160	108	67.50	35	21.88	17	10.63
TEGRETOL 200MG TAB	1945	1212	62.31	536	27.56	197	10.13
TEGRETOL CR 200MG TAB	3583	2166	60.45	1100	30.70	317	8.85
TEGRETOL CR 400MG TAB	1900	998	52.53	748	39.37	154	8.11
PHENYTOIN							
EPANUTIN 100MG CAP	2694	1384	51.37	1077	39.98	233	8.65
EPANUTIN 125MG/5ML SUSP	36	25	69.44	6	16.67	5	13.89
EPANUTIN 5ML 250MG INJ							
EPANUTIN INFATAB 50MG	171	60	35.09	95	55.56	16	9.36
EPANUTIN READY 5ML INJ	2	2	100				
NORSTAN-PHENYTOIN SOD 100MG T	60	34	56.67	23	38.33	3	5
PHENYTOIN SOD 100MG TAB	843	389	46.14	307	36.42	147	17.44
GABAPENTIN							
EPLEPTIN 100MG CAP	398	239	60.05	101	25.38	58	14.57
EPLEPTIN 300MG CAP	369	230	62.33	98	26.56	41	11.11
EPLEPTIN 400MG CAP	166	96	57.83	46	27.71	24	14.46

Table 4.60: Refill-adherence rate according to trade name of anti-epileptic medicines contd.

Registered trade name	Total number of items	Refill-adherence category					
		Medicine items	1	Medicine items	2	Medicine items	3
NEUREXAL 100MG CAP	47	30	63.83	10	21.28	7	14.89
NEUREXAL 300MG CAP	54	27	50	19	35.19	8	14.81
NEUREXAL 400MG CAP	18	7	38.89	10	55.56	1	5.56
NEURONTIN 100MG CAP	2286	1620	70.87	445	19.47	221	9.67
NEURONTIN 300MG CAP	1672	1156	69.14	335	20.04	181	10.83
NEURONTIN 400MG CAP	498	328	65.86	124	24.90	46	9.24
NEURONTIN 600MG TAB	103	56	54.37	34	33.01	13	12.62
NEURONTIN 800MG TAB	21	7	33.33	8	38.10	6	28.57
RAN-GABAPENTIN 100MG CAP							
RAN-GABAPENTIN 300MG CAP							
RAN-GABAPENTIN 400MG CAP							
LEVETIRACETAM							
KEPPRA 1000MG TABS	1					1	100
KEPPRA 250MG TABS	386	185	47.93	137	35.49	64	16.58
KEPPRA 500MG TABS	76	25	32.89	35	46.05	16	21.05
KEPPRA 750MG TABS	206	58	28.16	117	56.80	31	15.05
PRIMIDONE							
MYSOLINE 2050MG TAB	101	67	66.34	30	29.70	4	3.96
CLONAZEPAM							
RIVOTRIL DRP	43	26	60.47	13	30.23	4	9.30
RIVOTRIL 0.5MG TAB	5065	3573	70.54	1099	21.70	393	7.76
RIVOTRIL 1MG/ML INJ	3	2	66.67			1	33.33
RIVOTRIL 2MG TAB	1658	1026	61.88	457	27.56	175	10.55
VIGABATRIN							
SABRIL 500MG TAB	22	13	59.09	9	40.91		
OXCARBAZEPINE							
TRILEPTAL FCT 300MG	647	355	54.87	215	33.23	77	11.90
TRILEPTAL FCT 600MG	231	107	46.32	93	40.26	31	13.42
ETHOSUXIMIDE							
ZARONTIN 250MG CAP	33	13	39.39	15	45.45	5	15.15
ZARONTIN SYR	36	20	55.56	9	25	7	19.44

According to Table 4.60 the anti-epileptic medicine items were divided into groups according to their active ingredients. When looking at the refill-adherence rate between the different products with phenobarbitone as active ingredient it is clear that Sedabarb® 30 mg tablets, had the lowest acceptable refill-adherence rate of only 7.35%, whilst Lethyl® 30 mg tablets had the highest refill-adherence rate of 35.86%. Also with relatively low rates of 16.67%, Adco-Topiramate® 50 mg tablets, showed to be the lowest in the topiramate group, whilst an acceptable refill-adherence rate for Sandoz-Topiramate® 200 mg tablets was as high as 75%. Lyrica® ranged from 28.92% to 24.80% in the pregabalin group, whereas in the lamotrigine group, Lameptil® 50 mg tablets, had a refill-adherence rate of 16.67% and it increased to 100% with Austell-Lamotrigine® 50 mg. Convulex® capsules varied with an acceptable refill-adherence rate of 29.49% to 44.95% in the valproic acid group. In the valproate group Epilim® 200 mg/5 ml liquid, had and an acceptable rate of 17.87% and was as high as 47.50% in the case of Epilim® 500 mg tablets.

Sandoz-Carbamazepine® CR 400 mg, had an acceptable refill-adherence rate of 43.87%, whilst in the carbamazepine group showed the lowest rate of 21.88%, for Tegretol® 100 mg/5 ml suspension. Phenytoin as active ingredient of Epanutin® 125 mg/ 5 ml suspension, had a relatively low acceptable adherence rate of 16.67%. The highest rate in this group was 55.56% for Epanutin® infatab 50 mg. In the gabapentin group it looked almost the same as the previous group, with an acceptable rate that varied from 19.47% for Neurontin® 100 mg capsules to 55.56% for Neurexal® 400 mg capsules. Keppra® 250 mg tablets had an acceptable rate of 35.49%, whereas the Keppra® 750 mg tablets with a 56.80% acceptable rate showed the highest in the levetiracetam group. Rivotril® varied from 30.23% to 21.70%, Sabril® with acceptable rates of 40.91%, Trileptal® with a variation from 33.23 5 to 40.26% and Zarontin® had an acceptable refill-adherence rate of 45.45% to a minimum of 25% (see Table 4.60).

Table 4.61: Refill-adherence rate according to anti-epileptic active ingredient

Active ingredient	*Total number of items*	*Medicine items*	*1*	*Medicine items*	*2*	*Medicine items*	*3*
CARBAMAZEPINE	11331	6845	60.41	3436	30.32	1050	9.27
CLONAZEPAM	6769	4627	68.36	1569	23.18	573	8.47
ETHOSUXIMIDE	69	33	47.83	24	34.78	12	17.39
GABAPENTIN	5632	3796	67.40	1230	21.84	606	10.76
LAMOTRIGINE	14641	8237	56.26	4674	31.92	1730	11.82
LEVETIRACETAM	669	268	40.06	289	43.20	112	16.74
OXCARBAMAZEPINE	878	462	52.62	308	35.08	108	12.30
PHENOBARBITONE/VIT B	50	39	78	10	20	1	2
PHENOBARBITONE	1105	728	65.88	326	29.50	51	4.62
PHENYTOIN	3806	1894	49.76	1508	39.62	404	10.61
PREGABALIN	1823	1077	59.08	472	25.89	274	15.03
PRIMIDONE METABOLITES	101	67	66.34	30	29.70	4	3.96
TOPIRAMATE	5840	3336	57.12	1840	31.51	664	11.37
VALPROATE	10653	5958	55.93	3509	32.94	1186	11.13
VALPROIC ACID	1068	582	54.49	401	37.55	85	7.96
VIGABATRIN	22	13	59.09	9	40.91		

According to Table 4.61 medicine items containing, phenobarbitone/vit B with 20%, gabapentin with 21.84% and clonazepam with 23.18% have unacceptably low refill-adherence rates.

The total cost of R155 724 494 was divided into the cost of the items that were prescribed more than once (R146 863 755) and the cost of the items that were prescribed only once (R8 860 739). The final cost that was used to determine the expenditure that was wasted because of unacceptable refill-adherence rates (low and high), was determined by using the cost of the items that were prescribed more than once (R146 863 755) and subtracted from that was the cost of the last prescription prescribed for the study period, since that cost was already part of medication dispensed that had not been included in the refill-adherence rate calculations (R8 835 346). Therefore the final cost added up to R133 769 979.

Table 4.62: Days supply

Days supply categories		Days supply on anti-epileptic medicine items on which refill-adherence rates were calculated	
	Criteria (days)	Number of medicine items	Days supplied results (%)
1	≤ 60	17861	27.71
2	>60 ≤ 90	6887	10.68
3	>90 ≤ 120	4816	7.47
4	>120 ≤ 180	7039	10.92
5	>180 ≤ 360	11197	17.37
6	>360 ≤ 720	9324	14.47
7	>720 ≤ 1080	4033	6.26
8	>1080	3300	5.12

The days supply for this study was defined as the number of days that passed between the first day that the medicine items were received, until the day of the next refill of the same medicine item. This criteria according to the days supply are indicated in Table 3.6 (see section 3.3.5.1.3). In Table 4.62 the number of medicine items and the percentages according to the criteria as indicated on anti-epileptic medicine items (n = 64 457) on which refill-adherence calculations were done from 2005 to 2008 were indicated.

According to Table 4.62 the majority of medicine items on which refill-adherence rates were calculated indicated a rate of 27.71% (n = 17 861) for medicine items refilled within ≤ 60 days. The lowest percentage of days between refill, were in category eight (> 1080) representing 5.12% (n = 3 300). According to Table 4.62 the majority of refills classify under criteria four to six, and this implies that the majority of patients only received their next refill, 4 months after their first prescription. This justifies the unacceptable refill-adherence rate encountered among patients using anti-epileptic medicine (see Table 4.57) .

Table 4.63: Summary of total expenditure according to refill-adherence rate

Adherence rate category	*Frequency*	*Cost (R)*	*%*
1	37 962	57 599 838	43.06
2	19 635	66 387 276	49.63
3	6 860	9 782 864	7.31
Total	**64 457**	**133 769 979**	**100**

In conclusion the total expenditure on medication lost because of unacceptably low adherence amounted to R57 599 838 (43.06%) for the study period and medicine worth R 9 782 864 (7.31%) had been over supplied.

4.6.1 Conclusion for refill-adherence rate

When considering the gender there were no significant differences in the refill-adherence rates between male and female. The age groups showed that as the age increased, the refill-adherence rate decreased. In figure 3 (see section 2.11.3) the barriers to adherence were provided. As indicated high medication cost can be a barrier to poor adherence rates. In figure 4.4 it is clear that the patient levy increased as age increased and therefore may be a reason why the non adherence levels were higher in the higher age group. Hughes *et al.* (2001:1195) stated that non-adherence would lead to unnecessary medical expenditure (see paragraph 2.11) and according to the findings regarding the medication expenditure it was clear that in the case of patients using anti-epileptic medicine it was true.

4.7 Chapter summary

In this chapter all the results obtained from the empirical investigation were discussed. The analyses were done according to the total database, demographic parameters, different prescribers, cost per tablet of top ten trade names and median cost per yearly treatment. The combination of anti-epileptic medicine, cost minimisation with generic substitution, prescribed daily dosage and refill-adherence rate were also discussed.

Chapter 5

Conclusions and recommendations

5.1 Introduction

The conclusions and recommendations in this chapter were based on the results of the empirical investigation as well as the literature overview. The discussion will be directed according to the specific objectives stated in chapter 1 and 3. The limitations experienced throughout this study will also be discussed.

5.2 Study conclusions

In the following section the conclusions for the literature review and empirical study drawn from the study will be stipulated.

5.2.1 Conclusions on the literature review

In the following section the conclusions as drawn from the literature review will follow:

- **The first specific objective was to make use of the available literature to conceptualise epilepsy and its treatment.**

  Epilepsy still remain one of the world's most common neurological conditions. Epilepsy frequently poses a problem with regard to work-related activities, driving prohibition, psychological and social life of which restriction of work or schooling has the greatest impact on epileptic's life (see section 2.2). More effective medical and surgical treatments for epilepsy have led to increasing interest in the condition and to a drive to improve the quality of services for people with epilepsy. Up to 80% of epileptics should have their epilepsy controlled by medicine (Epilepsy South Africa, 2008) (see section 1.2). Another important aspect of epilepsy is seizure severity and a conclusion can be drawn that the improvement of seizure severity can lead to a correlated increase in an individual's financial situation, interpersonal relationships and self-efficacy, since quality of life and seizure severity appear to have overlapping qualities and to reduce seizure severity may significantly improve the quality of life of epileptics (see section 2.2.1).

- **To explain anti-epileptic medicine as applied to different types of epilepsy.**

The treatment of epilepsy is still difficult in some cases. The reason for this might be because of the wide range of medicine that is available (refer to Table 2.1), whether add-on therapy or alternative monotherapy should be used (see section 2.5). The fact that the pathophysiology is in some cases only partially understood (see section 2.9) complicates the situation. All the contributing factors regarding the cost of treatment (see section 2.12), adverse events (see section 2.2.2), interactions (see section 2.10) and patient adherence (see section 2.11) do have an impact on prescribing decisions. The seizure severity (section 2.2.1) and the social acceptance (see section 2.2.3) of patients with epilepsy also plays a vital role when medication has to be selected.

The classification system that was used in this study was the classification system as established by the International League against Epilepsy (ILAE) in 1981 (ILAE, 2009a). According to this classification, seizures can be divided into two major classes (Table 2.1): partial-onset seizures and generalised-onset seizures. The anti-epileptic medicine and the usage thereof for the different types of epilepsy were explained in Table 2.1 (see section 2.4). The new AEDs seem to be similar to the older compounds in efficacy, but superior in tolerability. It was confirmed in the literature that lamotrigine was a cost-effective alternative to carbamazepine for the treatment of partial onset seizures. In generalised and unclassified epilepsy, valproate should remain the medicine of first choice for many patients. Absence seizures are unique in terms of pharmacological treatment and valproate, ethosuximide, and lamotrigine alone or in combination are first- line therapy. In some cases combination of different AEDs may be required and treatment still remain dependant on the individual patient characteristics (see section 2.5).

- **To investigate the usage patterns of the different AEDs.**

The literature established that 80% of epileptics should have their epilepsy controlled by medicine. Furthermore it was found that more males have epilepsy than females (see section 1.2) and that the prevalence increased as age increases and peaks in adolescence and early adulthood especially in developed countries (see section 2.8). The incidence of epilepsy in South Africa is largely unknown, but is estimated to be the same as in developed countries (see section 2.8). According to Epilepsy South Africa, 1 per 100 people suffers from epilepsy (De Goede, 2009) and was found to be relatively high according to other countries such as the 6 per 1000 people in Asia (see section 2.8).

5.2.2 Conclusions on the empirical study

In the following section the conclusions as drawn from the empirical investigation will follow.

- **To investigate the general prescribing patterns and cost of anti-epileptic medication according to different demographic variables (e.g. gender, age and prescriber).**

The total number of patients on the total database decreased from 1 509 621 in 2005 to 974 497 in 2008. This decrease might have been due to changes in medication and/or membership at the medical scheme.

The number of patients using anti-epileptic medicine, however increased over the study period, when looking at the percentage of anti-epileptic patients according to the number of patients on the total database of every year (see Tables. 4.1 and 4.2). The conclusion can be drawn that the number of anti-epileptic patients increased from 2005 to 2008.

The percentage of the total number of anti-epileptic prescriptions according to the total database increased from 1.66% in 2005 to 2.08% in 2008, this might be because of the increase in the number of anti-epileptic patients over the study period.

The average cost per anti-epileptic medicine item stayed relatively the same over the four year study period. After evaluating anti-epileptic medicine according to CPI, it was found that anti-epileptic medicine was relatively expensive compared to other medicine on the total database for this section of the private health care sector.

The medical scheme contribution for anti-epileptic medicine decreased with 5.73% over the four year study period, which mean that the patients needed to pay more for their anti-epilpetic medicine.

The average number of prescriptions per anti-epileptic patient varied from 4.60 ± 4.64 and 4.96 ± 4.83 from 2005 to 2008 (Refer to Tables 4.1 and 4.2).

The three demographic variables discussed were gender, age and prescriber. The gender were divided into male, female and unidentified, whilst the age were categorised in five different age groups as summarised in paragraph 3.3.4.2.2. The prescribers were categorised into four groups namely neurologist, general practitioner, psychiatrist and other.

With the first demographic variable it was found that the representation of the female as well as male patients on the total database stayed relatively the same, whilst there was an increase in the percentage of both the male and female patients using anti-epileptic medicine. With regards to the prescription cost of anti-epileptic medicine for male and female patients, the cost stayed relatively the same over the four year period.

It was clear that there were more females than males that use anti-epileptic medicine. The male : female ratio concluded to 1 : 1.25. With regards to the cost per anti-epileptic medicine item the CPI was calculated between male and female with values of 0.95, 0.95, 0.94 and 0.93 respectively over the four year study period. The conclusion drawn was that the cost per anti-epileptic medicine item for males and females were in equilibrium.

The largest number of patients using anti-epileptic medicine were > 40 years ≤ 64 years of age. With regards to the cost of medication it can be concluded that the medical schemes contribution decrease as age increases (see section 4.3.2.2.1).

Most of the medicine were prescribed by a general practitioner and the least items were prescribed by a neurologist. The average prescription cost (R 436.82 ± 365.08) was the highest for the neurologists, whilst the general practitioner's average prescription cost (R 236.43 ± R 229.97) were the lowest (see section 4.3.3).

With regards to the cost of the anti-epileptic items, Epilim® 400 mg injections were the most expensive in three years of the four year study period, although the frequency were very low (refer to section 4.3.4.). The total cost for a year's treatment increased by 7.5% on average from 2005 (R1 267.35 ± R2 336.79) to 2008 (R1 362.35 ± R2 403.44) (see section 4.3.5).

The prescribing patterns with regards to combination therapy was summarised in section 4.3.6. It was found that the combination therapy in epilepsy remains very complex and therefore the focus was on the prevalence of the different combinations. It can be concluded that carbamazepine and valproate were the two active ingredients that were mostly prescribed with regards to prescriptions with only one anti-epileptic product. This however might be due to the fact that both these active ingredients are part of the first-line therapy in the treatment with anti-epileptic medicine. Prescriptions with one active ingredient were most frequently prescribed, whilst the more medicine items per prescription the less frequent it became.

After evaluating the prescribed daily dosage, it was clear that most of the medication was in the recommended range. Except for those cases where the data indicated that medication is not recommended for a specific age, but that there still was patients who received it.

An example was Tegretol® 400mg CR that was double the recommended dosage for the first age group (see section 4.5). The reason might have been due to the lack of clinical data that might have had an effect on the prescribing of these items.

- **To investigate the influence of generic substitution on the possible lowering of direct medicine cost of anti-epileptic medication.**

Generic substitution was possible with active ingredients: gabapentin, lamotrigine, topiramate and phenobarbitone. In total it was possible to save up to R134 685.66 when generic substitution was implemented to maximum (see section 4.4). Although not a relative large saving it must also be taken into consideration that a number of medications are not substitutable for example all the products containing carbamazepine and phenytoin during the study period (Matsoso, 2003) (see section 3.3.5.1.4.)

- **To evaluate the refill-adherence rate of individual anti-epileptic drugs by using a medicine claim database.**

After evaluating 64 457 anti-epileptic items it was concluded that only 30.46% of the patients were adherent to their medication. With regards to the comparison between gender's refill-adherence rate, it can be concluded that males and females are relatively the same, with a 31.56% and a 29.74% adherence rate respectively. In the different age groups , the refill-adherence rate decreased with nearly 10% from 93.7% in age group one to 83.3% in age group five. This concludes that the refill-adherence rate may decrease as the age increases. A comparison between the different trade names with the same active ingredient and the refill-adherence rate were stipulated under Table 4.54. The refill-adherence rate however was determined according to active ingredient, which leads to indicate that products containing phenobarbitone/vit B, gabapentin or clonazepam had the lowest refill-adherence rate. The total expenditure lost due to unacceptable low and high refill-adherence rate amounted to R 67 382 702 over the four year study period.

5.3 Recommendations

The following recommendations could be formulated after analysis of the data and research study:

- More in-depth research should be performed to provide more data concerning medicine prescribing patterns for epilepsy patients in South Africa, due to the fact that literature about epilepsy in South Africa is limited.

- Further investigation should be conducted on the appropriate use of medication to specific age groups, for example the prescribing patterns of products in age groups where the medication is not recommended for patients in a specific age group.
- An investigation to determine whether a patient's anti-epileptic therapy chance in the case of unacceptable refill-adherence rates.
- Further investigation should be done on the prevalence and demographic parameters of epilepsy patients in South Africa compared to international studies.
- Further studies can focus on the trends of medical aid scheme contributions over a certain period.
- Further studies can determine the influence of replacing the non-substitutable products for possible cost savings without having any disadvantages to the patient.

5.4 Limitations

Throughout the study there were certain limitations that could have influenced the applicability.

- Limited literature available concerning the prevalence and severity of epilepsy in South Africa.
- Only one PMB's date were used throughout the study, therefore no comparison was made regarding anti-epileptic medicine within the private health care sector of South Africa. This also excludes medicine usage patterns in the public health sector of South Africa.
- The lack of clinical data (*i.e*. diagnosis or medical history). The relevance of some utilisation patterns and indication for treatment could therefore not be determined.
- The analysis was limited to direct cost of medicine only and does not include other cost-related aspects to treatment of epilepsy. This meant that certain products such as cotton wool and alcohol swabs were not regarded as a medicinal product and were not included in the analysis of the data.

5.5 Chapter summary

This chapter included the conclusion with regard to the specific objectives that were set for the study and the recommendations made for future studies. The limitations of the study were also noted in this chapter.

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APPENDIX A

Table A 1 : Average cost of all medicine items for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	19 500 774	Final prescription cost	93.32 ± 166.36	1 819 865 251.63
		Final scheme amount	82.17 ± 159.21	1 602 447 649.43
		Final levy	11.15 ± 42.24	217 417 602.20
2006	21 113 422	Final prescription cost	92.82 ± 196.42	1 959 738 734.09
		Final scheme amount	80.46 ± 189.99	1 698 709 951.36
		Final levy	12.36 ± 45.28	261 028 782.73
2007	19 075 724	Final prescription cost	100.56 ± 324.11	1 918 284 176.66
		Final scheme amount	84.66 ± 304.10	1 615 007 032.92
		Final levy	15.90 ± 101.24	303 277 143.74
2008	16 439 253	Final prescription cost	108.63 ± 436.75	1 785 871 013.85
		Final scheme amount	89.94 ± 419.97	1 478 548 228.92
		Final levy	18.69 ± 107.16	307 322 784.93

Table A 10: Average number of medicine items per prescription for all medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	3 348 219	2.31 ± 1.47	7 734 461
2006	3 565 331	2.36 ± 1.50	8 403 158
2007	3 154 367	2.40 ± 1.55	7 562 466
2008	2 713 488	2.41 ± 1.59	6 545 325

Table A 11: Average number of medicine items per prescription for all medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	5 036 494	2.33 ± 1.54	11 750 190
2006	5 336 203	2.38 ± 1.55	12 699 707
2007	4 754 911	2.42 ± 1.62	11 509 346
2008	4 062 385	2.44 ± 1.67	9 893 928

Table A 12: Average number of medicine items per prescription for all medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	1	764 918	2.51 ± 1.36	1 916 485
	2	347 931	2.35 ± 1.33	817 362
	3	1 865 346	2.24 ± 1.36	4 185 718
	4	3 588 703	2.31 ± 1.52	8 302 493
	5	1 725 902	2.48 ± 1.84	4 278 716
2006	1	790 184	2.54 ± 1.38	2 005 107
	2	367 516	2.40 ± 1.36	882 991
	3	1 957 587	2.27 ± 1.38	4 449 232
	4	3 883 707	2.37 ± 1.56	9 197 629
	5	1 809 963	2.53 ± 1.88	4 578 463
2007	1	652 869	2.54 ± 1.39	1 658 615
	2	320 639	2.39 ± 1.37	766 228
	3	1 637 457	2.30 ± 1.40	3 767 436
	4	3 490 196	2.42 ± 1.60	8 439 370
	5	1 723 841	2.58 ± 1.92	4 444 075
2008	1	435 452	2.49 ± 1.39	1 085 511
	2	257 151	2.34 ± 1.37	602 822
	3	1 257 884	2.27 ± 1.40	2 855 035
	4	3 132 007	2.45 ± 1.63	7 658 730
	5	1 619 311	2.62 ± 1.90	4 237 155

Table A 13: Average number of prescriptions per patient for all medicine for study period 2005 to 2008

Year	Frequency (N)	Average number of prescriptions	Total
2005	1 509 621	5.56 ± 6.75	8 391 836
2006	1 558 090	5.72 ± 6.96	8 906 344
2007	1 178 596	6.71 ± 7.55	7 911 084
2008	974 497	6.95 ± 7.85	6 775 863

Table A 14: Average number of prescriptions per patient for all medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Average number of prescriptions	Total
2005	665 505	5.03 ± 6.15	3 348 219
2006	688 091	5.18 ± 6.35	3 565 328
2007	523 841	6.02 ± 6.90	3 154 355
2008	436 243	6.22 ± 7.15	2 713 478

Table A 15: Average number of prescriptions per patient for all medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Average number of prescriptions	Total
2005	842 386	5.98 ± 7.16	5 036 494
2006	868 891	6.14 ± 7.37	5 336 202
2007	654 348	7.27 ± 7.99	4 754 911
2008	538 254	7.55 ± 8.32	4 062 385

Table A 16: Average number of prescriptions per patient for all medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency (N)	Average number of prescriptions	Total
2005	1	197 323	3.88 ± 3.75	764 918
	2	103 279	3.37 ± 3.42	347 931
	3	359 809	5.18 ± 5.76	1 865 346
	4	425 806	8.43 ± 8.42	3 588 693
	5	132 140	13.06 ± 10.71	1 725 902
2006	1	193 346	4.09 ± 3.90	790 184
	2	103 746	3.54 ± 3.56	367 516
	3	370 653	5.28 ± 5.97	1 957 584
	4	452 910	8.58 ± 8.63	3 883 706
	5	138 438	13.07 ± 10.96	1 809 963
2007	1	142 047	4.60 ± 4.15	652 869
	2	84 776	3.78 ± 3.75	320 639
	3	25 480	6.43 ± 6.37	1 637 457
	4	325 186	10.73 ± 8.94	3 490 195
	5	104 402	16.51 ± 10.63	1 723 829
2008	1	124 440	3.53 ± 3.61	439 598
	2	169 159	3.52 ± 3.90	595 167
	3	170 231	5.53 ± 5.94	940 729
	4	392 341	8.09 ± 8.09	3 172 457
	5	118 326	13.76 ± 11.0	1 627 912

Table A 2 : Average cost of all medicine items according to male gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	7 734 461	Final prescription cost	94.87 ± 176.88	733 769 633.85
		Final scheme amount	84.48 ± 169.85	653 370 941.06
		Final levy	10.39 ± 43.72	80 398 692.79
2006	8 403 158	Final prescription cost	94.77 ± 208.10	796 360 401.04
		Final scheme amount	83.15 ± 202.04	698 682 181.29
		Final levy	11.62 ± 45.01	97 678 219.75
2007	7 562 466	Final prescription cost	103.08 ± 356.74	779 508 488.81
		Final scheme amount	88.00 ± 328.91	665 466 500.10
		Final levy	15.08 ± 123.54	114 041 988.71
2008	6 545 325	Final prescription cost	111.32 ± 465.21	728 596 560.22
		Final scheme amount	93.59 ± 451.99	612 588 436.69
		Final levy	17.72 ± 92.16	116 008 123.53

Table A 3 : Average cost of all medicine items according to female gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	11 750 190	Final prescription cost	92.31 ± 158.69	1 084 626 865.29
		Final scheme amount	80.65 ± 151.40	947 688 793.44
		Final levy	80.65 ± 41.24	136 938 071.85
2006	12 699 707	Final prescription cost	91.52 ± 188.12	1 162 254 536.20
		Final scheme amount	78.66 ± 181.38	999 015 475.00
		Final levy	12.85 ± 45.46	163 239 061.29
2007	11 509 346	Final prescription cost	98.89 ± 300.67	1 138 188 990.86
		Final scheme amount	82.46 ± 286.55	949 029 333.61
		Final levy	16.44 ± 83.42	189 159 657.25
2008	9 893 928	Final prescription cost	106.86 ± 416.84	1 057 274 453.63
		Final scheme amount	87.52 ± 397.36	865 959 792.23
		Final levy	19.34 ± 116.02	191 314 661.40

Table A 4 : Average cost of all medicine items according to different age groups for study period 2005 to 2008

Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)	Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)
2005	1	1 916 485	Final prescription cost	57.02 ± 74.80	109272908.88	2007	1	1 658 615	Final prescription cost	59.50 ± 111.25	98691776.23
			Final scheme amount	51.68 ± 145.72	99052149.94				Final scheme amount	49.87 ± 86.59	82711452.81
			Final levy	5.33 ± 23.23	10220758.94				Final levy	9.63 ± 65.34	15980323.42
	2	817 362	Final prescription cost	70.27 ± 111.58	57433580.15		2	766 228	Final prescription cost	73.21 ± 195.48	56093654.59
			Final scheme amount	62.83 ± 105.46	51356057.08				Final scheme amount	61.51 ± 178.23	47130531.53
			Final levy	7.44 ± 30.43	6077523.07				Final levy	11.70 ± 71.48	8963123.06
	3	4 185 718	Final prescription cost	77.93 ± 74.80	326172969.89		3	3 767 436	Final prescription cost	81.54 ± 244.79	307198230.45
			Final scheme amount	70.20 ± 139.88	293838995.51				Final scheme amount	69.09 ± 233.88	260298977.44
			Final levy	7.72 ± 36.11	32333974.38				Final levy	12.45 ± 64.88	46899253.01
	4	8 302 493	Final prescription cost	98.46 ± 178.24	817439834.55		4	8 439 370	Final prescription cost	104.93 ± 361.17	885537204.39
			Final scheme amount	87.31 ± 171.09	724905923.70				Final scheme amount	89.64 ± 341.83	756502198.52
			Final levy	11.15 ± 45.99	92533910.85				Final levy	15.29 ± 102.61	129035005.87
	5	4 278 716	Final prescription cost	119.09 ± 192.84	509545958.16		5	4 444 075	Final prescription cost	128.43 ± 373.23	570763311.00
			Final scheme amount	101.27 ± 184.91	433294523.20				Final scheme amount	105.39 ± 345.23	468363872.62
			Final levy	17.82 ± 47.53	76251434.96				Final levy	23.04 ± 133.71	102399438.30
2006	1	2 005 107	Final prescription cost	56.78 ± 84.56	113854950.76	2008	1	1 085 511	Final prescription cost	65.20 ± 97.50	70776260.18
			Final scheme amount	49.91 ± 78.77	100065457.14				Final scheme amount	53.65 ± 88.33	58237347.71
			Final levy	6.88 ± 28.89	13789493.62				Final levy	11.55 ± 33.88	12538912.47
	2	882 991	Final prescription cost	69.31 ± 122.17	61197176.43		2	602 822	Final prescription cost	78.99 ± 203.89	47616435.55
			Final scheme amount	60.93 ± 116.27	53800142.91				Final scheme amount	65.13 ± 192.14	39262480.64
			Final levy	8.38 ± 33.13	7397033.52				Final levy	13.86 ± 51.51	8353954.91
	3	4 449 232	Final prescription cost	76.81 ± 164.51	341753256.88		3	2855035	Final prescription cost	89.70 ± 341.38	256086187.17
			Final scheme amount	67.83 ± 157.96	301793065.19				Final scheme amount	74.85 ± 325.08	213699666.80
			Final levy	8.98 ± 41.44	39960191.69				Final levy	14.85 ± 87.82	42386520.37
	4	9 197 629	Final prescription cost	97.52 ± 212.03	896942443.58		4	7658730	Final prescription cost	111.00 ± 482.81	850128557.09
			Final scheme amount	85.42 ± 206.06	785663445.92				Final scheme amount	93.16 ± 463.75	713491690.16
			Final levy	12.10 ± 46.75	111278997.66				Final levy	17.84 ± 124.42	136636866.93
	5	4 578 463	Final prescription cost	119.25 ± 231.58	545990906.44		5	4237155	Final prescription cost	132.46 ± 480.01	561263573.86
			Final scheme amount	99.90 ± 224.76	457387840.20				Final scheme amount	107.11 ± 464.99	453857043.61
			Final levy	19.35 ± 52.36	88603066.24				Final levy	25.35 ± 103.12	107406530.25

Table A 5 : Average cost per prescription for all medicine for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	8 391 836	Final prescription cost	216.86 ± 342.30	1 819 865 251.63
		Final scheme amount	190.95 ± 323.66	1 602 447 649.43
		Final levy	25.91 ± 81.07	217 417 602.20
2006	8 906 348	Final prescription cost	220.04 ± 395.22	1 959 738 734.09
		Final scheme amount	190.73 ± 377.73	1 698 709 951.36
		Final levy	29.31 ± 88.47	261 028 782.73
2007	7 911 096	Final prescription cost	242.48 ± 600.31	1 918 284 176.66
		Final scheme amount	600.31 ± 564.37	1 615 007 032.92
		Final levy	38.34 ± 171.45	303 277 143.74
2008	6 775 873	Final prescription cost	263.56 ± 789.01	1 785 871 013.85
		Final scheme amount	218.21 ± 756.95	1 478 548 228.92
		Final levy	45.36 ± 181.31	307 322 784.93

Table A 6: Average cost per prescription for all medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	3 348 219	Final prescription cost	219.15 ± 358.17	733 769 633.85
		Final scheme amount	195.14 ± 341.05	653 370 941.06
		Final levy	24.01 ± 81.38	80 398 692.79
2006	3 565 331	Final prescription cost	223.36 ± 416.16	796 360 401.04
		Final scheme amount	195.97 ± 400.43	698 682 181.29
		Final levy	27.40 ± 86.20	97 678 219.75
2007	3 154 367	Final prescription cost	247.12 ± 656.34	779 508 488.81
		Final scheme amount	210.97 ± 611.87	665 466 500.10
		Final levy	36.15 ± 201.38	114 041 988.71
2008	2 713 488	Final prescription cost	268.51 ± 840.07	728 596 560.22
		Final scheme amount	225.76 ± 813.62	612 588 436.69
		Final levy	42.75 ± 158.27	116 008 123.53

Table A 7: Average cost per prescription for all medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	5 036 494	Final prescription cost	215.35 ± 330.75	1 084 626 865.29
		Final scheme amount	188.16 ± 310.90	947 688 793.44
		Final levy	27.19 ± 80.87	136 938 071.85
2006	5 336 203	Final prescription cost	217.81 ± 380.43	1 162 254 536.29
		Final scheme amount	187.21 ± 361.56	999 015 475.00
		Final levy	30.59 ± 89.95	163 239 061.29
2007	4 754 911	Final prescription cost	239.37 ± 559.98	1 138 188 991.29
		Final scheme amount	199.59 ± 530.41	949 029 333.61
		Final levy	39.78 ± 148.33	189 159 657.25
2008	4 062 385	Final prescription cost	260.26 ± 752.96	1 057 274 454.63
		Final scheme amount	213.17 ± 716.56	865 959 792.23
		Final levy	47.09 ± 195.17	191 314 661.40

Table A 8: Average cost per prescription for all medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)	Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)
2005	1	764 918	Final prescription cost	142.86 ± 147.32	109272908.88	2007	1	652 869	Final prescription cost	151.17 ± 222.26	98691776.23
			Final scheme amount	129.49 ± 139.48	99052149.94				Final scheme amount	126.69 ± 168.79	82711452.81
			Final levy	13.36 ± 44.81	10220758.94				Final levy	24.48 ± 134.85	15980323.42
	2	347 931	Final prescription cost	165.07 ± 204.21	57433580.15		2	320 639	Final prescription cost	174.94 ± 331.79	56093654.59
			Final scheme amount	147.60 ± 193.95	51356057.08				Final scheme amount	146.99 ± 304.44	47130531.53
			Final levy	17.47 ± 55.11	6077523.07				Final levy	27.95 ± 117.07	8963123.06
	3	1 865 346	Final prescription cost	174.86 ± 285.44	326172969.89		3	1 637 457	Final prescription cost	187.61 ± 436.99	307198230.45
			Final scheme amount	157.53 ± 273.68	293838995.51				Final scheme amount	158.97 ± 415.80	260298977.44
			Final levy	17.33 ± 66.31	32333974.38				Final levy	28.64 ± 112.48	46899253.01
	4	3 588 703	Final prescription cost	227.78 ± 364.87	817439834.55		4	3 490 196	Final prescription cost	253.72 ± 667.50	885537204.39
			Final scheme amount	202.00 ± 346.93	724905923.70				Final scheme amount	216.75 ± 634.30	756502198.52
			Final levy	25.78 ± 86.56	92533910.85				Final levy	36.97 ± 170.94	129035005.87
	5	1 725 902	Final prescription cost	295.23 ± 419.62	509545958.16		5	1 723 841	Final prescription cost	331.10 ± 718.27	570763311.00
			Final scheme amount	251.05 ± 393.96	433294523.20				Final scheme amount	271.70 ± 667.04	468363872.62
			Final levy	44.18 ± 98.83	76251434.96				Final levy	59.40 ± 232.23	102399438.38
2006	1	790 184	Final prescription cost	144.09 ± 165.71	113854950.76	2008	1	435 452	Final prescription cost	162.54 ± 192.85	70776260.18
			Final scheme amount	126.64 ± 154.83	100065457.14				Final scheme amount	133.74 ± 173.95	58237347.71
			Final levy	17.45 ± 57.03	13789493.62				Final levy	28.80 ± 67.75	12538912.47
	2	367 516	Final prescription cost	166.52 ± 225.42	61197176.43		2	257 151	Final prescription cost	185.17 ± 342.16	47616435.55
			Final scheme amount	146.39 ± 215.69	53800142.91				Final scheme amount	152.68 ± 321.04	39262480.64
			Final levy	20.13 ± 61.49	7397033.52				Final levy	32.49 ± 89.79	8353954.91
	3	1 957 587	Final prescription cost	174.58 ± 306.61±	341753256.88		3	1 257 884	Final prescription cost	203.58 ± 593.79	256086187.17
			Final scheme amount	154.17 ± 292.98	301793065.19				Final scheme amount	169.89 ± 563.22	213699666.80
			Final levy	20.41 ± 75.33	39960191.69				Final levy	33.70 ± 145.93	42386520.37
	4	3 883 707	Final prescription cost	230.95 ± 427.19	896942443.58		4	3 132 007	Final prescription cost	271.43 ± 871.99	850128557.09
			Final scheme amount	202.30 ± 411.19	785663445.92				Final scheme amount	227.81 ± 837.67	713491690.16
			Final levy	28.65 ± 90.49	111278997.66				Final levy	43.63 ± 206.43	136636866.93
	5	1 809 963	Final prescription cost	301.66 ± 490.89	545990906.44		5	1 619 311	Final prescription cost	346.61 ± 904.86	561263573.86
			Final scheme amount	252.71 ± 468.12	457387840.20				Final scheme amount	280.28 ± 872.75	453857043.61
			Final levy	48.95 ± 110.05	88603066.24				Final levy	66.33 ±188.57	107406530.25

Table A 9: Average number of medicine items per prescription for all medicine for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	8 391 836	2.32 ± 1.52	19 500 774
2006	8 906 348	2.37 ± 1.55	21 113 422
2007	7 911 096	2.41 ± 1.59	19 075 724
2008	6 775 873	2.43 ± 1.64	16 439 253

APPENDIX B

Table B 1 : Average cost of anti-epileptic medicine for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	174 942	Final prescription cost	219.39 ± 167.80	38 380 575.35
		Final scheme amount	196.10 ± 161.70	34 305 875.17
		Final levy	23.29 ± 61.62	4 074 700.18
2006	193 369	Final prescription cost	207.12 ± 159.34	40 051 071.67
		Final scheme amount	182.70 ± 152.96	35 327 948.62
		Final levy	24.43 ± 62.57	4 723 123.05
2007	182 833	Final prescription cost	210.69 ± 164.89	38 521 744.48
		Final scheme amount	181.94 ± 155.77	33 264 475.73
		Final levy	28.75 ± 66.08	5 257 268.75
2008	179 544	Final prescription cost	215.94 ± 168.00	38 771 102.86
		Final scheme amount	180.63 ± 157.32	32 430 454.42
		Final levy	35.32 ± 73.36	6 340 648.44

Table B 10 : Average cost per prescription of anti-epileptic medicine according to different prescribers for study period 2005 to 2008

Year	Prescriber	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)	Year	Prescriber	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	GP	76 263	Final prescription cost	236.43 ± 229.97	18030988.32	2007	GP	74 466	Final prescription cost	237.95 ± 236.40	17719059.38
			Final scheme amount	213.73 ± 219.30	16299541.62				Final scheme amount	207.58 ± 220.11	15457893.66
			Final levy	22.70 ± 65.12	1731446.70				Final levy	30.37 ± 74.07	2261165.72
	N	17 280	Final prescription cost	436.82 ± 365.08	7548324.34		N	18 075	Final prescription cost	400.37 ± 347.11	7236620.55
			Final scheme amount	399.25 ± 353.02	6899022.51				Final scheme amount	352.52 ± 329.63	6371830.53
			Final levy	37.58 ± 100.06	649301.83				Final levy	47.84 ± 97.30	864790.02
	O	25 515	Final prescription cost	260.98 ± 234.14	6658807.73		O	26 882	Final prescription cost	250.57 ± 232.57	6735941.62
			Final scheme amount	232.77 ± 224.75	5939201.54				Final scheme amount	213.97 ± 217.00	5751811.67
			Final levy	28.20 ± 74.04	719606.19				Final levy	36.61 ± 82.58	984129.95
	P	20 239	Final prescription cost	303.50 ± 230.89	6142454.96		P	24 398	Final prescription cost	279.95 ± 213.78	6830122.93
			Final scheme amount	255.35 ± 218.63	5168109.50				Final scheme amount	232.93 ± 201.26	5682939.87
			Final levy	48.14 ± 99.38	974345.46				Final levy	47.02 ± 90.55	1147183.06
2006	GP	82 443	Final prescription cost	228.40 ± 219.20	188839.56	2008	GP	72 843	Final prescription cost	240.43 ±233.62	17513835.85
			Final scheme amount	202.79 ± 206.96	16718455.06				Final scheme amount	201.88 ±214.15	14705432.23
			Final levy	25.61 ± 69.30	2111384.50				Final levy	38.55 ±83.45	2808403.62
	N	18 416	Final prescription cost	405.47 ± 345.51	7467206.91		N	16 990	Final prescription cost	409.10 ±355.04	6950540.10
			Final scheme amount	364.84 ± 330.39	6718918.23				Final scheme amount	351.79 ±335.33	5976995.71
			Final levy	40.63 ±103.06	748288.68				Final levy	57.30 ±103.55	973544.39
	O	28 599	Final prescription cost	251.20 ± 228.52	7184161.46		O	26 734	Final prescription cost	266.74 ±236.74	7131047.74
			Final scheme amount	221.07 ± 218.43	6322352.22				Final scheme amount	216.63 ±219.51	5791429.15
			Final levy	30.13 ± 72.50	861809.24				Final levy	50.11 ±96.65	1339618.59
	P	23 744	Final prescription cost	276.70 ± 212.92	6569863.74		P	24 694	Final prescription cost	290.58 ±221.64	7175679.17
			Final scheme amount	234.51 ± 204.45	5568223.11				Final scheme amount	241.22 ±208.93	5956597.33
			Final levy	42.18 ± 89.13	1001640.63				Final levy	49.37 ±89.22	1219081.84

GP – General practitioners

N – Neurologists

O – Other prescribers

P – Psychiatrists

Table B 11 : Cost per tablet of anti-epileptic medicine for study period 2005 to 2008

Medicine	2005		2006		2007		2008	
	Frequency	Mean ± Std. dev.	Frequency	Mean ± Std. dev.	Frequency	Mean ± Std. dev.	Frequency	Mean ± Std. dev.
ADCO-PHENOBARB VITAL	135	0.62 ± 0.05	138	0.62 ± 0.05	83	0.62 ± 0.09	46	0.61 ± 0.18
ADCO-TOPIRAMATE 100MG TABLET							24	7.10 ± 0.32
ADCO-TOPIRAMATE 200MG TABLET							1	10.30 ± 0.00
ADCO-TOPIRAMATE 25MG TABLET							32	2.31 ± 0.09
ADCO-TOPIRAMATE 50MG TABLET							28	4.54 ± 0.35
ARROW LAMOTRIGINE 100MG TABS							22	4.73 ± 0.58
ARROW LAMOTRIGINE 200MG TABS							35	6.87 ± 0.95
ARROW LAMOTRIGINE 25MG TABS							21	2.28 ± 0.14
ARROW LAMOTRIGINE 50MG TABS							16	2.90 ± 0.34
ASPEN LAMOTRIGINE 100MG			182	4.87 ± 0.66	612	4.50 ± 0.83	732	4.20 ± 2.90
ASPEN LAMOTRIGINE 200MG			118	7.93 ± 0.93	231	7.40 ± 1.66	52	6.79 ± 0.38
ASPEN LAMOTRIGINE 25MG			66	2.01 ± 0.30	237	2.04 ± 0.35	292	2.11 ± 0.41
ASPEN LAMOTRIGINE 50MG			155	3.03 ± 0.30	464	2.97 ± 0.46	440	3.03 ± 0.61
AUSTELL-LAMOTRIGINE 100MG					5	5.36 ± 0.37	19	5.10 ± 0.53
AUSTELL-LAMOTRIGINE 200MG					13	8.09 ± 0.38	24	8.48 ± 0.48
AUSTELL-LAMOTRIGINE 25MG					2	2.27 ± 0.02	5	2.29 ± 0.07
AUSTELL-LAMOTRIGINE 50MG					5	3.49 ± 0.00	10	3.33 ± 0.17
CONVULEX 150MG CAP	964	2.19 ± 0.18	789	2.16 ± 0.27	558	2.20 ± 0.39	505	2.30 ± 0.36
CONVULEX 300MG CAP	2 849	3.99 ± 0.33	2 782	3.97 ± 0.38	2 476	4.16 ± 0.58	1 940	4.29 ± 0.68
CONVULEX 500MG CAP	1 210	6.20 ± 0.39	1 168	6.15 ± 0.62	1 073	6.54 ± 0.74	904	6.74 ± 0.63
CONVULEX 50MG/ML SYR	207	0.83 ± 0.07	271	0.84 ± 0.10	258	0.88 ± 0.07	197	0.89 ± 0.09
CPL ALNCE CARBAMAZEPINE	2	0.86 ± 0.00	5	0.86 ± 0			1	0.79 ± 0.00
DEGRANOL 200MG TAB	8 758	1.53 ± 0.23	9 342	1.51 ± 0.27	7 717	1.58 ± 0.36	6 677	1.62 ± 0.41
DYNA-LAMOTRIGINE 100MG TAB							36	4.36 ± 0.30
DYNA-LAMOTRIGINE 200MG TAB							28	6.17 ± 0.29
DYNA-LAMOTRIGINE 25MG TAB							7	2.21 ± 0.08
DYNA-LAMOTRIGINE 50MG TAB							9	2.63 ± 0.00
EPANUTIN 100MG CAP	13 719	1.82 ± 0.13	13 196	1.81 ± 0.15	11 848	1.89 ± 0.26	8 359	1.92 ± 0.34
EPANUTIN 125MG/5ML SUSP	118	0.81 ± 0.06	137	0.80 ± 0.05	112	0.85 ± 0.05	90	0.85 ± 0.03
EPANUTIN 5ML 250MG INJ					1	209.81 ± 0.00	2	107.44 ± 127.57
EPANUTIN INFATAB 50MG	908	1.785 ± 0.17	830	1.73 ± 0.13	682	1.82 ± 0.26	577	1.88 ± 0.25
EPANUTIN READY 5ML INJ	8	183.88 ± 42.57	13	178.20 ± 54.07	8	193.54 ± 5.82	1	9.47 ± 0.00
EPILIM 100MG CRUSH TAB	114	1.85 ± 0.38	178	1.97 ± 0.28	223	2.01 ± 0.28	238	2.07 ± 0.24
EPILIM 200MG EC TAB	271	2.64 ± 0.24	51	2.21 ± 0.85				
EPILIM 200MG/5ML LIQ	2 176	0.62 ± 0.05	2 648	0.62 ± 0.08	2 282	0.63 ± 0.14	1 999	0.64 ± 0.12
EPILIM 500MG EC TAB	247	6.18 ± 0.40	68	6.08 ± 0.28				
EPILIM CR 200MG TAB	8 818	2.65 ± 0.23	10 115	2.64 ± 0.28	9 221	2.75 ± 0.44	8 846	2.83 ± 0.47
EPILIM CR 300MG TAB	8 304	3.89 ± 0.31	9 532	3.85 ± 0.44	9 523	4.03 ± 0.66	9 468	4.12 ± 0.66
EPILIM CR 500MG TAB	9 717	6.03 ± 0.39	11 816	6.01 ± 0.55	11 239	6.33 ± 0.74	11 271	6.55 ± 0.73
EPILIM IV 400MG INJ	2	253.34 ± 14.51	3	246.37 ± 5.06	1	0 ± 0	2	266.10 ± 7.29

Table B 11 : Cost per tablet of anti-epileptic medicine for study period 2005 to 2008 cont.

EPITEC 100MG TAB	1 399	6.38 ± 0.41	4 917	5.18 ± 0.53	5 308	5.28 ± 0.80	5 902	5.23 ± 0.85
EPITEC 200MG TAB	787	8.61 ± 0.51	2 957	7.83 ± 0.81	3 423	8.15 ± 1.14	3 932	8.38 ± 0.99
EPITEC 25MG TAB	687	2.50 ± 0.31	1 929	2.43 ± 0.24	1 854	2.40 ± 0.44	1 760	2.34 ± 0.42
EPITEC 50MG TAB	997	3.89 ± 0.31	3 060	3.31 ± 0.34	3 570	3.40 ± 0.55	3 741	3.45 ± 0.64
EPLEPTIN 100MG CAP					962	1.25 ± 0.38	1 659	1.46 ± 8.54
EPLEPTIN 300MG CAP					1 008	2.95 ± 0.47	1 611	2.86 ± 0.71
EPLEPTIN 400MG CAP					451	2.89 ± 0.38	741	2.91 ± 0.59
GARDENAL SOD 200MG/ML INJ	4	9.38 ± 5.34	1	10.45 ± 0				
KEPPRA 1000MG TABS	20	18.34 ± 4.30	4	19.30 ± 0.00				
KEPPRA 250MG TABS	846	5.19 ± 0.34	1 331	5.20 ± 0.46	1 503	5.17 ± 0.70	1 507	5.15 ± 0.68
KEPPRA 500MG TABS	321	10.19 ± 0.65	78	9.75 ± 2.03	4	7.58 ± 5.06		
KEPPRA 750MG TABS	386	14.97 ± 0.81	782	14.90 ± 0.73	924	14.81 ± 1.71	1 083	14.59 ± 2.23
LAMEPTIL 100MG TAB					24	4.80 ± 1.51	89	5.45 ± 0.47
LAMEPTIL 200MG TAB					4	8.18 ± 0.00	30	8.15 ± 2.24
LAMEPTIL 25MG TAB					2	2.49 ± 0.00	12	2.22 ± 0.72
LAMEPTIL 50MG TAB					3	3.58 ± 0.41	25	3.45 ± 0.39
LAMICTIN 25MG TAB	4 610	3.34 ± 0.33	3 632	2.58 ± 0.44	3 470	2.46 ± 0.57	2 808	2.42 ± 0.57
LAMICTIN 100MG TAB	10 624	8.35 ± 0.64	8 502	6.24 ± 0.98	8 274	5.97 ± 1.14	7 645	5.87 ± 1.10
LAMICTIN 200MG TAB	4 872	12.13 ± 0.83	4 064	10.04 ± 1.18	4 292	9.84 ± 1.36	3 862	9.72 ± 1.20
LAMICTIN 25 MONO STARTER PK	1	2.99 ± 0			1	2.06 ± 0.00	1	2.40 ± 0.00
LAMICTIN 25 VP STARTER PK-ADD	7	2.99 ± 0						
LAMICTIN 50MG TAB	7 044	5.16 ± 0.45	6 017	3.85 ± 0.62	5 516	3.62 ± 0.85	5 019	3.61 ± 0.77
LAMICTIN P 100MG DISP TAB	142	8.51 ± 0.67	144	6.41 ± 1.39	131	6.30 ± 091	105	6.24 ± 0.47
LAMICTIN P 200MG DISP TAB	45	12.14 ± 0.17	34	9.20 ± 2.97	28	10.21 ± 0.33	42	10.04 ± 0.31
LAMICTIN P 25MG DISP TAB	323	3.38 ± 0.33	331	2.61 ± 0.44	307	2.38 ± 0.61	220	2.49 ± 0.33
LAMICTIN P 2MG DISP TAB	5	1.93 ± 0.17	9	1.54 ± 0.16	17	1.38 ± 0.12	1	1.33 ± 0.00
LAMICTIN P 50MG DISP TAB	190	5.32 ± 0.27	232	3.91 ± 0.59	225	3.69 ± 0.46	203	3.49 ± 0.88
LAMICTIN P 5MG DISP TAB	271	1.77 ± 0.19	301	1.46 ± 0.31	264	1.38 ± 0.43	215	1.42 ± 0.35
LAMITOR-100	322	6.02 ± 0.43	1 066	4.80 ± 0.71	1 324	4.76 ± 0.86	1 194	4.67 ± 0.71
LAMITOR-50	164	2.99 ± 0.25	578	2.96 ± 0.35	609	2.95 ± 0.49	586	3.08 ± 0.30
LAMITOR-25	67	2.43 ± 0.10	273	2.22 ± 0.34	295	2.28 ± 0.51	218	2.15 ± 0.34
LETHYL 30MG TAB	4 300	0.17 ± 0.13	4 168	0.16 ± 0.12	3 407	0.16 ± 0.10	2 850	0.17 ± 0.10
LYRICA 150MG CAP							2 324	8.58 ± 1.62
LYRICA 25MG CAP							969	2.66 ± 0.48
LYRICA 75MG CAP							6 954	6.03 ± 1.34
MERCK-LAMOTRIGINE 100MG TAB			1	5.33 ± 0.00	4	5.24 ± 0.29	4	5.56 ± 0.30
MERCK-LAMOTRIGINE 200MG TAB			3	7.81 ± 0.00	1	7.81 ± 0.00	1	7.96 ± 0.00
MERCK-LAMOTRIGINE 25MG TAB			1	2.04 ± 0.00	4	1.76 ± 1.18	1	2.06 ± 0.00
MERCK-LAMOTRIGINE 50MG TAB					13	3.54 ± 0.31	2	3.06 ± 0.32
MYSOLINE 250MG TAB	126	0.91 ± 0.11	160	0.90 ± 0.17	340	2.10 ± 0.64	355	2.33 ± 0.52
NEUREXAL 100MG CAP					23	1.21 ± 0.27	247	1.23 ± 0.31
NEUREXAL 300MG CAP					22	2.96 ± 0.19	286	2.70 ± 0.83

Table B 11 : Cost per tablet of anti-epileptic medicine for study period 2005 to 2008 cont.

NEUREXAL 400MG CAP					1	3.77 ± 0.00	91	2.61 ± 0.96
NEURONTIN 100MG CAP	4 420	1.81 ± 0.17	5 506	1.77 ± 0.26	4 772	1.75 ± 0.53	2 930	1.76 ± 0.57
NEURONTIN 300MG CAP	3 719	4.14 ± 0.39	4 685	4.10 ± 0.61	3 712	4.11 ± 1.11	2 312	4.16 ± 1.20
NEURONTIN 400MG CAP	1 265	4.05 ± 0.38	1 578	4.07 ± 0.41	1 434	4.09 ± 0.93	760	4.23 ± 1.02
NEURONTIN 600MG TAB	3	7.27 ± 0.42	228	7.38 ± 0.47	392	7.28 ± 1.98	269	7.69 ± 1.32
NEURONTIN 800MG TAB	1	8.97 ± 0	58	7.82 ± 0.52	87	7.47 ± 2.43	81	8.05 ± 1.89
NORSTAN-PHENYTOIN SOD 100MG T	357	0.38 ± 0.06	11	0.37 ± 0.01				
PHENYTOIN SOD 100MG TAB	1 622	0.46 ± 0.11	1 990	0.47 ± 0.14	1 212	0.45 ± 0.45	3 027	0.50 ± 0.13
PIRAMAX 100MG TAB					2	7.51 ± 1.05	180	7.49 ± 0.77
PIRAMAX 200MG TAB					2	10.30 ± 0.00	49	10.77 ± 0.44
PIRAMAX 25MG TAB					5	2.36 ± 0.29	279	2.23 ± 0.69
RAN-GABAPENTIN 100MG CAP							3	1.28 ±0.09
RAN-GABAPENTIN 300MG CAP							1	3.04 ± 0.00
RAN-GABAPENTIN 400MG CAP							2	2.98 ± 0.12
RIVOTRIL DRP	174	12.91 ± 3.68	174	12.62 ± 0.82	181	12.34 ± 2.44	156	12.77 ± 2.04
RIVOTRIL 0.5MG TAB	14 319	1.38 ± 0.19	15 802	1.34 ± 0.23	15 591	1.31 ± 0.40	14 112	1.35 ± 0.40
RIVOTRIL 1MG/ML INJ	15	29.90 ± 5.06	16	23.34 ± 7.47	11	28.26 ± 4.59	13	26.07 ± 8.36
RIVOTRIL 2MG TAB	5 685	3.02 ± 0.25	5 915	2.99 ± 0.36	5 923	2.98 ± 0.63	5 649	3.08 ± 0.65
SABRIL 500MG TAB	97	9.31 ± 0.79	142	9.10 ± 1.09	110	9.71 ± 0.58	54	10.11 ± 0.90
SANDOZ CARBAMAZEPINE 200MG	1 684	1 ± 0.26	1 850	0.97 ± 0.28	813	0.89 ± 0.23	1 592	1.01 0.32
SANDOZ CARBAMAZEPINE CR 200MG			251	2.21 ± 0.44	987	2.36 ± 0.39	1 440	2.43 ± 0.27
SANDOZ CARBAMAZEPINE CR 400MG			100	4.04 ± 0.28	525	4.14 ± 0.43	827	4.19 ± 0.60
SANDOZ LAMOTRIGINE 100MG			18	5.95 ± 0.21	35	5.41 ± 0.70	142	4.75 ± 0.80
SANDOZ LAMOTRIGINE 200MG			17	8.31 ± 0.19	25	8.80 ± 0.58	114	7.89 ± 0.96
SANDOZ LAMOTRIGINE 25MG			5	2.34 ± 0.10	17	2.16 ± 0.85	70	2.01 ± 0.32
SANDOZ LAMOTRIGINE 50MG			17	3.67 ± 0.22	39	3.01 ± 0.97	123	2.99 ± 0.44
SANDOZ TOPIRAMATE 100MG TAB							115	7.92 ± 1.09
SANDOZ TOPIRAMATE 200MG TAB					2	12.31 ± 0.81	27	11.17 ± 2.96
SANDOZ TOPIRAMATE 25MG TAB							148	2.86 ± 0.80
SANDOZ TOPIRAMATE 50MG TAB					3	4.23 ± 0.04	241	4.17 ± 1.17
SEDABARB 30MG TAB	691	0.07 ± 0.01	579	0.07 ± 0.05	470	0.07 ± 0.02	420	0.07 ± 0.02
TEGRETOL 100MG/5ML SUSP	543	0.53 ± 0.04	561	0.52 ± 0.09	413	0.54 ± 0.10	342	0.52 ± 0.13
TEGRETOL 200MG TAB	5 820	2.83 ± 0.26	5 426	2.79 ± 0.36	4 662	2.83 ± 0.60	3 165	2.84 ± 0.66
TEGRETOL CR 200MG TAB	13 360	3.00 ± 0.25	13 377	2.98 ± 0.35	10 910	3.00 ± 0.62	8 789	3.05 ± 0.59
TEGRETOL CR 400MG TAB	8 218	5.15 ± 0.37	8 719	5.11 ± 0.57	7 323	5.20 ± 0.89	6 299	5.25 ± 0.86
TOPAMAX 100MG TAB	3 568	11.03 ± 0.74	4 175	10.97 ± 1.04	3 215	11.22 ± 2.10	2 008	11.39 ± 2.19
TOPAMAX 200MG TAB	716	16.28 ± 0.87	801	16.05 ± 1.51	663	16.77 ± 2.66	337	17.47 ± 2.43
TOPAMAX 25MG TAB	4 141	4.641 ± 0.37	4 843	4.55 ± 0.72	4 134	4.57 ± 1.17	2 512	4.54 ± 1.30
TOPAMAX 50MG TAB	4 639	6.87 ± 0.53	5 416	6.78 ± 0.87	4 484	6.84 ± 1.64	2 788	6.91 ± 1.85
TOPAMAX SC SPRIN 15MG	139	3.95 ± 0.42	159	3.76 ± 0.83	210	3.79 ± 1.11	244	3.75 ± 1.08
TOPAMAX SC SPRIN 25MG	5	4.75 ± 0.31					22	3.48 ± 0.79
TOPAMAX SC SPRIN 50MG	3	7.70 ± 0.04					33	5.64 ± 0.38

Table B 11 : Cost per tablet of anti-epileptic medicine for study period 2005 to 2008 cont.

TOPLEP 100MG TAB					429	8.28 ± 0.60	1 172	8.36 ± 1.47
TOPLEP 200MG TAB					89	12.04 ± 0.43	278	12.26 ± 0.68
TOPLEP 25MG TAB					502	3.01 ± 0.42	1 401	2.98 ± 0.57
TOPLEP 50MG TAB					606	5.14 ± 0.54	1 627	4.78 ± 0.98
TRILEPTAL FCT 300MG	1 649	4.22 ± 0.46	1 773	4.13 ± 0.53	1 572	4.07 ± 0.99	1 393	4.26 ± 0.76
TRILEPTAL FCT 600MG	701	7.40 ± 0.54	703	7.36 ± 0.60	620	7.37 ± 1.40	612	7.57 ± 1.11
ZARONTIN 250MG CAP	263	5.50 ± 0.45	193	5.42 ± 0.38	15	6.07 ± 1.46		
ZARONTIN SYR	38	0.98 ± 0.09	103	0.96 ± 0.06	154	0.98 ± 0.06	135	0.99 ± 0.10

Table B 12 : Cost per tablet of anti-epileptic medicine according to male gender for study period 2005 to 2008

Medicine	2005		2006		2007		2008	
	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.
ADCO-PHENOBARB VITAL	78	0.62 ± 0.05	99	0.62 ± 0.04	70	0.63 ± 0.04	38	0.62 ± 0.16
ADCO-TOPIRAMATE 100MG TABLET							7	6.84 ± 0.05
ADCO-TOPIRAMATE 200MG TABLET								
ADCO-TOPIRAMATE 25MG TABLET							3	2.26 ± 0.00
ADCO-TOPIRAMATE 50MG TABLET							13	4.25 ± 0.00
ARROW LAMOTRIGINE 100MG TABS							1	3.99 ± 0.00
±ARROW LAMOTRIGINE 200MG TABS							21	6.26 ± 0.11
ARROW LAMOTRIGINE 25MG TABS								
ARROW LAMOTRIGINE 50MG TABS								
ASPEN LAMOTRIGINE 100MG			41	4.93 ± 0.41	159	4.66 ± 0.47	233	4.41 ± 5.07
ASPEN LAMOTRIGINE 200MG			37	7.63 ± 1.41	107	7.55 ± 0.88	16	6.83 ± 0.39
ASPEN LAMOTRIGINE 25MG			27	2.04 ± 0.15	68	2.10 ± 0.17	88	2.11 ± 0.29
ASPEN LAMOTRIGINE 50MG			40	2.90 ± 0.19	152	2.98 ± 0.33	104	3.13 ± 0.19
AUSTELL-LAMOTRIGINE 100MG					1	5.19 ± 0.00	15	4.99 ± 0.53
AUSTELL-LAMOTRIGINE 200MG					1	8.18 ± 0.00	11	8.50 ± 0.47
AUSTELL-LAMOTRIGINE 25MG								
AUSTELL-LAMOTRIGINE 50MG					2	3.49 ± 0.00	3	3.50 ± 0.15
CONVULEX 150MG CAP	370	2.24 ± 0.24	239	2.18 ± 0.41	198	2.14 ± 0.52	203	2.27 ± 0.38
CONVULEX 300MG CAP	1 229	4.00 ± 0.35	1 139	3.99 ± 0.46	1 044	4.11 ± 0.78	757	4.24 ± 0.93
CONVULEX 500MG CAP	593	6.20 ± 0.43	616	6.16 ± 0.45	543	6.54 ± 0.51	451	6.67 ± 0.67
CONVULEX 50MG/ML SYR	84	0.85 ± 0.06	139	0.85 ± 0.05	140	0.87 ± 0.05	110	0.91 ± 0.06
CPL ALNCE CARBAMAZEPINE			3	0.86 ± 0.00			1	0.79 ± 0.00
DEGRANOL 200MG TAB	4 045	1.53 ± 0.23	4 189	1.51 ± 0.26	3 376	1.56 ± 0.37	2 905	1.62 ± 0.41
DYNA-LAMOTRIGINE 100MG TAB							7	4.10 ± 0.31
DYNA-LAMOTRIGINE 200MG TAB							17	6.12 ± 0.25
DYNA-LAMOTRIGINE 25MG TAB							8	2.63 ± 0.00
DYNA-LAMOTRIGINE 50MG TAB								
EPANUTIN 100MG CAP	7 747	1.81 ± 0.13	7 393	1.80 ± 0.14	6 646	1.87 ± 0.26	4 623	1.90 ± 0.32
EPANUTIN 125MG/5ML SUSP	53	0.82 ± 0.07	35	0.85 ± 0.05	37	0.86 ± 0.07	41	0.84 ± 0.03
EPANUTIN 5ML 250MG INJ							1	197.64 ± 0.00
EPANUTIN INFATAB 50MG	497	1.76 ± 0.18	504	1.74 ± 0.14	410	1.85 ± 0.22	311	1.87 ± 0.30
EPANUTIN READY 5ML INJ	6	18.068 ± 49.69	6	188.81 ± 6.09	6	194.50 ± 6.55	1	9.47 ± 0.00
EPILIM 100MG CRUSH TAB	42	1.72 ± 0.42	51	2.02 ± 0.22	70	2.02 ± 0.13	90	2.06 ± 0.16

Table B 12 : Cost per tablet of anti-epileptic medicine according to male gender for study period 2005 to 2008 cont.

EPILIM 200MG EC TAB	105	2.67 ± 0.28	23	2.57 ± 0.20				
EPILIM 200MG/5ML LIQ	1 187	0.63 ± 0.06	1 513	0.62 ± 0.08	1 358	0.64 ± 0.15	1 192	0.64 ± 0.12
EPILIM 500MG EC TAB	102	6.16 ± 0.43	20	6.09 ± 0.35				
EPILIM CR 200MG TAB	3 660	2.65 ± 0.24	4 131	2.64 ± 0.29	3 705	2.75 ± 0.46	3 777	2.82 ± 0.48
EPILIM CR 300MG TAB	37 889	3.88 ± 0.32	4 405	3.84 ± 0.44	4 587	4.03 ± 0.65	4 212	4.10 ± 0.61
EPILIM CR 500MG TAB	4 967	6.00 ± 0.40	5 881	6.00 ± 0.49	5 683	6.33 ± 0.63	5 852	6.55 ± 0.65
EPILIM IV 400MG INJ	2	253.34 ± 14.51	1	243.08 ± 0.00			2	266.10 ± 7.29
EPITEC 100MG TAB	468	6.35 ± 0.37	1 765	5.17 ± 0.51	1 942	5.23 ± 0.83	2 045	5.21 ± 0.79
EPITEC 200MG TAB	323	8.55 ± 0.46	1 145	7.83 ± 0.67	1 215	8.05 ± 1.28	1 369	8.31 ± 1.08
EPITEC 25MG TAB	271	2.48 ± 0.22	693	2.43 ± 0.26	675	2.39 ± 0.43	688	2.34 ± 0.40
EPITEC 50MG TAB	366	3.89 ± 0.27	1 115	3.30 ± 0.34	1 184	3.40 ± 0.49	1 198	3.43 ± 0.54
EPLEPTIN 100MG CAP					367	1.20 ± 0.32	557	1.85 ± 14.73
EPLEPTIN 300MG CAP					329	2.93 ± 0.52	579	2.92 ± 0.65
EPLEPTIN 400MG CAP					225	2.86 ± 0.41	327	2.91 ± 0.48
GARDENAL SOD 200MG/ML INJ	2	6.63 ± 7.03	1	10.45 ± 0.00				
KEPPRA 1000MG TABS	19	18.29 ± 4.41	3	19.30 ± 0.00				
KEPPRA 250MG TABS	361	5.20 ± 0.36	546	5.20 ± 0.38	623	5.18 ± 0.67	600	5.14 ± 0.80
KEPPRA 500MG TABS	179	10.17 ± 0.65	49	9.62 ± 2.04	1	9.90 ± 0.00		
KEPPRA 750MG TABS	162	14..92 ± 0.82	342	14.87 ± 0.70	453	14.91 ± 1.62	514	14.60 ± 2.68
LAMEPTIL 100MG TAB					4	5.48 ± 0.27	10	5.65 ± 0.24
LAMEPTIL 200MG TAB							4	9.30 ± 1.30
LAMEPTIL 25MG TAB							5	1.94 ± 1.10
LAMEPTIL 50MG TAB							4	3.65 ± 0.31
LAMICTIN 25MG TAB	1 626	3.33 ± 0.31	1 307	2.57 ± 0.44	1 166	2.46 ± 0.54	905	2.44 ± 0.51
LAMICTIN 100MG TAB	3 666	8.33 ± 0.68	2 773	6.25 ± 0.92	2 701	5.94 ± 1.23	2 413	5.81 ± 1.18
LAMICTIN 200MG TAB	2 078	12.11 ± 0.84	1 681	10.02 ± 1.09	1 568	9.80 ± 1.42	1 365	9.75 ± 1.22
LAMICTIN 25 MONO STARTER PK	1	2.99 ± 0.00						
LAMICTIN 25 VP STARTER PK-ADD	6	3.42 ± 0.00						
LAMICTIN 50MG TAB	2 400	5.14 ± 0.43	2 023	3.85 ± 0.60	1 827	3.69 ± 0.73	1 602	3.65 ± 0.69
LAMICTIN P 100MG DISP TAB	65	8.32 ± 0.29	77	6.59 ± 0.78	63	6.31 ± 0.96	32	6.54 ± 0.44
LAMICTIN P 200MG DISP TAB	13	12.15 ± 0.17	14	9.33 ± 2.76	16	10.00 ± 0.28	21	9.93 ± 0.00
LAMICTIN P 25MG DISP TAB	169	3.37 ± 0.25	166	2.61 ± 0.33	130	2.48 ± 0.34	106	2.48 ± 0.15
LAMICTIN P 2MG DISP TAB	5	1.93 ± 0.17	7	1.58 ± 0.15	4	1.35 ± 0.09	1	1.33 ± 0.00
LAMICTIN P 50MG DISP TAB	93	5.33 ± 0.22	92	3.88 ± 0.53	95	3.72 ± 0.31	101	3.49 ± 0.84
LAMICTIN P 5MG DISP TAB	113	1.77 ± 0.15	124	1.44 ± 0.40	113	1.25 ± 0.58	106	1.37 ± 0.43

Table B 12 : Cost per tablet of anti-epileptic medicine according to male gender for study period 2005 to 2008 cont.

LAMITOR-100	138	6.03 ± 0.43	428	4.79 ± 0.78	466	4.83 ± 0.70	452	4.68 ± 0.78
LAMITOR-50	61	2.98 ± 0.34	200	2.88 ± 0.48	187	2.99 ± 0.29	232	3.05 ± 0.36
LAMITOR-25	25	2.39 ± 0.07	103	2.13 ± 0.50	106	2.17 ± 0.68	77	2.15 ± 0.30
LETHYL 30MG TAB	2 056	0.16 ± 0.13	1 977	0.16 ± 0.12	1 666	0.15 ± 0.07	1 417	0.16 ± 0.09
LYRICA 150MG CAP							956	8.56 ± 1.64
LYRICA 25MG CAP							289	2.64 ± 0.45
LYRICA 75MG CAP							2 549	6.00 ± 1.37
MERCK-LAMOTRIGINE 100MG TAB				7.81 ± 0.00	2	5.28 ± 0.51		
MERCK-LAMOTRIGINE 200MG TAB			3	0.92 ± 0.25			1	7.96 ± 0.00
MERCK-LAMOTRIGINE 25MG TAB				1.76 ± 0.29	1	0.0	1	2.06 ± 0.00
MERCK-LAMOTRIGINE 50MG TAB					2	3.71 ± 0.23		±
MYSOLINE 250MG TAB	40	0.91 ± 0.16	64	0.92 ± 0.25	131	2.06 ± 0.67	150	2.27 ± 0.59
NEUREXAL 100MG CAP					9	1.12 ± 0.43	102	1.22 ± 0.30
NEUREXAL 300MG CAP					8	2.94 ± 0.17	87	2.52 ± 1.10
NEUREXAL 400MG CAP					1	3.77 ± 0.00	43	2.46 ± 1.12
NEURONTIN 100MG CAP	1 468	1.81 ± 0.19	1 773	1.76 ± 0.29	1 440	1.74 ± 0.53	868	1.73 ± 0.61
NEURONTIN 300MG CAP	1 463	4.16 ± 0.43	1 736	4.06 ± 0.68	1 338	4.11 ± 1.15	813	4.17 ± 1.18
NEURONTIN 400MG CAP	460	4.04 ± 0.43	572	4.05 ± 0.39	534	4.19 ± 0.72	295	4.28 ± 0.96
NEURONTIN 600MG TAB	1	7.03 ± 0.00	90	7.34 ± 0.39	168	7.28 ± 1.69	139	7.71 ± 1.42
NEURONTIN 800MG TAB	1	8.97 ± 0.00	30	7.69 ± 0.12	30	8.23 ± 0.28	37	7.69 ± 2.74
NORSTAN-PHENYTOIN SOD 100MG T	255	0.38 ± 0.07	4	0.36 ± 0.02				
PHENYTOIN SOD 100MG TAB	899	0.45 ± 0.09	1 255	0.46 ± 0.11	750	0.46 ± 0.57	1 952	0.49 ± 0.10
PIRAMAX 100MG TAB					1	6.76 ± 0.00	30	7.31 ± 0.36
PIRAMAX 200MG TAB					2	10.30 ± 0.00	7	10.59 ± 0.24
PIRAMAX 25MG TAB							81	2.32 ± 0.55
RAN-GABAPENTIN 100MG CAP								
RAN-GABAPENTIN 300MG CAP								
RAN-GABAPENTIN 400MG CAP							1	3.06 ± 0.00
RIVOTRIL DRP	86	13.76 ± 4.80	71	12.65 ± 0.69	61	12.30 ± 2.93	45	12.63 ± 3.46
RIVOTRIL 0.5MG TAB	4 548	1.37 ± 0.16	5 023	1.33 ± 0.19	5 094	1.30 ± 0.38	4 403	1.34 ± 0.38
RIVOTRIL 1MG/ML INJ	4	34.30 ± 7.94	4	19.21 ± 12.82	2	29.90 ± 0.00	5	30.65 ± 3.26
RIVOTRIL 2MG TAB	2 005	3.00 ± 0.25	1 969	2.97 ± 0.36	1 989	2.97 ± 0.57	1 806	3.03 ± 0.69
SABRIL 500MG TAB	63	9.36 ± 0.96	91	9.15 ± 1.07	62	9.53 ± 0.52	18	9.61 ± 0.20
SANDOZ CARBAMAZEPINE 200MG	829	0.99 ± 0.25	855	0.97 ± 0.26	333	0.88 ± 0.26	736	0.98 ± 0.28
SANDOZ CARBAMAZEPINE CR 200MG			94	2.21 ± 0.43	429	2.36 ± 0.42	627	2.43 ± 0.27

Table B 12 : Cost per tablet of anti-epileptic medicine according to male gender for study period 2005 to 2008 cont.

SANDOZ CARBAMAZEPINE CR 400MG			57	3.99 ± 0.28	261	4.12 ± 0.47	431	4.17 ± 0.71
SANDOZ LAMOTRIGINE 100MG			1	6.08 ± 0.00	5	5.02 ± 0.97	47	4.77 ± 0.55
SANDOZ LAMOTRIGINE 200MG			2	8.40 ± 0.00	4	8.84 ± 0.88	49	7.78 ± 0.93
SANDOZ LAMOTRIGINE 25MG			3	2.36 ± 0.11	6	2.53 ± 0.20	13	1.99 ± 0.23
SANDOZ LAMOTRIGINE 50MG			2	3.34 ± 0.13	14	2.91 ± 0.94	25	2.74 ± 0.36
SANDOZ TOPIRAMATE 100MG TAB							19	7.87 ± 0.64
SANDOZ TOPIRAMATE 200MG TAB							6	10.95 ± 3.21
SANDOZ TOPIRAMATE 25MG TAB							43	2.86 ± 0.65
SANDOZ TOPIRAMATE 50MG TAB							50	4.44 ± 0.76
SEDABARB 30MG TAB	346	0.07 ± 0.01	284	0.07 ± 0.07	261	0.07 ± 0.02	228	0.07 ± 0.01
TEGRETOL 100MG/5ML SUSP	356	0.53 ± 0.04	347	0.52 ± 0.11	261	0.54 ± 0.10	186	0.55 ± 0.05
TEGRETOL 200MG TAB	2 353	2.83 ± 0.26	2 227	2.79 ± 0.35	1 960	2.85 ± 0.53	1 249	2.86 ± 0.65
TEGRETOL CR 200MG TAB	5 535	2.99 ± 0.24	5 766	2.97 ± 0.35	4 705	3.00 ± 0.60	3 719	3.05 ± 0.57
TEGRETOL CR 400MG TAB	3 907	5.16 ± 0.38	4 292	5.10 ± 0.61	3 547	5.16 ± 1.01	3 069	5.24 ± 0.88
TOPAMAX 100MG TAB	960	10.98 ± 0.65	977	10.86 ± 1.33	724	11.24 ± 1.75	429	11.22 ± 1.91
TOPAMAX 200MG TAB	274	16.40 ± 0.97	264	16.11 ± 0.50	196	16.66 ± 2.65	113	17.35 ± 0.94
TOPAMAX 25MG TAB	998	4.60 ± 0.39	1 027	4.60 ± 0.57	911	4.58 ± 1.07	472	4.47 ± 1.34
TOPAMAX 50MG TAB	1 109	6.81 ± 0.50	1 242	6.76 ± 0.76	1 052	6.90 ± 1.31	613	6.76 ± 1.72
TOPAMAX SC SPRIN 15MG	33	4.19 ± 0.41	36	4.05 ± 0.25	80	3.71 ± 1.41	77	3.78 ± 1.00
TOPAMAX SC SPRIN 25MG	1	4.61 ± 0.00					4	3.77 ± 0.05
TOPAMAX SC SPRIN 50MG	1	7.72 ± 0.00					11	5.38 ± 0.39
TOPLEP 100MG TAB					113	8.24 ± 0.79	302	8.28 ± 1.25
TOPLEP 200MG TAB					42	11.99 ± 0.37	87	12.19 ± 0.48
TOPLEP 25MG TAB					124	2.99 ± 0.53	317	2.90 ± 0.76
TOPLEP 50MG TAB					170	5.14 ± 0.40	476	4.78 ± 0.89
TRILEPTAL FCT 300MG	700	4.25 ± 0.50	744	4.13 ± 0.39	672	4.15 ± 0.86	487	4.25 ± 0.74
TRILEPTAL FCT 600MG	392	7.38 ± 0.56	354	7.32 ± 0.62	281	7.34 ± 1.04	252	7.54 ± 0.58
ZARONTIN 250MG CAP	115	5.37 ± 0.27	88	5.32 ± 0.26	5	6.85 ± 2.47		
ZARONTIN SYR	19	1.01 0.04	53	0.98 ± 0.06	49	0.99 ± 0.08	17	0.92 ± 0.24

Table B 13 : Cost per tablet of anti-epileptic medicine according to female gender for study period 2005 to 2008

Medicine	2005		2006		2007		2008	
	Frequency	Mean ± Std. dev.	Frequency	Mean ± Std. dev.	Frequency	Mean ± Std. dev.	Frequency	Mean ± Std. dev.
ADCO-PHENOBARB VITAL	57	0.62 ± 0.04	39	0.62 ± 0.07	13	0.56 ± 0.20	8	0.58 ± 0.25
ADCO-TOPIRAMATE 100MG TABLET							17	7.20 ± 0.33
ADCO-TOPIRAMATE 200MG TABLET							1	10.30 ± 0.00
ADCO-TOPIRAMATE 25MG TABLET							29	2.31 ± 0.09
ADCO-TOPIRAMATE 50MG TABLET							15	4.80 ± 0.29
ARROW LAMOTRIGINE 100MG TABS							21	4.76 ± 0.57
ARROW LAMOTRIGINE 200MG TABS							14	7.79 ± 0.90
ARROW LAMOTRIGINE 25MG TABS							21	2.28 ± 0.14
ARROW LAMOTRIGINE 50MG TABS							16	2.90 ± 0.34
ASPEN LAMOTRIGINE 100MG			141	4.86 ± 0.72	453	4.44 ± 0.92	499	4.10 ± 0.61
ASPEN LAMOTRIGINE 200MG			81	8.06 ± 0.55	124	7.28 ± 2.12	36	6.77 ± 0.38
ASPEN LAMOTRIGINE 25MG			39	1.99 ± 0.37	169	2.01 ± 0.40	204	2.12 ± 0.45
ASPEN LAMOTRIGINE 50MG			115	3.08 ± 0.32	312	2.96 ± 0.51	336	3.00 ± 0.69
AUSTELL-LAMOTRIGINE 100MG					4	5.40 ± 0.41	4	5.52 ± 0.24
AUSTELL-LAMOTRIGINE 200MG					12	8.08 ± 0.39	13	8.47 ± 0.50
AUSTELL-LAMOTRIGINE 25MG					2	2.27 ± 0.02	5	2.29 ± 0.07
AUSTELL-LAMOTRIGINE 50MG					3	3.49 ± 0.00	7	3.25 ± 0.12
CONVULEX 150MG CAP	589	2.16 ± 0.13	550	2.16 ± 0.18	360	2.24 ± 0.30	302	2.32 ± 0.34
CONVULEX 300MG CAP	1 620	3.97 ± 0.32	1 643	3.95 ± 0.31	1 432	4.19 ± 0.36	1 183	4.32 ± 0.45
CONVULEX 500MG CAP	617	6.19 ± 0.35	552	6.14 ± 0.78	530	6.53 ± 0.91	453	6.81 ± 0.59
CONVULEX 50MG/ML SYR	123	0.82 ± 0.08	132	0.84 ± 0.14	118	0.89 ± 0.08	87	0.87 ± 0.11
CPL ALNCE CARBAMAZEPINE	2	0.86 ± 0.00	2	0.86 ± 0.00				
DEGRANOL 200MG TAB	4 711	1.54 ± 0.23	5 152	1.50 ± 0.28	4 341	1.59 ± 0.35	3 772	1.62 ± 0.41
DYNA-LAMOTRIGINE 100MG TAB							29	4.42 ± 0.26
DYNA-LAMOTRIGINE 200MG TAB							11	6.25 ± 0.35
DYNA-LAMOTRIGINE 25MG TAB							7	2.21 ± 0.08
DYNA-LAMOTRIGINE 50MG TAB							1	2.63 ± 0.00
EPANUTIN 100MG CAP	5 972	1.83 ± 0.11	5 803	1.81 ± 0.15	5 202	1.91 ± 0.25	3 736	1.94 ± 0.35
EPANUTIN 125MG/5ML SUSP	65	0.79 ± 0.05	102	0.79 ± 0.04	75	0.84 ± 0.04	49	0.85 ± 0.04
EPANUTIN 5ML 250MG INJ					1	209.81 ± 0.00	1	17.24 ± 0.00
EPANUTIN INFATAB 50MG	411	1.74 ± 0.16	326	1.71 ± 0.11	272	1.78 ± 0.30	266	1.89 ± 0.17
EPANUTIN READY 5ML INJ	2	193.49 ± 9.67	7	169.11 ± 74.88	2	190.65 ± 0.78		
EPILIM 100MG CRUSH TAB	72	1.93 ± 0.34	127	1.95 ± 0.30	153	2.01 ± 0.33	148	2.07 ± 0.27

Table B 13 : Cost per tablet of anti-epileptic medicine according to female gender for study period 2005 to 2008 cont.

EPILIM 200MG EC TAB	166	2.62 ± 0.22	28	1.91 ± 1.05				
EPILIM 200MG/5ML LIQ	988	0.62 ± 0.05	1 135	0.62 ± 0.07	924	0.63 ± 0.12	807	0.65 ± 0.10
EPILIM 500MG EC TAB	145	6.19 ± 0.37	48	6.08 ± 0.25				
EPILIM CR 200MG TAB	5 132	2.65 ± 0.24	5 967	2.64 ± 0.28	5 509	2.76 ± 0.43	5 069	2.84 ± 0.47
EPILIM CR 300MG TAB	4 501	3.89 ± 0.30	5 113	3.87 ± 0.45	4 921	4.03 ± 0.66	5 256	4.13 ± 0.69
EPILIM CR 500MG TAB	4 729	6.06 ± 0.38	5 921	6.03 ± 0.61	5 550	6.34 ± 0.85	5 419	6.56 ± 0.80
EPILIM IV 400MG INJ		±	2	248.02 ± 5.91	1			
EPITEC 100MG TAB	931	6.40 ± 0.42	3 152	5.18 ± 0.54	3 366	5.31 ± 0.78	3 857	5.24 ± 0.88
EPITEC 200MG TAB	464	8.66 ± 0.54	1 812	7.83 ± 0.89	2 202	8.20 ± 1.06	2 563	8.42 ± 0.94
EPITEC 25MG TAB	416	2.51 ± 0.35	1 235	2.43 ± 0.23	1179	2.40 ± 0.44	1 072	2.34 ± 0.43
EPITEC 50MG TAB	631	3.90 ± 0.33	1 945	3.31 ± 0.34	2 386	3.40 ± 0.58	2 543	3.46 ± 0.68
EPLEPTIN 100MG CAP					595	1.28 ± 0.40	1 102	1.26 ± 0.30
EPLEPTIN 300MG CAP					679	2.96 ± 0.45	1 032	2.83 ± 0.75
EPLEPTIN 400MG CAP					226	2.93 ± 0.36	414	2.90 ± 0.66
GARDENAL SOD 200MG/ML INJ	2	12.14 ± 2.40		±				
KEPPRA 1000MG TABS	1	19.30 ± 0.00	1	19.30 ± 0.00				
KEPPRA 250MG TABS	484	5.19 ± 0.32	773	5.19 ± 0.51	872	5.17 ± 0.72	907	5.15 ± 0.59
KEPPRA 500MG TABS	142	10.20 ± 0.65	29	9.98 ± 2.03	3	6.81 ± 5.90		
KEPPRA 750MG TABS	224	15.01 ± 0.80	440	14.91 ± 0.76	471	14.72 ± 1.78	569	14.59 ± 1.73
LAMEPTIL 100MG TAB					20	4.66 ± 1.62	79	5.43 ± 0.49
LAMEPTIL 200MG TAB					4	8.18 ± 0.00	26	7.97 ± 2.32
LAMEPTIL 25MG TAB					2	2.49 ± 0.00	7	2.42 ± 0.17
LAMEPTIL 50MG TAB					3	3.58 ± 0.41	21	3.41 ± 0.40
LAMICTIN 25MG TAB	2 973	3.34 ± 0.34	2 310	2.59 ± 0.45	2 295	2.46 ± 0.59	1 903	2.42 ± 0.59
LAMICTIN 100MG TAB	6 945	8.37 ± 0.62	5 708	6.24 ± 1.01	5 559	5.99 ± 1.09	5 232	5.90 ± 1.06
LAMICTIN 200MG TAB	2 794	12.15 ± 0.81	2 383	10.06 ± 1.24	2 724	9.86 ± 1.32	2 497	9.70 ± 1.19
LAMICTIN 25 MONO STARTER PK		±			1	2.06 ± 0.00	1	2.40 ± 0.00
LAMICTIN 25 VP STARTER PK-ADD	1	3.42 ± 0.00						
LAMICTIN 50MG TAB	4 643	5.17 ± 0.46	3 988	3.85 ± 0.62	3 678	3.59 ± 0.90	3 417	3.59 ± 0.80
LAMICTIN P 100MG DISP TAB	77	8.66 ± 0.84	67	6.21 ± 1.84	68	6.29 ± 0.87	73	6.11 ± 0.43
LAMICTIN P 200MG DISP TAB	32	12.14 ± 0.17	20	9.11 ± 3.18	12	10.50 ± 0.00	21	10.16 ± 0.41
LAMICTIN P 25MG DISP TAB	154	3.39 ± 0.39	165	2.61 ± 0.54	177	2.31 ± 0.74	114	2.50 ± 0.43
LAMICTIN P 2MG DISP TAB		±	2	1.37 ± 0.00	13	1.39 ± 0.13		
LAMICTIN P 50MG DISP TAB	97	5.30 ± 0.030	140	3.92 ± 0.62	130	3.67 ± 0.54	102	3.50 ± 0.92
LAMICTIN P 5MG DISP TAB	158	1.77 ± 0.21	177	1.48 ± 0.23	151	1.47 ± 0.23	109	1.46 ± 0.25

Table B 13 : Cost per tablet of anti-epileptic medicine according to female gender for study period 2005 to 2008 cont.

LAMITOR-100	184	6.02 ± 0.43	638	4.81 ± 0.66	858	4.73 ± 0.93	742	4.67 ± 0.66
LAMITOR-50	103	3.01 ± 0.18	378	3.00 ± 0.24	422	2.94 ± 0.55	354	3.10 ± 0.25
LAMITOR-25	42	2.46 ± 0.10	170	2.28 ± 0.17	189	2.34 ± 0.36	141	2.15 ± 0.37
LETHYL 30MG TAB	2 244	0.17 ± 0.13	2 191	0.16 ± 0.12	1 741	0.17 ± 0.12	1 433	0.17 ± 0.11
LYRICA 150MG CAP							1 368	8.59 ± 1.60
LYRICA 25MG CAP							680	2.67 ± 0.50
LYRICA 75MG CAP							4 405	6.05 ± 1.32
MERCK-LAMOTRIGINE 100MG TAB			1	5.33 ± 0.00	2	5.20 ± 0.00	4	5.56 ± 0.30
MERCK-LAMOTRIGINE 200MG TAB					1	7.81 ± 0.00		
MERCK-LAMOTRIGINE 25MG TAB			96	2.04 ± 0.00	3	2.35 ± 0.06		
MERCK-LAMOTRIGINE 50MG TAB					11	3.51 ± 0.32	2	3.06 ± 0.32
MYSOLINE 250MG TAB	86	0.90 ± 0.08	96	0.89 ± 0.07	209	2.12 ± 0.61	205	2.37 ± 0.45
NEUREXAL 100MG CAP					14	1.27 ± 0.06	145	1.23 ± 0.32
NEUREXAL 300MG CAP					14	2.98 ± 0.20	199	2.78 ± 0.66
NEUREXAL 400MG CAP							48	2.74 ± 0.78
NEURONTIN 100MG CAP	2 952	1.81 ± 0.16	3 730	1.77 ± 0.24	3 332	1.75 ± 0.53	2 062	1.77 ± 0.56
NEURONTIN 300MG CAP	2 255	4.13 ± 0.36	2 947	4.12 ± 0.57	2 374	4.12 ± 1.09	1 499	4.16 ± 1.21
NEURONTIN 400MG CAP	805	4.06 ± 0.35	1 006	4.08 ± 0.43	900	4.03 ± 1.04	465	4.20 ± 1.05
NEURONTIN 600MG TAB	2	7.40 ± 0.52	138	7.40 ± 0.51	224	7.28 ± 2.17	130	7.67 ± 1.20
NEURONTIN 800MG TAB		±	28	7.96 ± 0.71	57	7.08 ± 2.92	44	8.35 ± 0.42
NORSTAN-PHENYTOIN SOD 100MG T	102	0.37 ± 0.03	7	0.37 ± 0.00				
PHENYTOIN SOD 100MG TAB	723	0.46 ± 0.12	7	0.49 ± 0.16	462	0.43 ± 0..09	1 075	0.51 ± 0.16
PIRAMAX 100MG TAB					1	8.25 ± 0.00	150	7.52 ± 0.82
PIRAMAX 200MG TAB						±	42	10.80 ± 0.46
PIRAMAX 25MG TAB					5	2.36 ± 0.29	198	2.20 ± 0.73
RAN-GABAPENTIN 100MG CAP							3	1.28 ± 0.09
RAN-GABAPENTIN 300MG CAP							1	3.04 ± 0.00
RAN-GABAPENTIN 400MG CAP							1	2.90 ± 0.00
RIVOTRIL DRP	88	12.09 ±	103	12.60 ± 0.91	120	12.36 ± 2.17	111	12.83 ± 1.04
RIVOTRIL 0.5MG TAB	9 767	1.39 ± 0.21	10 779	1.34 ± 0.24	10 495	1.32 ± 0.41	9 709	1.35 ± 0.41
RIVOTRIL 1MG/ML INJ	11	28.30 ± 2.52	12	28.72 ± 2.60	9	27.90 ± 5.05	8	23.21 ± 9.45
RIVOTRIL 2MG TAB	3 680	3.03 ± 0.25	3 946	3.00 ± 0.35	3 934	2.99 ± 0.66	3 843	3.10 ± 0.63
SABRIL 500MG TAB	34	9.22 ± 0.30	51	9.03 ± 1.15	48	9.94 ± 0.59	36	10.36 ± 1.01
SANDOZ CARBAMAZEPINE 200MG	854	1.01 0.27	995	0.97 ± 0.30	480	0.90 ± 0.21	856	1.02 ± 0.35
SANDOZ CARBAMAZEPINE CR 200MG			157	2.21 ± 0.44	558	2.35 ± 0.37	813	2.43 ± 0.27

Table B 13 : Cost per tablet of anti-epileptic medicine according to female gender for study period 2005 to 2008 cont.

SANDOZ CARBAMAZEPINE CR 400MG			43	4.12 ± 0.27	264	4.16 ± 0.37	396	4.21 ± 0.46
SANDOZ LAMOTRIGINE 100MG			17	5.95 ± 0.22	30	5.48 ± 0.64	95	4.75 ± 0.90
SANDOZ LAMOTRIGINE 200MG			15	8.30 ± 0.20	21	8.79 ± 0.54	65	7.97 ± 0.98
SANDOZ LAMOTRIGINE 25MG			2	2.31 ± 0.11	11	1.96 ± 1.01	57	2.01 ± 0.34
SANDOZ LAMOTRIGINE 50MG			15	3.72 ± 0.18	25	3.06 ± 1.00	98	3.05 ± 0.43
SANDOZ TOPIRAMATE 100MG TAB							96	7.93 ± 1.16
SANDOZ TOPIRAMATE 200MG TAB					2	12.31 ± 0.81	21	11.23 ± 2.97
SANDOZ TOPIRAMATE 25MG TAB							105	2.85 ± 0.86
SANDOZ TOPIRAMATE 50MG TAB					3	4.23 ± 0.04	191	4.10 ± 1.24
SEDABARB 30MG TAB	345	0.06 ± 0.01	295	0.07 ± 0.01	209	0.07 ± 0.02	192	0.07 ± 0.02
TEGRETOL 100MG/5ML SUSP	187	0.52 ± 0.04	214	0.52 ± 0.04	152	0.52 ± 0.09	156	0.48 ± 0.17
TEGRETOL 200MG TAB	3 457	2.84 ± 0.25	3 190	2.78 ± 0.36	2 701	2.82 ± .065	1 916	2.82 ± 0.67
TEGRETOL CR 200MG TAB	7 815	3.00 ± 0.26	7 595	2.98 ± 0.34	6 199	3.00 ± 0.64	5 070	3.05 ± 0.61
TEGRETOL CR 400MG TAB	4 297	5.14 ± 0.36	4 402	5.12 ± 0.53	3 776	5.23 ± 0.76	3 230	5.27 ± 0.84
TOPAMAX 100MG TAB	2 608	11.05 ± 0.77	3 198	11.01 ± 0.93	2 491	11.21 ± 2.19	1 579	11.44 ± 2.25
TOPAMAX 200MG TAB	442	16.21 ± 0.80	537	16.02 ± 1.81	467	16.82 ± 2.66	224	17.53 ± 2.90
TOPAMAX 25MG TAB	3 142	4.61 ± 0.37	3 811	4.54 ± 0.76	3 216	4.56 ± 1.20	2 040	4.56 ± 1.29
TOPAMAX 50MG TAB	3 530	6.89 ± 0.54	4 168	6.79 ± 0.91	3 425	6.82 ± 1.73	2 175	6.95 ± 1.88
TOPAMAX SC SPRIN 15MG	106	3.88 ± 0.40	123	3.67 ± 0.92	130	3.85 ± 0.88	167	3.74 ± 1.12
TOPAMAX SC SPRIN 25MG	4	4.78 ± 0.34					18	3.42 ± 0.86
TOPAMAX SC SPRIN 50MG	2	7.69 ± 0.05					22	5.77 ± 0.30
TOPLEP 100MG TAB					316	8.30 ± 0.52	870	8.38 ± 1.53
TOPLEP 200MG TAB					47	12.09 ± 0.48	191	12.29 ± 0.75
TOPLEP 25MG TAB					378	3.02 ± 0.37	1 084	3.00 ± 0.50
TOPLEP 50MG TAB					436	5.14 ± 0.59	1 151	4.78 ± 1.02
TRILEPTAL FCT 300MG	948	4.20 ± 0.43	1 029	4.12 0.62±	900	4.02 ± 1.08	906	4.27 ± 0.76
TRILEPTAL FCT 600MG	309	7.41 ± 0.51	349	7.40 ± 0.58	339	7.40 ± 1.65	360	7.59 ± 1.36
ZARONTIN 250MG CAP	148	5.60 ± 0.53	105	5.50 ± 0.44	10	5.68 ± 0.26		
ZARONTIN SYR	19	0.96 ± 0.12	50	0.95 ± 0.06	105	0.98 ± 0.04	118	1.00 ± 0.05

Table B 14 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2005

Medicine	2005									
	Age -1		Age - 2		Age - 3		Age - 4		Age - 5	
	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.
ADCO-PHENOBARB VITAL	122	0.62 ± 0.04	2	0.64 ± 0.00	7	0.62 ± 0.08	2	0.58 ± 0.00	2	0.61 ± 0.03
ADCO-TOPIRAMATE 100MG TABLET										
ADCO-TOPIRAMATE 200MG TABLET										
ADCO-TOPIRAMATE 25MG TABLET										
ADCO-TOPIRAMATE 50MG TABLET										
ARROW LAMOTRIGINE 100MG TABS										
ARROW LAMOTRIGINE 200MG TABS										
ARROW LAMOTRIGINE 25MG TABS										
ARROW LAMOTRIGINE 50MG TABS										
ASPEN LAMOTRIGINE 100MG										
ASPEN LAMOTRIGINE 200MG										
ASPEN LAMOTRIGINE 25MG										
ASPEN LAMOTRIGINE 50MG										
AUSTELL-LAMOTRIGINE 100MG										
AUSTELL-LAMOTRIGINE 200MG										
AUSTELL-LAMOTRIGINE 25MG										
AUSTELL-LAMOTRIGINE 50MG										
CONVULEX 150MG CAP	106	2.19 ± 0.15	60	2.17 ± 0.17	284	2.19 ± 0.15	328	2.19 ± 0.17	186	2.20 ± 0.26
CONVULEX 300MG CAP	98	4.25 ± 0.28	159	4.02 ± 0.28	792	3.97 ± 0.31	1 316	3.95 ± 0.32	484	4.06 ± 0.39
CONVULEX 500MG CAP	1	7.91 ± 0.00	36	6.45 ± 0.39	402	6.16 ± 0.34	613	6.17 ± 0.36	158	6.32 ± 0.54
CONVULEX 50MG/ML SYR	183	0.83 ± 0.07	12	0.85 ± 0.10	11	0.74 ± 0.00	0		1	0.92 ± 0.00
CPL ALNCE CARBAMAZEPINE					2	0.86 ± 0.00				
DEGRANOL 200MG TAB	98	1.52 ± 0.26	179	1.53 ± 0.25	1 500	1.48 ± 0.26	4 367	1.52 ± 0.22	2 614	1.58 ± 0.22
DYNA-LAMOTRIGINE 100MG TAB										
DYNA-LAMOTRIGINE 200MG TAB										
DYNA-LAMOTRIGINE 25MG TAB										
DYNA-LAMOTRIGINE 50MG TAB										
EPANUTIN 100MG CAP	27	1.94 ± 0.20	125	1.85 ± 0.09	1 759	1.80 ± 0.14	6 054	1.81 ± 0.12	5 754	1.83 ± 0.13
EPANUTIN 125MG/5ML SUSP	16	0.83 ± 0.05			13	0.75 ± 0.02	28	0.88 ± 0.02	61	0.78 ± 0.06
EPANUTIN 5ML 250MG INJ										
EPANUTIN INFATAB 50MG	5	1.75 ± 0.18	7	1.73 ± 0.03	177	1.74 ± 0.20	380	1.76 ± 0.16	339	1.75 ± 0.17
EPANUTIN READY 5ML INJ			1	200.33 ± 0.00	2	133.39 ± 75.32	5	200.79 ± 7.28		
EPILIM 100MG CRUSH TAB	67	1.79 ± 0.35	11	2.45 ± 0.30	21	1.68 ± 0.10	9	1.847 ± 0.52	6	1.97 ± 0.11
EPILIM 200MG EC TAB	16	2.68 ± 0.14	22	2.59 ± 0.10	75	2.65 ± 0.27	106	2.65 ± 0.27	52	2.64 ± 0.21
EPILIM 200MG/5ML LIQ	1 710	0.63 ± 0.05	171	0.60 ± 0.05	103	0.57 ± 0.05	54	0.61 ± 0.03	138	0.59 ± 0.04
EPILIM 500MG EC TAB	1	6.80 ± 0.00	11	6.00 ± 0.00	63	6.15 ± 0.40	102	6.21 ± 0.34	70	6.18 ± 0.49
EPILIM CR 200MG TAB	630	2.68 ± 0.21	753	2.70 ± 0.22	2 218	2.63 ± 0.23	3 296	2.65 ± 0.24	1 921	2.63 ± 0.24
EPILIM CR 300MG TAB	526	3.88 ± 0.31	757	3.88 ± 0.32	2 221	3.87 ± 0.33	3 055	3.90 ± 0.32	1 745	3.87 ± 0.29

Table B 14 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2005 cont.

EPILIM CR 500MG TAB	68	6.18 ± 0.39	671	6.18 ± 0.48	3 179	5.99 ± 0.35	4 205	6.01 ± 0.38	1 594	6.04 ± 0.45
EPILIM IV 400MG INJ									2	253.34 ± 14.51
EPITEC 100MG TAB	16	6.55 ± 0.42	129	6.44 ± 0.44	502	6.36 ± 0.40	631	6.38 ± 0.42	121	6.40 ± 0.30
EPITEC 200MG TAB			54	8.54 ± 0.26	291	8.59 ± 0.52	387	8.66 ± 0.54	55	8.52 ± 0.31
EPITEC 25MG TAB	94	2.48 ± 0.21	71	2.67 ± 0.74	179	2.50 ± 0.20	233	2.49 ± 0.21	110	2.45 ± 0.13
EPITEC 50MG TAB	66	3.77 ± 0.26	126	3.96 ± 0.48	279	3.89 ± 0.27	402	3.88 ± 0.28	124	3.94 ± 0.22
EPLEPTIN 100MG CAP										
EPLEPTIN 300MG CAP										
EPLEPTIN 400MG CAP										
GARDENAL SOD 200MG/ML INJ			1	1.66 ± 0.00					3	11.96 ± 1.72
KEPPRA 1000MG TABS	2	9.68 ± 13.60			1	19.30 ± 0.00	17	19.30 ± 0.00		
KEPPRA 250MG TABS	23	5.39 ± 0.30	64	5.21 ± 0.37	389	5.14 ± 0.33	284	5.20 ± 0.30	86	5.33 ± 0.42
KEPPRA 500MG TABS	5	9.91 ± 0.03	30	10.71 ± 0.82	134	10.01 ± 0.52	118	10.22 ± 0.64	34	10.31 ± 0.74
KEPPRA 750MG TABS	1	14.60 ± 0.00	19	14.65 ± 0.23	166	14.97 ± 0.87	173	15.07 ± 0.83	27	14.61 ± 0.03
LAMEPTIL 100MG TAB										
LAMEPTIL 200MG TAB										
LAMEPTIL 25MG TAB										
LAMEPTIL 50MG TAB										
LAMICTIN 25MG TAB	433	3.36 ± 0.32	422	3.31 ± 0.30	1 507	3.35 ± 0.37	1 539	3.34 ± 0.31	709	3.31 ± 0.33
LAMICTIN 100MG TAB	232	8.35 ± 0.56	737	8.32 ± 0.53	4 137	8.35 ± 0.65	4 296	8.37 ± 0.63	1 222	8.33 ± 0.71
LAMICTIN 200MG TAB	29	11.91 ± 0.27	196	11.84 ± 1.33	2 071	12.15 ± 0.86	2 235	12.16 ± 0.77	341	12.00 ± 0.44
LAMICTIN 25 MONO STARTER PK					1	2.99 ± 0.00				
LAMICTIN 25 VP STARTER PK-ADD			7	3.42 ± 0.00		±		±		±
LAMICTIN 50MG TAB	385	5.13 ± 0.42	607	5.09 ± 0.46	2 591	5.16 ± 0.51	2 698	5.18 ± 0.40	763	5.12 ± 0.39
LAMICTIN P 100MG DISP TAB	65	8.29 ± 0.22	49	8.30 ± 0.67	17	8.99 ± 0.52	11	9.93 ± 0.50		
LAMICTIN P 200MG DISP TAB	1	11.70 ± 0.00			22	12.14 ± 0.17	22	12.17 ± 0.15		
LAMICTIN P 25MG DISP TAB	252	3.42 ± 0.34	45	3.19 ± 0.21	4	3.30 ± 0.15	18	3.29 ± 0.22	4	3.59 ± 0.33
LAMICTIN P 2MG DISP TAB	5	1.93 ± 0.17								
LAMICTIN P 50MG DISP TAB	141	5.29 ± 0.25	29	5.32 ± 0.35	2	5.16 ± 0.48	18	5.54 ± 0.11		
LAMICTIN P 5MG DISP TAB	238	1.77 ± 0.19	22	1.72 ± 0.25	2	1.79 ± 0.00	9	1.86 ± 0.04		
LAMITOR-100	7	5.99 ± 0.20	13	5.97 ± 0.47	128	5.97 ± 0.42	132	6.05 ± 0.45	42	6.13 ± 0.40
LAMITOR-50	2	2.96 ± 0.15	7	3.10 ± 0.87	59	2.95 ± 0.20	71	3.04 ± 0.17	25	2.96 ± 0.20
LAMITOR-25	5	2.39 ± 0.00	5	2.47 ± 0.07	13	2.46 ± 0.11	34	2.40 ± 0.10	10	2.49 ± 0.07
LETHYL 30MG TAB	314	0.16 ± 0.08	128	0.19 ± 0.15	611	0.17 ± 0.14	1 824	0.16 ± 0.12	1 423	0.18 ± 0.14
LYRICA 150MG CAP										
LYRICA 25MG CAP										
LYRICA 75MG CAP										
MERCK-LAMOTRIGINE 100MG TAB										
MERCK-LAMOTRIGINE 200MG TAB										
MERCK-LAMOTRIGINE 25MG TAB										
MERCK-LAMOTRIGINE 50MG TAB										
MYSOLINE 250MG TAB					28	0.92 ± 0.07	64	0.90 ± 0.09	34	0.91 ± 0.17

Table B 14 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2005 cont.

NEUREXAL 100MG CAP										
NEUREXAL 300MG CAP										
NEUREXAL 400MG CAP										
NEURONTIN 100MG CAP	2	1.75 ± 0.12	20	1.76 ± 0.08	484	1.82 ± 0.18	1 826	1.82 ± 0.18	2 088	1.80 ± 0.16
NEURONTIN 300MG CAP	2	4.54 ± 0.04	13	4.07 ± 0.22	383	4.11 ± 0.39	1 810	4.12 ± 0.38	1 511	4.17 ± 0.40
NEURONTIN 400MG CAP			1	4.57 ± 0.00	102	4.06 ± 0.30	580	4.03 ± 0.43	582	4.07 ± 0.34
NEURONTIN 600MG TAB					1	7.03 ± 0.00			2	7.40 ± 0.52
NEURONTIN 800MG TAB									1	8.97 ± 0.00
NORSTAN-PHENYTOIN SOD 100MG T	1	0.34 ± 0.00	1	0.37 ± 0.00	79	0.37 ± 0.05	146	0.37 ± 0.03	130	0.40 ± 0.08
PHENYTOIN SOD 100MG TAB	130	0.40 ± 0.03	3	0.40 ± 0.01	20	0.47 ± 0.09	309	0.47 ± 0.09	884	0.47 ± 0.12
PIRAMAX 100MG TAB										
PIRAMAX 200MG TAB										
PIRAMAX 25MG TAB										
RAN-GABAPENTIN 100MG CAP										
RAN-GABAPENTIN 300MG CAP										
RAN-GABAPENTIN 400MG CAP										
RIVOTRIL DRP	133	13.26 ± 32	32	12.42 ± 0.81	3	12.12 ± 0.78	6	8.26 ± 4.86		
RIVOTRIL 0.5MG TAB	64	1.46 ± 1.06	167	1.43 ± 0.25	2 509	1.41 ± 0.24	7 103	1.38 ± 0.18	4 476	1.36 ± 0.13
RIVOTRIL 1MG/ML INJ			1	19.90 ± 0.00	7	32.66 ± 6.19	5	26.73 ± 1.80	2	28.16 ± 2.46
RIVOTRIL 2MG TAB	28	2.86 ± 0.23	93	2.95 ± 0.13	1 041	3.01 ± 0.26	3 188	3.02 ± 0.25	1 335	3.05 ± 0.24
SABRIL 500MG TAB	70	9.49 ± 0.86			27	8.83 ± 0.15				
SANDOZ CARBAMAZEPINE 200MG	17	0.81 ± 0.10	49	0.89 ± 0.11	308	0.96 ± 0.22	916	1.01 0.28	394	1.02 0.26
SANDOZ CARBAMAZEPINE CR 200MG										
SANDOZ CARBAMAZEPINE CR 400MG										
SANDOZ LAMOTRIGINE 100MG										
SANDOZ LAMOTRIGINE 200MG										
SANDOZ LAMOTRIGINE 25MG										
SANDOZ LAMOTRIGINE 50MG										
SANDOZ TOPIRAMATE 100MG TAB										
SANDOZ TOPIRAMATE 200MG TAB										
SANDOZ TOPIRAMATE 25MG TAB										
SANDOZ TOPIRAMATE 50MG TAB										
SEDABARB 30MG TAB	57	0.07 ± 0.00	36	0.06 ± 0.00	198	0.06 ± 0.01	337	0.06 ± 0.01	63	0.07 ± 0.01
TEGRETOL 100MG/5ML SUSP	379	0.53 ± 0.04	68	0.53 ± 0.04	59	0.49 ± 0.04	15	0.56 ± 0.02	22	0.51 ± 0.05
TEGRETOL 200MG TAB	52	2.82 ± 0.28	191	2.85 ± 0.17	1 017	2.83 ± 0.30	2 757	2.81 ± 0.25	1 803	2.87 ± 0.24
TEGRETOL CR 200MG TAB	328	2.99 ± 0.23	668	2.95 ± 0.24	3 198	2.97 ± 0.26	5 425	3.00 ± 0.25	3 741	3.02 ± 0.25
TEGRETOL CR 400MG TAB	41	5.29 ± 0.33	320	5.15 ± 0.40	2 869	5.13 ± 0.39	3 694	5.15 ± 0.36	1 294	5.17 ± 0.36
TOPAMAX 100MG TAB	16	10.67 ± 0.25	82	11.13 ± 0.79	1 452	11.06 ± 0.77	1 785	11.02 ± 0.74	233	10.93 ± 0.50
TOPAMAX 200MG TAB	1	19.51 ± 0.00	12	16.26 ± 0.00	274	16.31 ± 0.98	363	16.22 ± 0.75	66	16.41 ± 0.97
TOPAMAX 25MG TAB	189	4.49 ± 0.31	221	4.73 ± 0.38	1 246	4.62 ± 0.38	1 973	4.62 ± 0.38	512	4.54 ± 0.32
TOPAMAX 50MG TAB	89	6.53 ± 0.29	182	6.98 ± 0.49	1 605	6.89 ± 0.54	2 325	6.88 ± 0.54	438	6.79 ± 0.50
TOPAMAX SC SPRIN 15MG	75	3.78 ± 0.44	10	4.35 ± 0.24	15	4.17 ± 0.27	24	4.02 ± 0.22	15	4.23 ± 0.37

Table B 14 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2005 cont.

TOPAMAX SC SPRIN 25MG	1	4.61 ± 0.00					4	4.78 ± 0.34		
TOPAMAX SC SPRIN 50MG					1	7.72 ± 0.00	2	7.69 ± 0..05		
TOPLEP 100MG TAB										
TOPLEP 200MG TAB										
TOPLEP 25MG TAB										
TOPLEP 50MG TAB										
TRILEPTAL FCT 300MG	62	4.40 ± 0.65	87	4.18 ± 0.34	534	4.21 ± 0.53	705	4.21 ± 0.39	261	4.23 ± 0.43
TRILEPTAL FCT 600MG	3	7.29 ± 0.29	51	7.59 ± 0.77	306	7.43 ± 0.56	294	7.34 ± 0.49	47	7.32 ± 0.34
ZARONTIN 250MG CAP	29	5.37 ± 0.32	30	5.42 ± 0.13	121	5.45 ± 0.40	62	5.77 ± 0.61	21	5.31 ± 0.20
ZARONTIN SYR	25	1.04 ± 0.06					13	0.88 ± 0.00		

Table B 15 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2006

Medicine	2006									
	Age -1		Age - 2		Age - 3		Age - 4		Age - 5	
	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.
ADCO-PHENOBARB VITAL	122	0.62 ± 0.05	3	0.64 ± 0.00	8	0.61 ± 0.03	4	0.60 ± 0.03	1	0.59 ± 0.00
ADCO-TOPIRAMATE 100MG TABLET										
ADCO-TOPIRAMATE 200MG TABLET										
ADCO-TOPIRAMATE 25MG TABLET										
ADCO-TOPIRAMATE 50MG TABLET										
ARROW LAMOTRIGINE 100MG TABS										
ARROW LAMOTRIGINE 200MG TABS										
ARROW LAMOTRIGINE 25MG TABS										
ARROW LAMOTRIGINE 50MG TABS										
ASPEN LAMOTRIGINE 100MG			8	4.73 ± 0.28	44	5.04 ± 0.44	94	4.89 ± 0.82	36	4.64 ± 0.32
ASPEN LAMOTRIGINE 200MG			11	7.34 ± 0.15	43	7.77 ± 1.29	63	8.14 ± 0.60	1	7.79 ± 0.00
ASPEN LAMOTRIGINE 25MG					22	2.09 ± 0.15	36	1.99 ± 0.38	8	1.87 ± 0.10
ASPEN LAMOTRIGINE 50MG	1	2.64 ± 0.00	12	3.17 ± 0.29	46	3.01 ± 0.34	91	3.03 ± 0.28	5	2.99 ± 0.22
AUSTELL-LAMOTRIGINE 100MG										
AUSTELL-LAMOTRIGINE 200MG										
AUSTELL-LAMOTRIGINE 25MG										
AUSTELL-LAMOTRIGINE 50MG										
CONVULEX 150MG CAP	111	2.13 ± 0.38	60	2.15 ± 0.10	210	2.15 ± 0.30	265	2.15 ± 0.17	143	2.24 ± 0.32
CONVULEX 300MG CAP	116	4.07 ± 0.84	119	4.03 ± 0.24	737	3.95 ± 0.31	1320	3.94 ± 0.38	490	4.04 ± 0.31
CONVULEX 500MG CAP	2	6.59 ± 0.00	55	6.53 ± 0.55	361	6.04 ± 0.98	602	6.15 ± 0.27	148	6.29 ± 0.45
CONVULEX 50MG/ML SYR	230	0.84 ± 0.11	23	0.85 ± 0.06	14	0.75 ± 0.05	4	0.88 ± 0.07		
CPL ALNCE CARBAMAZEPINE					2	0.86 ± 0.00	3	0.86 ± 0.00		
DEGRANOL 200MG TAB	92	1.51 ± 0.24	212	1.48 ± 0.35	1524	1.46 ± 0.30	4668	1.49 ± 0.29	2846	1.56 ± 0.20
DYNA-LAMOTRIGINE 100MG TAB										
DYNA-LAMOTRIGINE 200MG TAB										
DYNA-LAMOTRIGINE 25MG TAB										
DYNA-LAMOTRIGINE 50MG TAB										
EPANUTIN 100MG CAP	26	1.91 ± 0.09	153	1.82 ± 0.10	1674	1.78 ± 0.18	5927	1.80 ± 0.16	5416	1.82 ± 0.10
EPANUTIN 125MG/5ML SUSP	41	0.82 ± 0.04	4	0.88 ± 0.00	16	0.75 ± 0.03	20	0.87 ± 0.02	56	0.78 ± 0.03
EPANUTIN 5ML 250MG INJ										
EPANUTIN INFATAB 50MG	2	1.71 ± 0.00			154	1.68 ± 0.11	382	1.77 ± 0.15	292	1.71 ± 0.09
EPANUTIN READY 5ML INJ	3	200.33 ± 0.00	2	200.33 ± 0.00	5	150.39 ± 84.40	3	187.66 ± 0.88		
EPILIM 100MG CRUSH TAB	84	1.85 ± 0.14	30	2.32 ± 0.32	25	1.75 ± 0.18	22	2.15 ± 0.29	17	2.04 ± 0.06
EPILIM 200MG EC TAB	6	2.48 ± 0.03	3	2.89 ± 0.08	14	2.08 ± 0.65	13	2.68 ± 0.18	15	1.66 ± 1.22
EPILIM 200MG/5ML LIQ	2043	0.62 ± 0.08	268	0.61 ± 0.05	148	0.57 ± 0.07	56	0.60 ± 0.09	133	0.59 ± 0.04
EPILIM 500MG EC TAB			9	6.00 ± 0.00	15	6.04 ± 0.13	32	6.18 ± 0.36	12	5.94 ± 0.20
EPILIM CR 200MG TAB	684	2.66 ± 0.39	881	2.65 ± 0.35	2564	2.63 ± 0.29	3654	2.65 ± 0.27	2332	2.63 ± 0.24

Table B 15 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2006 cont.

EPILIM CR 300MG TAB	600	3.90 ± 0.43	772	3.84 ± 0.58	2600	3.82 ± 0.51	3656	3.87 ± 0.41	1904	3.87 ± 0.32
EPILIM CR 500MG TAB	131	6.16 ± 0.33	717	6.16 ± 0.71	3718	5.97 ± 0.64	5152	6.01 ± 0.52	2098	6.04 ± 0.39
EPILIM IV 400MG INJ					2	247.64 ± 6.45			1	243.84 ± 0.00
EPITEC 100MG TAB	63	5.27 ± 0.43	301	5.21 ± 0.49	1693	5.15 ± 0.61	2219	5.18 ± 0.50	641	5.19 ± 0.42
EPITEC 200MG TAB	9	7.85 ± 0.08	110	7.91 ± 0.87	1172	7.80 ± 0.87	1444	7.83 ± 0.81	222	7.92 ± 0.43
EPITEC 25MG TAB	174	2.41 ± 0.32	131	2.44 ± 0.19	576	2.42 ± 0.31	712	2.44 ± 0.21	336	2.43 ± 0.11
EPITEC 50MG TAB	121	3.30 ± 0.28	197	3.31 ± 0.25	935	3.29 ± 0.46	1421	3.32 ± 0.26	386	3.31 ± 0.30
EPLEPTIN 100MG CAP										
EPLEPTIN 300MG CAP										
EPLEPTIN 400MG CAP										
GARDENAL SOD 200MG/ML INJ							1	10.45 ± 0.00		
KEPPRA 1000MG TABS					1	19.30 ± 0.00	3	19.30 ± 0.00		
KEPPRA 250MG TABS	111	5.37 ± 0.39	96	5.27 ± 0.40	548	5.14 ± 0.44	471	5.21 ± 0.53	105	5.21 ± 0.28
KEPPRA 500MG TABS	3	11.05 ± 0.57	4	9.90 ± 0.00	43	10.15 ± 0.47	21	8.68 ± 3.68	7	9.90 ± 0.00
KEPPRA 750MG TABS	6	14.93 ± 0.81	41	15.38 ± 1.27	344	14.80 ± 0.55	296	14.99 ± 0.85	95	14.74 ± 0.43
LAMEPTIL 100MG TAB										
LAMEPTIL 200MG TAB										
LAMEPTIL 25MG TAB										
LAMEPTIL 50MG TAB										
LAMICTIN 25MG TAB	285	2.56 ± 0.49	408	2.57 ± 0.40	1248	2.57 ± 0.52	1260	2.58 ± 0.41	431	2.64 ± 0.30
LAMICTIN 100MG TAB	249	6.18 ± 0.83	509	6.23 ± 0.86	3553	6.19 ± 1.03	3263	6.28 ± 0.98	928	6.35 ± 0.87
LAMICTIN 200MG TAB	21	9.89 ± 0.90	121	10.04 ± 0.86	1843	9.99 ± 1.31	1762	10.09 ± 1.10	317	10.11 ± 0.91
LAMICTIN 25 MONO STARTER PK										
LAMICTIN 25 VP STARTER PK-ADD										
LAMICTIN 50MG TAB	318	3.83 ± 0.43	504	3.89 ± 0.55	2221	3.83 ± 0.69	2306	3.85 ± 0.61	668	3.92 ± 0.48
LAMICTIN P 100MG DISP TAB	77	6.66 ± 0.80	41	6.34 ± 0.90	1	7.45 ± 0.00	24	5.73 ± 2.77	1	5.51 ± 0.00
LAMICTIN P 200MG DISP TAB			1	11.53 ± 0.00	17	9.45 ± 2.50	16	8.79 ± 3.48		
LAMICTIN P 25MG DISP TAB	267	2.62 ± 0.48	49	2.52 ± 0.22	12	2.53 ± 0.12	3	3.01 ± 0.37		
LAMICTIN P 2MG DISP TAB	9	1.54 ± 0.16								
LAMICTIN P 50MG DISP TAB	170	3.93 ± 0.60	44	3.84 ± 0.55			15	3.96 ± 0.49	3	3.35 ± 0.00
LAMICTIN P 5MG DISP TAB	266	1.46 ± 0.31	21	1.49 ± 0.14	5	1.54 ± 0.03	9	1.42 ± 0.53		
LAMITOR-100	17	4.77 ± 0.60	58	5.01 ± 0.69	372	4.74 ± 0.68	449	4.84 ± 0.77	170	4.80 ± 0.65
LAMITOR-50	11	2.94 ± 0.10	39	2.95 ± 0.13	233	2.94 ± 0.48	202	2.99 ± 0.27	93	2.96 ± 0.14
LAMITOR-25	15	2.23 ± 0.10	36	2.22 ± 0.11	82	2.19 ± 0.45	106	2.25 ± 0.36	34	2.22 ± 0.12
LETHYL 30MG TAB	284	0.15 ± 0.11	157	0.23 ± 0.15	543	0.17 ± 0.14	1781	0.15 ± 0.10	1403	0.16 ± 0.12
LYRICA 150MG CAP										
LYRICA 25MG CAP										
LYRICA 75MG CAP										
MERCK-LAMOTRIGINE 100MG TAB					1	5.33 ± 0.00				
MERCK-LAMOTRIGINE 200MG TAB							3	7.81 ± 0.00		
MERCK-LAMOTRIGINE 25MG TAB					1	2.04 ± 0.00				
MERCK-LAMOTRIGINE 50MG TAB										

Table B 15 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2006 cont.

MYSOLINE 250MG TAB					37	0.97 ± 0.20	60	0.89 ± 0.20	63	0.88 ± 0.08
NEUREXAL 100MG CAP										
NEUREXAL 300MG CAP										
NEUREXAL 400MG CAP										
NEURONTIN 100MG CAP	6	1.84 ± 0.09	31	1.82 ± 0.40	510	1.76 ± 0.31	2328	1.77 ± 0.32	2631	1.77 ± 0.18
NEURONTIN 300MG CAP	3	4.39 ± 0.32	25	4.17 ± 0.39	464	3.95 ± 0.71	2058	4.09 ± 0.61	2135	4.13 ± 0.59
NEURONTIN 400MG CAP					154	4.13 ± 0.31	703	4.06 ± 0.41	721	4.06 ± 0.43
NEURONTIN 600MG TAB	2	7.36 ± 0.00	3	7.20 ± 0.00	52	7.42 ± 0.47	97	7.45 ± 0.48	74	7.26 ± 0.45
NEURONTIN 800MG TAB					14	7.79 ± 0.20	28	7.89 ± 0.73	16	7.74 ± 0.14
NORSTAN-PHENYTOIN SOD 100MG T							5	0.37 ± 0.00	6	0.37 ± 0.00
PHENYTOIN SOD 100MG TAB	2	0.38 ± 0.03	39	0.39 ± 0.05	319	0.50 ± 0.14	1046	0.48 ± 0.16	584	0.43 ± 0.08
PIRAMAX 100MG TAB										
PIRAMAX 200MG TAB										
PIRAMAX 25MG TAB										
RAN-GABAPENTIN 100MG CAP										
RAN-GABAPENTIN 300MG CAP										
RAN-GABAPENTIN 400MG CAP										
RIVOTRIL DRP	134	12.87 ± 0.69	39	11.77 ± 0.66			1	12.18 ± 0.00		
RIVOTRIL 0.5MG TAB	81	1.25 ± 0.26	190	1.36 ± 0.28	2670	1.35 ± 0.36	7657	1.33 ± 0.20	5204	1.34 ± 0.18
RIVOTRIL 1MG/ML INJ	3	18.21 ± 15.90			5	27.99 ± 2.49	7	28.65 ± 3.12	1	26.28 ± 0.00
RIVOTRIL 2MG TAB	12	2.80 ± 0.22	67	2.98 ± 0.40	976	2.95 ± 0.43	3284	2.99 ± 0.34	1576	3.02 ± 0.33
SABRIL 500MG TAB	105	9.25 ± 0.97	11	9.21 ± 0.47	26	8.49 ± 1.51				
SANDOZ CARBAMAZEPINE 200MG	9	0.88 ± 0.11	51	0.89 ± 0.11	332	0.94 ± 0.32	992	0.98 ± 0.29	466	0.99 ± 0.24
SANDOZ CARBAMAZEPINE CR 200MG	10	2.80 ± 0.50	8	2.24 ± 0.12	50	2.12 ± 0.46	111	2.15 ± 0.50	72	2.28 ± 0.20
SANDOZ CARBAMAZEPINE CR 400MG			12	3.90 ± 0.14	15	3.91 ± 0.30	60	4.12 ± 0.30	13	3.97 ± 0.18
SANDOZ LAMOTRIGINE 100MG			4	5.59 ± 0.00	14	6.06 ± 0.08				
SANDOZ LAMOTRIGINE 200MG					5	8.10 ± 0.27	12	8.40 ± 0.00		
SANDOZ LAMOTRIGINE 25MG			1	2.45 ± 0.00	2	2.31 ± 0.11	2	2.31 ± 0.10		
SANDOZ LAMOTRIGINE 50MG					9	3.69 ± 0.21	3	3.58 ± 0.21	5	3.70 ± 0.25
SANDOZ TOPIRAMATE 100MG TAB										
SANDOZ TOPIRAMATE 200MG TAB										
SANDOZ TOPIRAMATE 25MG TAB										
SANDOZ TOPIRAMATE 50MG TAB										
SEDABARB 30MG TAB	37	0.09 ± 0.18	54	0.07±0.01	155	0.07 ± 0.03	293	0.07 ± 0.03	40	0.07 ± 0.01
TEGRETOL 100MG/5ML SUSP	375	0.52 ± 0.10	99	0.51 ± 0.04	62	0.50 ± 0.05	19	0.56 ± 0.02	6	0.48 ± 0.04
TEGRETOL 200MG TAB	54	2.80 ± 0.16	165	2.77 ± 0.28	988	2.76 ± 0.33	2516	2.79 ± 0.33	1706	2.80 ± 0.41
TEGRETOL CR 200MG TAB	298	2.96 ± 0.34	637	2.90 ± 0.51	3220	2.97 ± 0.36	5477	2.98 ± 0.32	3745	2.99 ± 0.35
TEGRETOL CR 400MG TAB	42	5.34 ± 0.23	422	5.10 ± 0.71	3015	5.05 ± 0.70	3994	5.13 ± 0.49	1246	5.17 ± 0.35
TOPAMAX 100MG TAB	33	10.69 ± 0.26	100	10.96 ± 0.66	1745	10.93 ± 1.10	1995	11.04±0.88	302	10.77 ± 1.60
TOPAMAX 200MG TAB			13	16.11 ± 0.24	301	15.93 ± 1.92	413	16.14 ± 1.30	74	15.99 ± 0.27
TOPAMAX 25MG TAB	225	4.52 ± 0.31	240	4.51 ± 1.13	1480	4.54 ± 0.83	2380	4.56 ± 0.66	518	4.59 ± 0.53
TOPAMAX 50MG TAB	103	6.52 ± 0.19	215	6.91 ± 0.85	1835	6.76 ± 0.96	2676	6.80 ± 0.81	587	6.77 ± 0.96

Table B 15 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2006 cont.

TOPAMAX SC SPRIN 15MG	58	3.41 ± 1.10	24	3.92 ± 0.55	17	3.79 ± 1.00	49	4.04 ± 0.19	11	3.96 ± 0.58
TOPAMAX SC SPRIN 25MG										
TOPAMAX SC SPRIN 50MG										
TOPLEP 100MG TAB										
TOPLEP 200MG TAB										
TOPLEP 25MG TAB										
TOPLEP 50MG TAB										
TRILEPTAL FCT 300MG	66	4.21 ± 0.21	139	4.07 ± 0.28	565	4.16 ± 0.44	714	4.10 ± 0.60	289	4.15 ± 0.66
TRILEPTAL FCT 600MG			52	7.50 ± 1.22	280	7.33 ± 0.63	305	7.34 ± 0.44	66	7.46 ± 0.23
ZARONTIN 250MG CAP	12	5.24 ± 0.07	18	5.26 ± 0.09	76	5.33 ± 0.36	56	5.67 ± 0.45	31	5.33 ± 0.18
ZARONTIN SYR	50	0.97 ± 0.06	16	1.0 0.06	21	0.93 ± 0.05	10	0.96 ± 0.05	6	0.94 ± 0.02

Table B 16 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2007

Medicine	2007									
	Age -1		Age - 2		Age - 3		Age - 4		Age - 5	
	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.	Frequency	Mean ±Std. dev.
ADCO-PHENOBARB VITAL	74	0.62 ± 0.08			7	0.61 ± 0.15	2	0.55 ± 0.05		
ADCO-TOPIRAMATE 100MG TABLET										
ADCO-TOPIRAMATE 200MG TABLET										
ADCO-TOPIRAMATE 25MG TABLET										
ADCO-TOPIRAMATE 50MG TABLET										
ARROW LAMOTRIGINE 100MG TABS										
ARROW LAMOTRIGINE 200MG TABS										
ARROW LAMOTRIGINE 25MG TABS										
ARROW LAMOTRIGINE 50MG TABS										
ASPEN LAMOTRIGINE 100MG	19	4.56 ± 0.46	65	4.73 ± 0.51	195	4.62 ± 0.58	263	4.33 ± 1.08	70	4.55 ± 0.46
ASPEN LAMOTRIGINE 200MG			16	7.49 ± 0.83	86	7.49 ± 1.69	100	7.41 ± 1.76	29	7.10 ± 1.62
ASPEN LAMOTRIGINE 25MG	8	2.07 ± 0.12	32	2.07 ± 0.22	52	2.06 ± 0.10	94	2.03 ± 0.33	51	2.01 ± 0.57
ASPEN LAMOTRIGINE 50MG	4	3.11 ± 0.05	33	3.13 ± 0.52	120	2.90 ± 0.32	243	2.93 ± 0.53	64	3.18 ± 0.23
AUSTELL-LAMOTRIGINE 100MG			1	5.19 ± 0.00	1	6.01 ± 0.00	1	5.20 ± 0.00	2	5.20 ± 0.00
AUSTELL-LAMOTRIGINE 200MG					3	8.29 ± 0.84			10	8.03 ± 0.12
AUSTELL-LAMOTRIGINE 25MG			1	2.25 ± 0.00	1	2.28 ± 0.00				
AUSTELL-LAMOTRIGINE 50MG					4	3.49 ± 0.00	1	3.49 ± 0.00		
CONVULEX 150MG CAP	87	2.18 ± 0.56	47	2.21 ± 0.37	144	2.23 ± 0.41	167	2.17 ± 0.41	113	2.24 ± 0.12
CONVULEX 300MG CAP	118	4.21 ± 0.95	87	4.26 ± 0.57	604	4.17 ± 0.39	1 207	4.11 ± 0.54	460	4.23 ± 0.74
CONVULEX 500MG CAP			56	6.85 ± 0.73	329	6.46 ± 0.97	513	6.54 ± 0.58	175	6.57 ± 0.60
CONVULEX 50MG/ML SYR	225	0.88 ± 0.06	17	0.91 ± 0.04	12	0.77 ± 0.00	4	0.91 ± 0.09		
CPL ALNCE CARBAMAZEPINE										
DEGRANOL 200MG TAB	47	1.44 ± 0.23	111	1.57 ± 0.27	1220	1.54 ± 0.32	3 820	1.54 ± 0.36	2 519	1.65 ± 0.36
DYNA-LAMOTRIGINE 100MG TAB										
DYNA-LAMOTRIGINE 200MG TAB										
DYNA-LAMOTRIGINE 25MG TAB										
DYNA-LAMOTRIGINE 50MG TAB										
EPANUTIN 100MG CAP	17	1.96 ± 0.08	120	1.87 ± 0.26	1 435	1.83 ± 0.36	5 162	1.86 ± 0.28	5 114	1.93 ± 0.18
EPANUTIN 125MG/5ML SUSP	44	0.86 ± 0.03	9	0.82 ± 0.03	13	0.82 ± 0.01	16	0.87 ± 0.10	30	0.84 ± 0.05
EPANUTIN 5ML 250MG INJ					1	209.81 ± 0.00				
EPANUTIN INFATAB 50MG	1	1.80 ± 0.00	1	1.72 ± 0.00	125	1.77 ± 0.32	240	1.81 ± 0.33	315	1.85 ± 0.14
EPANUTIN READY 5ML INJ			2	190.65 ± 0.78	1	200.33 ± 0.00	5	193.34 ± 6.59		
EPILIM 100MG CRUSH TAB	140	1.93 ± 0.19	7	2.78 ± 0.70	23	1.87 ± 0.21	20	2.21 ± 0.17	33	2.16 ± 0.17
EPILIM 200MG EC TAB										
EPILIM 200MG/5ML LIQ	1 729	0.64 ± 0.12	235	0.61 ± 0.12	123	0.62 ± 0.33	31	0.64 ± 0.05	164	0.62 ± 0.04
EPILIM CR 200MG TAB	680	2.71 ± 0.53	757	2.66 ± 0.56	2 392	2.72 ± 0.45	3 217	2.76 ± 0.44	2 175	2.83 ± 0.33
EPILIM CR 300MG TAB	530	4.07 ± 0.57	860	4.03 ± 0.58	2 581	3.98 ± 0.70	3 619	4.01 ± 0.75	1 933	4.12 ± 0.40
EPILIM CR 500MG TAB	110	6.56 ± 0.33	630	6.28 ± 1.12	3 520	6.28 ± 0.83	5 025	6.32 ± 0.65	1 954	6.47 ± 0.65

Table B 16 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2007 cont.

EPILIM IV 400MG INJ			1	253.34 ± 14.51						
EPITEC 100MG TAB	68	5.35 ± 0.31	305	5.18 ± 0.77	1 739	5.23 ± 0.92	2 342	5.27 ± 0.81	854	5.46 ± 0.411
EPITEC 200MG TAB	1	8.18 ± 0.00	84	8.06 ± 0.25	1 347	7.97 ± 1.53	1 663	8.25 ± 0.83	328	8.39 ± 0.48
EPITEC 25MG TAB	102	2.37 ± 0.26	92	2.46 ± 0.20	574	2.31 ± 0.59	726	2.43 ± 0.33	360	2.47 ± 0.41
EPITEC 50MG TAB	109	3.18 ± 0.85	196	3.32 ± 0.46	1 117	3.33 ± 0.71	1 617	3.44 ± 0.41	531	3.49 ± 0.45
EPLEPTIN 100MG CAP			2	1.28 ± 0.00	131	1.20 ± 0.44	516	1.24 ± 0.43	313	1.29 ± 0.20
EPLEPTIN 300MG CAP					106	2.80 ± 0.60	451	2.95 ± 0.41	451	2.98 ± 0.49
EPLEPTIN 400MG CAP			6	2.73 ± 0.14	46	2.76 ± 0.45	275	2.92 ± 0.29	124	2.88 ± 0.51
GARDENAL SOD 200MG/ML INJ										
KEPPRA 1000MG TABS										
KEPPRA 250MG TABS	124	5.08 ± 1.10	92	5.23 ± 0.43	546	5.10 ± 0.64	536	5.21 ± .064	205	5.29 ± 0.49
KEPPRA 500MG TABS					3	6.76 ± 5.86	1	10.04 ± 0.00		
KEPPRA 750MG TABS	21	15.35 ± 0.65	91	15.03 ± 0.83	380	14.86 ± 1.80	326	14.64 ± 1.92	106	14.89 ± 1.27
LAMEPTIL 100MG TAB					5	5.33 ± 0.21	4	2.63 ± 3.03	15	5.20 ± 0.36
LAMEPTIL 200MG TAB					4	8.18 ± 0.00				
LAMEPTIL 25MG TAB									2	2.49 ± 0.00
LAMEPTIL 50MG TAB							1	3.10 ± 0.00	2	3.81 ± 0.00
LAMICTIN 25MG TAB	282	2.37 ± 0.70	341	2.51 ± 0.52	1 257	2.43 ± 0.63	1 193	2.48 ± 0.53	397	2.54 ± 0.44
LAMICTIN 100MG TAB	247	5.83 ± 1.39	512	5.88 ± 1.37	3 393	5.88 ± 1.28	3 325	6.02 ± 0.96	797	6.25 ± 0.84
LAMICTIN 200MG TAB	4	10.67 ± 1.05	120	9.93 ± 0.99	2 035	9.79 ± 1.42	1 855	9.88 ± 1.40	278	9.89 ± 0.61
LAMICTIN 25 MONO STARTER PK							1	2.06 ± 0.00		
LAMICTIN 25 VP STARTER PK-ADD										
LAMICTIN 50MG TAB	349	3.48 ± 1.00	446	3.66 ± 0.74	1 983	3.57 ± 0.92	2 159	3.66 ± 0.82	579	3.74 ± 0.62
LAMICTIN P 100MG DISP TAB	55	6.40 ± 0.48	25	5.70 ± 0.00	14	7.13 ± 1.41	37	6.25 ± 1.19		
LAMICTIN P 200MG DISP TAB	4	9.93 ± 0.00			13	10.54 ± 0.15	11	9.93 ± 0.00		
LAMICTIN P 25MG DISP TAB	233	2.36 ± 0.65	50	2.51 ± 0.07	21	2.27 ± 0.78	3	2.75 ± 0.10		
LAMICTIN P 2MG DISP TAB	16	1.36 ± 0.07			1	1.76 ± 0.00				
LAMICTIN P 50MG DISP TAB	150	3.74 ± 0.52	47	3.61 ± 0.16	9	3.44 ± 0.09	19	3.62 ± 0.44		
LAMICTIN P 5MG DISP TAB	209	1.36 ± 0.47	35	1.41 ± 0.05	11	1.36 ± 0.45	8	1.58 ± 0.03	1	1.60 ± 0.00
LAMITOR-100	8	4.86 ± 0.16	107	4.52 ± 1.33	385	4.76 ± 0.85	597	4.79 ± 0.75	227	4.82 ± 0.87
LAMITOR-50			69	2.62 ± 0.97	238	3.03 ± 0.38	209	2.96 ± 0.42	81	3.00 ± 0.11
LAMITOR-25	5	2.34 ± 0.04	27	2.36 ± 0.07	53	2.25 ± 0.47	145	2.26 ± 0.63	65	2.31 ± 0.33
LETHYL 30MG TAB	248	0.13 ± 0.03	119	0.19 ± 0.13	420	0.14 ± 0.06	1 467	0.16 ± 0.09	1 153	0.19 ± 0.11
LYRICA 150MG CAP										
LYRICA 25MG CAP										
LYRICA 75MG CAP										
MERCK-LAMOTRIGINE 100MG TAB							2	5.28 ± 0.51	2	5.20 ± 0.00
MERCK-LAMOTRIGINE 200MG TAB							1	7.81 ± 0.00		
MERCK-LAMOTRIGINE 25MG TAB					3	2.35 ± 0.06	1	0.0 0.00		
MERCK-LAMOTRIGINE 50MG TAB					1	3.88 ± 0.00	7	3.28 ± 0.00	5	3.84 ± 0.18
MYSOLINE 250MG TAB					38	1.91 ± 0.71	151	1.98 ± 0.76	151	2.25 ± 0.41
NEUREXAL 100MG CAP					2	1.27 ± 0.07	13	1.17 ± 0.36	8	1.25 ± 0.07

Table B 16 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2007 cont.

NEUREXAL 300MG CAP					3	3.00 ± 0.22	5	2.84 ± 0.17	14	3.00 ± 0.18
NEUREXAL 400MG CAP							1	3.77 ± 0.00		
NEURONTIN 100MG CAP			25	1.74 ± 0.38	517	1.60 ± 0.65	2 247	1.74 ± 0.53	1 983	1.79 ± 0.48
NEURONTIN 300MG CAP	5	4.17 ± 0.32	9	4.41 ± 0.43	409	3.92 ± 1.13	1 755	4.09 ± 1.13	1 534	4.19 ± 1.09
NEURONTIN 400MG CAP			9	4.13 ± 0.27	188	3.89 ± 1.30	610	4.05 ± 0.93	627	4.19 ± 0.79
NEURONTIN 600MG TAB			2	7.71 ± 0.00	89	7.38 ± 1.79	186	7.16 ± 2.25	115	7.39 ± 1.63
NEURONTIN 800MG TAB					37	6.52 ± 3.47	35	8.14 ± 0.57	15	8.27 ± 0.48
NORSTAN-PHENYTOIN SOD 100MG T										
PHENYTOIN SOD 100MG TAB	2	0.37 ± 0.01	34	0.41 ± 0.02	159	0.42 ± 0.05	560	0.42 ± 0.10	457	0.51 ± 0.72
PIRAMAX 100MG TAB							2	7.51 ± 1.05		
PIRAMAX 200MG TAB									2	10.30 ± 0.00
PIRAMAX 25MG TAB					3	2.31 ± 0.16	2	2.42 ± 0.52		
RAN-GABAPENTIN 100MG CAP										
RAN-GABAPENTIN 300MG CAP										
RAN-GABAPENTIN 400MG CAP										
RIVOTRIL DRP	120	12.59 ± 2.43	54	12.23 ± 0.99	1	12.01 ± 0.00	6	8.44 ± 6.60		
RIVOTRIL 0.5MG TAB	77	1.37 ± 0.39	183	1.29 ± 0.31	2 446	1.29 ± 0.38	7 826	1.29 ± 0.43	5 059	1.36 ± 0.34
RIVOTRIL 1MG/ML INJ	2	34.38 ± 0.00	2	28.58 ± 1.86	1	28.12 ± 0.00	5	25.89 ± 5.07	1	27.41 ± 0.00
RIVOTRIL 2MG TAB	26	2.87 ± 0.24	54	3.02 ± 0.13	1 054	2.81 ± 0.80	3 246	2.98 ± 0.60	1 543	3.09 ± 0.53
SABRIL 500MG TAB	90	9.73 ± 0.51			20	9.59 ± 0.84				
SANDOZ CARBAMAZEPINE 200MG	1	0.80 ± 0.00	23	0.86 ± 0.09	115	0.83 ± 0.23	459	0.90 ± 0.19	215	0.91 ± 0.31
SANDOZ CARBAMAZEPINE CR 200MG	28	2.25 ± 0.67	37	2.42 ± 0.11	220	2.37 ± 0.33	492	2.31 ± 0.42	210	2.46 ± 0.34
SANDOZ CARBAMAZEPINE CR 400MG	1	4.03 ± 0.00	14	4.31 ± 0.38	166	4.07 ± 0.20	243	4.13 ± 0.57	101	4.26 ± 0.25
SANDOZ LAMOTRIGINE 100MG			9	5.67 ± 0.60	21	5.31 ± 0.70	3	4.94 ± 0.57	2	6.01 ± 0.93
SANDOZ LAMOTRIGINE 200MG					3	9.28 ± 0.00	22	8.73 ± 0.59		
SANDOZ LAMOTRIGINE 25MG			2	2.51 ± 0.00	8	2.48 ± 0.26	4	1.0 1.15	3	2.64 ± 0.12
SANDOZ LAMOTRIGINE 50MG			9	2.71 ± 1.07	5	3.53 ± 0.47	9	2.61 ± 1.51	16	3.24 ± 0.42
SANDOZ TOPIRAMATE 100MG TAB										
SANDOZ TOPIRAMATE 200MG TAB							1	11.74 ± 0.00	1	12.88 ± 0.00
SANDOZ TOPIRAMATE 25MG TAB										
SANDOZ TOPIRAMATE 50MG TAB					2	4.25 ± 0.00	1	4.19 ± 0.00		
SEDABARB 30MG TAB	31	0.07 ± 0.00	56	0.07 ± 0.00	84	0.07 ± 0.03	248	0.07 ± 0.02	51	0.08 ± 0.03
TEGRETOL 100MG/5ML SUSP	242	0.53 ± 0.12	100	0.54 ± 0.04	53	0.52 ± 0.04	15	0.65 ± 0.05	3	0.51 ± 0.04
TEGRETOL 200MG TAB	35	2.89 ± 0.27	137	2.83 ± 0.31	864	2.81 ± 0.52	2 335	2.79 ± 0.64	1 291	2.91 ± 0.62
TEGRETOL CR 200MG TAB	199	2.94 ± 0.71	543	2.89 ± 0.67	2 573	2.94 ± 0.67	4 663	3.01 ± 0.57	2 932	3.06 ± 0.63
TEGRETOL CR 400MG TAB	29	5.54 ± 0.21	378	5.23 ± 0.77	2 266	5.07 ± 1.10	3 610	5.23 ± 0.82	1 040	5.35 ± 0.62
TOPAMAX 100MG TAB	27	11.10 ± 0.23	80	11.12 ± 2.51	1 274	11.06 ± 2.36	1 617	11.34 ± 1.88	217	11.28 ± 1.94
TOPAMAX 200MG TAB			3	16.56 ± 0.00	245	16.46 ± 3.63	351	17.08 ± 1.15	64	16.29 ± 3.84
TOPAMAX 25MG TAB	163	4.60 ± 0.81	261	4.60 ± 1.18	1 305	4.46 ± 1.32	2 046	4.58 ± 1.14	359	4.82 ± 0.78
TOPAMAX 50MG TAB	90	6.90 ± 0.37	207	6.78 ± 1.63	1 422	6.69 ± 1.94	2 305	6.90 ± 1.52	460	6.99 ± 1.32
TOPAMAX SC SPRIN 15MG	79	3.66 ± 1.35	20	3.90 ± 0.51	30	3.89 ± 0.90	65	3.85 ± 1.15	16	3.90 ± 0.15
TOPAMAX SC SPRIN 25MG										

Table B 16 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2007 cont.

TOPAMAX SC SPRIN 50MG										
TOPLEP 100MG TAB			10	8.20 ± 0.67	176	8.29 ± 0.75	203	8.27 ± 0.45	40	8.30 ± 0.57
TOPLEP 200MG TAB					31	12.19 ± 0.31	52	11.95 ± 0.50	6	12.08 ± 0.08
TOPLEP 25MG TAB	11	2.98 ± 0.11	27	3.05 ± 0.18	161	2.99 ± 0.39	245	3.00 ± 0.49	58	3.12 ± 0.22
TOPLEP 50MG TAB	11	4.82 ± 0.13	32	4.99 ± 0.26	233	5.12 ± 0.53	270	5.16 ± 0.61	60	5.29 ± 0.34
TRILEPTAL FCT 300MG	22	4.32 ± 0.41	127	4.22 ± 0.32	530	4.12 ± 0.80	692	4.01 ± 1.14	201	4.02 ± 1.22
TRILEPTAL FCT 600MG			62	7.45 ± 1.81	205	7.30 ± 0.80	316	7.39 ± 1.55	37	7.52 ± 1.87
ZARONTIN 250MG CAP	2	5.67 ± 0.07	3	5.76 ± 0.33	6	6.67 ± 2.27	4	5.62 ± 0.19		
ZARONTIN SYR	56	1.01 ± 0.05	22	0.96 ± 0.09	39	0.97 ± 0.04	22	0.95 ± 0.03	15	0.97 ± 0.02

Table B 17 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2008

Medicine	2008									
	Age -1		Age - 2		Age - 3		Age – 4		Age - 5	
	Frequency	Mean ±Std dev	Frequency	Mean ±Std dev	Frequency	Mean ±Std dev	Frequency	Mean ±Std dev	Frequency	Mean ±Std dev
ADCO-PHENOBARB VITAL	39	0.61 ± 0.18	3	0.54 ± 0.19	1	0.65 ± 0.00	2	0.60 ± 0.00	1	0.80 ± 0.00
ADCO-TOPIRAMATE 100MG TABLET			2	7.51 ± 1.05			20	7.09 ± 0.20	2	6.76 ± 0.00
ADCO-TOPIRAMATE 200MG TABLET							1	10.30 ± 0.00		
ADCO-TOPIRAMATE 25MG TABLET			3	2.26 ± 0.00	19	2.28 ± 0.02	8	2.38 ± 0.16	2	2.31 ± 0.05
ADCO-TOPIRAMATE 50MG TABLET			1	5.11 ± 0.00	16	4.66 ± 0.36	11	4.32 ± 0.15		
ARROW LAMOTRIGINE 100MG TABS			1	5.50 ± 0.00	4	4.87 ± 0.76	15	4.64 ± 0.57	2	4.69 ± 0.00
ARROW LAMOTRIGINE 200MG TABS			2	7.60 ± 1.22	6	7.72 ± 0.99	27	6.63 ± 0.81		
ARROW LAMOTRIGINE 25MG TABS					3	2.41 ± 0.21	17	2.27 ± 0.12	1	2.16 ± 0.00
ARROW LAMOTRIGINE 50MG TABS			1	2.69 ± 0.00	10	2.86 ± 0.31	5	3.01 ± 0.41		
ASPEN LAMOTRIGINE 100MG	4	4.19 ± 0.09	14	9.16 ± 20.73	240	4.14 ± 0.39	402	4.12 ± 0.55	72	3.86 ± 0.96
ASPEN LAMOTRIGINE 200MG			4	6.69 ± 0.00	21	6.79 ± 0.41	23	6.88 ± 0.36	4	6.36 ± 0.19
ASPEN LAMOTRIGINE 25MG	13	2.37 ± 0.08	58	2.25 ± 0.44	67	2.06 ± 0.45	123	2.02 ± 0.40	31	2.25 ± 0.22
ASPEN LAMOTRIGINE 50MG	1	3.09 ± 0.00	25	3.24 ± 1.05	112	2.94 ± 0.72	234	3.06 ± 0.49	68	3.05 ± 0.58
AUSTELL-LAMOTRIGINE 100MG					6	5.57 ± 0.20	13	4.88 ± 0.49		
AUSTELL-LAMOTRIGINE 200MG					2	8.18 ± 0.00	10	8.71 ± 0.64	12	8.35 ± 0.25
AUSTELL-LAMOTRIGINE 25MG					2	2.28 ± 0.00	1	2.19 ± 0.00	2	2.35 ± 0.00
AUSTELL-LAMOTRIGINE 50MG					7	3.25 ± 0.12	3	3.50 ± 0.15		
CONVULEX 150MG CAP	65	2.38 ± 0.34	36	2.41 ± 0.17	154	2.26 ± 0.47	164	2.29 ± 0.31	86	2.27 ± 0.27
CONVULEX 300MG CAP	90	4.59 ± 0.56	54	4.41 ± 0.72	483	4.34 ± 0.36	958	4.19 ± 0.72	355	4.37 ± 0.86
CONVULEX 500MG CAP	7	7.23 ± 0.40	38	7.22 ± 0.73	256	6.66 ± 0.91	431	6.76 ± 0.37	172	6.69 ± 0.61
CONVULEX 50MG/ML SYR	167	0.89 ± 0.09	15	0.94 ± 0.06	13	0.85 ± 0.09	2	0.89 ± 0.10		
CPL ALNCE CARBAMAZEPINE					1	0.79 ± 0.00				
DEGRANOL 200MG TAB	16	1.40 ± 0.43	70	1.56 ± 0.38	974	1.57 ± 0.40	3363	1.58 ± 0.41	2 254	1.70 ± 0.39
DYNA-LAMOTRIGINE 100MG TAB					15	4.26 ± 0.23	19	4.47 ± 0.32	2	4.10 ± 0.16
DYNA-LAMOTRIGINE 200MG TAB					16	6.03 ± 0.24	12	6.35 ± 0.27		
DYNA-LAMOTRIGINE 25MG TAB							7	2.21 ± 0.08		
DYNA-LAMOTRIGINE 50MG TAB							6	2.63 ± 0.00	3	2.63 ± 0.00
EPANUTIN 100MG CAP	12	1.64 ± 0.69	43	1.78 ± 0.51	861	1.80 ± 0.43	3 452	1.87 ± 0.36	3 991	1.99 ± 0.26
EPANUTIN 125MG/5ML SUSP	31	0.85 ± 0.03	12	0.83 ± 0.04	15	0.85 ± 0.03	9	0.83 ± 0.01	23	0.85 ± 0.04
EPANUTIN 5ML 250MG INJ							1	197.64 ± 0.00	1	17.24 ± 0.00
EPANUTIN INFATAB 50MG	8	1.88 ± 0.04	3	1.90 ± 0.03	79	1.68 ± 0.40	163	1.94 ± 0.28	324	1.90 ± 0.15
EPANUTIN READY 5ML INJ					1	9.47 ± 0.00				
EPILIM 100MG CRUSH TAB	125	2.06 ± 0.17	25	1.91 ± 0.10	38	2.01 ± 0.19	32	2.22 ± 0.44	18	2.17 ± 0.21
EPILIM 200MG EC TAB										
EPILIM 200MG/5ML LIQ	1 411	0.65 ± 0.12	283	0.61 ± 0.15	149	0.63 ± 0.05	46	0.67 ± 0.12	110	0.66 ± 0.08
EPILIM 500MG EC TAB										
EPILIM CR 200MG TAB	521	2.73 ± 0.59	648	2.78 ± 0.50	2213	2.79 ± 0.48	3 179	2.83 ± 0.46	2 285	2.91 ± 0.44
EPILIM CR 300MG TAB	452	4.17 ± 0.74	800	4.09 ± 0.63	2560	4.06 ± 0.71	3 607	4.09 ± 0.65	2 049	4.25 ± 0.57
EPILIM CR 500MG TAB	102	6.66 ± 0.83	547	6.66 ± 0.53	3304	6.48 ± 0.90	5 225	6.53 ± 0.62	2 093	6.68 ± 0.70

Table B 17 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2008 cont.

EPILIM IV 400MG INJ					2	266.10 ± 7.29				
EPITEC 100MG TAB	72	5.23 ± 0.73	338	5.19 ± 0.63	1912	5.14 ± 1.03	2 690	5.26 ± 0.77	890	5.36 ± 0.67
EPITEC 200MG TAB			79	7.88 ± 1.87	1562	8.37 ± 0.95	1 897	8.36 ± 1.04	394	8.62 ± 0.48
EPITEC 25MG TAB	83	2.31 ± 0.28	139	2.32 ± 0.45	462	2.28 ± 0.55	748	2.36 ± 0.35	328	2.40 ± 0.36
EPITEC 50MG TAB	116	3.41 ± 0.49	239	3.24 ± 0.90	1325	3.44 ± 0.66	1 517	3.48 ± 0.48	544	3.49 ± 0.85
EPLEPTIN 100MG CAP	3	117.12 ± 200.63	5	1.30 ± 0.07	145	1.23 ± 0.30	812	1.22 ± 0.33	694	1.29 ± 0.27
EPLEPTIN 300MG CAP			5	3.10 ± 0.17	141	2.85 ± 0.63	811	2.80 ± 0.76	654	2.93 ± 0.66
EPLEPTIN 400MG CAP			2	3.12 ± 0.31	112	2.91 ± 0.18	385	2.90 ± 0.63	242	2.92 ± 0.64
GARDENAL SOD 200MG/ML INJ										
KEPPRA 1000MG TABS										
KEPPRA 250MG TABS	104	4.98 ± 1.04	103	5.11 ± 1.14	554	5.12 ± 0.53	467	5.17 ± 0.75	279	5.24 ± 0.35
KEPPRA 500MG TABS										
KEPPRA 750MG TABS	34	15.34 ± 0.31	112	15.00 ± 0.78	467	14.56 ± 2.32	344	14.38 ± 2.25	126	14.77 ± 2.84
LAMEPTIL 100MG TAB					21	5.47 ± 0.40	44	5.42 ± 0.49	24	5.49 ± 0.51
LAMEPTIL 200MG TAB					13	7.57 ± 2.09	17	8.59 ± 2.31		
LAMEPTIL 25MG TAB	1	0.00			5	2.30 ± 0.15	3	2.50 ± 0.12	3	2.54 ± 0.09
LAMEPTIL 50MG TAB	1	3.19 ± 0.00			3	3.55 ± 0.31	19	3.40 ± 0.39	2	3.94 ± 0.18
LAMICTIN 25MG TAB	162	2.36 ± 0.59	285	2.38 ± 0.63	992	2.42 ± 0.57	977	2.39 ± 0.60	392	2.55 ± 0.37
LAMICTIN 100MG TAB	172	5.92 ± 1.03	415	5.52 ± 1.62	3232	5.84 ± 1.14	2 984	5.90 ± 1.00	842	6.04 ± 0.97
LAMICTIN 200MG TAB			83	8.91 ± 2.95	1717	9.71 ± 1.09	1 810	9.75 ± 1.22	252	9.81 ± 0.54
LAMICTIN 25 MONO STARTER PK					1	2.40 ± 0.00				
LAMICTIN 25 VP STARTER PK-ADD										
LAMICTIN 50MG TAB	212	3.41 ± 0.98	399	3.51 ± 0.86	1831	3.59 ± 0.82	1 961	3.64 ± 0.71	616	3.71 ± 0.63
LAMICTIN P 100MG DISP TAB	61	6.26 ± 0.36	8	5.77 ± 0.17	10	6.45 ± 0.41	26	6.26 ± 0.68		
LAMICTIN P 200MG DISP TAB	19	9.85 ± 0.10			12	10.50 ± 0.00	11	9.88 ± 0.15		
LAMICTIN P 25MG DISP TAB	179	2.47 ± 0.36	32	2.55 ± 0.05	3	2.67 ± 0.38	3	2.59 ± 0.10	3	2.62 ± 0.24
LAMICTIN P 2MG DISP TAB	1	1.33 ± 0.00								
LAMICTIN P 50MG DISP TAB	132	3.39 ± 1.06	42	3.66 ± 0.18	11	3.57 ± 0.22	18	3.79 ± 0.42		
LAMICTIN P 5MG DISP TAB	181	1.41 ± 0.38	24	1.38 ± 0.13	5	1.51 ± 0.02	4	1.51 ± 0.09	1	1.60 ± 0.00
LAMITOR-100	1	4.03 ± 0.00	86	4.69 ± 0.48	364	4.63 ± 0.69	537	4.65 ± 0.64	206	4.78 ± 0.94
LAMITOR-50	4	3.03 ± 0.03	33	3.04 ± 0.19	181	3.13 ± 0.20	248	3.03 ± 0.40	120	3.15 ± 0.18
LAMITOR-25			8	2.13 ± 0.09	39	2.03 ± 0.47	108	2.19 ± 0.34	63	2.16 ± 0.27
LETHYL 30MG TAB	197	0.18 ± 0.18	89	0.15 ± 0.07	361	0.16 ± 0.08	1 182	0.16 ± 0.07	1 021	0.18 ± 0.12
LYRICA 150MG CAP			7	8.77 ± 0.53	187	8.49 ± 1.74	1 246	8.52 ± 1.77	884	8.67 ± 1.34
LYRICA 25MG CAP			2	2.82 ± 0.10	104	2.53 ± 0.66	374	2.60 ± 0.54	489	2.74 ± 0.37
LYRICA 75MG CAP		±	14	6.19 ± 0.45	500	5.86 ± 1.67	3 244	5.93 ± 1.49	3196	6.16 ± 1.09
MERCK-LAMOTRIGINE 100MG TAB					1	6.02 ± 0.00	3	5.41 ± 0.00		
MERCK-LAMOTRIGINE 200MG TAB					1	7.96 ± 0.00				
MERCK-LAMOTRIGINE 25MG TAB							2	3.06 ± 0.32		
MERCK-LAMOTRIGINE 50MG TAB							2	3.06 ± 0.32		
MYSOLINE 250MG TAB					35	2.29 ± 0.44	176	2.19 ± 0.59	143	2.50 ± 0.38
NEUREXAL 100MG CAP	1	1.25 ± 0.00	2	1.25 ± 0.00	28	1.10 ± 0.39	89	1.20 ± 0.32	127	1.27 ± 0.29

Table B 17 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2008 cont.

NEUREXAL 300MG CAP					26	2.68 ± 0.60	106	2.57 ± 1.04	154	2.80 ± 0.67
NEUREXAL 400MG CAP							47	2.82 ± 0.65	44	2.38 ± 1.18
NEURONTIN 100MG CAP	1	2.27 ± 0.00	6	1.59 ± 0.79	257	1.66 ± 0.65	1 336	1.73 ± 0.58	1 330	1.81 ± 0.54
NEURONTIN 300MG CAP	2	4.93 ± 0.17	4	4.66 ± 0.19	233	3.87 ± 1.30	1 081	4.10 ± 1.22	992	4.29 ± 1.13
NEURONTIN 400MG CAP					85	4.23 ± 0.76	364	4.09 ± 1.16	311	4.39 ± 0.86
NEURONTIN 600MG TAB					84	8.00 ± 0.55	112	7.58 ± 1.56	73	7.51 ± 1.47
NEURONTIN 800MG TAB					28	8.38 ± 0.31	36	8.32 ± 1.53	17	6.92 ± 3.31
NORSTAN-PHENYTOIN SOD 100MG T										
PHENYTOIN SOD 100MG TAB	3	0.42 ± 0.03	45	0.53 ± 0.12	426	0.47 ± 0.10	1 439	0.49 ± 0.12	1 114	0.51 ± 0.15
PIRAMAX 100MG TAB			1	7.67 ± 0.00	64	7.49 ± 0.79	108	7.47 ± 0.78	7	7.69 ± 0.49
PIRAMAX 200MG TAB					34	10.67 ± 0.46	9	10.90 ± 0.32	6	11.12 ± 0.25
PIRAMAX 25MG TAB	1	2.49 ± 0.00	8	2.55 ± 0.42	97	2.14 ± 0.82	149	2.24 ± 0.65	24	2.47 ± 0.17
RAN-GABAPENTIN 100MG CAP							2	1.26 ± 0.11	1	1.34 ± 0.00
RAN-GABAPENTIN 300MG CAP							1	3.04 ± 0.00		
RAN-GABAPENTIN 400MG CAP							1	2.90 ± 0.00	1	3.06 ± 0.00
RIVOTRIL DRP	110	12.84 ± 2.35	36	12.41 ± 0.85	4	13.43 ± 1.60	5	13.31 ± 0.78	1	13.57 ± 0.00
RIVOTRIL 0.5MG TAB	79	1.47 ± 0.28	133	1.33 ± 0.29	2025	1.32 ± 0.38	6 841	1.31 ± 0.44	5 034	1.41 ± 0.35
RIVOTRIL 1MG/ML INJ	1	33.91 ± 0.00			2	12.65 ± 17.88	8	27.16 ± 1.34	2	31.20 ± 4.63
RIVOTRIL 2MG TAB	9	2.95 ± 0.26	41	3.04 ± 0.11	989	2.91 ± 0.81	2 958	3.07 ± 0.63	1 652	3.20 ± 0.57
SABRIL 500MG TAB	49	10.08 ± 0.94			5	10.44 ± 0.02				
SANDOZ CARBAMAZEPINE 200MG	5	1.33 ± 0.22	40	0.96 ± 0.12	243	0.95 ± 0.15	808	0.97 ± 0.21	496	1.10 ± 0.49
SANDOZ CARBAMAZEPINE CR 200MG	26	2.36 ± 0.18	60	2.36 ± 0.34	323	2.38 ± 0.32	753	2.43 ± 0.26	278	2.50 ± 0.19
SANDOZ CARBAMAZEPINE CR 400MG			24	4.19 ± 0.25	276	4.21 ± 0.27	390	4.13 ± 0.82	137	4.30 ± 0.30
SANDOZ LAMOTRIGINE 100MG					59	4.66 ± 0.78	69	4.91 ± 0.61	14	4.38 ± 1.39
SANDOZ LAMOTRIGINE 200MG			9	8.13 ± 0.32	16	8.12 ± 0.52	85	7.81 ± 1.07	4	8.08 ± 0.45
SANDOZ LAMOTRIGINE 25MG	6	1.99 ± 0.30			12	2.03 ± 0.20	43	2.05 ± 0.21	9	1.78 ± 0.69
SANDOZ LAMOTRIGINE 50MG	7	3.04 ± 0.47	2	2.98 ± 0.46	12	2.80 ± 0.32	84	3.02 ± 0.45	18	2.99 ± 0.45
SANDOZ TOPIRAMATE 100MG TAB			2	9.37 ± 0.00	44	7.76 ± 0.78	59	7.92 ± 1.31	10	8.33 ± 0.58
SANDOZ TOPIRAMATE 200MG TAB					1	12.23 ± 0.00	8	9.72 ± 3.54	18	11.76 ± 2.61
SANDOZ TOPIRAMATE 25MG TAB			7	2.96 ± 0.10	39	2.71 ± 0.80	84	2.98 ± 0.73	18	2.57 ± 1.17
SANDOZ TOPIRAMATE 50MG TAB	7	4.08 ± 0.29	21	2.51 ± 2.26	71	4.31 ± 0.81	125	4.32 ± 0.95	17	4.55 ± 0.30
SEDABARB 30MG TAB	24	0.07 ± 0.02	40	0.07 ± 0.01	62	0.07 ± 0.01	247	0.07 ± 0.01	47	0.09 ± 0.04
TEGRETOL 100MG/5ML SUSP	193	0.51 ± 0.16	63	0.54 ± 0.04	69	0.51 ± 0.03	16	0.60 ± 0.18	1	0.61 ± 0.00
TEGRETOL 200MG TAB	15	2.74 ± 0.80	60	2.75 ± 0.41	495	2.80 ± 0.55	1 558	2.79 ± 0.68	1 037	2.92 ± 0.69
TEGRETOL CR 200MG TAB	233	3.06 ± 0.57	323	3.02 ± 0.33	1917	2.99 ± 0.59	3 662	3.03 ± 0.56	2 654	3.11 ± 0.66
TEGRETOL CR 400MG TAB	64	5.48 ± 0.23	333	5.25 ± 0.75	1822	5.21 ± 0.90	3 214	5.23 ± 0.87	866	5.41 ± 0.75
TOPAMAX 100MG TAB	27	11.52 ± 0.49	40	11.66 ± 0.41	807	11.22 ± 2.36	938	11.45 ± 2.25	196	11.74 ± 1.22
TOPAMAX 200MG TAB			12	17.08 ± 0.55	141	17.88 ± 3.06	167	17.11 ± 1.69	17	17.95 ± 2.96
TOPAMAX 25MG TAB	91	4.56 ± 0.95	152	4.47 ± 1.14	911	4.45 ± 1.46	1 101	4.58 ± 1.24	257	4.74 ± 1.07
TOPAMAX 50MG TAB	77	7.06 ± 1.06	97	7.11 ± 0.70	902	6.54 ± 2.34	1 352	7.05 ± 1.63	360	7.21 ± 1.37

Table B 17 : Cost per tablet of anti-epileptic medicine according to different age groups for the year 2008 cont.

TOPAMAX SC SPRIN 15MG	86	3.51 ± 1.36	22	3.50 ± 0.92	44	3.89 ± 0.94	61	3.87 ± 0.95	31	4.15 ± 0.44
TOPAMAX SC SPRIN 25MG			3	3.63 ± 0.19	5	3.69 ± 0.30	13	3.34 ± 1.00	1	3.69 ± 0.00
TOPAMAX SC SPRIN 50MG			2	5.68 ± 0.35	20	5.60 ± 0.40	10	5.72 ± 0.36	1	5.42 ± 0.00
TOPLEP 100MG TAB	11	8.69 ± 0.21	37	8.62 ± 0.48	426	8.39 ± 1.35	648	8.29 ± 1.63	50	8.65 ± 0.36
TOPLEP 200MG TAB	7	12.02 ± 0.36	3	11.74 ± 0.00	110	12.39 ± 0.70	158	12.20 ± 0.66		
TOPLEP 25MG TAB	24	2.78 ± 0.86	54	2.71 ± 0.79	406	2.97 ± 0.55	715	2.97 ± 0.61	202	3.13 ± 0.24
TOPLEP 50MG TAB	11	4.73 ± 0.16	68	4.45 ± 1.49	575	4.85 ± 0.86	758	4.78 ± 1.03	215	4.74 ± 0.93
TRILEPTAL FCT 300MG	43	3.57 ± 1.38	72	4.35 ± 0.30	420	4.30 ± 0.51	630	4.25 ± 0.80	228	4.34 ± 0.89
TRILEPTAL FCT 600MG			71	7.82 ± 0.44	195	7.54 ± 0.35	310	7.57 ± 1.21	36	7.21 ± 2.69
ZARONTIN 250MG CAP										
ZARONTIN SYR	57	1.02 ± 0.05	21	0.97 ± 0.03	32	0.99 ± 0.04	14	0.89 ± 0.26	11	1.01 ± 0.03

Table B 18 : Average cost per yearly treatment for anti-epileptic medicine for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	30 284	Final prescription cost	1267.35 ± 2336.79	38 380 575.35
		Final scheme amount	1132.81 ± 2153.22	34 305 875.17
		Final levy	134.55 ± 407.12	4 074 700.18
2006	32 367	Final prescription cost	1237.40 ± 2254.69	40 051 071.67
		Final scheme amount	1091.48 ± 2054.27	35 327 948.62
		Final levy	145.92 ± 434.69	4 723 123.05
2007	28 961	Final prescription cost	1330.12 ± 2431.19	38 521 744.48
		Final scheme amount	1148.60 ± 2186.75	33 264 475.73
		Final levy	181.53 ± 509.02	5 257 268.75
2008	28 459	Final prescription cost	1362.35 ± 2403.44	38 771 102.86
		Final scheme amount	1139.55 ± 2149.10	32 430 454.42
		Final levy	222.80 ± 530.31	6 340 648.44

Table B 19 : Average cost per yearly treatment for anti-epileptic medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	12 308	Final prescription cost	1324.50 ± 2490.94	16 301 986.78
		Final scheme amount	1201.60 ± 2311.54	14 789 255.35
		Final levy	122.91 ± 393.54	1 512 731.43
2006	12 862	Final prescription cost	1302.57 ± 2394.22	16 753 592.77
		Final scheme amount	1168.88 ± 2200.37	15 034 160.90
		Final levy	133.68 ± 409.85	1 719 431.87
2007	11 349	Final prescription cost	1411.63 ± 2543.47	16 020 615.78
		Final scheme amount	1241.45 ± 2329.13	14 089 254.32
		Final levy	170.18 ± 470.94	1 931 361.46
2008	11 032	Final prescription cost	1444.15 ± 2574.11	15 931 815.66
		Final scheme amount	1233.63 ± 2331.46	13 609 368.19
		Final levy	210.52 ± 516.95	2 322 447.47

Table B 2 : Average total cost of anti-epileptic medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	72 443	Final prescription cost	225.03 ± 173.83	16 301 986.78
		Final scheme amount	204.15 ± 168.00	14 789 255.35
		Final levy	20.88 ± 59.00	1 512 731.43
2006	78 563	Final prescription cost	213.25 ± 165.70	16 753 592.77
		Final scheme amount	191.36 ± 159.65	15 034 160.90
		Final levy	21.89 ± 58.83	1 719 431.87
2007	73 319	Final prescription cost	218.51 ± 171.01	16 020 615.78
		Final scheme amount	192.16 ± 162.52	14 089 254.32
		Final levy	26.34 ± 65.45	1 931 361.46
2008	70 676	Final prescription cost	225.42 ± 177.20	15 931 815.66
		Final scheme amount	192.56 ± 167.41	1 36 093 68.19
		Final levy	32.86 ± 72.71	2 322 447.47

Table B 20 : Average cost per yearly treatment for anti-epileptic medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	17 946	Final prescription cost	1228.39 ± 2224.24	22 044 738.13
		Final scheme amount	1085.72 ± 2036.26	19 484 323.01
		Final levy	142.67 ± 416.24	2 560 415.12
2006	19 482	Final prescription cost	1193.66 ± 2155.04	23 254 898.70
		Final scheme amount	1039.54 ± 1948.33	20 252 335.79
		Final levy	154.12 ± 450.37	3 002 562.91
2007	17 603	Final prescription cost	1276.83 ± 2354.08	22 476 108.03
		Final scheme amount	1088.02 ± 2087.22	19 152 332.26
		Final levy	188.82 ± 532.08	3 323 775.77
2008	17 427	Final prescription cost	1310.57 ± 2287.40	22 839 287.20
		Final scheme amount	1080.00 ± 2023.00	18 821 086.23
		Final levy	230.57 ± 538.46	4 018 200.97

Table B 21 : Average cost per yearly treatment for anti-epileptic medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)	Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)
2005	1	1 418	Final prescription cost	1092.56 ± 1945.82	1549252.28	2007	1	1 100	Final prescription cost	1368.29 ± 2140.10	1505115.53
			Final scheme amount	1029.46 ± 1847.36	1459770.52				Final scheme amount	1259.53 ± 1956.43	1385480.34
			Final levy	63.10 ± 239.32	89481.76				Final levy	108.76 ± 369.01	119635.19
	2	1 299	Final prescription cost	1509.03 ± 2692.86	1960226.75		2	1 115	Final prescription cost	1681.00 ± 2895.42	1874312.53
			Final scheme amount	1398.51 ± 2530.78	1816660.13				Final scheme amount	1523.53 ± 2717.11	1698731.59
			Final levy	110.52 ± 359.72	143566.62				Final levy	157.47 ± 366.03	175580.94
	3	7 855	Final prescription cost	1475.01 ± 2724.42	11586198.39		3	7 081	Final prescription cost	1559.73 ± 2796.27	11044425.61
			Final scheme amount	1330.04 ± 2520.38	10447453.21				Final scheme amount	1358.37 ± 2542.31	9618639.55
			Final levy	144.97 ± 448.83	1138745.18				Final levy	201.35 ± 513.11	1425786.06
	4	13 508	Final prescription cost	1219.08 ± 2309.81	16467386.82		4	13 195	Final prescription cost	1270.62 ± 2408.45	16765885.03
			Final scheme amount	1087.13 ± 2114.96	14684950.38				Final scheme amount	1094.21 ± 2128.99	14438051.04
			Final levy	131.95 ± 427.03	1782436.44				Final levy	176.42 ± 565.07	2327833.99
	5	6 204	Final prescription cost	1098.89 ± 1775.77	6817511.11		5	6 470	Final prescription cost	1133.23 ± 1930.05	7332005.78
			Final scheme amount	950.52 ± 1620.96	5897040.93				Final scheme amount	946.46 ± 1745.22	6123573.21
			Final levy	148.37 ± 339.44	920470.18				Final levy	186.77 ± 415.71	1208432.57
2006	1	1 436	Final prescription cost	1139.86 ± 1869.99	1636843.63	2008	1	831	Final prescription cost	1516.96 ± 2383.42	1260589.85
			Final scheme amount	1068.18 ± 1782.89	1533912.05				Final scheme amount	1372.85 ± 2125.60	1140834.46
			Final levy	71.68 ± 223.41	102931.58				Final levy	144.11 ± 442.31	119755.39
	2	1 341	Final prescription cost	1432.73 ± 2425.43	1921297.15		2	948	Final prescription cost	1765.19 ± 3015.25	1673399.94
			Final scheme amount	1335.39 ± 2321.38	1790760.98				Final scheme amount	1559.08 ± 2731.10	1478003.11
			Final levy	97.34 ± 285.61	130536.17				Final levy	206.11 ± 591.32	195396.83
	3	8 336	Final prescription cost	1426.99 ± 2686.28	11895360.37		3	6 048	Final prescription cost	1740.26 ± 2998.91	10525075.80
			Final scheme amount	1278.85 ± 2467.88	10660476.19				Final scheme amount	1495.29 ± 2711.65	9043514.12
			Final levy	148.14 ± 471.84	1234884.18				Final levy	244.97 ± 568.04	1481561.68
	4	14 511	Final prescription cost	1183.90 ± 2180.64	17179524.29		4	13 374	Final prescription cost	1278.47 ± 2309.35	17098323.19
			Final scheme amount	1039.34 ± 1965.44	15081830.20				Final scheme amount	1066.22 ± 2054.97	14259590.73
			Final levy	144.56 ± 447.63	2097694.09				Final levy	212.26 ± 537.15	2838732.46
	5	6 743	Final prescription cost	1100.11 ± 1804.69	7418046.23		5	7 258	Final prescription cost	1131.68 ± 1812.60	8213714.08
			Final scheme amount	928.51 ± 1606.31	6260969.20				Final scheme amount	896.74 ± 1584.06	6508512.00
			Final levy	171.60 ± 414.13	1157077.03				Final levy	234.94 ± 482.42	1705202.08

Table B 22: Average number of medicine items per prescription for anti-epileptic medicine for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	139 297	1.26 ± 0.59	174 942
2006	153 202	1.26 ± 0.60	193 369
2007	143 821	1.27 ± 0.61	182 833
2008	141 261	1.27 ± 0.60	179 544

Table B 23: Average number of medicine items per prescription for anti-epileptic medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	56 834	1.27 ± 0.61	72 443
2006	61 315	1.28 ± 0.61	78 563
2007	56 829	1.29 ± 0.63	73 319
2008	55 002	1.28 ± 0.62	70 676

Table B 24: Average number of medicine items per prescription for anti-epileptic medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	82 360	1.24 ± 0.57	102 362
2006	91 798	1.25 ± 0.58	114 639
2007	86 934	1.26 ± 0.59	109 415
2008	86 259	1.26 ± 0.59	108 868

Table B 25: Average number of medicine items per prescription for anti-epileptic medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	1	6 014	1.27 ± 0.62	7 657
	2	6 035	1.34 ± 0.71	8 093
	3	32 591	1.35 ± 0.67	44 111
	4	59 962	1.26 ± 0.60	75 378
	5	34 695	1.14 ± 0.41	39 703
2006	1	6 778	1.25 ± 0.60	8 490
	2	6 486	1.37 ± 0.71	8 885
	3	35 641	1.37 ± 0.69	48 804
	4	65 965	1.26 ± 0.59	83 202
	5	38 332	1.15 ± 0.44	43 988
2007	1	5 885	1.26 ± 0.61	7 429
	2	5 942	1.41 ± 0.76	8 388
	3	33 259	1.38 ± 0.70	45 831
	4	62 415	1.26 ± 0.60	78 862
	5	36 320	1.17 ± 0.45	42 323
2008	1	4 654	1.30 ± 0.67	6 069
	2	5 048	1.42 ± 0.72	7 152
	3	30 558	1.40 ± 0.72	42 801
	4	62 451	1.27 ± 0.60	79 032
	5	38 550	1.15 ± 0.44	44 490

Table B 26: Average number of prescriptions per patient for anti-epileptic medicine for study period 2005 to 2008

Year	Frequency (N)	Average number of medicine items per prescription	Total number of medicine items
2005	30 284	4.60 ± 4.64	139 297
2006	32 367	4.73 ± 4.73	153 202
2007	28 961	4.97 ± 4.83	143 821
2008	28 459	4.96 ± 4.83	141 261

Table B 3 : Average cost of anti-epileptic medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	102 362	Final prescription cost	215.36 ± 163.33	22 044 738.13
		Final scheme amount	190.35 ± 156.88	19 484 323.01
		Final levy	25.01 ± 63.38	2 560 415.12
2006	114 639	Final prescription cost	202.85 ± 154.76	23 254 898.70
		Final scheme amount	176.66 ± 147.96	20 252 335.79
		Final levy	26.19 ± 64.98	3 002 562.91
2007	109 415	Final prescription cost	205.42 ± 160.49	22 476 108.03
		Final scheme amount	175.04 ± 150.71	19 152 332.26
		Final levy	30.38 ± 66.47	3 323 775.77
2008	108 868	Final prescription cost	209.79 ± 161.45	22 839 287.20
		Final scheme amount	172.88 ± 149.90	18 821 086.23
		Final levy	36.91 ± 73.73	4 018 200.97

Table B 4 : Average cost of anti-epileptic medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)	Year	Age	Frequency	Variable	Mean ± Std dev.	Total Cost (R)
2005	1	7 657	Final prescription cost	202.33 ± 116.52	1549252.28	2007	1	7 429	Final prescription cost	202.60 ± 127.75	1505115.53
			Final scheme amount	190.65 ± 113.65	1459770.52				Final scheme amount	186.50 ± 118.06	1385480.34
			Final levy	11.69 ± 39.16	89481.76				Final levy	16.10 ± 46.50	119635.19
	2	8 093	Final prescription cost	242.21 ± 149.06	1960226.75		2	8 388	Final prescription cost	223.45 ± 149.60	1874312.53
			Final scheme amount	224.47 ± 145.46	1816660.13				Final scheme amount	202.52 ± 145.87	1698731.59
			Final levy	17.74 ± 50.35	143566.62				Final levy	20.93 ± 47.50	175580.94
	3	44 111	Final prescription cost	262.66 ± 188.11	11586198.39		3	45 831	Final prescription cost	240.98 ± 177.51	11044425.61
			Final scheme amount	236.84 ± 183.49	10447453.21				Final scheme amount	209.87 ± 169.57	9618639.55
			Final levy	25.82 ± 71.34	1138745.18				Final levy	31.11 ± 72.60	1425786.06
	4	75 378	Final prescription cost	218.46 ± 169.50	16467386.82		4	78 862	Final prescription cost	212.60 ± 170.11	16765885.03
			Final scheme amount	194.82 ± 162.69	14684950.38				Final scheme amount	183.08 ± 160.20	14438051.04
			Final levy	23.65 ± 63.27	1782436.44				Final levy	29.52 ± 67.74	2327833.99
	5	39 703	Final prescription cost	171.71 ± 136.18	6817511.11		5	42 323	Final prescription cost	173.24 ± 140.25	7332005.78
			Final scheme amount	148.53 ± 128.36	5897040.93				Final scheme amount	144.69 ± 129.89	6123573.21
			Final levy	23.18 ± 51.26	920470.18				Final levy	28.55 ± 61.09	1208432.57
2006	1	8 490	Final prescription cost	192.80 ± 108.70	1636843.63	2008	1	6 069	Final prescription cost	207.71 ± 133.85	1260589.85
			Final scheme amount	180.67 ± 107.56	1533912.05				Final scheme amount	187.98 ± 125.41	1140834.46
			Final levy	12.12 ± 35.39	102931.58				Final levy	19.73 ± 51.35	119755.39
	2	8 885	Final prescription cost	216.24 ± 136.88	1921297.15		2	7 152	Final prescription cost	233.98 ± 167.21	1673399.94
			Final scheme amount	201.55 ± 136.23	1790760.98				Final scheme amount	206.66 ± 157.91	1478003.11
			Final levy	14.69 ± 41.91	130536.17				Final levy	27.32 ± 62.49	195396.83
	3	48 804	Final prescription cost	243.74 ± 180.31	11895360.37		3	42 801	Final prescription cost	245.91 ± 181.26	10525075.80
			Final scheme amount	218.43 ± 174.49	10660476.19				Final scheme amount	211.29 ± 171.22	9043514.12
			Final levy	25.30 ± 68.12	1234884.18				Final levy	34.62 ± 70.07	1481561.68
	4	83 202	Final prescription cost	206.48 ± 159.91	17179524.29		4	79 032	Final prescription cost	216.35 ± 170.91	17098323.19
			Final scheme amount	181.27 ± 153.36	15081830.2				Final scheme amount	180.43 ± 160.33	14259590.73
			Final levy	25.21 ± 64.12	2097694.09				Final levy	35.92 ± 76.15	2838732.46
	5	43 988	Final prescription cost	168.64 ± 134.47	7418046.23		5	44 490	Final prescription cost	184.62 ± 146.86	8213714.08
			Final scheme amount	142.33 ± 124.47	6260969.20				Final scheme amount	146.29 ± 132.91	6508512.00
			Final levy	26.30 ± 60.29	1157077.03				Final levy	38.33 ± 75.17	1705202.08

Table B 5 : Average cost of anti-epileptic medicine according to different prescribers for study period 2005 to 2008

Year	Prescriber	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)	Year	Prescriber	Frequency (N)	Variable	Mean ± Std Dev (R)	Total Cost (R)
2005	GP	92 117	Final prescription cost	195.74±158.09	18030988.32	2007	GP	91 078	Final prescription cost	194.55±160.24	17719059.38
			Final scheme amount	176.94±151.87	16299541.62				Final scheme amount	169.72±150.47	15457893.66
			Final levy	18.80±52.77	1731446.70				Final levy	24.83±61.12	2261165.72
	N	26 301	Final prescription cost	287.00±193.93	7548324.34		N	27 573	Final prescription cost	262.45±192.86	7236620.55
			Final scheme amount	262.31±190.11	6899022.51				Final scheme amount	231.09±183.39	6371830.53
			Final levy	24.69±69.11	649301.83				Final levy	31.36±70.50	864790.02
	O	31 136	Final prescription cost	213.86±152.26	6658807.73		O	32 513	Final prescription cost	207.18±156.99	6735941.62
			Final scheme amount	190.75±147.63	5939201.54				Final scheme amount	176.91±147.33	5751811.67
			Final levy	23.11±59.83	719606.19				Final levy	30.27±69.41	984129.95
	P	25 388	Final prescription cost	241.94±169.25	6142454.96		P	31 669	Final prescription cost	215.67±149.41	6830122.93
			Final scheme amount	203.57±162.32	5168109.50				Final scheme amount	179.45±144.34	5682939.87
			Final levy	38.38±80.12	974345.46				Final levy	36.22±71.29	1147183.06
2006	GP	99 955	Final prescription cost	188.38±150.23	18829839.56	2008	GP	88 776	Final prescription cost	197.28±162.39	17513835.85
			Final scheme amount	167.26±143.10	16718455.06				Final scheme amount	165.65±150.10	14705432.23
			Final levy	21.12±57.16	2111384.50				Final levy	31.63±69.61	2808403.62
	N	27 888	Final prescription cost	267.76±191.35	7467206.91		N	25 958	Final prescription cost	267.76±200.76	6950540.10
			Final scheme amount	240.93±185.45	6718918.23				Final scheme amount	230.26±189.47	5976995.71
			Final levy	26.83±72.87	748288.68				Final levy	37.50±76.42	973544.39
	O	34 874	Final prescription cost	206.00±150.18	7184161.46		O	32 200	Final prescription cost	221.46±162.92	7131047.74
			Final scheme amount	181.29±144.34	6322352.22				Final scheme amount	179.86±153.09	5791429.15
			Final levy	24.71±60.61	861809.24				Final levy	41.60±82.77	1339618.59
	P	30 652	Final prescription cost	214.34±151.86	6569863.74		P	32 610	Final prescription cost	220.05±148.97	7175679.17
			Final scheme amount	181.66±148.24	5568223.11				Final scheme amount	182.66±143.68	5956597.33
			Final levy	32.68±70.15	1001640.63				Final levy	37.38±70.28	1219081.84

GP – General practitioners

N – Neurologists

O – Other prescribers

P – Psychiatrists

Table B 6 : Average cost per prescription of anti-epileptic medicine for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	139 297	Final prescription cost	275.53 ± 259.79	38 380 575.35
		Final scheme amount	246.28 ± 248.02	34 305 875.17
		Final levy	29.25 ± 78.02	4 074 700.18
2006	153 202	Final prescription cost	261.43 ± 245.19	40 051 071.67
		Final scheme amount	230.60 ± 232.72	35 327 948.62
		Final levy	30.83 ± 78.23	4 723 123.05
2007	143 821	Final prescription cost	267.85 ± 254.34	38 521 744.48
		Final scheme amount	231.29 ± 237.92	33 264 475.73
		Final levy	36.55 ± 82.16	5 257 268.75
2008	141 261	Final prescription cost	274.46 ± 255.60	38 771 102.86
		Final scheme amount	229.58 ± 237.00	32 430 454.42
		Final levy	44.89 ± 89.93	6 340 648.44

Table B 7 : Average cost per prescription of anti-epileptic medicine according to male gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	56 834	Final prescription cost	286.84 ± 278.47	16 301 986.78
		Final scheme amount	260.22 ± 265.98	14 789 255.35
		Final levy	26.62 ± 75.38	1 512 731.43
2006	61 315	Final prescription cost	273.24 ± 260.34	16 753 592.77
		Final scheme amount	245.20 ± 247.54	15 034 160.90
		Final levy	28.04 ± 75.85	1 719 431.87
2007	56 829	Final prescription cost	281.91± 270.01	16 020 615.78
		Final scheme amount	247.92 ± 254.00	14 089 254.32
		Final levy	33.99 ± 82.27	1 931 361.46
2008	55 002	Final prescription cost	289.66 ± 273.94	15 931 815.66
		Final scheme amount	247.43 ± 255.68	13 609 368.19
		Final levy	42.22 ± 88.86	2 322 447.47

Table B 8 : Average cost per prescription of anti-epileptic medicine according to female gender for study period 2005 to 2008

Year	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total Cost (R)
2005	82 360	Final prescription cost	267.66 ± 245.81	22 044 738.13
		Final scheme amount	236.58± 234.36	19 484 323.01
		Final levy	44.89 ± 89.93	2 560 415.12
2006	91 798	Final prescription cost	253.33 ± 234.03	23 254 898.70
		Final scheme amount	220.62 ± 221.53	20 252 335.79
		Final levy	32.71 ± 79.76	3 002 562.91
2007	86 934	Final prescription cost	258.54 ± 243.02	22 476 108.03
		Final scheme amount	220.31 ± 226.04	19 152 332.26
		Final levy	38.23± 82.07	3 323 775.77
2008	86 259	Final prescription cost	264.78 ± 242.69	22 839 287.20
		Final scheme amount	218.19 ± 223.54	18 821 086.23
		Final levy	46.58 ± 90.57	4 018 200.97

Table B 9 : Average cost per prescription of anti-epileptic medicine according to different age groups for study period 2005 to 2008

Year	Age	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total (R)	Year	Age	Frequency (N)	Variable	Mean ± Std. Dev. (R)	Total (R)
2005	1	6 014	Final prescription cost	257.61 ± 202.85	1549252.28	2007	1	5 885	Final prescription cost	255.75 ± 206.68	1505115.53
			Final scheme amount	242.73 ± 197.19	1459770.52				Final scheme amount	235.43 ± 190.96	1385480.34
			Final levy	14.88 ± 47.56	89481.76				Final levy	20.33 ± 60.20	119635.19
	2	6 035	Final prescription cost	324.81 ± 284.55	1960226.75		2	5 942	Final prescription cost	315.43 ± 285.34	1874312.53
			Final scheme amount	301.02 ± 273.55	1816660.13				Final scheme amount	285.89 ± 273.51	1698731.59
			Final levy	23.79 ± 65.88	143566.62				Final levy	29.55 ± 63.94	175580.94
	3	32 591	Final prescription cost	355.50 ± 307.12	11586198.39		3	33 259	Final prescription cost	332.07 ± 296.27	11044425.61
			Final scheme amount	320.56 ± 295.13	10447453.21				Final scheme amount	289.20 ± 279.60	9618639.55
			Final levy	34.94 ± 95.13	1138745.18				Final levy	42.87 ± 95.08	1425786.06
	4	61 989	Final prescription cost	272.57 ± 256.99	16896167.01		4	64 523	Final prescription cost	267.73 ± 251.25	17274725.28
			Final scheme amount	243.05 ± 244.41	15066210.35				Final scheme amount	230.51 ± 233.72	14873364.97
			Final levy	29.52 ± 80.01	1829956.66				Final levy	37.22 ± 84.09	2401360.31
	5	32 668	Final prescription cost	195.57 ± 180.38	6388730.92		5	34 212	Final prescription cost	199.44 ± 192.26	6823165.53
			Final scheme amount	168.84 ± 170.26	5515780.96				Final scheme amount	166.27 ± 177.98	5688259.28
			Final levy	26.72 ± 58.99	872949.96				Final levy	33.17 ± 69.40	1134906.25
2006	1	6 778	Final prescription cost	241.49 ± 190.12	1636843.63	2008	1	4 654	Final prescription cost	270.86 ± 228.31	1260589.85
			Final scheme amount	226.31 ± 185.84	1533912.05				Final scheme amount	245.13 ± 207.45	1140834.46
			Final levy	15.19 ± 43.08	102931.58				Final levy	25.73 ± 69.00	119755.39
	2	6 486	Final prescription cost	296.22 ± 255.39	1921297.15		2	5 048	Final prescription cost	331.50 ± 295.87	1673399.94
			Final scheme amount	276.10 ± 250.56	1790760.98				Final scheme amount	292.79 ± 275.09	1478003.11
			Final levy	20.13 ± 54.40	130536.17				Final levy	38.71 ± 84.86	195396.83
	3	35 641	Final prescription cost	333.75 ± 295.14	11895360.37		3	30 558	Final prescription cost	344.43 ± 307.26	10525075.80
			Final scheme amount	299.11 ± 281.36	10660476.19				Final scheme amount	295.95 ± 286.68	9043514.12
			Final levy	34.65 ± 92.74	1234884.18				Final levy	48.48 ± 93.56	1481561.68
	4	68 247	Final prescription cost	259.54 ± 239.93	17713020.84		4	64 764	Final prescription cost	272.69 ± 248.46	17660248.43
			Final scheme amount	227.55 ± 226.25	15529500.31				Final scheme amount	227.05 ± 229.99	14704513.96
			Final levy	31.99 ± 81.20	2183520.53				Final levy	45.64 ± 93.06	2955734.47
	5	36 050	Final prescription cost	190.97 ± 177.24	6884549.68		5	36 237	Final prescription cost	211.16 ± 193.02	7651788.84
			Final scheme amount	161.26 ± 165.40	5813299.09				Final scheme amount	167.33 ± 175.70	6063588.77
			Final levy	29.72 ± 63.66	1071250.59				Final levy	43.83 ± 83.61	1588200.07