Co-Payments in Respect of Prescribed Minimum Benefits (PMBs) in South African Medical Schemes

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A Research Report submitted to the School of Public Health,

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DECLARATION

I, Matlou Martin Moabelo, declare that this research report is my own, unaided work. It is being submitted for the Degree of Master of Public Health at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

(Signature of candidate)

_____01_____day of_____August_____2024_____in_Johannesburg

DEDICATION

This report is dedicated to my wife, parents, siblings, and extended family. I thank God Almighty for your love and support.

ABSTRACT

Background: In the South African medical insurance market, the cost of Prescribed Minimum Benefits (PMBs) has been increasing. The Council for Medical Schemes (CMS) report shows that total out-of-pocket payments (OOP) (including for PMBs) rose to R35 billion in 2019 from R25 billion in 2015. The rising cost of PMBs affects the financial stability of medical schemes, but it also has an impact on members through an increase in out-of-pocket payments (co-payments, deductibles etc) as part of cost sharing, and these payments are more likely to adversely affect the affordability of healthcare. This study aimed to quantify the extent of PMB co-payments, and the factors associated with it as well investigate PMB-related complaints.

Methods: This study used quantitative longitudinal data from the CMS. Descriptive and multiple regression methods were employed to analyse PMB co-payments among a sample of 5.14 million PMB patients for the period 2015 to 2019 and 244 complaints in 2019. The PMB co-payment was calculated using both a narrow and broader definition. The narrow definition of PMB co-payments focused solely on the out-of-pocket funding while the broader definition refers to the amount funded out-of-pocket plus from savings accounts (OOP+SA co-payment).

Results: The estimated overall OOP co-payment amounted to R4.65 billion in 2019 and R4.74 billion for OOP+SA co-payment. The average PMB co-payment per member amounted to R905.47 [95% CI:903.88-907.07] per annum (OOP co-payment), and R922.06 [95% CI: 920.42-923.69] for OOP+SA co-payment. The average OOP co-payment for chronic conditions (CDLs) per member was R310.07 (95% CI:308.17-311.96), and for the OOP+SA co-payment it was R318.47 (95% CI:316.57-320.37). There has been an increasing upward trend in PMB co-payments from R583.86 in 2015 to R922.06 in 2019 (p=0.0275). The regression analysis indicated that PMB co-payment varied by benefit design, age group, gender, setting, province, and scheme type. The analysis of the PMB complaints revealed that excessive PMB co-payments were caused by medical schemes failing to comply with PMB regulations, and patients not understanding the PMB rules or opting not to obey the rules.

Conclusions: Medical scheme members pay substantial PMB co-payments due to medical schemes and patients not adhering to PMB regulations. To mitigate these co-payments, it's essential to educate members on PMB rules and enforce penalties on medical schemes that do not comply with PMB regulations.

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ABBREVIATIONS

ARB: Angiotensin Receptor Blocker

ASR: Annual Statutory Return

CDL: Chronic Condition

CMS: Council for Medical Schemes

DDD: Defined Daily Dose

DSP: Designated Service Provider

DTP: Diagnosis Treatment Pairs

HIV: Human Immunodeficiency Virus

HMI: Competition Commission Health Market Inquiry

MCO: Managed Care Organisation

MSA: Medical Schemes Act

OOP: Out of Pocket

Pbpa: Per beneficiary per annum

Pbpm: Per beneficiary per month

PMBs: Prescribed Minimum Benefits

USA: United States of America

GLOSSARY

Balance billing refers to a healthcare provider billing a patient directly for the difference between the total cost of services being charged and the amount the health insurer pays.

Capitation agreement refers to a method of payment for healthcare services in which an individual or provider is paid a fixed amount for each person served in a set period of time, without regard to the actual number or nature of services provided to each person.

Co-payment refers to the partial payment by a health insurance member for health services used in addition to the amount paid by the insurance.

Deductible refers to a portion of a member's healthcare expenses that must be paid out of pocket before any insurance coverage applies.

Designated Service Provider (DSP) refers to a healthcare provider or group of providers selected by health insurers as the preferred provider(s) to provide its member's diagnosis, treatment, and care.

Medical savings account (SA) refers to a proportion of members' annual scheme contribution that is held in a separate account and used to pay for day-to-day medical expenses.

Moral hazard refers to changes in behaviour of an insured individual caused by the existence of the insurance itself, and for that behaviour change to increase costs to the insurer.

Mutuality: refers to the principle of private, commercial insurance: individuals enter the pool for sharing losses and pay according to the best estimate of the risk they bring with them.

Open enrolment refers to medical scheme registered in South Africa to accept as a member or dependent any and every person who wishes to join that medical scheme.

Open medical schemes are registered medical schemes that are subject to the open-enrolment requirement.

Out-of-pocket payment refers to payment made by individual patients directly to health care providers, as distinct from payment made by a health insurance scheme.

Prescribed minimum benefits refer to a set of medical conditions for which the costs of diagnosis, and treatment need to be covered by the medical scheme.

Restricted scheme refers to medical schemes, in respect of which eligibility to membership is restricted to a certain category of persons – typically employees of a particular employer or class of employers.

Risk pooling refers to risk sharing across a group of people or across the entire population, so that unexpected healthcare expenditure does not fall solely on an individual or household and that individuals and households are protected from catastrophic expenditure.

Solidarity refers to the principle whereby individuals enter the pool for sharing losses and pay according to ability to pay, or just equally.

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CHAPTER ONE- INTRODUCTION

1.1. Background

South Africa has a two-tiered healthcare system (public and private) that runs in parallel under the overall stewardship of the Department of Health. The public sector is state-funded and serves about 85 % of the population while the private sector serves the remaining 15% of the population(1).

The private sector in South Africa is mainly financed through individual voluntary contributions to private medical aid schemes. Historically, the medical schemes in South Africa began in 1889 and were formalised under the Friendly Societies Act (Act of 1956), and afterwards, the Medical Schemes Act (MSA) No.72 of 1967 was passed(2). The MSA of 1967 provided that medical schemes were operated on the basis of solidarity principles, and it included predetermined minimum benefits. Between 1967 and the 1980s, the growing number of medical schemes, particularly small ones, put pressure on the government to implement free-market reforms and less regulation(2). Thus, the medical schemes sector was deregulated in 1989 and 1993. As a result, during the 1980s and 1990s, medical schemes operated under the principle of mutuality as opposed to solidarity(3), with contributions to the pool based on an assessment of individual risks(2). The 1989 Medical Schemes amendments permitted a risk-rating mechanism that allowed medical schemes to differentiate rates based on individual risk. Consequently, high-risk individuals were charged higher premiums relative to individuals with good health risks. As a result, the sick and elderly were left behind.

The 1993 amendments removed statutory minimum benefits whereby medical schemes limited cover for healthcare services at their discretion(2). Later in 1994, the democratic government adopted the solidarity principle although enrolment in medical schemes remained voluntary(4). The solidarity principle requires contributions to be made based on the ability to pay(2).

During most of the late 1980s and 1990, medical insurance increased co-payments, marginalised high-risk members, and limited insurance benefits in response to cost escalation during that period(2,4). In response to these challenges, the government passed the new MSA No 131 of 1998 which required medical schemes to provide a minimum benefits package(4,5). MSA No.131 of 1998 has been applicable since the year 2000.

The prescribed minimum benefits (PMBs) were introduced as a policy instrument under the MSA No.131 of 1998 for defining the minimum benefits to be covered by the medical schemes. The PMB regulation requires all registered medical schemes in South Africa to pay in full for the diagnosis, treatment, and care costs of 26 chronic conditions, and 271 medical conditions without co-payment or use of deductibles(5). However, regulation 8 of the MSA provides for specific rules that may be applied by medical schemes to manage the financial risk associated with PMBs. These rules include the use of designated service providers (DSPs), formularies, and managed care protocols(5,6) to contain the cost of providing PMB benefits.

In 2015, the Minister of Health published amendments to Regulation 8 of the MSA No.131 of 1998 to further specify how medical schemes finance the costs of PMB conditions(7). Thus, the amendments require medical schemes to pay for the diagnosis, treatment, and care of PMB conditions in full (without co-payment) regardless of the benefit option a member belongs to(7). According to this regulation, medical schemes may impose a co-payment if a member voluntarily obtained PMBs from a non-DSP or if they get medicines not on the scheme formulary or don't follow the managed care protocols(7). Furthermore, Regulation 10 (6) of the MSA stipulates that PMB costs shall not be paid from a member's medical savings accounts(5,6).

The CMS report shows that total out-of-pocket payments (including for PMBs) rose to R35 billion in 2019 from R25 billion in 2015, a 40% rise. Despite this evidence of rising out-of-pocket payments, the PMB out-of-pocket payments have not been studied. In South Africa and worldwide, the literature on PMB out-of-pocket payments is scarce. This study seeks to fill a research gap by investigating the extent of co-payment (a form of out-of-pocket payment) and the factors that influence co-payment in respect of PMBs. The empirical evidence presented in this research outlines trends in PMB co-payments and investigates variation in PMB co-payment as well as reviewing the PMB complaints received by the CMS.

1.2. Literature review

1.2.1. Introduction

Health insurance co-payments have attracted a lot of attention in recent years due to their impact on patient's behaviour(8,9). Co-payments can influence the demand for health care, as well as stimulate the use of specific healthcare providers and moderate the usage of drugs prescribed by medical schemes(10). A high level of co-payment, on the other hand, can be a considerable financial hardship for poor and middle-income households(11).

In South Africa, medical schemes employ a co-payment approach to control expenses related to the use of non-DSP or non-network providers when obtaining PMB services. However, there is no published research on PMB co-payments. This chapter investigates the literature on co-payments in health insurance, including PMB-related papers, to get insight into the factors that influence co-payment. The first section discusses PMBs in South Africa, followed by a review of co-payments in health insurance, and finally evidence on the impact of co-payment on patients.

1.2.2. Prescribed minimum benefits in South Africa

Because this study focuses on PMB co-payments It is crucial to first define PMBs and discuss their introduction. The PMBs are a set of defined benefits which all medical schemes must cover on all benefit options (health plans) offered by their scheme(5,6). An exclusive list of 271 conditions is presented in the form of diagnosis and treatment pairs (DTP) that medical schemes are required to pay for. In 2020, COVID-19 was included as a PMB in the DTPs in the "Respiratory System" Treatment(12), thus increasing the number of DTP conditions to 272.

The PMBs were introduced to ensure that members of medical schemes have continuous healthcare coverage. Thus, if a member's benefits are depleted for the year, the medical scheme must still fund the diagnosis, treatment, and care of PMB conditions(13). In addition, the PMBs were introduced to ensure that medical schemes provide minimum healthcare benefits to all the beneficiaries who need healthcare regardless of the plan they belong to, their demographic profile, or the state of their health(13).

PMBs are clearly an additional financial burden for medical schemes. Also, medical costs, and the cost of PMBs in particular, have increased significantly over time(13). In response to

increasing healthcare costs, medical schemes have contracted with managed care organisations (MCOs) to provide appropriate and required treatment at a cost that is affordable to members in order to manage the provision of both PMB and non-PMB healthcare services (25,26).

In South Africa, managed care was introduced as a cost-reduction mechanism in 1990. Managed health care, as defined by the MSA No.131 of 1998, is "*clinical and financial risk assessment and management of health care, with a view to facilitating appropriateness and cost-effectiveness of relevant health services within the constraints of what is affordable, through the use of rules-based and clinical programs*"(6, p.151). In the South African context, managed care typically comprises one or more of the following elements:

- co-payments,
- preferred provider arrangements,
- alternative payment mechanisms,
- pre-authorisation,
- scheme formularies,
- monitoring service utilisation (25,26).

The stringency and design of managed care mechanisms differ(17). Combinations of these mechanisms change frequently over time and vary greatly between MCOs(17). In the managed care environment, a set of treatment plans (protocols), medicine lists (formularies), and the employment of DSPs are utilised to manage the costs associated with healthcare services and the treatment of PMBs in particular(18,19). The MSA provides for co-payment that medical schemes may impose to manage the financial risk related to PMBs funding(5). To reduce the cost of PMBs, medical schemes enter into an agreement or contract with MCOs, in which MCOs reduce costs by negotiating lower costs for healthcare services with healthcare providers, standardising treatment protocols across services, and discouraging referrals to specialists and other more expensive treatments unless absolutely necessary (eliminating unnecessary care)(13,20). That is, medical schemes contract with these healthcare providers to provide service at a lesser cost than those who are not contracted with the scheme. Furthermore, MCOs lower costs by encouraging the use of generics and other less expensive drugs by designing formularies to treat PMB conditions(5,13).

Among other factors, access to non-DSPs contributes significantly to PMB co-payment by medical scheme members. In 2018/19, a cross-sectional study assessed 336 participants in 22 open medical schemes' opinions and levels of satisfaction regarding PMBs(21). The findings of the study results revealed that about 71% of respondents had good knowledge of their medical scheme(21). Furthermore, half of the participants considered their knowledge of DSPs, PMB medicine coverage, and brokers to be good. 66% were satisfied with the service provided by their scheme, 46% were satisfied with the PMB package, 44% were satisfied with PMB prescription drug coverage, but only 9% of participants were satisfied with their access to general practitioner DSPs(21).

In addition, the participants wanted to have more benefits without co-payments, more PMB consultations, a full cover of prescribed drugs, and more healthcare providers on the DSP network(21). The study also identified five major reasons given by medical aid schemes for refusing payment: treatments used by members were scheme exclusions or not part of the treatment protocol for a PMB condition (41.0%); members used non-DSPs to obtain PMB treatment and care (14.8%); they had used expensive treatment not recommended by medical scheme(6.7%); the members' benefit funds were depleted (5.0%); and use of drugs not on the medical scheme formulary (5.0%)(22).

Findings from a descriptive cross-sectional study conducted between 2006 and 2016 on PMB data from the CMS Judgement on Appeals, presented complementary results whereby a large proportion of members who were found to be at fault because they had not used DSPs for PMBs treatment(22).

The cost of PMBs is driven by the prevalence of the 26 chronic conditions that are covered as PMBs (23). The CMS conducted a study on the prevalence of 26 chronic diseases in the population covered by medical schemes in South Africa (24). This study found that the top 10 chronic conditions were hypertension, hyperlipidaemia, diabetes mellitus type 2, asthma, hypothyroidism, HIV/AIDS, coronary artery disease, epilepsy, cardiomyopathy, and dysrhythmias. The study also identified an upward trend in the diagnosis and treatment of many chronic conditions among the population covered by medical schemes(24). Increased diagnosis and treatment have an impact on PMB costs, and PMB co-payments, because the scheme requires more money to fund additional patients who are diagnosed with chronic conditions. The increasing trend may be attributed to an ageing population, improved

diagnostic services, advances in healthcare that keep patients alive while managing their conditions, and ultimately an increase in the number of patients surviving with chronic conditions(25).

It is costly to manage chronic conditions, and this may lead to huge financial risk to both funders and members because people with chronic conditions are more likely to utilise healthcare resources, especially those members with comorbidities(9,10). The use of multiple medications by chronic patients with multiple comorbidities is associated with negative health outcomes, and that has the potential to further increase healthcare expenditure(10,11). Chronic conditions also pose a risk to labour productivity and supply(25). It is critical to improve the health of those with chronic conditions to minimise the future adverse economic impact of chronic illness.

1.2.3. Co-payments in health insurance

A co-payment is defined as the out-of-pocket partial payment by a health insurance member for health services used in addition to the amount paid by the insurer(19). Thus, co-payments are an out-of-pocket payment made by a member of a medical scheme to a healthcare provider(19). Co-payment is one of the most common forms of cost-sharing used in the medical schemes industry to contain the high cost of health care. Cost-sharing describes the practice of sharing the cost of healthcare services between the healthcare insurer and the patient(26). In general, cost-sharing is used to prevent excessive use of healthcare services and to prevent utilisation of more expensive drugs.

A study conducted in the United States of America (USA) in 2011 explored the role that member incentives play in decelerating healthcare expenditure growth(27). The study established that problems of continuous high increases in healthcare expenditure can be addressed by demand-side cost sharing(27). It suggested that increases in demand-side cost-sharing should not be uniform, certain healthcare services and products should face lower cost-sharing(27).

In pharmaceuticals, patients' response to increased co-payments varies depending on drug class and importance. Thus, co-payments may reduce non-essential drug use more than

essential drug use, such as antihypertensives(27). Individuals who are required to pay a higher co-payment do reduce their demand for care(17,25).

Medical schemes members in South Africa pay high co-payments for medicines given that medications make up 36% of the total out-of-pocket payment in medical schemes(30). There is some research that examined co-payments in relation to medications. A qualitative study conducted in 2013 in Pretoria community pharmacies explored the experiences of beneficiaries of medical schemes who paid co-payments for prescription medicines, and identified factors associated with co-payments(31). According to the author, beneficiaries of medical schemes lacked an understanding of co-payment charges. Medical schemes are not transparent about the benefits available to beneficiaries or the pricing of products and services at private pharmacies(31). Retail pharmacists appear to use co-payments to generate income by dispensing more expensive drugs rather than generic medicines, which do not require co-payments(31). As a result, while doctors may prescribe less expensive medication, pharmacies may dispense drugs that are not on the medical scheme formulary(31). Conversely, PMB benefits are differentiated between multiple plans based on different levels of benefit management, such as drug formularies. Fragmentation in medical scheme formularies and profit motives appear to influence the decisions of pharmacists when dispensing medicine. With 264 benefit plans in 2019, it is not practical for patients and pharmacists to be aware of the content formularies for all the medical schemes (30,32). Indeed, a study that evaluated the purchasing of health care by medical schemes confirmed that significant variation in drug formularies presents challenges for pharmacists and members in making product choices(2). On the other hand, drug formularies increase the use of pharmaceuticals that are included in the medical scheme formulary and decreases the use of drugs that are excluded(2).

The literature suggests the existence of a principal-agent problem given that pharmacists in this case are the imperfect agents of patients, as it appears that they act to maximise their profits at the expense of the patients' interests(31,33). In addition, the following factors relating to consumers were identified: fear of overriding the prescribing doctor's choice of prescription medicine; negative consumer perceptions about generics and low-priced medicines; loyalty to certain brands of medicines; perceptions about the availability of certain services and medicine stock at different types of pharmacies. Profit-oriented pharmaceutical supply chains and medical schemes do not actively minimise the use of unintelligible language

when communicating financial information with patients(31). The study also highlighted that member education is critical when negotiating for a treatment alternatives in their favour(31). Several empirical studies (2,34–36) have stressed the need to provide understandable and accessible information to patients, as well as educating members about health products.

A qualitative study on patients' education and literacy conducted in 2018 outlined the importance of using universal health literacy precautions to provide understandable and accessible health information to patients. Avoiding medical jargon and breaking down information or instructions into small, concrete steps helps patients understand health information and assists them in making informed decisions (35). Health literacy has been defined as "the personal, cognitive, and social skills that determine the ability of the individual to gain access to, understand, and use information to promote and maintain good health"(35,37). The authors recommended for a shift from the biomedical to the biopsychosocial approach, which involves listening to patients and addressing their issues and interests in a language they understand(35). This is consistent with Kaplan and Ranchod's(34) findings, which revealed that complex medical terms and jargon aspects of medical scheme regulation and healthcare in general were difficult for members of medical schemes to make decisions on (34,38). Due to the complexity of medical scheme regulations and fragmented formularies, patients may lack the capacity, time, and technical expertise to make informed decisions(34,39).

Although it is evident that patients face complexity in making rational decisions due to multiple formularies, complicated medical terms, and jargon, it is critical to understand the criteria used by medical schemes to select items that are contained in their formulary. Among others, MCOs are responsible for the development of drug formularies to ensure the containment of medicine costs(40,41). One study examined the use of Angiotensin receptor blockers (ARBs) for hypertension and heart failure within a MCO in South Africa(42). ARBs are among the most costly medication groups. Comparative analysis was used in the study to determine whether use of ARBs had any additional benefits(42). Out-of-hospital chronic medication claims from MCO were used to analyse the utilisation pattern to determining whether there were any indications for the choice of this specific drug class for the treatment of heart failure and hypertension(42). The results outlined that ARBs and ACE inhibitors were commonly used within the MCO and accounted for a high percentage of the amount spent on antihypertensive

drugs(42). It is evident that ARBs were the most expensive class of drugs used to treat hypertension and heart failure, and there was no reason found to support the use of specific ARBs agents (42). Thus, there are no added benefits derived from using expensive ARBs. The study also found that more males used these expensive agents than females. Although this study focused only on two out of 26 PMB conditions, it suggests that some drugs included in the medical scheme formulary are not cost-effective, and the criteria for drug inclusion are not entirely explicit.

Contrary findings from qualitative in-depth interviews conducted between 2013 and 2015 with seven private sector medical schemes and administrator involved in formulary development and management was observed (43). The study sample included three large administrators contracted with medical schemes that had more than three quarters of medical scheme beneficiaries at the time of study. The study aimed at improving understanding on how formulary managers made decisions for selection of medicines for their formularies. According to the study, the selection of drugs was inherent in the formulary review process (43). Medicine price was identified as important in the decision taken to list medicine(43). The results are incongruent with the findings of study by Juggath(42) whereby price appeared not to be an important factor because expensive drugs were included in the formulary(43). In addition, most medical schemes expressed a difficulty with lack of information to support pharmacoeconomic evaluations for inclusion on the formulary according to the authors(43).

A case study from Thailand on co-payment with respect to emergency medical conditions was conducted by drawing evidence from 40 000 records of administrative Thai emergency services, in-depth interviews, telephonic surveys, and a documentary review(44). Six factors were identified by the study as driving co-payment: perceived underpayment, unclear emergency conditions operations, lack of criteria to justify inter-hospital transfers, limited service user understanding of the benefits directed by policy, weak regulatory mechanisms as evidenced by the absence of information systems to track the practices of private providers, and ineffective inter-hospital transfer arrangements(44). Furthermore, the authors discussed the motivations for bypassing gatekeepers or assigned local hospitals, citing a policy decision that allows Thai patients in urgent conditions to obtain hospital Emergency Department (ED) care without co-payment(44). According to the survey, hospitals were concerned about bypassing and used this as a justification for co-payments(44).

These characteristics were also common in a South African medical programme, where patients who used non-DSPs were required to pay co-payments in the event of an emergency(44). Mgandi (22) discovered that in South Africa, medical schemes imposed co-payments for involuntary use of non-DSP facilities by patients, particularly in emergencies. Furthermore, the accessibility of DSPs is one of the factors that encourage members to use non-DSPs. Given that high co-payments are associated with DSPs, the CMS declared that imposing a co-payment that exceeds the amount of the difference between that paid by the medical scheme DSP and that charged by a non-DSP provider is an unacceptable practice(45).

1.2.4. The impact of co-payments on patients

1.2.4.1. The desired impact of co-payment

Co-payments are intended to decrease unnecessary and wasteful health service utilisation(19). A systematic review of studies published between 1990 and 2011 investigated how co-payments for health care services affect demand for health care services(46). A total of 47 quantitative research papers on the behavioural effects of co-payment were reviewed and analysed(46). In terms of demand effects, co-payments were found to reduce the use of prescription medicine, patient consultations with health care providers (GPs and Specialists), and ambulatory services(46). The literature found no significant effects of co-payment on the prevalence of hospitalisations(46). Furthermore, half of the papers reviewed discovered that co-payment for some services causes substitution from services subject to co-payment to services not subject to co-payment(46). Regarding the distributional effects of co-payments, the evidence showed that patients with low income typically use healthcare services less than the rest of the population when there are co-payments(46).

A retrospective study was conducted on 206 947 patients who visited healthcare facilities for the treatment of mild diseases for the period 2010 to 2013(47). The study employed a linear probability model to predict the changes in patients' choice of primary or tertiary healthcare for a mild disease associated with differential co-payment policies(47). There was a significant decline in the proportion of patients choosing high-level care facilities over primary healthcare when this incurred a co-payment (47). As a result of co-payment, individuals with low incomes, particularly those in need of care, tend to use fewer healthcare services than those with higher incomes(47).

1.2.4.2. The unintended consequences of the co-payment.

In South Africa, having health insurance coverage does not guarantee financial protection to the insured because it is evident that having health insurance does not result in lower OOP payments for the insured compared to non-insured members(48). However, the insured population does get a lot more care for their OOP than non-insured members. Co-payments have a financial impact on both medical schemes and their members. From the demand side, co-payments are more likely to adversely affect the affordability of healthcare by consumers(48). Research has shown that the absence of strategies to manage financial risk results in higher co-payment and greater financial risk which leads to impoverishment(49).

Excessive co-payments can undermine members' financial risk protection and, as a result, restrict access to healthcare services(27). Furthermore, co-payments would limit access to high-value services(42). Moreover, authors have mentioned that insurers imposing higher co-payments should consider those situations in which discouraging the use of one health service like pharmaceuticals or preventative care to manage chronic disease could lead to higher healthcare expenditure in the future(27).

A 2001 study in the USA that investigated financial burdens among adults with diabetes using nationally representative data highlighted the role of medications and product supplies in contributing to high OOP burdens(50). It revealed that 40% of non-elderly patients with three or more chronic conditions had OOP payments and contributions exceeding five percent of income compared with 14% who had no chronic conditions(50). This suggests that OOP spending increased with the prevalence of chronic conditions(50,51). A similar study was conducted in the USA using the 1996 Medical Expenditure Panel Survey, and it revealed that OOP expenditure on prescribed medicines was found to be substantial for adults and non-elderly persons with chronic conditions(51). Cost-sharing strategies for prescribed medicines for the treatment of chronic conditions have a negative impact on the health of patients with chronic conditions(51). Before implementing cost-cutting measures, policymakers should consider the impact on patients with chronic conditions(51). A study of 1850 Laos patients found that factors such as the level of health facility used, older age, living in the province, living more than 5 km from the facility, not bringing documents, and buying medicine or supplies outside the facility were significantly associated with higher out-patient care costs(51).

A cross-sectional analysis of administrative claims used to investigate the association between co-payment policies and cancer screening for women with medical insurance revealed evidence of co-payment-related adverse outcomes(52). Participants were non-elderly, nondisabled, and non-pregnant women aged 50-64 years (for mammograms) and 21-64 years (for Pap smears)(52). Insured members who paid co-payments for preventative care were less likely to get screening mammograms and Pap tests than those who did not have to pay co-payments(52). Furthermore, co-payments for preventative services may have negative health repercussions and greater long-term costs(52).

A study conducted in Finland produced results complementary to the studies mentioned above. This study used an interrupted time series design to determine the impact of a co-payment increase on the consumption of type 2 antidiabetic medication (53). Overall, the results revealed that a co-payment increase in type 2 antidiabetics was associated with decreased consumption(53). Conversely, a marginal decrease (1.5%) was detected in the consumption of insulin, although insulin patients' co-payment was not affected by the reform(53). In addition, studies have found that substantial co-payments can reduce adherence to medication(54–56).

1.3. Statement of the problem

The cost of PMBs has been increasing over the years. In 2015/2016 the total cost of PMBs in the South African medical scheme industry was R64.2 billion(57). This problem of increasing cost of PMBs affects both medical schemes and members. Regulation 8 of the MSA requires that PMB expenditures be paid in full, with no co-payments or deductibles. However, there is evidence that out-of-pocket expenses (including PMB co-payments) are increasing(58). Increasing cost of PMBs affects members through an increase in co-payments as part of cost sharing, and these co-payments are more likely to adversely affect the affordability of healthcare by members(48).

As outlined in the literature the absence of strategies to manage financial risk results in higher co-payment and greater financial risk which could lead to impoverishment(49). Furthermore, excessive co-payments may lead to a decrease in the utilisation of healthcare which has the potential to worsen patient's health(46). On the medical scheme side, the MSA provides for cost-sharing strategies to ensure that PMB costs are manageable in order to avoid insolvency.

The high and increasing costs of medical cover and healthcare may be attributed to the high cost of PMBs(57). Furthermore, the South African private healthcare market exhibits increasing OOP payment for members of medical schemes accompanied by decreasing range and depth of service covered by medical schemes benefit plans(39). However, the extent of OOP in the form of co-payment has yet to be quantified and properly studied in the context of PMBs.

1.4. Justification

In the South African healthcare market, OOP (co-payments, deductibles, and coinsurance) have not been systematically studied according to the HMI(39). Most research has focused on OOP in general, and there is an increasing interest in co-payments. A few studies in South Africa have examined co-payment in respect of medicines/drugs but there is still a lack of research on co-payments for PMBs. This study examines the extent of PMB co-payments and the factors that influence it in private medical schemes.

This study seeks to provide scientific evidence on co-payment for PMBs to contribute to policy reforms aimed at protecting members of medical schemes from financial risk while maintaining the financial sustainability of medical schemes. It intends to inform the CMS, medical schemes, healthcare providers, members of medical schemes, and the National Department of Health on co-payments concerning PMBs because there should not be any co-payments for PMBs. In addition, this study may provide an input to studies that aim at evaluating co-payment as a cost-sharing strategy.

1.5. Research question, overall aim, specific objectives

1.1.1. Research question:

What is the extent of co-payments for PMBs in South Africa, and what influences them?

1.1.2. Aim:

To investigate the extent of co-payment and the factors that influence co-payment in respect of PMBs for the period 2015 to 2019.

1.1.3. Objectives:

1. To describe medical schemes members who were treated for PMB conditions per year from 2015 to 2019.
2. To quantify the extent of PMB co-payments and evaluate the trend in PMB co-payments between 2015 to 2019.
3. To study factors that influence variation in PMB co-payments for the year 2019.
4. To study the influence of chronic condition in PMB co-payments for the year 2019.
5. To evaluate the resolution of complaints about PMB co-payments from medical schemes members for the year 2019.

CHAPTER TWO – METHODS

This chapter provides an overview of the research methods used in the study. It describes the essential features of the study design, data sources, and methodologies used to process, clean, and analyse the data, as well as the reasons for selecting various methods.

2.1 Study design

This study was a quantitative longitudinal research study that examined the extent of co-payment and the factors that influence co-payment in respect of PMBs, through secondary data analysis of PMB expenditure and complaints in South African medical schemes for the period 2015 to 2019. This study focused on the pre-COVID period (2015-2019) to avoid the confounding effects of COVID-19, such as lockdowns, the inclusion of COVID-19 under PMBs and other COVID-related disruptions that introduced additional variation to PMB claims. This approach ensured clarity and consistency in analysing PMB claims.

The primary data for the first four objectives was the longitudinal routine information collected by the CMS from all medical schemes as part of the statutory requirement prescribed by the MSA. For objective five, quantitative analysis from existing CMS complaints records was used.

2.2 Study setting

The private health insurance market in South Africa, as represented by registered medical schemes.

2.3 Study population

The population for this study covers the beneficiaries of registered medical schemes in South Africa who claimed for PMBs during the period 2015 to 2019. The analysis is based on 83 medical schemes recorded in 2015, 82 in 2016, 80 in 2017, 79 in 2018, and 78 in 2019. The medical schemes industry had 8.81 million beneficiaries in 2015 and 8.90 million in 2019. In the period under review (2015 to 2019) the number of medical scheme beneficiaries in open enrolment outnumbered that in restricted schemes. In 2019, open medical schemes accounted for more than half of the population (55.4%) relative to restricted schemes that accounted for 44.6% of the population of medical scheme membership.

2.4 Sample

The study had approximately 5 million PMB (Emergency medical conditions, chronic condition, and DTP conditions) beneficiaries per year from 2015 to 2019. The sample included both

principal members and their dependents from all medical schemes in South Africa. For the analysis of co-payments, the study examined 5.14 million PMB patients and 3.93 million CDL patients at an aggregated level for the year 2019. In addition, this study analysed 244 PMB complaints that were investigated and resolved in 2019.

2.5 Data collection

The CMS collects Annual statutory Returns (ASR) data from all registered medical schemes in South Africa using an online data collection system (see data submission template in Appendices 5 and 6). The CMS ASR dataset comprises of schemes' information, members' demographic information, expenditure data, utilisation data, and other information relating to beneficiaries of medical schemes. Medical schemes submitted all these information via an online application tool managed by the CMS. Among the information collected by the CMS, data on PMBs were submitted in three parts, namely, total PMBs expenditure dataset (all PMBs), PMBs expenditure for 26 chronic conditions (CDL) (see a list in Appendix 4), and PMBs expenditure for 271 DTP conditions dataset (subset of PMBs). The PMBs datasets were submitted and stored in separate tables. The first table contained total PMB claims in respect of 271 DTP conditions, 26 CDLs, and any emergency medical conditions. The second table is a subset of the PMBs dataset, and it contained a breakdown of expenditure on 26 chronic conditions (CDL dataset). These primary datasets are submitted in aggregated form, grouped by age band, gender, and province per scheme per year.

For this study, the dataset on PMBs claims for both in and out of hospital services was obtained from the CMS ASR data for the period 2015 to 2019. The dataset was obtained in Microsoft Excel format with the scheme identity anonymised.

The complaints dataset was also obtained from the CMS. Beneficiaries of medical schemes used a complaints form to submit their grievances to the CMS via both electronic and manual submission (see complaints form in Appendix 7). This study used a summarised dataset of complaints that were investigated and resolved during the year 2019.

2.6 Study variables/Measurements

Error! Reference source not found. below outlines the description and definitions of key variables that were used to determine the extent of co-payments in respect of PMBs to answer objectives 1 to 4. This study analysed the summarised PMBs complaints data related to co-

payment. Records with unspecified provinces and those with PMB treatment that occurred outside the republic were excluded from the analysis.

Table 1: Study variables

Dataset	Variable	Definition/Description	Data type	Coding
Annual statutory returns	Number of Beneficiaries	This is count of distinct principal members and their dependents.	Numerical	
PMB expenditure dataset	Number of PMB Beneficiaries	Distinct beneficiaries treated for one or more PMB conditions during the period under review.	Numerical	
	Total Amount Claimed	The total amount of claims (amounts invoiced by providers) for valid PMB claims. This total is the combination of the scheme and member's liability	Numerical	
	Amount Paid from Risk	The total amount of relevant healthcare expenditure for valid PMB claims paid by the scheme from the scheme risk account. The amount paid from risk is also the amount that is not paid from medical savings accounts	Numerical	
	Amount Paid from Savings	The total amount of relevant healthcare expenditure for valid PMB claims paid by the scheme from medical savings accounts.	Numerical	
	Financial year	The scheme financial year which always run from 1 January to 31 December	Numerical	
	In Hospital Code	Code that identifies whether the PMB claim occurred in or out of hospital.	Categorical	In-hospital=1 and Out-of-hospital= 0
	Chronic disease (CDL) Code	Code assigned to a chronic condition	Categorical	See the codes in Appendix A: List of PMB Chronic Conditions
	Gender	Male or Female	Categorical	Female=1 and Male=2
	Province	Province	Categorical	EC=1, FS=2, GP=3, KZN=4, WC=9, MP=6, NW=8, LP=5, NC=7, OUT=Outside the Republic and OTH= Unspecified provinces were classified as missing.
	Age bands	Age bands	Categorical	0-19 years=1, 20-39 years=2, 40-59 years=3, 60-79 years=4, 80 years plus=5
	Scheme type	Open or Restricted	Categorical	Open=1 or Restricted=2
	Benefit option ID	A unique reference number issued to a scheme's benefit option on registration.	Categorical	Comprehensive=1, EDOs plans=2, Hospital plans=3, and Partial plans=4
Complaints dataset	Complaint type	Non-Payment of PMBs, Formulary/DTP issue, Network issue, Benefit design issue	Categorical	Benefit design issue=1, Formulary/DTP issue=2, Network issue=3, Non-Payment of PMBs=4
	Complaint outcome	Beneficiary won or beneficiary lost	Categorical	Beneficiary lost=1 and Beneficiary won=2
	Benefit design	Comprehensive Plans, Hospital Plans Partial Plans, EDO Plans	Categorical	Comprehensive Plans=1, Partial Plans=2, Hospital Plans=3, EDO Plans=4

The datasets only include aggregated data from medical schemes. Individual member claims data is not provided to CMS and is not available in the public domain. Primary data from CMS was obtained in Microsoft Excel workbooks, containing data on total PMB expenditure, PMB

expenditure for CDLs (subset of all PMBs), and another workbook containing the complaints dataset. The total PMB expenditure Excel workbook had 12 variables (8 numeric and 4 categorical variables), and another Excel workbook with data relating to 26 CDLs (8 numeric and 5 categorical variables) (Table 1).

Objective 5 used the complaints dataset comprising the counts of finalised complaints lodged by medical scheme members. All co-payment related complaints were identified using the type variable and extracted from the complaints dataset. The main issue behind co-payment (complaint type), decision made by the adjudicator(ruling), and the category of member's benefit option were also included in the analysis dataset.

2.7 Data management

The PMB and CDL datasets were imported into Stata V17 software for processing and analysis. Stata output was imported into Excel to create graphs and tables.

To determine the extent of co-payment accurately, data for 155 417 beneficiaries containing negative payments were removed from the total PMB expenditure dataset and data for 2542 beneficiaries containing negative payments were removed from the CDLs dataset. The remaining records were used for the analysis of co-payments. A total benefit paid variable, and two co-payment variables were calculated using mathematical formulas in Stata (see equations 1 to 3 below). The *Total Benefits Paid* variable was calculated by adding the *Amount Paid from Risk* and *Amount Paid from savings*.

We used both a narrow and broad definition of co-payment. The establishment of both narrow and broad definitions serves to delineate the amount of co-payment derived from savings accounts from that which is disbursed directly as out-of-pocket expenses. The narrow definition focuses on the out-of-pocket funding only (OOP co-payment) and it was calculated by taking the difference between the *Total Amount Claimed* column and the *Total Benefits Paid* column. The broader definition of co-payments relates to the amount that is funded out-of-pocket plus savings account (OOP+SA co-payment), and it was calculated by taking the difference between the Total Amount Claimed column and the Amount Paid from Risk column.

$$Total\ Benefits\ Paid = Amount\ Paid\ from\ Risk + Amount\ Paid\ from\ Savings \quad (1)$$

$$Copayment\ (Narrow) = Total\ Amount\ Claimed - Total\ Benefits\ Paid \quad (2)$$

$$Copayment\ (Broad) = Total\ Amount\ Claimed - Amount\ Paid\ from\ Risk \quad (3)$$

$$Copayment\ per\ capita = Copayment/Number\ of\ PMB\ Beneficiaries \quad (4)$$

In addition, age group was reclassified from 19 age bands into 9 categories. The list of classified benefit options developed by the CMS was used to classify scheme benefit options into three broad clusters, namely comprehensive plans, partial cover plans, and hospital plans using a scheme benefit option identifier(39). The list of classified benefit options developed by CMS using 2014 ASR data, excluded options of schemes that were registered after 2014, and options that were registered as Efficiency Discount Options (EDOs). The unclassified options were assigned as unclassified under the benefit design column of PMBs datasets.

The CMS complaints database was used in conjunction with the PMB expenditure data to elucidate the underlying reasons influencing the incidence of co-payments. The complaints dataset was also imported to Stata for analysis. The dataset had 244 records of resolved complaints relating to PMBs that were investigated and resolved in 2019. These 244 records comprised of the complaint unique identifier (Complaint ID), type of complaint, scheme type and investigation outcome/ruling. Complaint type comprised of four categories, namely, non-payment of PMBs, formulary/DTP issue, network issue, and benefit design issue. The dataset was imported from Excel into Stata for coding and analysis. This study's dataset and outputs were saved on the secure Google Drive platform.

2.8 Data analysis

Descriptive statistics and statistical tests were performed using Stata v17 software. Analytical weights were used for all analyses to adjust for number of PMB beneficiaries in each scheme.

a) Objective 1: To describe medical schemes members who were treated for PMB conditions per year from 2015 to 2019.

Descriptive analysis was conducted to compute numbers and proportions of PMBs patients who were treated for PMBs conditions by year, gender, and scheme type. The average age of PMB members was calculated by determining the midpoint of the 19 age bands, and these

midpoints were multiplied by the number of PMB beneficiaries in each band; the sum of the products was divided by the total number of beneficiaries to obtain their average age.

b) Objective 2: To quantify the extent of PMB co-payments and evaluate the trend in PMB co-payments between 2015 to 2019.

This study estimated the total amount of co-payment in respect of PMB benefits between 2015 to 2019. The total amount of PMB co-payments, average PMB co-payment per capita, and proportion were computed for both a narrower (out-of-pocket) and a broader (OOP+savings co-payment) definition of co-payment (out-of-pocket funding of PMB). To account for inflationary trends, the annual percentage growth in per capita amounts was compared with the inflation rates for the corresponding years. A 5% level of significance was used for all statistical tests.(59). The Mann Kendall Trend test (M-K test) was performed to evaluate the trend in PMBs co-payment(44,45). The M-k test was found to be the most appropriate trend analysis method in a study that compared parametric and non-parametric methods for trend identification (60).

c) Objective 3: To study factors that influence variation in PMB co-payments for the year 2019.

A bivariate analysis was performed to determine whether there is a statistical correlation between PMB co-payment and each predictor variable, as well as the degree of association, if one exists(62). Analysis of Variance (ANOVA) was employed to perform the bivariate analysis. The results of the bivariate analysis were used to inform the final multiple linear regression model. Co-payment expenditures are affected by multiple of factors hence this study employed a multiple linear regression model to identify factors that influence the amount of co-payment(63). PMBs co-payment per capita from the total PMBs dataset was specified as the dependent variable. The explanatory variables used were age group, province, in-hospital indicator, benefit design, gender, and scheme type. (40,38). The number of PMB patients per scheme were used as weights to adjust the contribution of each scheme to the total.

The mathematical expression of the multiple regression model used to model factors that influence variations in co-payment in respect of PMBs for the year 2019 is as follows(63):

Model 1: based on total PMBs dataset (Objective 3)

$$PMB\ Copayment = \beta_0 + B_1 Gender + B_2 Age + B_3 Province + B_4 InHospital + B_5 BenefitDesign + B_6 SchemeType + \varepsilon_i$$

Where:

- *Co-payment* is the dependent variable
- *Gender*, *age*, *province*, *in-hospital*, *benefit design*, *scheme type* and chronic condition are the independent variables
- Dummy variables were created for the categorical independent variables
- β_0 denote constant
- B_i denote coefficients of the independent variables, or the appropriate array of coefficients for categorical variables
- ε_i denote the error term

The Ordinary Least Squares (OLS) regression technique was employed to forecast the co-payment values. This method was selected due to its capacity to yield unbiased estimators. Subsequent to the estimation process, the predicted co-payment values were subjected to comparative analysis across various categories(66). The size of the coefficient for each independent variable was used to determine the effect of each independent variable on total co-payment, thus, how much the total co-payment is expected to change when the independent variable changes by one unit, holding other independent variables constant. Marginal contrasts against the weighted mean were computed to examine the differences between the explanatory variable levels(67,68). The p-value was used to establish which relationships in the regression model are statistically significant.

To evaluate the overall fit of the model the coefficient of determination (R-squared) was computed to determine how well the model fits the dependent variables (total co-payment)(69). Multicollinearity was checked using the variance inflation factor (VIF) method(70). According to the general rule, explanatory variables are not correlated if VIF =1, moderately correlation if VIF is between one and five, and highly correlated if VIF is greater than five(71). The formula used to compute VIF is as follows:

$$VIF_i = \frac{1}{1 - R^2}$$

Where:
$R^2 is\ unadjusted\ coefficient\ of\ determination\ for\ regressing\ the\ ith\ independent$

variable on the remaining ones

d) Objective 4: To study the influence of chronic condition in PMB co-payments for the year 2019.

A multiple linear regression model to was used to estimate co-payments coefficients for each CDL to establish the magnitude of the variation in co-payment that is explained by each chronic condition. The model has been adjusted to account for other factors specified in objective 3.

Model 2: based on PMBs CDL conditions dataset (Objective 4)

$$CDL\ Copayment = \beta_0 + B_1 Gender + B_2 Age + B_3 Province + B_4 InHospital + B_5 BenefitDesign + B_6 SchemeType + B_7 Chronic\ Condition + \varepsilon_i$$

e) Objective 5: To evaluate the resolution of complaints about PMB co-payments from medical schemes members for the year 2019.

From the summarised database of complaints received about PMB co-payments from members for 2019 we computed the proportion of PMB co-payment-related complaints, the proportion of co-payment related complaints resolved in favour of members, and those resolved in favour of the medical scheme. Furthermore, the proportion of complaints by complaint type was calculated to get an insight into the main issue/reason behind co-payment with respect to PMBs. The bivariate analysis of complaint outcome and each predictor variable was performed to establish association between outcomes and predictor variables. A Chi-square test was used to identify the disparities in categories between what was expected and what was observed.

CHAPTER THREE - RESULTS

This chapter presents descriptive and regression results shown in the form of tables and figures. The study results are organised according to the five study objectives, the first part presents the analysis of all PMBs using the total PMBs dataset (objectives 1 to 3), the second part presents the analysis on the influence of CDLs in PMB co-payment (objective 4), and lastly, this chapter concludes with the analysis of the complaints dataset to evaluate complaints received about PMB co-payments from medical schemes members (objective 5).

3.1. Objective 1: Description of medical scheme members who were treated for PMB conditions per year from 2015 to 2019.

This section reports the population characteristics of medical scheme members who were treated for PMB conditions. These characteristics provide description of the members of medical schemes who were treated for PMBs conditions including members registered with chronic conditions. The results presented in this section are aggregated by demographic characteristics such as province, gender, and age.

As shown in Error! Reference source not found., the overall number of beneficiaries covered by medical schemes grew from 8.79 million in 2015 to 8.99 million in 2019. Beneficiaries of the medical schemes increased in 2016, 2018, and 2019, but decreased by 6045 beneficiaries in 2017. The decrease in 2017 was attributed to a decline in membership in restricted schemes from 3.92 million (44.2%) in 2016 beneficiaries to 3.91 million (44.1%) in 2017 while open medical scheme grew by 7272 beneficiaries. Between 2015 and 2019, open schemes accounted for about 4.95 million beneficiaries, or approximately 56.0% of all beneficiaries, while restricted schemes accounted for approximately 3.93 million beneficiaries, or approximately 44.0%. Female beneficiaries made up roughly 53.0% of total medical scheme beneficiaries throughout the study period, while male beneficiaries made up approximately 47.0%.

The proportion of total medical scheme members who were treated for PMB conditions increased over the study period, from 49.1% in 2015 to a maximum of 62.0% in 2018, before declining to 57.2% in 2019 (Error! Reference source not found.). It is noticeable that the proportion of PMB patients in open medical schemes outnumbered those in restricted schemes between 2015 to 2016, however, from 2017 to 2019, restricted schemes outnumbered open schemes. During the study period, most PMB patients were in the 40 to 59

years age group ranging from 33.1% to 35.6%, although making up roughly 26.0% of the total medical scheme population. This was followed by the 20 to 39 age group years ranging from 25.2% to 26.5%, while the age group 80 years and older had the fewest (about 4.0%). Beneficiaries between the ages of 0 and 19 who make up roughly 34.0% of the total medical scheme population (Table 2) only account for 16.0% of all PMB patients (Table 3).

Table 2: Characteristics of beneficiaries of medical schemes: 2015 to 2019

Year	2015		2016		2017		2018		2019	
	n	%	n	%	n	%	n	%	n	%
Total beneficiaries	8,796,510	100	8,878,081	100	8,872,036	100	8,906,292	100	8,990,160	100
Gender										
Female	4,627,628	52.6	4,694,968	52.9	4,692,294	52.9	4,722,931	53.0	4,781,894	53.2
Male	4,168,882	47.4	4,183,113	47.1	4,179,742	47.1	4,183,361	47.0	4,208,266	46.8
Scheme type										
Open scheme	4,926,724	56.0	4,953,180	55.8	4,960,455	55.9	4,958,260	55.7	4,978,914	55.4
Restricted scheme	3,869,786	44.0	3,924,901	44.2	3,911,581	44.1	3,948,032	44.3	4,011,246	44.6
Age group										
0-19 years	2,983,408	33.9	2,987,746	33.7	2,972,971	33.5	3,000,425	33.7	3,024,391	33.6
20-39 years	2,518,435	28.6	2,520,876	28.4	2,471,033	27.9	2,459,464	27.6	2,447,118	27.2
40-59 years	2,303,780	26.2	2,332,170	26.3	2,353,997	26.5	2,354,857	26.4	2,378,618	26.5
60-79 years	874,420	9.9	911,658	10.3	940,974	10.6	957,227	10.7	996,441	11.1
80 years+	116,467	1.3	125,631	1.4	133,061	1.5	134,319	1.5	143,592	1.6
Province										
Eastern Cape	643,620	7.3	638,434	7.2	625,276	7.0	637,847	7.2	653,755	7.3
Free State	385,224	4.4	387,739	4.4	381,721	4.3	389,600	4.4	390,841	4.3
Gauteng	3,381,051	38.4	3,479,810	39.2	3,530,204	39.8	3,543,351	39.8	3,598,421	40.0
Kwa-Zulu Natal	1,244,568	14.1	1,253,144	14.1	1,232,181	13.9	1,256,360	14.1	1,265,694	14.1
Limpopo	480,496	5.5	461,237	5.2	457,333	5.2	485,044	5.4	476,557	5.3
Mpumalanga	559,573	6.4	545,595	6.1	551,688	6.2	547,402	6.1	550,360	6.1
Northern Cape	181,608	2.1	179,595	2.0	181,511	2.0	187,573	2.1	177,151	2.0
North-West	405,353	4.6	412,936	4.7	410,439	4.6	433,881	4.9	460,369	5.1
Western Cape	1,297,359	14.7	1,309,134	14.7	1,307,019	14.7	1,327,573	14.9	1,333,363	14.8
Unspecified	214,811	2.4	207,996	2.3	193,045	2.2	92,893	1.0	79,843	0.9
Outside Republic	2,847	0.0	2,461	0.0	1,619	0.0	4,768	0.1	3,806	0.0

Out of the total number of PMB patients' females constituted more than half of the PMB patients over the study period. **Error! Reference source not found.** below shows the distribution of medical scheme beneficiaries and PMB patients per province between 2015 and 2019. Gauteng, Western Cape, and KwaZulu-Natal had more PMB patients compared to the

other six provinces during the period of study, following the distribution of total medical scheme beneficiaries as shown in **Error! Reference source not found.**. By 2019, 36.0% of the PMB patients were located in Gauteng province, followed by the Western Cape with 14.5% of the beneficiaries, and KwaZulu-Natal with 14.0% of the beneficiaries. Each of the rest of the provinces accounted for less than ten percent of the total medical scheme beneficiaries.

Table 3: Characteristics of PMB patients: 2015 to 2019

Year	2015		2016		2017		2018		2019	
	n	%	n	%	n	%	n	%	n	%
PMB patients	4,320,470	49.1	4,794,809	54.0	4,898,459	55.2	5,525,139	62.0	5,144,994	57.2
Gender										
Female PMB	2,506,997	58.0	2,771,478	57.8	2,799,506	57.2	3,085,800	55.9	2,904,108	56.4
Male PMB	1,813,473	42.0	2,023,331	42.2	2,098,953	42.8	2,439,339	44.1	2,240,886	43.6
Scheme type										
Open PMB	2,268,420	52.5	2,408,971	50.2	2,394,161	48.9	2,404,334	43.5	2,449,987	47.6
Restricted PMB	2,052,050	47.5	2,385,838	49.8	2,504,298	51.1	3,120,805	56.5	2,695,007	52.4
Age group										
0-19 years PMB	720,134	16.7	779,194	16.3	752,696	15.4	831,112	15.0	682,377	13.3
20-39 years PMB	1,143,354	26.5	1,251,843	26.1	1,235,494	25.2	1,409,399	25.5	1,297,377	25.2
40-59 years PMB	1,432,086	33.1	1,602,645	33.4	1,696,121	34.6	1,951,162	35.3	1,833,544	35.6
60-79 years PMB	870,783	20.2	984,682	20.5	1,028,587	21.0	1,131,850	20.5	1,123,961	21.8
80 years+ PMB	154,113	3.6	176,445	3.7	185,561	3.8	201,616	3.6	207,735	4.0
Province										
Eastern Cape	321,065	7.4	341,899	7.1	331,907	6.8	332,842	6.0	312,087	6.1
Free State	204,051	4.7	228,604	4.8	222,449	4.5	222,469	4.0	215,230	4.2
Gauteng	1,609,605	37.3	1,789,987	37.3	1,810,855	37.0	1,809,774	32.8	1,854,267	36.0
Kwa-Zulu Natal	698,804	16.2	764,509	15.9	736,693	15.0	751,812	13.6	720,624	14.0
Limpopo	163,780	3.8	193,720	4.0	196,769	4.0	251,131	4.5	283,208	5.5
Mpumalanga	262,286	6.1	280,976	5.9	287,335	5.9	257,451	4.7	310,698	6.0
Northern Cape	85,349	2.0	96,933	2.0	95,160	1.9	98,757	1.8	91,400	1.8
North-West	258,231	6.0	318,688	6.6	431,190	8.8	969,351	17.5	579,416	11.3
Western Cape	669,113	15.5	730,253	15.2	723,722	14.8	738,019	13.4	748,141	14.5
Unspecified	46,942	1.1	48,124	1.0	61,308	1.3	91,722	1.7	28,068	0.5
Outside Republic	1,244	0.0	1,116	0.0	1,071	0.0	1,811	0.0	1,855	0.0

The figures presented in Error! Reference source not found. relate to 26 chronic conditions as defined in the chronic condition list (CDL). About 77.5% of the total PMB patients were treated for a one or more CDL conditions in 2019. Females constituted 53.1% of the CDL patients while males constituted 46.9%. The high proportion of female patients treated for one or more chronic illnesses is mostly due to the high proportion of PMB female patients in medical schemes (Table 3). In 2019, restricted medical schemes treated 50.4% of PMB patients for CDL conditions while open medical schemes treated 49.6%.

Table 4: PMB Patients on chronic conditions by gender and scheme type in 2019

Year	2019	
	n	%
PMB patients	5,144,994	
CDL patients	3,937,018	77.5
Gender		
Female CDL	2,090,996	53.1
Male CDL	1,846,022	46.9
Scheme type		
Open scheme CDL	1,951,408	49.6
Restricted scheme CDL	1,985,610	50.4

Error! Reference source not found. illustrates the weighted average age of PMB patients between 2015 and 2019. The average age of PMB beneficiaries increased over time. At the industry level, the average age of PMB patients was between 42.6 years and 45.0 years over a period of five years. Overall, the average age of PMB patients in open medical schemes was slightly higher than in restricted medical schemes as depicted in Error! Reference source not found. below The average age of PMB patients belonging to open medical schemes increased from 44.5 years in 2015 to 46.5 years in 2019, while the average age of patients belonging to restricted medical schemes increased from 40.6 years in 2015 to 43.7 years in 2019. As a result, the larger proportion of PMB patients in restricted schemes, as indicated in Error! Reference source not found.Error! Reference source not found., may not be attributable to a higher age profile as a risk factor.

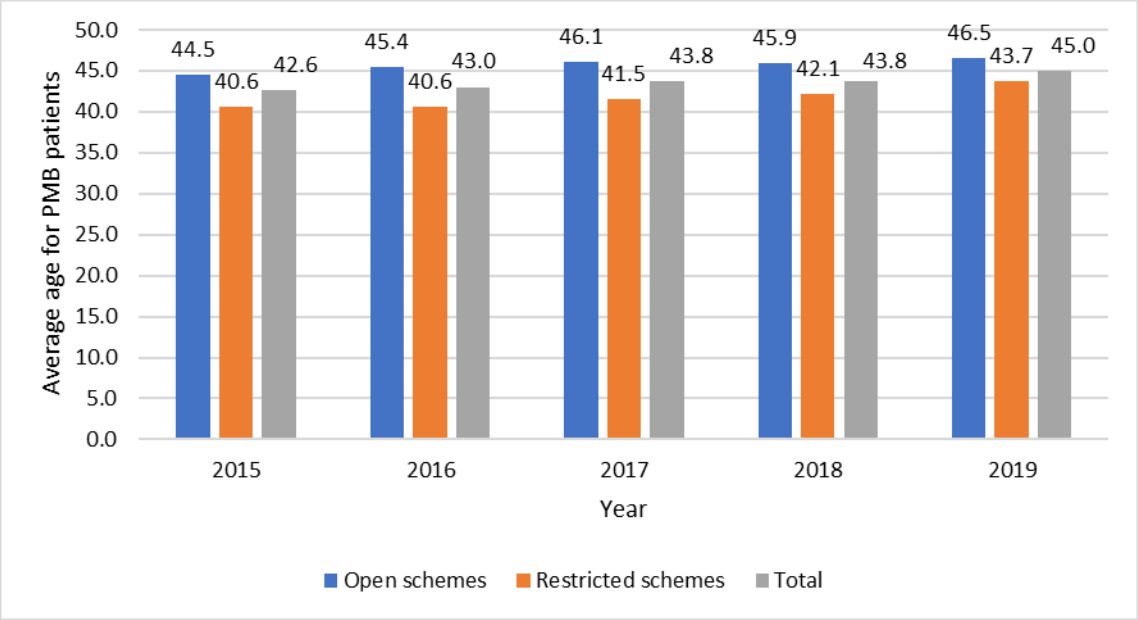

Figure 1:Average age for PMB patients by scheme type: 2015 to 2019

3.2. Objective 2: Quantification of the extent of PMB co-payments and evaluation of the trend of PMB co-payments

This study used both a narrow definition and a broader definition of co-payment. The narrow definition concentrates on the direct out-of-pocket funding only (OOP co-payment) while the broader definition of co-payments relates to the amount that is funded out-of-pocket plus what is paid from the members' savings accounts (OOP+SA co-payment). According to MSA regulations, PMBs must be paid in full without co-payments and may not be funded from members' medical savings accounts.

Error! Reference source not found. shows medical schemes PMB payments and the estimated PMBs co-payment from 2015 to 2019, for both the narrow and broad definitions. During the study period, the total amount claimed for PMBs by healthcare providers increased by 59.3%, from R62.20 billion in 2015 to R99.11 billion in 2019. Similarly, the total PMB amount paid by medical schemes from risk account increased by 57.9%, from 59.75 billion in 2015 to R94.37 billion while total amount paid from savings increased by 23.4%, from R69.05 million to R85.19 million. This implies that a considerable amount was paid out-of-pocket by members of medical schemes. The total OOP co-payment increased from R2.37 billion in 2015 to R4.65 billion in 2019. Taking into the account that amounts paid from members' savings accounts belongs to

members, the OOP plus savings co-payment amounted to R2.45 billion in 2015 and R4.74 billion in 2019 (broad definition). The proportion of PMB claims paid by medical schemes ranged between 95.1% and 96.1% while members paid between 3.9% and 4.8% of the total amount claimed by the healthcare providers. In 2018, a maximum of 4.9% of total amount claimed by healthcare providers was paid by members as co-payments.

Table 5: Total PMB co-payment for the period 2015 to 2019

Total PMBs Expenditure	2015	2016	2017	2018	2019
(N) Patients treated for PMBs (in millions)	4.19	4.79	4.89	5.52	5.14
Total amount claimed for PMBs (R million)	62,203.84	76,384.76	82,430.82	91,935.40	99,112.81
Total PMB amount paid from risk (R million)	59,756.18	73,226.66	78,790.27	87,446.11	94,375.74
Total PMB amount paid from savings (R million)	69.05	77.84	82.86	84.26	85.19
OOP co-payment (narrow) (R million)	2,378.60	3,080.26	3,557.69	4,405.04	4,651.88
OOP+Savings co-payment (broad) (R million)	2,447.66	3,158.10	3,640.55	4,489.29	4,737.07
OOP co-payment per capita (R)	567.38	642.52	727.77	798.57	905.47
% Increase OOP co-payment	-	13.2%	13.3%	9.7%	13.4%
OOP+Savings co-payment per capita (R)	583.86	658.75	744.72	813.84	922.06
% Increase OOP+Savings co-payment	-	12.8%	13.1%	9.3%	13.3%
OOP+Savings co-payment as % of total PMB amount claimed	3.9%	4.1%	4.4%	4.9%	4.8%

Error! Reference source not found. and Error! Reference source not found. below illustrates the total PMBs amount claimed, and co-payment per capita, respectively, from 2015 to 2019. The PMBs amount claimed increased by 30.0% from R14 837.90 in 2015 to R19 292.00 in 2019 while the amount paid for PMBs increased by 28.8% from R14 270.52 in 2015 to R18 386.53 in 2019. The figure shows that there was a slight decrease in 2018 compared to 2017 but then a significant rebound in 2019. Error! Reference source not found. also shows that over the study period, there has been an increasing upward trend in both OOP co-payment per capita and co-payment funded from both savings accounts and out-of-pocket (OOP+SA Co-payment). Co-payment per capita paid from both savings and out-of-pocket increased by 57.9% from R583.86 in 2015 to R922.06 in 2019. The annual percentage increase for OOP co-payment was slightly higher than for OOP+SA co-payment, as indicated in Error! Reference source not

found.. These annual percentage increases are higher than the comparable years' inflation rates, which ranged from 4.1% to 6.4%. The highest year-on-year increase in PMB co-payment per capita funded from both savings accounts and out-of-pocket was observed in 2019, at 13.3%. This indicates that PMB patients paid an additional R905.47 per person on average in 2019 for PMBs services on top of their monthly premium. Factoring in the amount paid from members' medical savings account, members paid R922.06 each financed from their medical savings account and OOP payments in 2019.

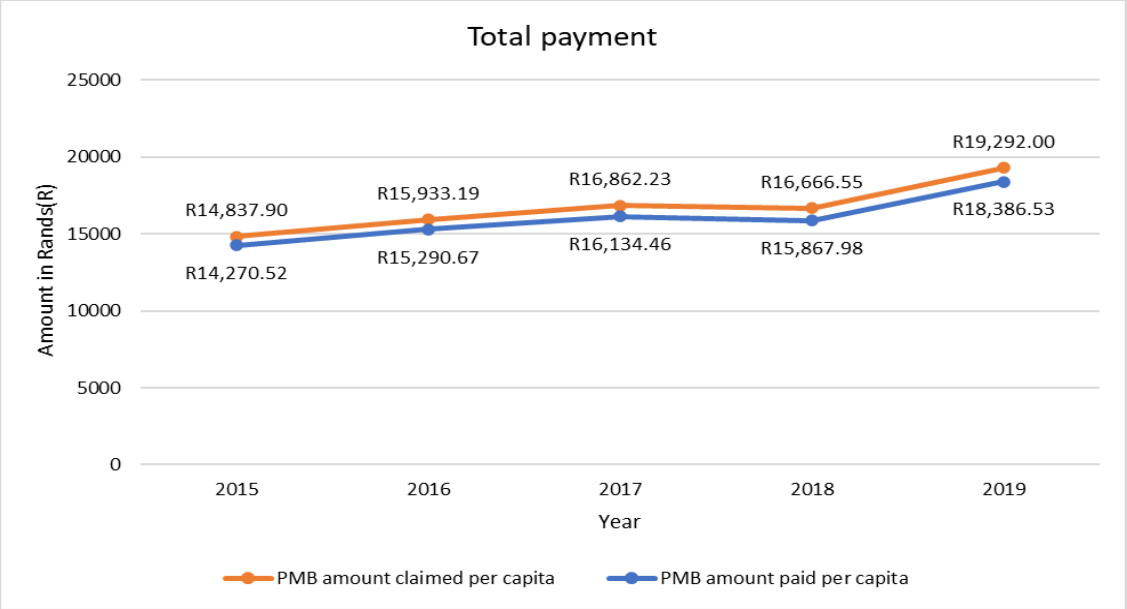

Figure 2:Total PMB payments per capita for the period 2015 to 2019

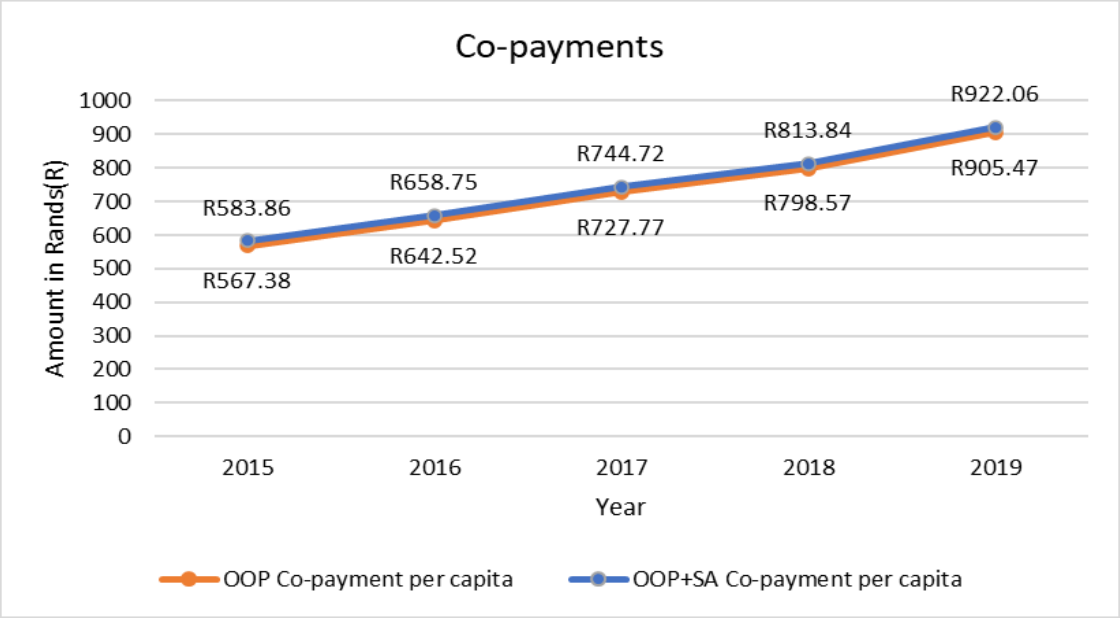

Figure 3:PMB Co-payments per capita for the period 2015 to 2019

Overall, the Mann Kendall test for monotonic trend indicated a significant upward trend in co-payments per capita over the period from 2015 to 2019 (p-value= 0.028).

3.3. Objective 3: Factors that influence variation in PMB co-payments for the year 2019.

3.4.1. Bivariate analysis: PMBs OOP co-payment per capita and OOP+SA co-payment

Error! Reference source not found. shows the weighted co-payment per capita per annum for both narrow and broader definition of co-payment for different sub-groups of beneficiaries for the period 2019. All the variables showed statistically significant differences between the groups. In 2019, the average OOP co-payment per capita was R905.47 per annum. On average, open medical schemes PMB patients paid an OOP co-payment of R1285.47 compared to R560.99 for those in restricted medical schemes in 2019. The average OOP co-payment per capita for female and male patients was R874.16 and R946.08, respectively. Elderly patients aged above 60 years paid more than R1000.00 while patients below 60 years paid less than R800.00. On average, PMB patients treated in KwaZulu-Natal paid significantly more with a OOP co-payment per capita of R1407.29 while PMB patients treated in North-West paid the least amount of R254.29. PMB patients on hospital plans paid the highest amount of R1567.18 compared to other plans with the average OOP co-payment less than R1190.00. On average

the OOP co-payment for PMB patients that were treated in hospital was R2213.38 while those treated out-of-hospital setting paid R367.99.

In general, similar results were obtained using the broad definition of co-payment per capita (OOP+SA) as compared to the narrow definition (OOP co-payment) in 2019 as shown in Error! Reference source not found.. Overall, the average OOP co-payment per capita was less than OOP plus savings co-payment in 2019 (R905.47 vs R922.06). This implies that on average R16.59 of PMB payment was paid from members' savings accounts.

Table 6: PMB per capita payment for different groups (2019)

	OOP Co-payment per capita		OOP+SA Co-payment per capita	
	Mean ± SD	ANOVA p value	Mean ± SD	ANOVA p value
Total	905.47 ± 1843.67		922.06 ± 1893.86	
Scheme Type				
Open	1285.47 ± 2070.86	F=1442.75, P<0.001	1311.83 ± 2153.77	F=1438.39, P<0.001
Restricted	560.99 ± 1530.88		568.71 ± 1539.71	
Gender				
Female	874.16 ± 1622.45	F=13.48, P<0.001	890.26 ± 1679.88	F=13.17, P<0.001
Male	946.08 ± 2095.40		963.29 ± 2139.05	
Age group				
0-19years	615.17 ± 1856.80		627.00 ± 1865.58	
20-39years	723.15 ± 1332.44		734.60 ± 1362.08	
40-59years	792.51 ± 1637.75	F=229.82, P<0.001	805.78 ± 1673.77	F=228.63, P<0.001
60-79years	1368.82 ± 2313.52		1395.92 ± 2404.64	
80 years+	1485.72 ± 2656.80		1522.33 ± 2759.50	
Province				
Eastern Cape	807.95 ± 1534.55		820.29 ± 1543.13	
Free State	741.42 ± 1616.01		753.71 ± 1621.16	
Gauteng	943.53 ± 1537.13		957.37 ± 1561.22	
Kwa-Zulu Natal	1407.29 ± 2484.59		1440.07 ± 2490.93	
Limpopo	451.53 ± 1424.50	F=136.98, P<0.001	457.08 ± 1428.38	F=138.94, P<0.001
Mpumalanga	646.22 ± 2458.29		661.28 ± 2493.93	
Northern Cape	791.29 ± 1754.36		804.45 ± 1756.98	
North-West	254.29 ± 996.19		257.71 ± 999.26	
Western Cape	1151.44 ± 1755.42		1170.70 ± 1782.56	
Benefit Design				
Comprehensive	1185.48 ± 2070.39		1205.49 ±2074.50	
Hospital plans	1567.18 ± 3634.23	F=619.05, P<0.001	1749.31 ± 4997.42	F=642.47, P<0.001
Partial plans	484.82 ± 1277.43		485.28 ± 1277.73	
EDOs plans	1079.27 ± 1480.48		1168.33 ± 1494.37	
Setting				
In-hospital	2213.31 ± 2811.84	F=9392.96, P<0.001	2215.29 ± 2812.63	F=8540.28, P<0.001
Out-of-hospital	368.00 ± 745.02		390.59 ± 916.56	

[1]Mean and standard deviation (SD) of co-payments. F statistic and p value from ANOVA comparing means between different groups

3.4.2. Multiple linear regression of predictors of PMBs co-payments per capita

Error! Reference source not found. shows the multiple linear regression results for predictors of PMB out-of-pocket co-payments, and OOP plus savings co-payments. All coefficients are shown as contrasts against the mean.

Out-of-pocket co-payment per capita was generally lower than OOP plus savings co-payment per capita due to not adjusting for the amount paid from member's savings account. The OOP co-payment model was statistically significant ($F= 757.88$, $p<0.001$) but only explained 29.6% of the total variation in co-payment per capita. All predictors of PMBs co-payment per capita were found to be statistically significant except for the Northern Cape province and EDO plans. PMB patients aged 0 to 19 paid R507.06 less than the average amount of OOP co-payment per capita followed by age group 20 to 39 years with R230.30 less than the average OOP co-payment. Patients above the age of 40 years, on the other hand, paid more than the average OOP co-payment per capita. Thus, the age groups 40 to 59 years, 60 to 79 years, and 80 years and older paid an OOP co-payment of R44.58, R423.15, and R415.89, more respectively than the mean. Out of the nine provinces where patients were treated for PMB conditions, Kwa-Zulu Natal and Western Cape patients spent R436.85 and R149.15 more respectively than the average for the entire country. Although Gauteng had the largest proportion of medical scheme members and PMB patients as shown in Error! Reference source not found., the co-payment for PMB treatment was R54.50 less than the average OOP co-payment per capita. OOP co-payment per capita for patient who were treated in a hospital setting was R1336.30 more on average compared to those who were treated in an out-of-hospital setting who spent R549.16 less. On average, patients on comprehensive cover plans and hospital plans spent more than the average OOP co-payment by R80.91, and R779.78 respectively. Conversely, patients on partial cover plans spent R141.34 less than the average. Female patients spent R60.55 less on average while male patients spent R78.51 more than the weighted mean co-payment. Open medical schemes patients spent R228.75 more than the mean compared to restricted schemes patients that spent R207.37 less on co-payments.

Table 7: Multiple regression models of predictors of PMBs co-payment per capita (2019)

	OOP Co-payment per capita				OOP+SA Co-payment per capita			
PMB variable	Coefficient	95% CI		p value	Coefficient	95% CI		p value
Age group								
0-19years	-507.06	-548.37	-465.74	<0.001	-508.25	-551.11	-465.39	<0.001
20-39years	-230.30	-258.15	-202.46	<0.001	-234.44	-263.33	-205.55	<0.001
40-59years	44.58	22.83	66.34	<0.001	41.53	18.96	64.10	<0.001
60-79years	423.15	392.61	453.70	<0.001	430.46	398.77	462.15	<0.001
80 years+	415.89	337.62	494.16	<0.001	433.04	351.84	514.24	<0.001
Province								
Eastern Cape	-66.30	-129.32	-3.28	0.039	-69.38	-134.76	-4.00	<0.001
Free State	-129.24	-205.88	-52.61	<0.001	-130.54	-210.04	-51.04	<0.001
Gauteng	-54.50	-76.63	-32.36	<0.001	-61.94	-84.91	-38.98	<0.001
Kwa-Zulu Natal	436.85	397.20	476.50	<0.001	452.93	411.80	494.07	<0.001
Limpopo	-154.12	-221.57	-86.67	<0.001	-154.83	-224.81	-84.86	<0.001
Mpumalanga	-191.09	-254.50	-127.67	<0.001	-185.97	-251.76	-120.18	<0.001
Northern Cape	-65.36	-184.37	53.65	0.281	-64.88	-188.34	58.58	0.303
North-West	-359.26	-407.02	-311.51	<0.001	-359.86	-409.39	-310.32	<0.001
Western Cape	149.15	109.98	188.32	<0.001	145.34	104.70	185.97	<0.001
Setting								
Out-of-hospital	-549.16	-559.50	-538.82	<0.001	-542.92	-553.65	-532.19	<0.001
In-hospital	1336.30	1311.14	1361.46	<0.001	1321.13	1295.02	1347.23	<0.001
Benefit design								
Comprehensive Plans	80.91	60.13	101.68	<0.001	79.65	58.10	101.21	<0.001
Hospital Plans	779.78	644.40	915.17	<0.001	950.88	810.43	1091.33	<0.001
Partial Plans	-141.34	-169.86	-112.81	<0.001	-150.99	-180.58	-121.41	<0.001
EDO Plans	40.21	-49.40	129.81	0.379	109.41	16.45	202.36	0.021
Gender								
Female	-60.55	-74.79	-46.31	<0.001	-61.09	-75.87	-46.32	<0.001
Male	78.51	60.05	96.98	<0.001	79.22	60.06	98.38	<0.001
Scheme type								
Open	228.75	204.22	253.28	<0.001	236.84	211.39	262.29	<0.001
Restricted	-207.37	-229.61	-185.13	<0.001	-214.71	-237.78	-191.64	<0.001
Constant	32.06	-51.00	115.13	0.449	56.91	-29.26	143.08	0.196

[1]All coefficients are shown as contrasts with the weighted mean.

Error! Reference source not found. also shows the multiple regression analysis of predictors of PMB out-of-pocket plus saving co-payment (OOP+SA co-payment per capita) with similar patterns to the OOP analysis. The OOP+SA model was also statistically significant (F= 707.97, p<0.001). All predictors of PMBs co-payment per capita were found to be statistically significant at the 5% level except for the Northern Cape province. Although these variables

can be used to predict PMBs co-payment, they only explain 28.2% of variance in PMBs co-payment. After adjusting for other predictors, PMBs co-payment per capita was found to be increasing with increasing age group. Patients aged 0 to 19 years and 20 to 39 years paid less co-payment on average (R508.25; R234.44, respectively), while patients aged 40 years and older paid higher co-payments per capita. On average, patients treated in Kwa-Zulu Natal and the Western Cape spent R452.93 and R145.34 more in co-payments. Co-payment per capita for patient who were treated for PMB conditions in hospital setting paid R1321.13 more on average compared to those who were treated in an out-of-hospital setting who paid R542.92 less on average. Patients on hospital plans paid the highest co-payment per capita of R950.88 relative to patients on partial cover plans who paid R150.99 less on average. Patients on comprehensive cover and efficiency discounted plans spent R79.65 and R109.41 more, respectively. Female patients treated for PMB conditions paid R61.09 less on co-payment per capita relative to male patients who paid R79.22 more on average. The average co-payment per capita for members of open scheme was R236.84 more than the average while those in restricted schemes who paid R214.71 less than the average co-payment per capita.

3.4. Objective 4: The influence of chronic condition in PMB co-payments for the year 2019.

3.4.1. Multiple linear regression of predictors of CDLs out-of-pocket co-payments per capita

As shown below, **Error! Reference source not found.** outlines the multiple regression model of predictors of CDLs out-of-pocket plus savings PMB co-payments focusing on 27 PMB chronic conditions. When analysing co-payment for 26 chronic conditions, diabetes conditions were split into Type 1, and Type 2, resulting in a total number of 27 chronic conditions. The model was statistically significant ($F= 319.28$, $p<0.001$). Among the 27 chronic conditions 18 were found to be statistically significant when compared with the mean at 95% level of confidence. Generally, the differences between coefficients of the model that predict the average co-payment funded from OOP only was slightly lower than coefficients of the model that predicted co-payment funded from both OOP+SA as outlined in **Error! Reference source not found.** below. After adjusting for other predictors (age, gender, province, hospital indicator, scheme type, and benefit design), OOP co-payment per capita for patients living with Chronic Renal Disease was much higher R1585.58. Haemophilia and schizophrenia also had significant co-payments of R705.28 and R474.31, respectively. Patients with hypothyroidism, on the other hand, had a R224.91 lower co-payment than the mean.

Considering the out-of-pocket plus savings co-payment model as presented in Error! Reference source not found., similar results to the out-of-pocket co-payment model were obtained. The model was statistically significant ($F = 322.29$, $p < 0.001$) for 18 chronic conditions at the 5% level. For most conditions, the OOP + Savings co-payment was more than the OOP co-payment. The co-payment per capita for patients with Chronic Renal Disease was R1593.08 higher than the average co-payment, at, followed by the co-payment for Haemophilia patients at R701.74 above the average, Schizophrenia at R483.96, and Bipolar Mood Disorder at R429.30. Conversely, Patients with Hypothyroidism paid significantly less (R228.91) than the average co-payment.

Table 8: Multiple regression models of predictors of PMB CDL co-payment per capita (2019)

CDL	OOP Co-payment per capita broader				OOP+SA Co-payment per capita			
Variable	Coefficient	95% CI		P value	Coefficient	95% CI		P value
Chronic Renal Disease	1585.58	1528.39	1642.77	<0.001	1593.08	1535.81	1650.34	<0.001
Haemophilia	705.28	131.53	1279.04	<0.001	701.74	127.24	1276.25	0.017
Schizophrenia	474.31	346.45	602.16	<0.001	483.96	355.94	611.99	<0.001
Bipolar Mood Disorder	423.79	383.57	464.02	<0.001	429.30	389.02	469.58	<0.001
Parkinson's Disease	345.76	241.98	449.55	<0.001	356.11	252.19	460.03	<0.001
Multiple Sclerosis	306.05	132.47	479.63	<0.001	321.12	147.32	494.93	<0.001
Coronary Artery Disease	284.05	255.51	312.59	<0.001	296.00	267.42	324.57	<0.001
Cardiomyopathy	202.65	147.74	257.57	<0.001	200.97	145.99	255.96	<0.001
Dysrhythmias	173.94	125.41	222.47	<0.001	175.04	126.45	223.64	<0.001
Crohn's Disease	92.26	-64.71	249.22	0.249	95.73	-61.44	252.91	0.233
Ulcerative Colitis	70.89	-43.38	185.17	0.224	74.85	-39.57	189.28	0.199
Cardiac Failure	62.68	16.73	108.62	<0.001	66.85	20.85	112.85	<0.001
Diabetes Mellitus Type 1	43.49	3.68	83.3	<0.001	48.83	8.97	88.69	<0.001
Epilepsy	29.35	-11.36	70.06	0.158	31.04	-9.72	71.81	0.136
Rheumatoid Arthritis	24.38	-24.61	73.37	0.329	30.11	-18.94	79.16	0.229
SLE	2.81	-108.82	114.44	0.961	10.56	-101.21	122.33	0.853
Hypertension	-8.51	-16.92	-0.09	<0.001	-9.02	-17.45	-0.6	<0.001
Diabetes Mellitus Type 2	-8.56	-24.68	7.55	0.298	-9.10	-25.24	7.04	0.269
Bronchiectasis	-71.17	-208.69	66.36	0.311	-66.91	-204.61	70.8	0.341
COPD	-72.21	-131.1	-13.32	<0.001	-62.88	-121.84	-3.91	<0.001
Asthma	-104.14	-128.44	-79.84	<0.001	-105.44	-129.77	-81.11	<0.001
Glaucoma	-106.49	-150.71	-62.27	<0.001	-96.48	-140.76	-52.21	<0.001
Hyperlipidaemia	-107.14	-121.3	-92.98	<0.001	-110.49	-124.67	-96.31	<0.001
HIV	-111.65	-135.85	-87.46	<0.001	-117.09	-141.32	-92.87	<0.001
Diabetes Insipidus	-196.36	-556.95	164.23	0.286	-200.68	-561.74	160.38	0.276
Addison's Disease	-208.41	-546.34	129.51	0.227	-209.60	-547.97	128.77	0.225
Hypothyroidism	-224.91	-250.29	-199.54	<0.001	-228.91	-254.32	-203.5	<0.001

[1]The results are adjusted for other predictors (age, gender, province, hospital indicator, scheme type, and benefit design). [2]All coefficients are shown as contrasts with the weighted mean.

3.5. Objective 5: Evaluation of the resolution of complaints about PMB co-payments from medical schemes members for the year 2019.

Error! Reference source not found. shows the results of the analysis of 244 PMB-related complaints by members of medical schemes in 2019. The results highlighted in Error! Reference source not found. shows that in 2019, there were approximately 5 complaints for every 100,000 PMB patients.

The number of complaints for members of restricted schemes was 3 per 100 000 PMB patients relative to open schemes with 7 complaints per 100 000 PMB patients. PMB Patients on hospital cover plans had the most complaints, with 105 complaints per 100 000 PMB patients, compared to comprehensive and partial cover plans, which had 3 complaints per 100 000 PMB patients.

Voluntary and non-voluntary use of non-DSP are associated with out-of-pocket payment as outlined by MSA regulations that allows medical schemes to impose a co-payment if a member voluntarily obtained PMBs from a non-DSP. Members who obtain medicines off formulary or do not follow the managed care protocols are also subject to co-payment(6). The distribution of complaints per complaint type shows that involuntary non-DSP, and voluntary non-DSP constituted 37.3% and 32.8% of total complaints compared to the rest of the categories constituting less than 10.0% of the complaints. Among reasons related to PMB complaints, non-payment of PMBs (9.8%), medical schemes' formulary issues (8.6%), illegitimate claims (5.7%), benefit design issues (2.5%), and waiting period (0.4%) were identified. The results shows that 53.7% (131/244) of complaints were ruled in favour of the member relative to 46.3% (113/244) ruled in favour of the medical scheme.

Table 9: Distribution of PMB-related complaints for different groups (2019)

Variable	N	%	Complaints per 100 000 PMB patients
Total PMB complaints	244		4.7
Scheme type			
Open	161	66.0	6.6
Restricted	83	34.0	3.1
Benefit design			
Comprehensive plans	97	39.8	3.4
Hospital plans	76	31.1	105.1
Partial plans	71	29.1	3.4
Complaint type			
Involuntary Non-DSP	91	37.3	
Voluntary Non-DSP	80	32.8	
Non-Payment of PMBs	24	9.8	
Formulary/DTP Issue	21	8.6	
Illegitimate claim	14	5.7	
Network Issue	7	2.9	
Benefit design issue	6	2.5	
Waiting period	1	0.4	
Complaint outcome			
Beneficiary lost	113	46.3	
Beneficiary won	131	53.7	

Error! Reference source not found. below illustrates the bivariate analysis of complaint outcome and each predictor variable. There was no statistically significant difference in outcomes between open and restricted medical schemes or for different benefit designs. However, the outcome did vary by type of complaint (chi-square= 209.05, p-value<0.001). All cases involving involuntary non-DSP use and the waiting time were determined in favour of the recipient, but those involving voluntary non-DSP and illegitimate claims were ruled in favour of the medical schemes. Furthermore, 91.7% of complaints regarding non-payment of PMBs were resolved in favour of the beneficiary, and 66.7% of formulary/DTP complaints were resolved in favour of the beneficiary. Conversely, most complaints about provider networks and benefit

design difficulties were resolved in favour of medical schemes, with beneficiaries winning only 14.3% of provider network complaints and 33.3% of benefit design issues.

Table 10: Number of complaints for different groups (2019)

Variable	Complaint outcome			Statistical Test	
	Beneficiary lost	Beneficiary won	% Won	Chi-square	P-value
Scheme type	113	131	53.7%		
Open	79	82	50.9%	1.4467	0.229
Restricted	34	49	59.0%		
Benefit design	113	131	53.7%		
Comprehensive plans	41	56	57.7%	1.9027	0.386
Hospital plans	40	36	47.4%		
Partial plans	32	39	54.9%		
Complaint type	113	131	53.7%		
Involuntary Non-DSP	0	91	100.0%		
Voluntary Non-DSP	80	0	0.0%		
Non-Payment of PMBs	2	22	91.7%		
Formulary/DTP issue	7	14	66.7%	209.0479	P<0.001
Illegitimate claim	14	0	0.0%		
Network issue	6	1	14.3%		
Benefit design issue	4	2	33.3%		
Waiting period	0	1	100.0%		

CHAPTER FOUR - DISCUSSION

4.1. Summary of main findings

The study reveals that there has been an upward trend in both OOP co-payment per capita and co-payment funded from both savings accounts and out-of-pocket (OOP+SA co-payment). Co-payment per capita paid from both savings and out-of-pocket increased by 57.9% from R583.86 per capita in 2015 to R922.06 in 2019. The annual percentage increases in PMB co-payments were higher than the comparable years' inflation rates, which ranged from 4.1% to 6.4%. The highest year-on-year increase in PMB co-payment per capita funded from both savings accounts and out-of-pocket was observed in 2019, at 13.3% (Table 5). PMB patients paid an additional R905.47 per person in 2019 for PMB services on top of their monthly premium.

Multiple regression analysis shows that younger patients paid less co-payment on average compared to elderly patients aged 40 and over. Furthermore, the analysis revealed that female patients treated for PMB conditions paid lower co-payments relative to male patients on average. Patients in restricted schemes paid less co-payment than open schemes, and those treated in a hospital paid more. PMB patients treated in Kwa-Zulu Natal, and Western Cape paid higher co-payments on average. Patients on hospital plans and EDOs paid more co-payment compared to patients on comprehensive plans. In addition, multiple regression analysis for the CDLs co-payments shows that patients living with chronic renal disease had much higher co-payments while patients with hypothyroidism, on the other hand, had a significantly lower co-payment.

In analysing PMB-related complaints to the Medical Council, involuntary and voluntary use of non-DSPs constituted the majority of total complaints. The Council for Medical Schemes outcome did vary by type of complaint.91.7% of complaints regarding non-payment of PMBs were resolved in favour of the beneficiary, and 66.7% of PMB formulary/DTP complaints were resolved in favour of the beneficiary. Conversely, most complaints about provider networks and benefit design difficulties were resolved in favour of medical schemes.

4.2. Discussion of the findings

Based on the analysis of PMB co-payments, it is evident that members of medical schemes carried a burden of rising PMB co-payments over the period under study. Although Regulation

8 of the MSA states that PMB should be paid in full, the expenditure on PMB co-payments is large and has continued to increase over time. High PMB co-payments may be attributed to non-compliance with PMB regulations by medical schemes and non-adherence to medical scheme rules by members.

The intricacy of PMB regulation and medical scheme rules, which include difficult medical terms and jargon, lead to members of medical schemes failing to comply with PMB regulations(34). Because of their lack of understanding of the regulations governing PMB benefits, they fail to comply with PMB rules, and as a result, they incur co-payments. In some cases, patients have knowledge and understanding of the PMB rules but choose to ignore them. For instance, in the pharmaceutical market, patients may prefer more expensive drugs (branded) than those in the medical scheme formulary (mostly generics), and as a result, medical schemes impose co-payments (31,72). This behaviour of patients contributes to the increase in PMB co-payments because the medical scheme covers only medicines that are on their PMB formulary.

Conversely, pharmaceutical retail outlets may dispense drugs that are not on medical scheme formulary to maximise profits, resulting in patients paying a co-payment or covering the entire cost. If this conduct by pharmacies is not monitored and controlled, the increase in co-payment for drugs may leave members of medical schemes unprotected from higher health expenditure (41,53). Furthermore, the failure of pharmacies to stock less expensive medication contributes to people paying high co-payments.

The literature also outlined that most health systems do not protect patients from balance billing by healthcare providers (30). To limit co-payment increases and maintain reasonable/acceptable co-payment levels, it is critical to regulate provider tariffs and educate members on medical scheme rules and formularies (31). Another worrying practice involves medical practitioners who deliver services to PMB patients without alerting them that they are not part of their medical scheme DSPs, and as a result, a member will be responsible for paying a co-payment or the entire bill (Table *9*)(34).

Medical schemes negotiate prices with a healthcare provider (doctors and hospitals) and agree on the rate, but patients choose to utilise services of providers that charge above the agreed rate, and they end up paying the co-payment for utilising a non-DSP provider (31). This decision

by patients was confirmed in this study wherein some members voluntarily used non-DSP to obtain PMB services.

As shown in this study, co-payments vary by province which may be due to differential access to DSPs. The concentration of healthcare providers in South Africa may contribute to the uneven distribution of DSPs, which has an impact on patients accessing PMB services and leads them to access PMB services from non-DSPs that are closer to them(73,74). But with the consequence of the medical scheme not paying for PMB care in full.

This study found that majority of PMB complaint cases to the Council of Medical Schemes were ruled in favour of the members which confirms that there are also problems with medical schemes failing to comply with PMB regulations. These are usually attributed to differing interpretations of PMB regulations(75). Incorrect interpretation of PMB regulations whereby the "payment in full" requirement stated in regulation 8 is not understood led to imposition of co-payment even where it is not necessary(75,76).

Regulation 10 (6) of the MSA 131 of 1998 stipulates that the funds in medical savings account shall not be used to pay for PMBs. However, some medical schemes paid significant amounts towards PMBs from medical savings account in 2019. This may be attributed to medical schemes differing interpretation of Regulation 10(6). Randhir (56), a legal expert, has challenged the interpretation of PMB regulations relating to PMB payments. His arguments on the interpretation of PMBs regulations are important because they may explain the underlying rationale behind PMB co-payments. His arguments were based on Regulation 8 and 10 (6) of the MSA 131 of 1998 which relate to the payment of PMBs in full by medical schemes, and the prohibition of funding PMBs from medical savings accounts, respectively (56). He outlined that Regulation 8(1) refers to what members must pay healthcare providers, while Regulation 10(6) is on what the medical schemes must fund. Therefore, he argued that voluntary co-payments and deductibles do not form part of Regulation 10(6) and schemes should not be prohibited from paying PMBs amounts on behalf of members from their medical savings account because they do not form part of the benefit offered by scheme and are not payable by the scheme (56). Interpretation of PMB regulations by CMS, members, and medical schemes, is vital as it informs regulatory decisions on how medical schemes fund PMBs and ultimately impact the magnitude of PMB co-payment by members.

In response to challenges concerning PMBs, the CMS and the National Department of Health developed a code of conduct with the purpose of ensuring that PMBs are provided to members of medical schemes in line with PMB legislation(77). However, noncompliance with PMB regulations remains disputed, with some cases decided at the high court level after failing at the medical scheme or CMS level, or even at the Appeals Board of the Committee of the CMS(76). This indicates the complexity of the PMBs, which is consistent with the findings of Competition Commission's health market inquiry (HMI)(78) , which noted that the complex PMB system puts members in a disadvantaged position, reducing their chances of having their PMB claims settled.

In addition, implementation of monetary limits by medical schemes for funding PMBs subject member to pay co-payments(30). The HMI found that the process of claiming PMB is quite complex, involving numerous steps and many players(78). Failure at any phase in the claim process results in liability being transferred to the patient(78). Members' chances of getting their PMB claims reimbursed in full are negatively impacted by the complex nature of the PMB system.

High co-payments in contravention of the regulations may also persist because of the low penalties imposed on medical plans found to be in violation of PMB laws. As a result, medical schemes are likely to take advantage of members who fail to report PMB complaints to the CMS, as well as those who lack the financial capacity to pursue litigation(76).

Based upon characteristics of the study population, expenditure on PMB generally increases with age hence the higher co-payments.

In terms of the benefit design factor, this study found that patients on comprehensive plans, hospital plans and EDOs paid more co-payment than partial cover plans. All plans, regardless of their benefits, must comply with the PMB regulations. So, variation in co-payment by benefit design is not expected in the context of PMBs. Members of comprehensive plans may have paid higher co-payments due individual preference, as such plans tend to be taken up by wealthier members. They may be less responsive to co-payments because they can afford them and do not like being limited in their service options(79). For individuals on EDOs and hospital plans, the reason they spent more could be due to their lack of knowledge of DSPs or they found them difficult to access(80).

4.3. Strengths and limitations of study

This study used data from all the medical schemes, making the findings more generalisable, and free from sampling errors. The study employed multiple regression analysis to better understand complex relationships between PMB co-payment and factors that influence it. This form of study also allows us to make predictions and examine the strength of the association between PMB co-payment and several of other factors.

The primary limitation of this study was lack of access to individual level payment data. However, the CMS ASR data is summarised using natural numbers (grouped by demographic variables) and total costs rather than sample statistics, making it possible to extrapolate proportionally to accurately reproduce the original data for analysis.

The CMS PMB expenditure dataset provides few explanatory variables to study factors that could possibly influence variation in PMBs co-payments. And the explained variance in the regression models was relatively low. Additionally, there was no breakdown of the data by service category to indicate whether the amount was for PMB diagnosis, or treatment or for emergency services. Thus, the PMB regression model outlined in this study might be limited by omitted variables. However, information from the CMS complaints database was adopted to supplement the PMB expenditure data to obtain some insight about the reason behind co-payments.

4.4. Implication of the results

The results of this study build on existing evidence that PMBs are costly to cover, posing a significant problem for medical schemes in South Africa. Although PMBs ensure cover of essential healthcare benefits they may crowd out other day-to-day benefits (non-PMBs) due to the financial costs. As a result, finding the right balance is a major policy challenge.

Out-of-pocket payments are a problem in the SA private market and there is not enough research work on them particularly in relation to PMBs. Co-payments are part of the problem but so are other things such as balance billing. Co-payments do serve a purpose in mitigating misuse but also need to be better monitored and regulated, otherwise they may result in an increased financial burden on members. High co-payments could also reduce adherence to PMB treatment, resulting in worse health outcomes for members with chronic conditions.

The complexity of the PMB regulation/medical scheme rules and member knowledge remain a problem, as identified by the literature and the HMI but does not seem to be improving. As shown in this study, SA medical scheme members do not like restrictions, despite the system efficiency gains.

On the provider side there is too much expensive and inefficient use, and they also don't like following protocols and formularies or charging the basic medical aid rates. If more were compliant with the medical aid rates it would be more difficult for individual providers to opt-out. The CMS is not fully using its legislative power to ensure that medical schemes comply with PMB regulations to protect the members.

This study raises a number of opportunities in the areas of PMB policy development and review, as well as opportunities to analyse the behaviour of medical schemes and their members. The figures for PMB co-payments generated in this report are useful for assessing the effectiveness and impact of cost-sharing strategies in the South African health insurance market. This research provides an opportunity to examine PMB regulations, including medical scheme formularies.

CHAPTER FIVE - CONCLUSION AND RECOMMENDATIONS

This study on co-payment in respect of PMBs found that members of medical schemes incurred high co-payments that increased above inflation during the period under study. The high co-payment resulted from schemes not following the PMB regulations and charging patients when they should not, and also patients not understanding the rules or choosing not to follow them. Apart from ensuring that medical schemes comply with MSA, the CMS should devise a system to proactively identify medical schemes that are not paying legitimate PMB claims, rather than waiting for members to lodge complaints. The NDOH should regulate the cost of PMBs to deal with overcharging of PMBs services to protect members from balance billing.

Excessive co-payments coupled with increasing premiums above inflation would result in unaffordable cover and low utilisation of PMBs, ultimately worsening health outcomes.

Future studies on co-payments and OOP in South Africa should concentrate on the effects that co-payments have on members and medical schemes. It is also necessary to conduct evaluation studies to determine whether co-payments are effective in the context of PMB services.

In conclusion, the following recommendations should be considered:

i. The CMS need to develop frameworks on how to minimise OOP while maintaining maximum benefits and financial sustainability of medical schemes.
ii. More data must be collected by the CMS to better understand co-payment and the factors that affect it.
iii. To prevent involuntary usage of non-DSP when using PMBs services, medical schemes must make sure they are contracting with suppliers that members can easily reach and provide best value for money.
iv. To address problems related to member awareness, members need to be educated about PMBs protocols/rules and how to use PMB services. Brokers also have a responsibility to inform their clients of the medical scheme rules pertaining to PMBs, MCO protocols, and scheme formularies.
v. The CMS should impose higher penalties on medical schemes that fail to comply with the PMB regulations.

Overall, the conclusions of this study contribute to policy improvements targeted at safeguarding medical scheme members from financial risk while also guaranteeing medical scheme financial viability. As a result, these findings have significant implications for medical schemes, member financial risk protection, PMB legislation, and governments interested in healthcare funding.

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APPENDICES

Appendix 1: Plagiarism declaration report

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FACULTY OF HEALTH SCIENCES

PLAGIARISM DECLARATION TO BE SIGNED BY ALL HIGHER DEGREE STUDENTS

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I Moabelo Matlou Martin (Student number: 2213586) am a student registered for the degree of Master of Public Health in the academic year 2023.

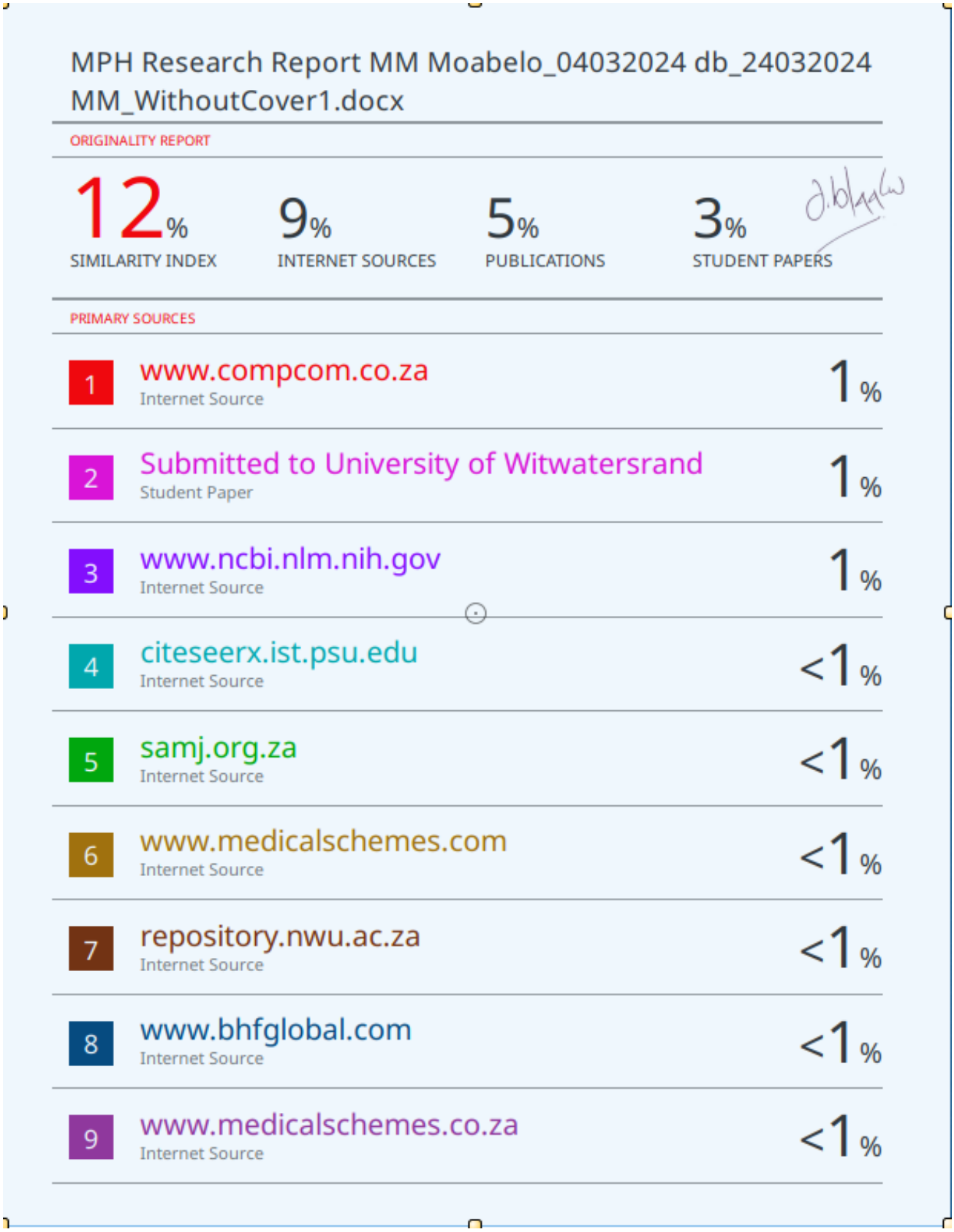
I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above degree is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.
- I have included as an appendix a report from "Turnitin" (or other approved plagiarism detection) software indicating the level of plagiarism in my research document.

Signature: Moabelo Date: 25/03/2024

1

Appendix 2: Turnitin report



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Appendix 3: Ethics clearance certificate

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

R49 Mr MM Moabelo

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
CLEARANCE CERTIFICATE NO. M220680

NAME: (Principal Investigator)	Mr MM Moabelo
DEPARTMENT:	School of Public Health Medical School University
PROJECT TITLE:	*Co-payments in respect of prescribed minimum benefits (PMB's) in South African medical schemes*
DATE CONSIDERED:	Ad hoc
DECISION:	Approved unconditionally
CONDITIONS:	
NOTE:	If contact information regarding student study participants is required, please contact the Registrar's office - <Nicoleen.Potgieter@wits.ac.za>
SUPERVISOR:	Dr D Blaauw
APPROVED BY:	Dr CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	2022/07/19

This Clearance Certificate is valid for 5 years from the date of approval. An extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office secretariat on the 3rd floor, Phillip Tobias Building, Parktown, University of the Witwatersrand, Johannesburg.

I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated from the research protocol as approved, I/we undertake to submit details to the Committee. **I agree to submit a yearly progress report**. When a funder requires annual re-certification, the application date will be one year after the date when the study was initially reviewed. In this case, the study was initially reviewed in **June** and therefore reports and re-certification will be due in the month of **June** each year. Unreported changes to the study may invalidate the clearance given by the HREC (Medical).

Signature of Principal Investigator

30/07/2022
Date

Appendix 4: List of PMB Chronic Conditions

Condition Code	Condition Description	Code
ADS	Addison's Disease	1
AST	Asthma	2
BMD	Bipolar Mood Disorder	3
BCE	Bronchiectasis	4
CHF	Cardiac Failure	5
CMY	Cardiomyopathy	6
COP	Chronic Obstructive Pulmonary Disease	7
CRF	Chronic Renal Disease	8
IHD	Coronary Artery Disease	9
CSD	Crohn's Disease	10
DBI	Diabetes Insipidus	11
DM1	Diabetes Mellitus Type 1	12
DM2	Diabetes Mellitus Type 2	13
DYS	Dysrhythmias	14
EPL	Epilepsy	15
GLC	Glaucoma	16
HAE	Haemophilia	17
HYL	Hyperlipidaemia	18
HYP	Hypertension	19
TDH	Hypothyroidism	20
MSS	Multiple Sclerosis	21
PAR	Parkinson's Disease	22
RHA	Rheumatoid Arthritis	23
SCZ	Schizophrenia	24
SLE	Systemic Lupus Erythematosus	25
IBD	Ulcerative Colitis	26

Appendix 5: Total PMBs data collection template developed by CMS.

Data Table Number:	**B.7**
Data Table Description	**Total PMB expenditure**
Filter:	**All PMB claims both in and out of hospital**

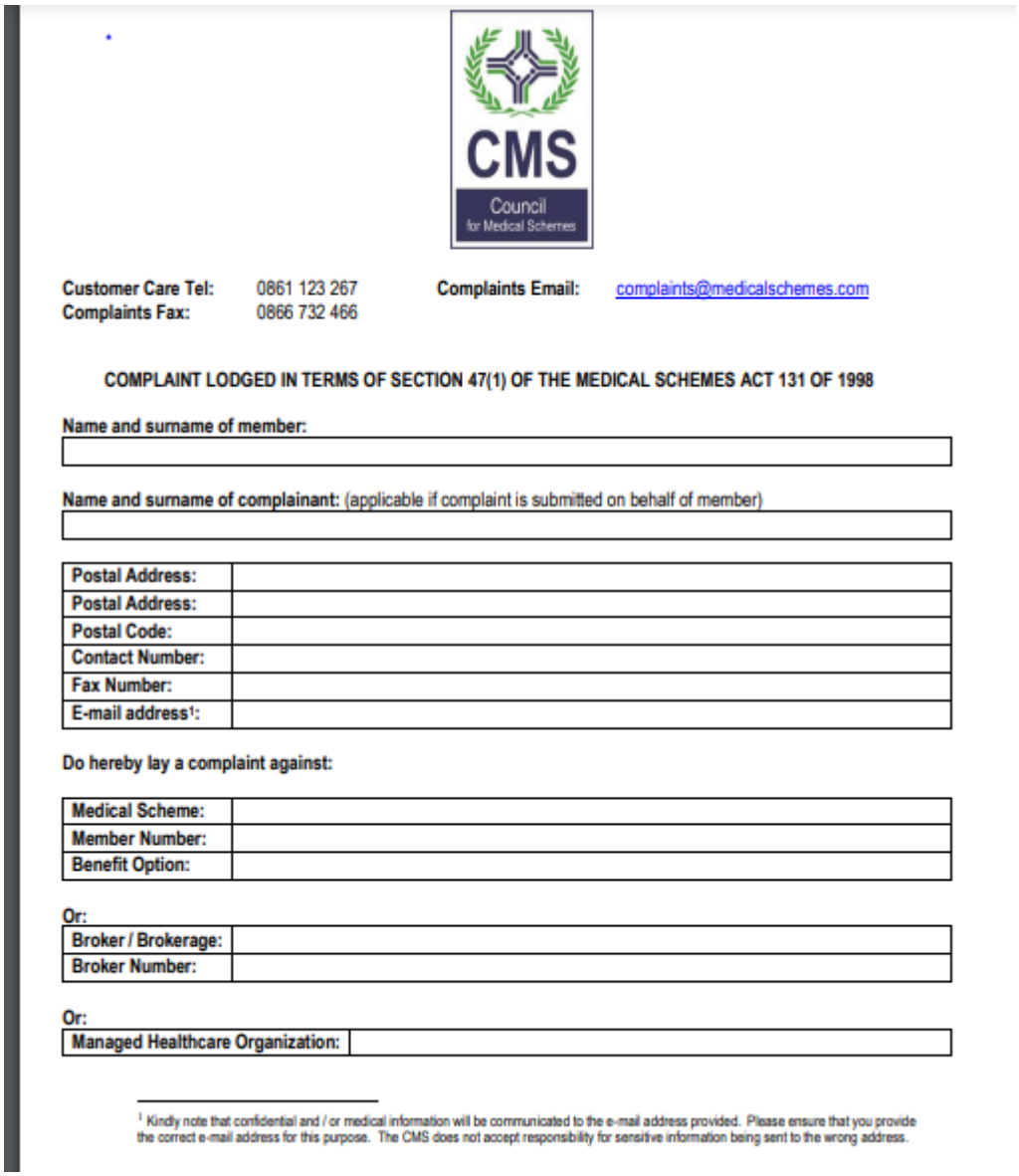
Column Description	Data type	Column Header	Notes	Validate against sheet	Validate column
Year Of Specification	Integer	YearOfSpec	2021		
Part number is the same as the Data Table Number	Text	Part	B.7		
Scheme Reference Number	Integer	RefNo	can be obtained from Odata		
Scheme Benefit Option Number	Integer	BenefitOptionNumber	can be obtained from Odata		
Financial Year	Integer	FinancialYear	e.g 2018 for 2018 data	CdRef 1 FinancialYearsAndMonths	FinancialYear
Age Band	Text	AgeBand	e.g. "25-29 years"	CdRef 3 AgeBands	AgeBand
Gender	Text	Gender	"Female" or "Male"	CdRef 4 Gender	Gender
Province Code	Text	ProvinceCode	e.g "GP" for Gauteng	CdRef 12 Province	ProvinceCode
In Hospital Indicator	Bit	InHospital	1=Yes 0=No		
No of unique beneficiaries treated for a PMB condition	Number	NoOfPMBBeneficiaries	May not be blank	Use 0 when no data available	
Amount claimed	Decimal(18, 2)	TotalAmount_Claimed	May not be blank	Use 0 when no data available	
Co-payment by member	Decimal(18, 2)	CoPaymentMember	May not be blank	Use 0 when no data available	
Other payment by member	Decimal(18, 2)	OtherPaymentMember	May not be blank	Use 0 when no data available	
Amount paid from risk	Decimal(18, 2)	AmountPaidFromRisk	May not be blank	Use 0 when no data available	
Amount paid from savings	Decimal(18, 2)	AmountPaidFromSavings	May not be blank	Use 0 when no data available	

Appendix 6: CDL data collection template developed by CMS.

Data Table Number:	**B.8**
Data Table Description	**Total PMB expenditure for CDL conditions**
Filter:	**All PMB claims both in and out of hospital in respect of CDL conditions**

Column Description	Data type	Column Header	Notes	Validate against sheet	Validate column
Year Of Specification	Integer	YearOfSpec	2021		
Part number is the same as the Data Table Number	Text	Part	B.8		
Scheme Reference Number	Integer	RefNo	can be obtained from Odata		
Scheme Benefit Option Number	Integer	BenefitOptionNumber	can be obtained from Odata		
Financial Year	Integer	FinancialYear	e.g 2018 for 2018 data	CdRef 1 FinancialYearsAndMonths	FinancialYear
Age Band	Text	AgeBand	e.g. "25-29 years"	CdRef 3 AgeBands	AgeBand
Gender	Text	Gender	"Female" or "Male"	CdRef 4 Gender	Gender
Province Code	Text	ProvinceCode	e.g "GP" for Gauteng	CdRef 12 Province	ProvinceCode
CDL Code	Text	CDL_Code	e.g. "IHD" for Coronary Artery Disease	CdRef2 CDL	CDL_Code
In Hospital Indicator	Bit	InHospital	1=Yes 0=No		
No of unique beneficiaries treated for a CDL condition	Number	NoOfCDLBeneficiaries	May not be blank	Use 0 when no data available	
Total amount claimed by provider	Decimal(18, 2)	TotalAmount_Claimed	May not be blank	Use 0 when no data available	
Co-payment by member	Decimal(18, 2)	CoPaymentMember	May not be blank	Use 0 when no data available	
Other payment by member	Decimal(18, 2)	OtherPaymentMember	May not be blank	Use 0 when no data available	
Total amount paid from risk	Decimal(18, 2)	AmountPaidFromRisk	May not be blank	Use 0 when no data available	
Amount paid from savings	Decimal(18, 2)	AmountPaidFromSavings	May not be blank	Use 0 when no data available	

Appendix 7: CMS-Complaint-Form



CMS
Council for Medical Schemes

Customer Care Tel: 0861 123 267 **Complaints Email:** complaints@medicalschemes.com
Complaints Fax: 0866 732 466

COMPLAINT LODGED IN TERMS OF SECTION 47(1) OF THE MEDICAL SCHEMES ACT 131 OF 1998

Name and surname of member:

Name and surname of complainant: (applicable if complaint is submitted on behalf of member)

Postal Address:	
Postal Address:	
Postal Code:	
Contact Number:	
Fax Number:	
E-mail address[1]:	

Do hereby lay a complaint against:

Medical Scheme:	
Member Number:	
Benefit Option:	

Or:

Broker / Brokerage:	
Broker Number:	

Or:

Managed Healthcare Organization:	

[1] Kindly note that confidential and / or medical information will be communicated to the e-mail address provided. Please ensure that you provide the correct e-mail address for this purpose. The CMS does not accept responsibility for sensitive information being sent to the wrong address.

FACTS OF THE COMPLAINT:

Please provide a summary of the facts of the matter and attach any supporting documentation i.e. accounts, statements, doctor's reports, broker letters etc. to substantiate your complaint.

Please type here:

DETAILS OF DISPUTE RESOLUTION PROCESSES FOLLOWED WITH THE MEDICAL SCHEME / ADMINISTRATOR / MCO / BROKER:

Please indicate if you have followed all internal processes with the entity / person complaining against before approaching the Registrar's Office and if so, please provide details of the process followed.

Please type here:

WHAT RECOURSE DO YOU REQUIRE?

Please type here:

COMPLAINANT **DATE**