



Research Article

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Profiling Dependants Joining Medical Schemes: An Analysis of Factors Influencing Enrollment Decisions

Michael Mncedisi Willie^{1*}, Zama Mzobe², Malwandla Manyisi³ and Siphon Kabane⁴

¹Executive Policy Research & Monitoring, Council for Medical Schemes, South Africa

²Policy Research Intern at Council for Medical Schemes, Policy Research and Monitoring, South Africa

³Policy Research Intern at Council for Medical Schemes, Policy Research and Monitoring, South Africa

⁴Registrar and CE, Council for Medical Schemes, South Africa

*Corresponding author: Michael Mncedisi Willie, Executive Policy Research & Monitoring, Council for Medical Schemes, Policy Research and Monitoring, South Africa.

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Abstract

Enrolling dependants in medical schemes plays a crucial role in ensuring comprehensive healthcare coverage for individuals and families. It is essential for healthcare providers, insurers, and policymakers to understand the factors that influence dependants' decisions to join medical schemes in order to develop effective strategies and improve enrollment rates. This study examines demographic factors such as age and gender that impact dependants' decisions to enroll in medical schemes. The study also considers the influence of scheme type and size. Data for the study were obtained from annual statutory returns, providing descriptive cross-sectional information on dependants joining medical schemes from 2017 to 2021. The findings reveal that, a median of, 1.1 million new dependants join medical schemes each year, with an average age of 17 years. Newborns constitute 23% of new dependants, while those under the age of 5 account for 35% of the total new dependants. Dependants over 60 years of age represent an average of 4%, while those between 5-59 years old make up 61%. Based on these results, interventions aimed at expanding health insurance coverage should prioritize the healthcare needs of children and the elderly. Targeted marketing campaigns for medical schemes should be tailored to address the unique requirements of these vulnerable populations and facilitate their enrollment in suitable medical schemes and benefit options. These findings contribute to evidence-based strategies for attracting and retaining dependants, enhancing accessibility and affordability.

Keywords: Enrollment, Dependants, Medical schemes, Demographic characteristics, Scheme type, Scheme size, Healthcare coverage

Introduction

Medical schemes in South Africa, commonly known as medical aids, assume responsibility for significant healthcare expenses in exchange for received premiums and primarily operate within the private healthcare sector [1-3]. Approximately 15% of the population in South Africa, primarily consisting of main members and their dependants (including children and adult dependants), are covered by medical schemes [4]. Enrolling dependants in medical schemes is critical to ensuring comprehensive healthcare coverage for individuals and families [1,2,5]. Understanding the factors that influence dependants' decisions to join medical schemes is

vital for healthcare providers, insurers, and policymakers to develop effective strategies, enhance enrollment rates, and improve the overall healthcare experience [6-9]. Profiling dependants joining medical schemes involves analyzing factors influencing their enrollment decisions [8-9]. These factors encompass demographic characteristics, health status, financial considerations, perceived value, and decision-making processes [9]. Understanding the profiles of dependants and the factors influencing their enrollment decisions is pivotal in comprehending the composition of dependants within medical schemes [4,9]. Demographic profiling plays a crucial role in



gaining such insights; furthermore, identifying trends and patterns within different demographic segments enables the development of targeted strategies to attract and retain dependants [10]. Furthermore, dependants' health status and healthcare requirements emerge as key determinants influencing their decisions regarding enrollment [5,7-9]. The prevalence rates of chronic conditions, patterns of healthcare utilization, and risk profiles contribute to the comprehension of the specific healthcare services needed. Moreover, certain attributes within this context are recognized as drivers of premium increases [11]. By considering these factors, medical schemes design appropriate benefits packages, ensure access to necessary treatments, and implement preventive care initiatives [5,7-9]. Financial considerations are also pivotal in dependants' enrollment decisions [10]. The affordability of premiums, availability of cost-sharing mechanisms, and financial incentives or subsidies influence the decision-making process [11-13]. Understanding the financial constraints faced by potential dependants can lead to the development of more accessible and inclusive medical schemes [9].

Perceived value and coverage satisfaction are key drivers of enrollment decisions. Dependant enrollees consider the comprehen-

siveness of benefit packages, the availability of preferred healthcare providers, and the flexibility in coverage options [9]. Evaluating dependants' satisfaction levels and addressing their specific needs can enhance the perceived value of medical schemes [5,7,9]. The decision-making factors for dependants encompass a range of elements, including the influence of family members, sources of information, and behavioural biases [7,9]. Analyzing the decision-making process can shed light on the most effective channels for communication, ways to address information asymmetry and strategies to mitigate biases that may impact enrollment decisions [5,7-9].

Factors Influencing the Enrollment of Dependants in Medical Scheme

Eligibility criteria play a pivotal role in determining the inclusion of dependants in a medical scheme [1,4,13-14]. These criteria consider age limits, relationship to the main member (e.g., spouse or child), and proof of dependency. Fulfilling these criteria is crucial to ensure eligibility for coverage and benefits [1,4,14]. The description of dependants and the documentation necessary to verify their eligibility are presented in (Figure 1).

Description of dependant	Documentation required
Spouse	<ul style="list-style-type: none"> • A marriage certificate if married • If in a customary marriage, a declaration from the member confirming obligation towards his/her spouse.
Ex-spouse	<ul style="list-style-type: none"> • Evidence of legal obligation to provide medical support per divorce settlement or court, e.g. the Divorce Order.
Partner	<ul style="list-style-type: none"> • A declaration confirming that the dependant is the member's life partner.
Child under the age of 21	<ul style="list-style-type: none"> • A declaration confirming obligation towards the child and reason for difference in surname if the child's surname differs from the main member. • Legal documentation if child is adopted.
Child of 21 and older	<ul style="list-style-type: none"> • For students: <ul style="list-style-type: none"> - Proof of registration at a recognised tertiary institution; and - A declaration confirming factual dependency on the main member. • For mental or physical disability: <ul style="list-style-type: none"> - Proof of disability from a medical practitioner (a medical assessment report completed by a medical practitioner); and - A declaration confirming factual dependency on the main member, and that the child is not in a state institution. • If the child is not a student or disabled: <ul style="list-style-type: none"> - A declaration confirming factual dependency on the main member.
Extended family (Parents, step parents, parents-in-law, step-parents-in-law, grandparents or grandparents-in-law)	<ul style="list-style-type: none"> • A declaration confirming factual dependency of any such dependants.

Figure 1: Documentation required for each dependant: Source: Adapted from GEMS [14]

Dependants may encounter waiting periods for specific treatments or conditions upon joining a medical scheme, similar to pre-existing conditions for the main member [1,4,15]. During this waiting period, dependants may not be eligible for complete coverage or benefits for certain healthcare services [1,4,15]. Depending on the specific scheme, waiting periods typically range between 6 and 12 months in length [1,4,15]. Adding dependants to a medical scheme often results in additional costs for the main member [2]. Certain medical schemes have limited provider networks, which

may necessitate dependants to seek care from specific healthcare providers or facilities to receive full coverage [2,16]. If the dependant already has an existing relationship with a different provider, they might need to switch or potentially face higher out-of-pocket costs to see their preferred healthcare professionals [2,16]. The coverage for certain conditions or treatments within a medical scheme may be restricted based on the scheme's benefit structure [4,5]. For instance, some schemes may have exclusions or limitations on coverage for specific mental health conditions or elective procedu-

res [4,5]. It is essential to thoroughly review the coverage details of the scheme to ensure that it aligns with the specific healthcare needs of the dependants [4,5].

Enablement Clause

The Constitution and the Medical Schemes Act (MSA) are crucial in facilitating access to healthcare services [1,17]. The constitution, as the supreme law of the land, includes provisions that recognize the right to access healthcare for all citizens [17]. It establishes healthcare as a fundamental right and places a responsibility on the government to ensure the availability, accessibility, and quality of healthcare services.

- Section 27 (1) (a) of the constitution which state: “Everyone has the right to have access to-(a) health care services, including reproductive health care”.
- Section 24 (2) (e) of the MSA states that: “The medical scheme does not or will not unfairly discriminate directly or indirectly against any person on one or more arbitrary grounds including race, gender, marital status, ethnic or social origin, sexual orientation, pregnancy, disability and state of health.”

Aim of the Study

This paper aims to analyze age profile and other factors influencing the enrollment decisions of dependants joining medical sche-

mes. By examining demographic profiles, health status, financial considerations, perceived value, and decision-making factors, this study seeks to provide valuable insights for healthcare providers, insurers, and policymakers.

Contribution and Significance of the Study

The findings contribute to affordability and evidence-based strategies to attract and retain dependants, improve accessibility and affordability, and enhance the overall effectiveness of medical schemes.

Methods and Data Collections

The study employed a descriptive research design on medical schemes for dependants joining over the review period. The review period was data submitted to the CMS through secondary statutory returns data collected between 2017 and 2021. Descriptive research aims to describe and document a particular population or phenomenon’s characteristics, behaviours, and conditions.

Data Analysis

The demographic data and enrollment patterns of dependants will be analyzed using descriptive statistics. The data was processed in SAS, and key variables of interest were summarized using central tendencies such as mean and proportion.

Classification of Concepts

Sources: MSA [2]; CMS [4]; CompCom [18]; Willie, *et al.*, [19]

Medical Schemes Act (MSA)	The Medical Schemes Act (MSA) is legislation enacted in South Africa that governs the operations and regulations of medical schemes, also known as health insurance or medical aid schemes. The MSA regulates the creation, administration, and management of these schemes to safeguard scheme beneficiaries and ensure access to quality healthcare.
Council for medical schemes (CMS)	The Council for Medical Schemes (CMS) is a regulatory body established in South Africa under the provisions of the Medical Schemes Act (MSA). The CMS is responsible for the oversight and regulation of medical schemes in the country, ensuring that they operate in compliance with the MSA and in the best interests of scheme members.
Open schemes	Open schemes refer to a type of medical scheme or health insurance plan that is available for membership to any eligible individual or family without restrictions based on employment or other specific criteria.
Closed schemes	Unlike closed schemes, which are typically offered by specific employers or organizations to their employees or members, open schemes are accessible to a broader population.
Small schemes	Medical schemes with less than 6000 members
Medium schemes	Schemes with between 6000 members and 30 000 beneficiaries
Large schemes	Schemes with more than 30 000 beneficiaries
Dependants	Dependants in medical schemes refer to individuals who are covered by a healthcare plan based on their relationship with the primary member, such as spouses, children, or other eligible family members.

Results

The analyzed data from 2017 to 2021 revealed an annual median of 1.1 million new dependants joining medical schemes (Table 1 below). In 2019, the highest number of new dependants joining

was 1.3 million, while in 2021, the lowest number of new dependants joining medical schemes was 622 thousand new dependants. Table 1 below further depicts that more dependants joined schemes than those leaving schemes (Table 1).

Table 1: Contrasting the entry and exit of dependants from medical schemes (2017-2021).

Financial year	No. of dependants leaving	No. of New dependants joining	Difference
2017	511,201	701,182	189,981
2018	991,102	1,272,882	281,780
2019	1,012,539	1,302,509	289,970
2020	905,624	1,115,424	209,800
2021	475,748	622,182	146,434

The age range of the new joiners encompassed individuals from newborns to pensioners (Figure 2 below). However, a significant proportion of new dependants fell within age bands under 14 years, constituting 59% of all new joiners. Newborns accounted for 23% of the total new dependants, whereas those aged 60 and above represented only 4%.

The average age of new dependants joining medical schemes was 17 years, consistent across the review period and by scheme type. However, when considering gender, the weighted average age of female dependants joining medical schemes was higher by four years compared to their male counterparts. The respective weighted average ages were 19 years for females and 15 years for males in 2021, consistent across the review period (Figure 2).

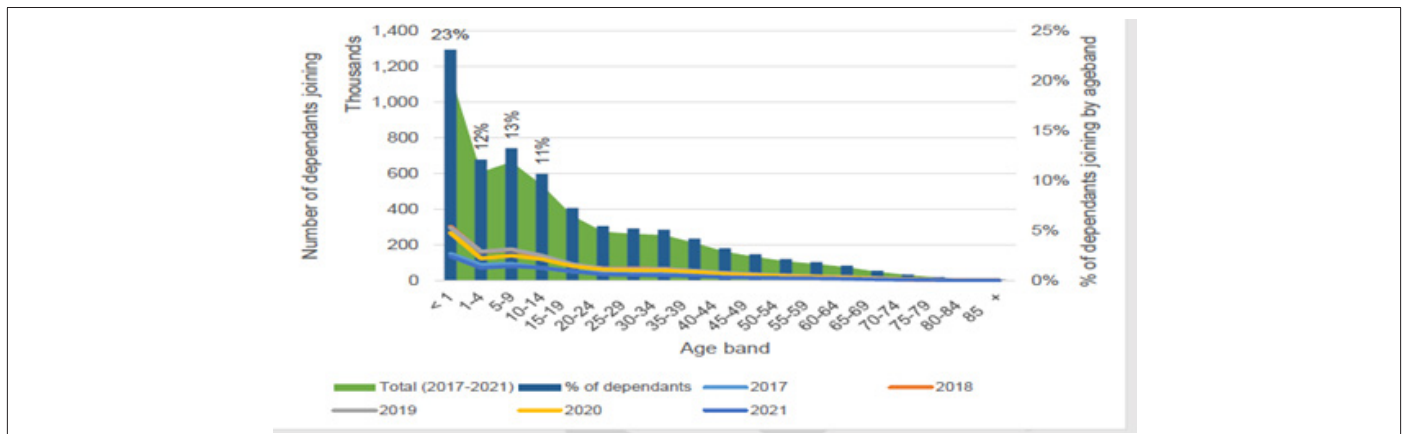


Figure 2: Age distribution of new dependants joining medical schemes: 2017-2021.

The table below provides insights into the proportion of new dependants joining medical schemes, explicitly highlighting the percentage of pensioners among the new enrollees. Notably, the proportion of pensioners among the new dependants joining medical schemes surpassed 5%. Furthermore, the analysis indicates that both Scheme 2 and 5 experienced a higher influx of new older beneficiaries than other schemes, constituting over 10% of the new dependants joining. While it is important to note that medical

schemes cannot discriminate based on age and health status, this information provides a tool to manage the potential risks of adverse selection. Accepting new dependants without imposing pre-existing conditions or a general waiting period may have negative implications for the pricing of the schemes. Similarly, the detrimental effects of implementing a general waiting period or pre-existing condition clauses could result in delayed access to care and have a negative impact on health outcomes (Table 2).

Table 2: Proportion of new dependants joining the scheme (2017-2021).

No.	Scheme name	< 5 years	60+ years	5-59 years
1	Scheme 1	30%	10%	60%
2	Scheme 2	12%	18%	70%
3	Scheme 3	28%	6%	66%
4	Scheme 4	23%	6%	71%
5	Scheme 5	5%	15%	80%
6	Scheme 6	35%	6%	59%

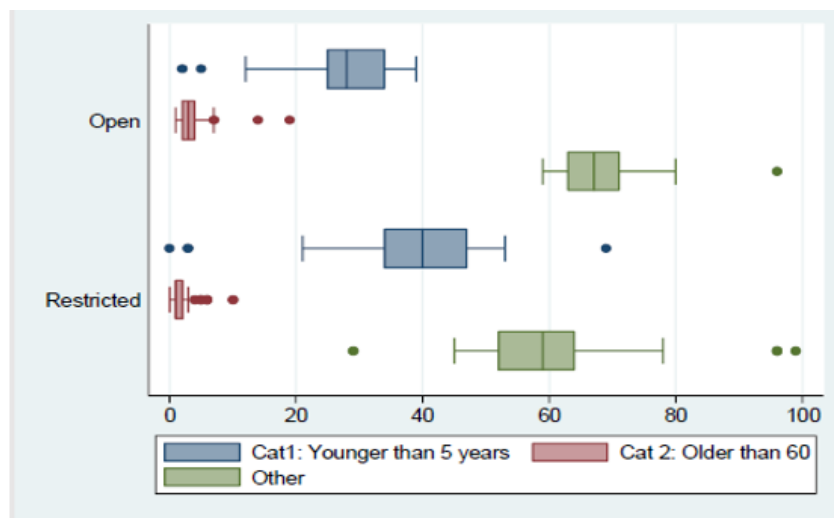


Figure 3: Box-and-whisker plot of age of dependents joining medical schemes by strata by scheme type.

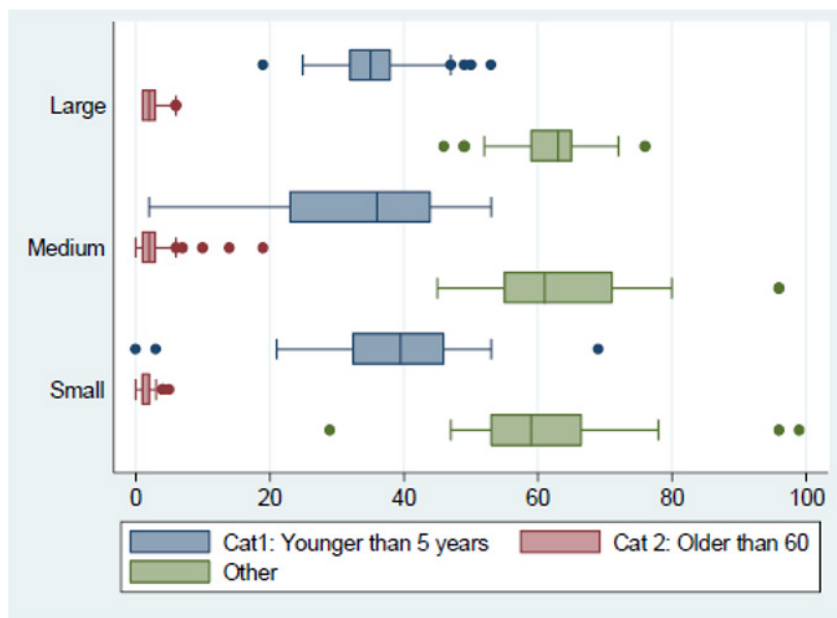


Figure 4: Box-and-whisker plot of age of dependents joining medical schemes by strata by scheme size.

Figure 3 and Figure 4 illustrate the stratification of dependants joining medical schemes based on scheme type and scheme size using box-and-whisker plots. Specifically, Cat1 represents the percentage of dependants below five years old, Cat2 represents the percentage of dependants aged 60 or above, and those aged between 5-59 years. The analysis reveals that closed schemes tended to enroll more new dependants below the age of 5 than open schemes. On the other hand, open schemes generally enrolled a larger proportion of beneficiaries aged 60 years or above. Upon careful examination of the schemes, it was discovered that three closed schemes and one open scheme primarily accepted new dependants between the ages of 5-59 years. Notably, it is quite striking that

over 96% of the recently enrolled dependants fell within this particular age group across the identified four schemes. Interestingly, after adjusting for scheme size, there was no substantial difference in the proportion of new older dependants, with mean proportions of 1.3%, 3.5%, and 2.5% for small, medium, and large schemes, respectively. Similarly, there was no significant difference in the proportion of new dependants younger than five years, with mean proportions of 38%, 33%, and 36% for small, medium, and large schemes, respectively. Finally, the proportion of new dependants younger than five years also showed no significant difference, with mean proportions of 60%, 64%, and 62% for small, medium, and large schemes, respectively (Figures 3,4).

Discussion

The enrollment of dependants in medical schemes is a complex process influenced by multiple factors. This discussion focuses on the primary determinant: the eligibility criteria associated with affordability, the age of dependants, and their healthcare needs [5-9]. The criteria for eligibility play a crucial role in determining whether dependants can be covered by a medical scheme [14]. These criteria consider factors such as age limits, relationship to the main member, and proof of dependency [14]. The eligibility requirements ensure that the scheme's resources are allocated appropriately, and that coverage is extended to individuals who meet the necessary criteria [14].

One significant factor that influences health insurance enrollment is the age of dependants [20]. Research studies have consistently shown that age is a critical factor associated with illness and healthcare utilization [19-20]. Infants, children, and the elderly are identified as particularly vulnerable groups with higher probabilities of requiring medical care and higher healthcare expenditure [4]. Baron and Tafuno [21] observed that the vulnerability to infections is increased in both newborns and the elderly due to the suppression of their immune defences resulting from age and institutionalization [22]. Furthermore, the elderly population, with chronic illness and debility, exhibits heightened susceptibility to infections [22].

In contrast, newborns are at a higher risk of exposure to infectious agents from both the mother and the surrounding environment [22]. This study reveals several key findings regarding the enrollment of dependants in medical schemes. Firstly, although dependants younger than 14 make up a substantial proportion of those enrolled, newborns consistently accounted for only 23% of new dependants joining medical schemes. Additionally, the average age of dependants across all scheme types was found to be 17 years and did not vary significantly.

However, an interesting observation emerged when examining the age distribution among female beneficiaries. The study discovered that the weighted average age of female beneficiaries joining as dependants was notably higher at 19 years in 2021. In contrast, the average age of female dependants joining the scheme as beneficiaries was 14 years. Infants and children, due to their underdeveloped immune systems and higher susceptibility to illnesses, require frequent medical attention [20-22]. Dependants in this age group may need vaccinations, routine check-ups, and treatments for common childhood ailments. Providing comprehensive health insurance coverage for children is crucial to ensuring their well-being and access to necessary healthcare services.

Similarly, the elderly face unique healthcare challenges due to age-related conditions and chronic illnesses. As individuals grow older, the likelihood of requiring medical care and specialized treatments increases [20-22]. The COVID-19 pandemic shed additional

light on the significance of providing care for the elderly, as they were given priority due to their heightened vulnerability to the virus and the potential consequences it could have on their well-being [23]. Adequate health insurance coverage becomes vital for the elderly to address their specific healthcare needs and ensure access to geriatric care, chronic disease management, and preventive services [22-23]. The findings of this study indicate that the average age of beneficiaries over 60 years old accounted for 4% of new dependants joining the medical schemes. In contrast, individuals between 15 and 59 accounted for 61% of new dependants during the review period. The study also identified a small number of schemes that enrolled a significant proportion (more than 15%) of new dependants over 60. Notably, the observed patterns align with the performance of the two specific schemes highlighted in the study, which experienced significant challenges in claims management. These challenges were attributed to their inadequate utilization of underwriting and other pertinent tools necessary for effective administration. Based on these findings, interventions focused on broadening health insurance coverage should consider the healthcare requirements of children and the elderly. However, ensuring that such interventions do not come at the expense of neglecting other age groups is crucial. It is important to note that while age is a significant factor, other considerations such as affordability, specific healthcare needs, and individual circumstances also influence the enrollment of dependants in medical schemes. Therefore, a holistic approach considering multiple factors is essential to ensure fair and comprehensive coverage for all dependants.

Conclusion

Understanding and addressing the factors that influence dependants' enrollment in medical schemes are vital for improving healthcare coverage. Demographic profiling, health status, financial considerations, perceived value, and decision-making processes all play significant roles in shaping enrollment decisions. By analyzing these factors, medical schemes can tailor their strategies to meet the specific needs and preferences of dependants, leading to higher enrollment rates and improved healthcare outcomes.

Limitations and Future Research

This research study had limitations both in terms of methodology and empirical aspects. Firstly, the enrollment data analyzed in the study was not audited, although it was confirmed to be accurate by the medical schemes. Secondly, the study did not consider the health status or individual characteristics of the dependants. Additionally, the study did not differentiate between adult and child dependants, although it did distinguish between younger child dependants and older dependants. Including information on the prevalence and risk profile of study participants could have provided more insights. Future studies should address these limitations and consider the impact of geographic location, benefit design, or plan type.

Author Contributors

MMW conceptualized and drafted the manuscript, while MM and ZM were responsible for data preparation and cleaning. MMW conducted the data analysis and reported the findings. All authors proofread the manuscript.

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Ethical Consideration

The study did not involve accessing or disclosing participants' personal or clinical data, nor did it directly involve the treatment of patients. The data were evaluated and reported only at an aggregated level to ensure privacy and confidentiality.

Declaration of Interests

The authors state that there are no financial or personal affiliations that could have unduly influenced the content of this article.

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