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Exploring fraud mitigation strategies in South African medical scheme claims

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Abstract
In South Africa, medical schemes contribute substantially to the funding of healthcare. Most of the private healthcare services are accessed through medical schemes. Given the huge amount of money that is spent on healthcare, there is a lot of exposure to fraud in claims submitted to medical schemes. The purpose of the study was to explore strategies to assist in mitigating fraud in South African medical scheme claims. Data was collected at the premises of the medical administrator selected in the case study. A qualitative research methodology was followed in conducting this study. A purposive sample of 15 study participants was selected from the administration company that was chosen as a case study. The results of the study showed that various strategies can be implemented, including establishing a fraud policy and regularly identifying known or unknown trends in fraudulent claims. The identification of these trends can be detected manually and with the aid of technology. Furthermore, implementing appropriate preventative and corrective control strategies can help to curb fraud in medical scheme claims. Collaboration within the medical scheme industry and with other stakeholders will strengthen the fight against this type of fraud. A comprehensive approach should be followed to mitigate fraud in medical scheme claims. Applying the recommendations from the study could assist the medical schemes to reduce the amount of money spent on fraudulent claims, thereby improving their financial viability and reducing the rate of increase in medical scheme contributions for their members.

Keywords: South Africa, medical schemes, fraud, mitigation strategies, claims.

Introduction

Fraud is one of the major challenges in healthcare provision, and results in wasteful expenditure (Johnson & Nagarur 2015). The purpose of this paper is to explore strategies to mitigate fraudulent claims in South African medical schemes. In South Africa, the healthcare financing system mainly comprises the public and private healthcare sectors. In 2015, the South African public healthcare sector accounted for 48.3% of the total healthcare expenditure, while the private sector contributed 49.8% for the same period (Health Policy Project 2016). According to Health Policy Project (2016), the medical schemes financed a large proportion of private healthcare expenditure, contributing 83.5% to the total expenditure on private healthcare in 2015. The medical schemes in South Africa is a R225.6 billion industry, with risk healthcare expenditure totalling R186.15 billion for year 2021 (Council for Medical Schemes, 2021/2022). Gee and Button (2015) estimate that on average, six percent of the total healthcare expenditure can be attributed to fraud. Medical scheme fraud is defined as any premeditated activity by an internal and/or external person, with the aim of profiting by submitting false, irregular or inflated claims, which results in financial loss to the medical scheme. South African medical schemes are defrauded by healthcare service providers, syndicates and medical scheme members (Ogunbanjo & van Bogaert 2014 & Legotlo & Mutezo 2017). Similarly, Nortjé and Hoffmann (2016) found that medical schemes were defrauded by service providers that submitted false claims and used irregular coding. The unique attributes of healthcare markets make them particularly vulnerable to fraud (Duckert 2011). The mitigation of fraud in the sector

is also made difficult by the huge amount of data involved, and the pressure to process claims quickly (Abdallah, Maarof & Zainal 2016; Flynn 2016).
Most of the recent studies conducted in the area of the management of fraud in healthcare focused mainly on the manner in which technology can assist in fraud detection (Wakoli, Orto and Mageto 2014; Joudaki 2015; Abdallah et al 2016; Van Capelleveen et al 2016. A study conducted by Wakoli et al (2014) focused on the medical claims of insurance companies in Kenya and found that the K-Means clustering model could be used to identify suspicious fraudulent claims. The study by Joudaki et al (2015), which focused on physician claims in an Iranian private healthcare insurance company, found that data mining techniques such as cluster analysis could be utilised to identify suspected fraudulent claims and providers' whist Van Capelleveen et al (2016) also found that unsupervised data mining techniques could be used in identifying outlier claims. Their study utilised Medicaid data focusing on dentists' healthcare claims for one state in the USA. In this paper, a matrix is proposed, which represents broad strategies to mitigate fraud in South African medical schemes. The next section discusses the methodology that was used to conduct the study.

Methods
In order to achieve the objective of this study, namely, to explore strategies to mitigate fraud in South African medical scheme claims, the researcher took an interpretivist philosophical stance, and adopted an inductive approach. An inductive approach allows the researcher to gain insight into participants' views in a certain context, without assuming that they represent the views of the entire population (Saunders, Lewis & Thornhill 2016). A qualitative methodology was followed, and a case study strategy was selected. A single case was selected from all the medical scheme administrators operating in South Africa. Medical scheme administrators are private companies to which medical schemes outsource their day-to-day operations (CMS News 2009/ 2010). According to the annual report of the Council for Medical Schemes (2015/ 2016), 17 medical scheme administrators operated in South Africa in 2015 and administered 90% of all beneficiaries. The population for the study was the 17 medical scheme administration companies. One company was purposively selected as a case because it manages both open and closed medical schemes, with a large proportion of medical scheme beneficiaries.

A sample of 15 employees was purposively selected from the administration company that was chosen as a case study. In order to obtain rich insights, the criteria for selecting the aforementioned participants included employees who were involved in fraud management activities in their daily work functions. A pilot study that included the three experts in the fraud management field was conducted, in order to ascertain that the interview questions were relevant and that vital aspects had not been omitted. During the data collection phase, audio-recorded semi-structured interviews were conducted with individual participants. Semi-structured interviews allowed the study participants to express themselves freely, without being restricted to specific responses, and this made allowance for new data (Polonsky & Waller 2011). Interviews were conducted in the natural setting of the premises of the scheme administrator's offices. Although data saturation was reached after the thirteenth interview, two more participants were interviewed, as the meetings had already been scheduled. Data was then transcribed from audio to text. Thematic data analysis was employed, with the aid of ATLAS.ti software. Data was coded and patterns that emerged from the data were grouped together to form themes, which are the basis of the findings.

The trustworthiness of the study was ensured by including direct quotations made by participants, in order to allow for transferability. The researcher also detailed the methodology that was followed, and reported the limitations and ethical considerations, so as to enhance the dependability and confirmability of the study.

Ethical approval
Prior to data collection, ethical clearance to conduct the study was obtained from the University of South Africa's Finance, Risk Management and Banking Research Ethics Review Committee (ref. no. 2016/CEMS/DFRB/003). The medical scheme administration company selected as a case study also granted written permission for the study to be conducted. Informed written consent was obtained from individual study participants before the interviews were conducted. The identities of the medical scheme administration company and study participants were kept confidential. Pseudonyms were used in the results section when referring to participants' quotes. The next section presents the results of the study.

Results
Semi-structured, one-on-one interviews were conducted to collect data. Fifteen study participants were interviewed in the meeting rooms on the premises of the medical scheme administration company. Thematic analysis was used to analyse the empirical data.

Fraud mitigating strategies for South African medical scheme claims
Table 1 explains the referencing system used to report the study participants' quotes.

Table 1: Reference system used to report quotes from interview transcripts	
Example	3:23
The number 3 represents primary document three on ATLAS.ti	
The number 23 represents the quotation number three in the primary document 3	

The results of the study revealed that the mitigating strategies for curbing fraud in medical scheme claims are directive, detective, preventative and corrective control measures. Reporting on fraud and collaboration amongst various stakeholders will assist in mitigating this type of crime. The following section presents the findings, with supporting quotes from the study participants.

Directive control measure
Fraud policy: The study found that a fraud policy is needed as a starting point, in order to direct the fraud mitigation activities of the company. One of the participants articulated this in the following quote.

> *'Firstly, you must have a fraud policy. And then you must be able to act on that fraud policy by having proper measures in place'* (3:23).

Detective control measures
Detective control measures aim to uncover fraudulent claims. The measures that were found in the study included whistle-blowing, fraud detection system, audits and investigations.

Whistle-blowing: Healthcare service providers and medical scheme members are encouraged to report fraud, or suspected cases of fraud, by means of tip-offs. The forensic team, in order to exclude or confirm fraud, will then further investigate the tip-offs that are received. One of the participants explained this measure as follows:

> *'The other side of it is obviously then of tip-offs from providers or members'* (10:16).

Fraud detection system: A fraud detection system assists medical schemes to identify fraudulent or irregular claims utilising technology, as there is a vast amount of electronic data in healthcare claims. One of the study participants described this type of control as follows:

> *'You must have system intelligence to verify procedures or items within a claim, across claims for same people, same day, even across different providers, but all of it comes down to proper systems'* (3:6).

Audits: Audits are either conducted manually or through reports to examine a service provider and member claims, in order to identify irregular patterns and fraudulent claims. The claiming behaviour of providers is also benchmarked against providers in the same discipline, so as to identify outliers that could be indicative of fraudulent claims. This is explained in the following quotes from participants:

> *'We also run reports in the forensic space for duplicate claims'* (7:31)
> *'Retrospectively, claim reviews (should be done) to identify outlying trends, and those need to be investigated'* (3:36).

Investigations: Detection of fraud is conducted through investigations, which could be in the form of undercover surveillance, by using employees who are posing as medical scheme members, and then recording the evidence on camera. On-site case management is also valuable in detecting fraud. The following participants' quotes explain fraud investigation methods:

> *'They use cameras, they go into pharmacies, use cameras, they go into doctors' rooms, use cameras'* (7:27).

> *'We have actually got an on-site case manager who visits these patients, we flag them, and she will report back and say there is nothing wrong with this patient, he or she is fine; but the doctor has admitted them, they have been in hospital for that condition, so then they submit a claim for life insurance'* (14:30).

Syndicated fraud identification: Syndicates can be identified through systematic linkages. Therefore, utilising analytics with different criteria will assist in identifying syndicates. For instance, proper system intelligence can help to identify members with huge claims, at the inception of membership, for further investigation. A large variation in brokers' sales should also be investigated. One of the study participants highlighted these strategies in the following quote:

> *'Like this other one we spoke about, where we got a lot of claims in from one member, and we found out that it's false because there were certain things that linked the members, so we found out that it was a syndicate there. So your systems should actually help you a lot with that'* (9:36).

Preventative control measures

Fraud awareness amongst members and service providers, member verification at the point of service, benefit limits, automated system rejections, skilled personnel and a conducive working environment, segregation of duties, and prevention of syndicated fraud, were found to prevent fraudulent claims. These measures are aimed at deterring perpetrators of medical scheme fraud.

Fraud awareness among members and service providers: The participants opined that fraud awareness initiatives for healthcare service providers and medical scheme members would sensitise these stakeholders and assist in the prevention of this risk. One of the study participants

explained:

> *'Awareness of both members and providers, awareness, proper awareness around fraud and collusion'* (3:40).

Member verification at the point of service: Verifying members at the point of service by comparing a photograph on the member's card or their identity number (ID), or by utilising a biometric identification system, can prevent the payment for healthcare services for illegible people. The following participants explained this:

> *'Obviously with your card, I would say to have a photograph put on of the member, you know, a photograph and the ID number, so this would link them to that, you know, that would say this is the member there'* (5:17).

> *'I think if we could move towards biometric identity'* (2:23).

Benefit limits: Implementing a proper benefit structure could mitigate fraudulent claims. Unlimited benefits should be avoided and, where appropriate, there should be a frequency limit in place, which limits the number of times the member can claim for certain healthcare benefits during a specified period. This is expressed in the following participant's quote:

> *'I would say proactively one of the important things is the benefit structures, so you should not have unlimited benefits for providers'* (3:34).

Automated system rejections: Fraud known to the scheme could be prevented by establishing system rules that automatically reject these authorisations and claims. For instance, excluded benefits and duplicate claims should be automatically rejected by the system, without manual intervention, as explained in the following participants' quotes:

> *'We have rules built into the systems where certain providers, certain codes, as soon as the agent, the pre-authorisation agent, puts in that code or provider, the system will decline the event'* (8:19).

> *'The date, the treatment code or the nappi code for the medicines or whatever, the dependent or main member receiving treatment, the system will automatically detect if it is a duplicate'* (1:19).

Skilled personnel and a conducive working environment: This study found that people with the requisite skills should be in the employ of the medical scheme. Appropriately qualified clinical employees should be tasked with granting authorisations for hospital admission, so that their knowledge is applied to determine whether the admission is medically necessary. The authorisation personnel should also be trained with regard to the benefit policies offered by the medical scheme. Personnel tasked with fraud investigation and management should comprise people with the relevant skill sets.

Segregation of duties: Segregation of duties was highlighted by one of the study participants as a valuable control measure in preventing fraud emanating from medical scheme employees. This is articulated in the following participant's quote:

> *'What you can do as well to prevent this is separation of duties'* (9:56).

Syndicated fraud prevention: The study found that by identifying and knowing a client at the

application stage, the operation of syndicates in medical schemes can be prevented.

> *'So false policies would also be a big syndicate. So if you know your client at a new business stage and you do as much as you can to identify that client, then everything else around it should be okay'* (10:11).

Corrective control measures

Corrective control measures against fraud, as found in this study, include rehabilitation of the healthcare provider, termination of the relationship with the member or healthcare service provider, updating of system rules, reporting the service provider to the police and Health Professions Council of South Africa (HPCSA), and reversal of fraudulent claims. These are discussed in this subsection.

Rehabilitation of the healthcare provider: For the first-time offender, the service provider could be rehabilitated and given an opportunity to remedy his or her fraudulent behaviour. This is explained in the following quote from one of the study participants:

> *'In certain instances, you actually do want to maintain a relationship with that provider for whatever reason. He or she might be really good in his or her field, or it might be a provider that was, like it is the first time they have committed an offence and you have caught them. So you want to almost rehabilitate that behavior, you want to give them an opportunity to change their ways and you monitor them'* (14:11).

Termination of the relationship with the member or healthcare service provider: The study found that in cases of repeat offenders, the relationship should be terminated and the provider should be blocked from receiving further authorisation and payment for their services from the medical scheme. Membership of fraudulent members should also be terminated.

> *'Blocking providers from rendering services to our members, and actually terminating membership of members who have actively defrauded the system, actively and consciously'* (14:5).

Updating of system rules: The importance of updating the system rules was emphasised. This involves updating fraud detection intelligence and reports to incorporate newly discovered fraudulent activities.

> *'Okay so in terms of the system rules, I would also say that part of that is to update your fraud detection intelligence, your reports that you run and those types of things. You must always be flexible about changing them as you identify new things'* (3:30).

Reporting the service provider to the police and HPCSA: The service provider found to be committing fraud should be reported to the HPCSA for further investigation, as indicated in the following participants' quotes:

> *'Report to the police, fraud is fraud no matter what, white-collar crime is a crime'* (5:26).

> *'Even if the doctor is registered or not, according to the members he is not, does not look like he is doing the stuff a doctor should do, that is, we will report him, or the member can report him to the Health Professionals Council to say listen, investigate this doctor, he does not look like he is ethical'* (4:40).

Reversal of fraudulent claims: The fraudulent claims should be reversed once fraud is confirmed. However, there was a caution against the reversal of claims before the investigation has been finalised. The study participant asserted that this weakens the fraud case against the provider.

Reporting on fraud

Most of the study participants agreed that reporting fraud in the annual report would assist in the mitigation of medical scheme fraud. Feedback should be given to whistle-blowers, irrespective of the result of the investigation. Reporting fraud in the annual report will increase fraud awareness and justify the medical scheme's investment in fraud management-related activities.

> *'It (reporting on fraud) will create awareness and that in itself will go somewhere to mitigate fraud'* (3:31).

Moreover, public confidence will be gained, as the scheme will demonstrate that fraud is investigated and managed by the medical scheme.

Stakeholder collaboration

In order to mitigate fraud in medical scheme claims effectively, participants suggested that medical schemes should work together. These collaboration efforts should encompass sharing of information on fraud and making joint investments in fraud infrastructure - for instance, implementing a biometric identification system to curb the financing of illegible people. One of the participants stated that:

> *'It would be good to share that information with other schemes, so almost to, I know you are like really penalising the member, but to just like an FYI (For Your Information) this member has been terminated for doing such and such, so it makes it very difficult for a member to join another scheme, again it would be a deterrent'* (14:8).

Medical schemes could also join forces with short-term insurers to mitigate fraud that affects both industries. Collaborating with the Department of Health will assist the schemes in the fight against fraud. One example cited by the participants was to enhance the curriculum of service providers at tertiary institutions, in order to include the use of the billing manual, thereby helping to reduce the irregular billing of codes. This is explained in the following participants' quotes:

> *'It's important that the medical aids know which of their members do have cash plans and then it's important that they share any hum on toward behaviour or high-risk claims or whatever you want to call it. Especially from the cash plan side'* (3:19).

> *'If the public sector and the private sector had to join hands oh my God! Can you imagine how fraud can be eradicated'* (1:12)?

> *'Ja, providers need to be trained on what the codes are and how they need to use them (8:31) … so, training in tertiary institutions'* (8:32).

In order to successfully prosecute this type of fraud, medical schemes should work together with the Department of Police and Department of Justice. Medical schemes should train a group of police officers and prosecutors to improve the prosecution rates of medical scheme fraudsters, as expressed in the following participant's quote:

> *'So, the best idea then is actually that the whole medical aid fraternity make that suggestion and say listen, let's go to the police and say listen, let's train people in that area like Bloemfontein or major areas, on how to work with our cases. Then with one or two prosecutors in the area. We will get much better'* (9:40).

Discussion

The strategies to mitigate fraud in South African medical scheme claims are discussed in this section. Firstly, medical schemes should implement a directive control measure in the form of a fraud policy that will guide the fraud mitigating activities within the company. This finding is in line with recommendation advanced by the Committee of Sponsoring Organisations of the Treadway Commission's (2016) fraud risk management process. The company selected as a case study reported that there is a fraud policy in place.

The detective control measures include whistleblowing, a fraud detection system for known and unknown types of fraud, and further investigation of suspected cases of fraud. The company selected as a case study reported that a whistle-blowing system that is managed by a third party is in place for reporting fraud or suspected cases of fraud. The company also has a fraud detection system to uncover fraudulent claims. Fraud preventative controls include, amongst other measures, such as fraud awareness, system automated rejections of known fraud, and employing people with the requisite skills to administer the medical schemes. The aforementioned findings of this study concur with the finding of the studies by Debpuur et al (2015) and Flynn (2016) that fraud awareness prevents fraudulent claims. Automated system detection and rejections of fraudulent claims were also highlighted in the studies by Wakoli et al (2014) and Nsiah-Boateng et al (2017) as valuable measures to curb fraudulent healthcare claims.

Corrective controls encompass the termination of service providers or medical scheme members, reversal of claims once the investigation is completed, and reporting the perpetrator to the police and HPCSA. The medical scheme industry should work together as an industry in the fight against fraud in claims. Lastly, medical schemes should collaborate with other relevant stakeholders, including short-term insurers who offer hospital cash plan benefits, and the Departments of Health, Police, and Justice. Flynn's (2016) study also made a similar recommendation that the private and public health sectors should work together against this type of crime. Unlike previous studies, collaboration with short-term insurers was suggested in this study, which may be attributed to cash plan-related fraud experienced in the South African context. This study contributes to the body of knowledge pertaining to strategies to mitigate fraud in South African medical scheme claims, which could also be implemented by the public healthcare sector. However, this study only explored fraud-mitigating strategies for medical schemes, which form part of the healthcare financing system in South Africa.

Conclusion

This article can make a major contribution to real-world practice in the medical scheme industry. Various strategies that can be implemented internally by South African medical schemes to mitigate fraudulent claims have been recommended, namely fraud directive, detective, preventative and corrective control measures. Furthermore, fraud reporting plays a major role in mitigating this type of fraud. Importantly, medical schemes can collaborate as an industry and with other stakeholders, such as short-term insurers, the police, Department of Health, and the Department of Justice, to mitigate fraud in medical scheme claims. These strategies would assist medical schemes to reduce the level and impact of fraud in claims, thereby decreasing the amount spent on fraudulent claims. This will in turn improve the financial viability of the medical scheme, enrich medical scheme members' benefits, and

decrease the rate of increment of member's contributions. With catastrophic events like COVID-19, it becomes important that the healthcare systems should be resilient to financial leakages like fraud. Future studies should focus on fraud mitigation in the South African public healthcare sector.

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