Factors Associated With Willingness to Pay for Primary Health Care Services in South Africa: A Cross-Sectional Survey of Medical Schemes Members

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Evelyn Thsehla[1], Charles Hongoro[2,3], Jacqui Miot[4], Kate Kgasi[5], Edmore Marinda[6,7], Esnath Maramba[5], Alister Chabi[8], Barry Childs[9], Olurotimi Modupe[5] and Olufunke Alaba[10]

[1]South African Medical Research Council (SAMRC)/WITS: Centre for Health Economics and Decision Science, Wits School of Public Health, University of Witwatersrand, Johannesburg, South Africa. [2]Sustainable Human Security (SHS), Developmental, Capable and Ethical State Division, Human Sciences Research Council, Pretoria, South Africa. [3]School of Health Systems and Public Health, University of Pretoria, Pretoria, South Africa. [4]Health Economics and Epidemiology Research Office, Faculty of Health Science, School of Clinical Medicine, University of Witwatersrand, Johannesburg, South Africa. [5]Clinical Unit, Council for Medical Schemes, Pretoria, South Africa. [6]Impact Centre, Human Sciences Research Council, Pretoria, Pretoria, South Africa. [7]Department of Epidemiology & Biostatistics, School of Public Health, University of the Witwatersrand, Johannesburg, South Africa. [8]PKF Octagon, Johannesburg, South Africa. [9]Insight Actuaries & Consultants, Cape Town, South Africa. [10]Health Economics Unit, School of Public Health and Family Medicine, University of Cape Town, Cape Town, South Africa.

ABSTRACT: The cost of healthcare is an issue of concern for both consumers and funders of healthcare in South Africa. The country spends approximately 8% of GDP on health care. Health care is financed through the public sector which covers 86% of the population and the private sector which covers 14% of the population. Medical schemes are the main source of healthcare financing in the private sector. Services covered by medical schemes include chronic diseases, emergencies, diagnosis, and treatment of a selected number of diseases. Primary health care services such as screening are limited. The aim of this study was to assess factors associated with members of medical schemes' willingness to pay for a primary health care package in the private sector. A cross-sectional survey was conducted amongst principal members of medical schemes between July and September 2020. All principal members with access to an online questionnaire were eligible to participate in this study. Logistic regression was used to identify factors associated with willingness to pay for primary health care services. A total of 6512 members of medical schemes participated in the study. Thirty-five percent of the participants were willing to pay for the primary health care package. Factors influencing willingness to pay included marital status, employment status, income and household size. The study highlights the need for policymakers to consider socioeconomic factors when designing health care policies.

KEYWORDS: Willingness to pay, medical schemes, health insurance, primary healthcare

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CORRESPONDING AUTHOR: Evelyn Thsehla, Wits School of Public, Wits University, 27 St Andrews, Johannesburg, Gauteng 2050, South Africa. Email: thsehla.eve@gmail.com

Introduction

The rising cost of healthcare and the rising burden of diseases is an issue of concern worldwide.[1] In South Africa, health care is financed through the public sector which covers approximately 86% of the population and the private sector which covers approximately 14% of the population.[2] In 2020, both sectors spent approximately 8.6% of Gross Domestic Product (GDP) on healthcare with nearly 50% attributed to private sector spending.[3] Medical schemes are the main source of funding for health care in the private sector. Membership on a medical scheme is voluntary and any person above 18 years, not a member of any other medical scheme and able to pay monthly contributions is eligible to become a principal member.[4]

According to the Medical Schemes Act, medical schemes are mandated to provide a set of benefits called Prescribed Minimum Benefits (PMBs) to prevent members from incurring catastrophic health care expenses. The PMBs include a list of 26 chronic diseases, 271 conditions (known as diagnosis treatment pairs) and any emergency medical condition.[5] The current PMBs are said to be "hospicentric" as most of the services are accessed in a hospital setting.[6] Even though chronic non-communicable diseases (NCDs) such as hypertension, and diabetes remain the most prevalent conditions in the private sector, primary health care services such as prevention remain limited for members of medical schemes. Over the years, many stakeholders have commented that the PMBs are not responsive enough to the changes in healthcare needs of the population, current health technology and best clinical practice, burden of disease, health policy; as well as the financial impact on medical schemes and members.[7]

The Medical Schemes Act makes provision for the PMBs to be reviewed every 2 years to address inconsistencies in regulations and to include health technologies that are cost-effective.[7] In line with the Council for Medical Schemes' (CMS) proposal

to implement decisions and policies based on evidence, a willingness to pay (WTP) study was considered necessary to provide evidence on members of medical schemes' willingness to pay for a primary health care (PHC) package. Whilst WTP for health insurance studies have been conducted in several countries, the services individuals are willing to pay and factors associated with WTP may differ by country. For example, in Saudi Arabia, respondents were willing to pay approximately 40 USD a month for a National Health Insurance.[8] Factors associated with WTP included age, region, and education of participants. In Nigeria, households heads were willing to pay 1.68 USD per person per month for a contributory health insurance scheme.[9] Household size, level of education, occupation and household income were shown to have an influence on participants' WTP. In South Africa, Chiwire et al assessed willingness to pay for public primary healthcare services among people attending primary health care centers in Cape Town. Overall, 60% of participants were willing to pay an average of R49.44 (<3 USD) for primary health care at public facilities. Factors associated with willingness to pay included employment, the facility providing care, the mode of transport and the frequency of visits to facilities.[10]

For the private sector, it is not yet known whether medical schemes members are willing to pay for primary health care services. This study is relevant, as the current PMB package has limited PHC services. This study therefore aims to assess members of medical schemes' WTP for the PHC package and factors that might influence WTP.

Methods

A cross-sectional survey was undertaken amongst principal members of medical schemes in South Africa between July and September 2020. In 2020, approximately 4 million people were principal members of medical schemes in South Africa. All principal members with access to an online questionnaire were eligible to participate in this study. Email letters with a link to the study questionnaire were sent to all medical schemes in South Africa with a request to forward the invitation and link to all their principal members to take part in the study. The invitation included a consent from which members were requested to sign if they were willing to participate with an option to opt in and out of the study at any given point.

Sampling

A nonprobabilistic method was used to draw the sample from the population. Based on the primary outcome of willingness to pay, a binary outcome yes/no, and assuming a binomial distribution, the sample size was calculated on this distribution.

$$n = \left(\frac{z_{\alpha}}{\Delta}\right)^2 p(1-p) \quad (1)$$

Where n is the sample to be calculated and p is the population from which the sample is determined. The total sample size was estimated at 960 after considering a population size of approximately 4 million, 95% confidence level, 5% margin of error and a design effect of 2 and 10% non-response rate.

Data collection instrument

An online questionnaire was developed in line with previous studies to explore members' WTP for a PHC package.[11,12] Google survey was used to collect data on socio-demographic characteristics, health-related characteristics and WTP. The questionnaire included a cover letter explaining the purpose of the study. The questionnaire was pretested on CMS employees to assess its quality, appropriateness, and the consistency of the questions. Eight responses were received.

Description of variables

Table 1 is a description of the variables included in the analysis. The main variable of interest was willingness to pay. The variable took on the value of 1 if an individual was willing to pay for the proposed primary health care package and 0 otherwise. The independent variables included socio-demographic characteristics (gender, age, education, marital status, employment status, main member income, household income, medical scheme membership years, province and COVID-19 lockdown effect) and health-related characteristics (main member health status, family health status, chronic illness in family and medical scheme benefit option type).The variables were included based on their influence on WTP in previous studies.[9,12-17]

The WTP question started with a statement that defined the current PMBs and the limitations of the PMBs (see Figure 1). Respondents were asked to imagine a scenario where the benefits could be increased to include a list of PHC services. Respondents were then asked whether they were willing to pay a monthly premium for the services. Respondents who were not willing to pay were asked to give reasons for not willing to pay for the additional services.

Analysis Strategy

Responses from participants were captured in Excel and exported to Stata 13.0 (Stata Corp, College Station, Texas) for further cleaning and analysis. Given the large response rate as compared to the estimated sample, a listwise deletion approach was used to deal with missing data.[18] To assess how representative the study sample was to the population and to assess bias due to our sampling approach, we compared our realized sample and the medical schemes population by age, gender, and province. Descriptive characteristics of the surveyed populations was established using frequencies and percentages. The exploration of whether a person is willingness to pay for a PHC package was estimated using logistic regression because of its ability to deal with a dichotomous dependent variable and its well-established theoretical background.

Table 1. Description of variables.

VARIABLE	DESCRIPTION	MEASUREMENT
WTP (dependent)	Whether respondents are willing to pay for health insurance or not	1 = Yes 0 = No
Age	Age of respondent	Continuous variable
Gender	Whether the respondent is male or female	1 = Male 0 = Female
Education	Education level of the respondent	1. No formal schooling 2. Primary school (grade 1-grade 7) 3. Secondary School (grade 8-grade 12) 4. Tertiary
Marital status	Whether respondent is married	1.Single 2. Married 3. Divorced 4. Widowed
Employment	Employment status of the respondent	1 = Yes 0 = No
Lockdown	The effect of the COVID-19 on income	1 = Yes 2 = No
Main member income	Monthly income of respondent	1. <R6000 2. R6001-R8000 3. R8001-R11 000 4. R11 001-R16 000 5. R16 001-R30 000 6. R30 001-R40 000 7. R40 001-R50 000 8. R50 001-R60 000 9. R60 001-R70 000 10. >R70 000
Province	Province where the respondent lives	1. Gauteng 2. Western Cape 3. KwaZulu Natal 4. Free-State 5. North West 6. Limpopo 7. Mpumalanga 8. Northern Cape 9. Eastern Cape
Household Size	Number of residents within a household	Continuous
Main member income	Monthly income of respondent	1. <R6000 2. R6001-R8000 3. R8001-R11 000 4. R11 001-R16 000 5. R16 001-R30 000 6. R30 001-R40 000 7. R40 001-R50 000 8. R50 001-R60 000 9. R60 001-R70 000 10. >R70 000
Household Size	Number of residents within a household	Continuous
Income Household	Monthly income of household	1. <R6000 2. R6001-R8000 3. R8001-R11 000 4. R11 001-R16 000 5. R16 001-R30 000 6. R30 001-R40 000 7. R40 001-R50 000 8. R50 001-R60 000 9. R60 001-R70 000 10. >R70 000

(Continued)

Table 1. (Continued)

VARIABLE	DESCRIPTION	MEASUREMENT
Membership years	Number of years on a medical scheme	Continuous
Province	Province where the respondent lives	1. Gauteng 2. Western Cape 3. KwaZulu Natal 4. Free-State 5. North West 6. Limpopo 7. Mpumalanga 8. Northern Cape 9. Eastern Cape
Main member health status	Health status of the principal member of the scheme	1. Very poor 2. Poor 3. Average 4. Good 5. Very good
Family health status	Health status of all family members of the schemes	1. Very poor 2. Poor 3. Average 4. Good 5. Very good
Chronic disease	Whether any household member suffers from chronic disease	1 = Yes 0 = No
Benefit option type	Benefit option type on a medical scheme	1. High option 2. Middle option 3. Low option 4. Hospital option
WTP	Members' willingness to pay for above services	1 = Yes 0 = No

Prescribed Minimum Benefits (PMBs) is a set of defined benefits to ensure that all medical scheme members have access to certain minimum health services, regardless of the benefit option they have selected. The aim is to provide people with continuous care to improve their health and well-being and to make healthcare more affordable. PMBs are paid in full irrespective of the benefit option.

The current prescribed minimum benefits covered by medical schemes are limited in terms of primary health care services. Assume your current benefit option was to be expanded to include more GP visits, childhood immunisation, screening for cancers (breast, cervical, lung, prostate), antenatal care, out of hospital consultations with psychologist, palliative care/end of life care and rehabilitation services.

Figure 1. Scenario for eliciting WTP for PHC services.

Results

Socio-demographic characteristics

A total of 8155 responses were received from members of medical schemes. Of these responses, 1643 were excluded due to respondents not being a principal member or not responding to questions. The results of the socio-demographic characteristics are shown in Table 2. In total 6512 participants responses were included in the study. More than half of the participants were female (52.06%). Most of the participants (40.49%) were between the age of 41 and 60. An estimated 66.95 % of the participants had a tertiary qualification while 55.84% of the participants were married. Most (64.70%) of the participants were employed on a full-time basis while 9.99% were unemployed and 13.82% were on retirement.

Table 2. Socio-demographic characteristics of participants.

VARIABLE	FREQUENCY	PERCENTAGE
Gender		
Female	3390	52.06
Male	3122	47.94
Age group		
20-30	715	10.98
31-40	1357	20.84
41-50	1376	21.13
51-60	1261	19.36
61-100	1803	27.69
Education		
No Education/Primary	33	0.51
Secondary	2119	32.54
Tertiary	4360	66.95
Marital Status		
Single	1673	25.69
Married	3636	55.84
Divorced	715	10.98
Widowed	488	7.49
Employment Status	651	9.99
Unemployed	648	9.95
Full-time	4213	64.70
Part-time	200	3.07
Retired	900	13.82
Self-employed	551	8.46
Main Member Income per month (R)		
<6000	572	8.78
6001-8000	291	4.47
8001-11 000	609	9.35
11 001-16 000	914	14.04
16 001-30 000	1795	27.56
30 001-40 000	818	12.56
40 001-50 000	469	7.20
50 001-60 000	329	5.05
60 001-70 000	164	2.52
>70 000	551	8.46

(Continued)

Table 2. (Continued)

VARIABLE	FREQUENCY	PERCENTAGE
Household Size		
At least 3	2816	43.24
>3	3696	56.76
Household income per month (R)		
<6000	422	6.48
6001-8000	304	4.67
8001-11 000	475	7.29
11 001-16 000	732	11.24
16 001-30 000	1528	23.46
30 001-40 000	843	12.95
40 001-50 000	596	9.15
50 001-60 000	408	6.27
60 001-70 000	322	4.94
>70 000	882	13.54
Membership years	85	1.30
<10 y	85	1.31
10-20 y	555	8.52
20-30 y	925	14.20
30-40 y	973	14.94
40-50 y	1050	16.12
50-60 y	815	12.51
>60 y	2109	32.39
Province		
Eastern Cape	352	5.41
Free State	212	3.26
Gauteng	2930	44.99
KwaZulu-Natal	1103	16.94
Limpopo	105	1.61
Mpumalanga	189	2.90
Northwest	109	1.67
Northern Cape	71	1.09
Western Cape	1442	22.13
Sample size	6512	100.00

R: South African Rand (1 USD = R16.5 in 2020).

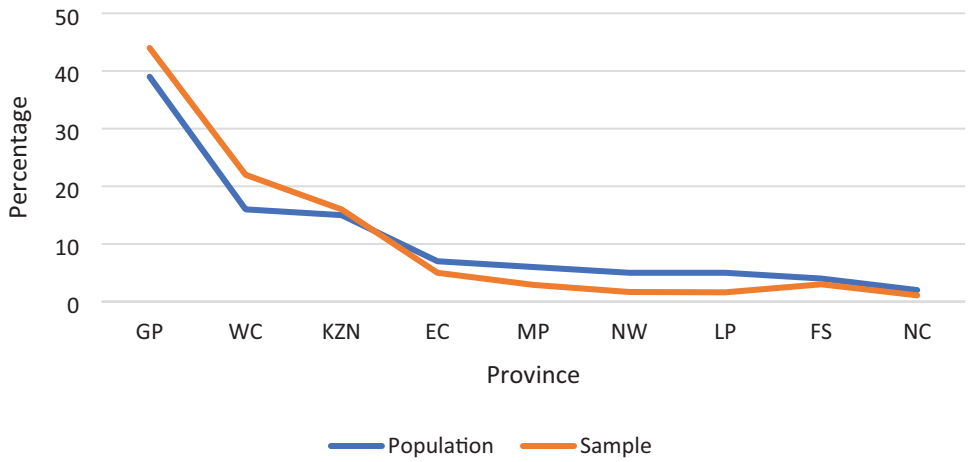

Figure 2. Percentage of study participants by province versus medical scheme population.

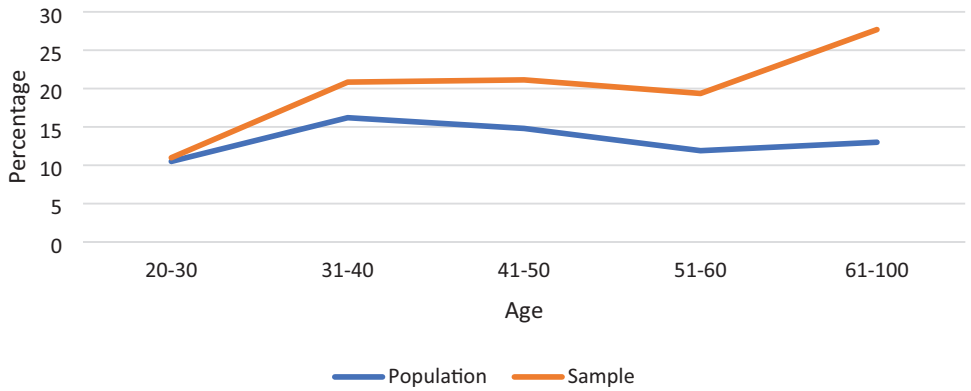

Figure 3. Percentage of study participants by age versus medical scheme population.

A quarter of the participants' income ranged between R16 001 and R30 000. Only 2.52% of the members had an income ranging between R60 001 and R70 000. Similar to main member's income, 23.45% of the households had an income of between R16 001 and R30 000. Approximately, 56.76% of the participants had a household size of more than 3. Thirty-two percent of the respondents reported that they have been a member of a medical scheme for over 60 years while 16% of participants' membership ranged between 40 and 50 years. Most of the participants were from Gauteng (45.01%), KwaZulu-Natal (16.93%) and the Western Cape (22.13%). Figures 2 and 3 show the percentage of study participants by age and province relative to the medical scheme population.

Health-related characteristics

Table 3 shows the health-related characteristics of the study participants. Most of the respondents were in good (45.32%) or very good (21.25%) health. A small percentage reported poor (4.55%) and very poor health (0.81%). Family health status was reported as good by 47.94% of the respondents. Very poor family health status was reported by 0.80% of respondents. Most of the respondents (63.88%) reported the presence of a chronic illness in the family. Most of the respondents (38.65%) were on a medium benefit option while 22.71% had a hospital benefit option. Thirty-five percent of the respondents were willing to pay for the primary package.

Factors associated with willingness to pay

The results of the factors associated with willingness to pay are presented in Table 4. Members in age group 31 to 40, 41 to 40, and above 60 were less likely to be willing to pay for the PHC as compared to members between 20 and 30. Education and marital status had no significant association with WTP. Individuals employed full-time (1.49), part-time (1.66) and self-employed (1.74) were more willing to pay for the primary health care package as compared to unemployed individuals. In the bivariate regression, main member income above R30 000 was significantly associated with WTP for the PHC. In the multiple regression however, all income groups were less likely to be willing to pay for the primary package. Respondents

Table 3. Health-related characteristics.

VARIABLE	FREQUENCY	PERCENTAGE
Main Member Health Status		
Very poor	53	0.81
Poor	296	4.55
Average	1828	28.07
Good	2951	45.32
Very good	1384	21.25
Family health status		
Very poor	52	0.80
Poor	253	3.89
Average	1944	29.85
Good	3122	47.94
Very good	1141	17.52
Chronic illness in the family		
No	2352	36.12
Yes	4160	63.88
Benefit option type		
Low	1264	19.41
Medium	2517	38.65
Hospital	1479	22.71
High	1252	19.23
WTP		
Yes	2305	35.40
No	4207	64.60
Observations	6512	100.00

whose income was affected by the corona virus disease (COVID-19) lockdown restrictions were also less likely (0.87) to be willing to pay for the PHC package.

Respondents with households of >3 were less likely (0.71) to be willing to pay for the PHC package compared to households with <3 members. Respondents with household income above R30 000 were more likely to be willing to pay for the primary health care package compared to household with income of less than R6000.

Reasons for not willing to pay

When asked for reasons why respondents were not willing to pay for the primary health package, 44.88% reasoned that they were already paying enough while 32,39% responded that they were already paying enough and will not have enough money to pay for additional services. Some participants (7.98%) also reasoned that they doubted that paying more will make a difference. The results are shown in Table 5.

Discussion

The aim of this study was to assess members of medical schemes' WTP for a PHC package and factors that might influence WTP. Thirty-five percent of study participants were willing to pay for the primary healthcare package. This was lower when compared to what was observed in a willingness to pay for primary health care at public facilities in the Western Cape Province (60%).[10] The difference is however not surprising given that members of medical schemes already pay monthly premiums to access care in the private sector while care in the public sector is financed through taxes.

Table 4. Factors associated with willingness to pay.

VARIABLE	DESCRIPTION	BIVARIATE	MULTIVARIATE
		ODDS RATIOS (95% CI)	ODDS RATIOS (95% CI)
Gender	Female	*Ref*	
	Male	1.04	1.07
		(0.93-1.14)	(0.95-1.20)
Age group	20-30	*Ref*	
	31-40	0.73**	0.75***
		(0.61-0.87)	(0.61-0.91)
	41-50	0.75**	0.72***
		(0.62-0.90)	(0.58-0.80)
	51-60	0.90	0.81*
		(0.75-1.10)	(0.63-1.00)
	Above 60	0.64***	0.67***
		(0.54-0.77)	(0.51-0.87)
Education	Primary education	*Ref*	
	Secondary	0.88	0.78
		(0.42-1.82)	(0.37-1.66)
	Tertiary	1.21	0.85
		(0.59 -2.51)	(0.40-1.81)
Marital Status	Divorced	*Ref*	
	Widow	0.80	0.89
		(0.65-1.00)	(0.68-1.17)
	Married	0.93	0.81
		(0.82-1.04)	(0.67-0.97)
	Single	1.10	0.83*
		(0.91-1.31)	(0.97-1.46)
Employment status	Unemployed	*Ref*	
	Full-time	1.56***	1.49***
		(1.30-1.87)	(1.17-1.89)
	Part-time	1.76**	1.66***
		(1.27-2.46)	(1.17-2.36)
	Retired	1.18	1.25**
		(0.94-1.47)	(0.99-1.59)
	Self-Employed	2.04***	1.74***
		(1.60-2.60)	(1.33-2.28)
Main member income per month (R)	<6000	*Ref*	
	6001-8000	0.91	0.89
		0.67-1.23	(0.63-1.28)

(Continued)

Table 4. (Continued)

VARIABLE	DESCRIPTION	BIVARIATE	MULTIVARIATE
		ODDS RATIOS (95% CI)	ODDS RATIOS (95% CI)
	8001-11 000	0.77*	0.73*
		(0.60-0.99)	(0.53-1.02)
	11 001-16 000	0.94	0.74**
		(0.75-1.18)	(0.55-1.02)
	16 001-30 000	1.02	0.65**
		(0.84-1.25)	(0.47-0.89)
	30 001-40 000	1.30*	0.63**
		(1.04-1.63)	(0.44-0.90)
	40 001-50 000	1.49**	0.71
		(1.16-1.92)	(0.48-1.05)
	50 001-60 000	1.45**	0.61**
		(1.10-1.92)	(0.40-0.93)
	60 001-70 000	1.458*	0.54*
		1.02-2.08)	(0.33-0.88)
	>70 000	1.88***	0.63*
		(1.48-2.40)	(0.41-0.98)
Household size	<3	*Ref*	
	>3	0.80***	0.71***
		(0.72-0.89)	(0.63-0.80)
Household income per month (R)	<6000	*Ref*	
	6000-8000	0.88	1.01
		(0.64-1.22)	(0.70-1.46)
	8001-11 000	0.67**	0.81
		(0.50-0.90)	(0.56-1.17)
	11 001-16 000	0.92	1.18
		(0.71-1.19)	(0.84-1.65)
	16 001-30 000	1.01	1.36*
		(0.80-1.27)	(0.98-1.89)
	30 001-40 000	1.442**	2.00***
		(1.13-1.85)	(1.40-2.84)
	40 001-50 000	1.37*	1.84***
		(1.05-1.78)	(1.25-2.67)
	50 001-60 000	1.39*	1.99***
		(1.04-1.85)	(1.32-2.97)

(Continued)

Table 4. (Continued)

VARIABLE	DESCRIPTION	BIVARIATE	MULTIVARIATE
		ODDS RATIOS (95% CI)	ODDS RATIOS (95% CI)
	60 001-70 000	1.57**	2.35***
		(1.16-2.12)	(1.53-3.60)
	>70 000	2.039***	3.00***
		(1.60-2.60)	(1.98-4.55)
Lockdown effect	Yes	0.85***	0.87**
		(0.76-0.93)	(0.78-0.97)
Membership years	<10 y	*Ref*	
	10-20 y	0.94	0.85
		(0.59-1.49)	(0.52-1.37)
	20-30 y	0.72	0.68
		(0.46-1.14)	(0.43-1.10)
	30-40 y	0.87	0.78
		(0.56 -1.37)	(0.49-1.26)
	40-50 y	0.83	0.73
		(0.53 -1.31)	(0.46-1.17)
	50-60 y	0.99	0.90
		(0.63-1.56)	(0.55-1.43)
	60+ y	0.74	0.76
		(0.48-1.16)	(0.48-1.21)
Province	Eastern Cape	*Ref*	
	Free-State	1.16	1.10
		(0.81-1.66)	(0.76-1.60)
	Gauteng	1.16	1.03
		(0.92-1.45)	(0.80-1.31)
	KwaZulu-Natal	1.02	0.95
		(0.92-1.47)	(0.73-1.24)
	Limpopo	1.11	1.00
		(0.70-1.75)	(0.63-1.60)
	Mpumalanga	0.90	0.92
		(0.62-1.32)	(0.62-1.36)
	Northwest	0.85	0.89
		(0.53-1.35)	(0.55-1.44)
	Northern Cape	1.11	1.03
		(0.65-1.89)	(0.59-1.78)
	Western Cape	1.17	1.03
		(0.91-1.50)	(0.80-1.34)

(Continued)

Table 4. (Continued)

VARIABLE	DESCRIPTION	BIVARIATE	MULTIVARIATE
		ODDS RATIOS (95% CI)	ODDS RATIOS (95% CI)
Main member health status	Very poor	*Ref*	
	Poor	0.77	0.76
		(0.42-1.42)	(0.40-1.44)
	Average	0.90	0.81
		(0.51-1.60)	(0.44-1.49)
	Good	0.97	0.77
		(0.55-1.71)	(0.42-1.41)
	Very Good	1.17	0.82
		(0.66-2.07)	(0.44-1.52)
Family health status	Very poor	*Ref*	
	Poor	0.88	0.92
		(0.47-1.67)	(0.47-1.80)
	Average	1.02	0.96
		(0.57-1.84)	(0.52-1.78)
	Good	1.16	1.02
		(0.64-2.07)	(0.54-1.90)
	Very Good	1.32	1.03
		(0.73-2.39)	(0.55-1.94)
Benefit option type	Low	Ref	
	Medium	0.87*	0.80***
		(0.75-0.10)	(0.69-0.93)
	Hospital	1.23**	1.12
		(1.05-1.43)	(0.95-1.31)
	High	0.90	0.77***
		(0.77 -1.07)	(0.65-0.93)
Observations		6512	6512

Abbreviations: R, South African Rand; SE, Standard errors.
P-value: $P < .001$***, $P < .01$**, $P < .05$*.

Table 5. Reasons for not willing to pay for primary health care package.

REASON	FREQUENCY	PERCENTAGE
I'm already paying enough	1889	44.88
I'm already paying enough; I won't have enough money	1363	32.39
I doubt it will make a difference	336	7.98
Others	621	14.75

Our study revealed that respondents who are self-employed, employed on a full-time and part-time basis were willing to pay for the package. To control for the effect of COVID-19 on participants' WTP for the PHC package, participants were asked whether the lockdown restrictions affected their income. The results showed that participants whose income was affected were less likely to be willing to pay for the package. Having household income of less than R16 000 also reduced respondents' willing to pay for the proposed PHC package. As income increased however respondents were willing to pay for the PHC package. These results are not surprising as several studies have shown a significant association between income and WTP for health insurance.[19-22] Our results were also intuitive as respondents responded that "not having enough money" and "paying enough premiums already" were the reasons for not willing to pay for the PHC. These results are important for policymakers as approximately 30% of the participants reported household income of less than R16 000.

Our analysis also showed that larger households were less likely to be willing to pay for the PHC package compared to smaller households. The results are intuitive as monthly premiums on medical schemes depend on the number of beneficiaries registered on a medical scheme. This observation has been widely argued in literature,[23-25] as the heads of larger households would have to pay a larger health insurance premium to cover each member in the household.

Our results also revealed that older individuals and those with high and medium benefits options were less likely to be willing to pay for the PHC package. The results are not surprising as medium and high benefit options turn to have additional services that are not included in the lower options. In addition, monthly premiums on these options is a bit higher than in the lower options.

Factors such as gender, education, membership years, province and health status had no significant influence on the WTP for a PHC package. While other studies have shown that educated individuals are more likely to be willing to pay for health insurance,[26,27] our study showed no significant influence. Contrary results have been shown in Nigeria and Bangladesh, suggesting that individuals with higher education are less likely to be willing to pay for health insurance.[9,28] Our results on health status also differed to those reported in Vietnam where Nguyen and Hoang have shown that having a chronic disease negatively influenced WTP for social health insurance.[16] Our results are however not surprising given that the current PMB package already covers existing chronic illnesses and hospital care.

The results of our study are important as they come at a time when South Africa is preparing for the implementation of the National Health Insurance (NHI). The NHI is a financing mechanism that seeks to realize universal health coverage (UHC) for all South Africans. It is envisaged that primary health care will be the "heartbeat" of the NHI.[29] The lack of PHC in medical schemes and members' unwillingness to pay for PHC highlights the need for alternative financing mechanisms as PHC forms the foundation of a sustainable health system.[30] Given the large enough sample and the representativity by gender, age and province, these results can be generalized to the rest of the medical scheme population.

Strengths and limitations

The main strength of this study is that it is the first study to assess members of medical schemes' willingness to pay for a PHC package in the private sector in South Africa. The demographic profile of our study sample closely matched that of the medical scheme population. The study therefore provides some evidence on members' (who are already for medical schemes) WTP for a primary health care package.

The main limitation of the study was the use of an online questionnaire limiting the sample to members with access to internet. Selection bias could therefore be a problem. In addition, the use of the online questionnaire did not allow for interaction and visual cues, to probe for more information. Recall bias could have been a problem due to various recall periods of illness and expenditure behaviors. We however assume that the bias in reporting was consistent across respondents. While the questionnaire was pre-tested on CMS staff, the low response rate from the piloted population could also serve as a limitation. The use of a cross-sectional study design could also serve as a limitation because the results capture participants' opinion at that point in time; not much can be said about changes of views over time or possible differences due to seasonality and time effects.

Conclusion

This study shows that up to 35% of participants may be willing to pay for a primary health care package. Factors influencing willingness to pay included age, marital status, employment status, member's income, and household income. Most of the participants who were not willing to pay reasoned that they are already paying enough premiums for their current packages and will therefore not have enough money for the proposed PHC package. The results of this study are important for funders and policy makers as they highlight factors that are associated with willingness to pay for primary health care services. The results therefore highlight the need for policy makers and funders to consider socioeconomic factors when developing health care policies.

Abbreviations

CMS: Council for Medical Schemes
COVID-19: Corona Virus Disease-2019
NHI: National Health Insurance
PMB: Prescribed Minimum Benefits
PHC: Primary Health Care
WTP: Willingness to Pay

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Authors' Contributions
Conceptualization: Evelyn Thsehla, Charles Hongoro, Edmore Marinda
Data curation: Evelyn Thsehla
Formal analysis: Evelyn Thsehla, Olufunke Alaba
Methodology: Evelyn Thsehla, Charles Hongoro, Jacqui Miot, Edmore Marinda, Kate Kgasi, Esnath Maramba, Alister Chabi, Barry Childs, Olurotimi Modupe, Olufunke Alaba
Validation: Charles Hongoro, Jacqui Miot, Edmore Marinda, Kate Kgasi, Esnath Maramba, Alister Chabi, Barry Childs, Olurotimi Modupe
Writing—Original Draft Preparation: Evelyn Thsehla, Olufunke Alaba
Writing—Review and editing: Evelyn Thsehla, Charles Hongoro, Jacqui Miot, Kate Kgasi, Esnath Maramba, Olufunke Alaba, Edmore Marinda

Ethics Approval and Consent to Participate
This study was carried out in accordance with the Declaration of Helsinki. The study was approved by the CMS as part of the PMB review process. The CMS is a statutory body that collects and disseminate information about private health care in South Africa. Data was accessible through legislation (Medical Schemes Act, No. 131 of 1998, ss7),[5] ethics approval was therefore waived.[31] Written informed consent was obtained from all participants prior to participating in the study. The informed consent highlighted the right not to continue with the study and the anonymity and confidentiality of all collected data. No personal identifiers were collected from participants.

Consent for Publication
N/A.

Availability of Data and Materials
Data used for the study is available from the corresponding author on reasonable request.

ORCID iD
Evelyn Thsehla https://orcid.org/0000-0003-4098-5804

SUPPLEMENTAL MATERIAL
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