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Inferential analysis of factors influencing the expectation gap in national health insurance: Evidence from South Africa

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Abstract: *Purpose*: This study investigates the expectation gap between healthcare users' demands and the South African government's National Health Insurance (NHI) proposal in Tshwane Municipality.

Methodology: The research employs a conjoint analysis approach and a market simulator to examine various parameters influencing healthcare users' expectations. A sample of 281 respondents from diverse population groups participated in the study.

Results: Findings reveal that healthcare users strongly demand immediate access to medication, consultations, and comprehensive services, and they prefer doctor-led care. The government's NHI proposal lacks specific timeframes for addressing these concerns, leading to uncertainty and dissatisfaction among users.

Theoretical contribution: This study contributes to the literature on healthcare policy implementation by highlighting the importance of aligning user expectations with government proposals. It demonstrates the application of conjoint analysis in healthcare policy research.

Practical implications: The research suggests that providing precise and detailed information about NHI services and timeframes can help manage healthcare users' expectations. It also emphasizes the need for the government to address specific concerns such as waiting times and service comprehensiveness in the NHI implementation.

Keywords: National Health Insurance (NHI), expectation gap, South Africa, healthcare users, conjoint analysis, healthcare expectations

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Sustainable Development Goals (SDGs): SDG 3: Good Health and Well-being; **SDG 10:** Reduced Inequalities; **SDG 16:** Peace, Justice and Strong Institutions; **SDG 17**: Partnerships for the Goals

1. Introduction

The right to health care services, including reproductive healthcare, is unequivocally recognized in Section 27 of the Constitution of the Republic of South Africa. These provisions place a responsibility on the government to take reasonable legislative and other measures within the confines of available resources to progressively realize these rights. In addition, through legislation, the South African government directs that emergency medical treatment cannot be refused by anyone (Republic of South Africa, 1996). Even though the state allocated approximately 8.1% of its Gross Domestic Product (GDP) to health in 2018, slightly below the Organisation for Economic Co-operation and Development (OECD) average of 8.8%, South Africa continues to grapple with pressing health challenges (Rangasamy, 2021). The persistent burden of infectious and non-communicable diseases and deep-rooted social disparities strain the health and well-being of a considerable portion of South Africans (Whiteside, 2014). Surprisingly, despite significant increases in health expenditure and the implementation of supportive policies, the health outcomes in the country have not shown the expected improvement (Chopra et al., 2009:1025).

Of particular concern is the glaring disparity between healthcare services offered by the public and private sectors (Pillay, 2011; Maphumulo & Bhengu, 2019). While 30% of the country's doctors cater to the uninsured population, constituting a substantial 84% of the national populace, the remaining 16% with access to private health insurance receive care from the private sector, where most doctors are engaged (Lancet series). Given the substantial resources invested in health care, it becomes imperative to understand which services should be provided and at what level. Similarly, the increase in the global demand for healthcare services over the past four decades has brought attention to resource allocation and equitable distribution of health services (Kevany et al., 2013; Ngobeni et al., 2020; Edoka & Stacey, 2020; Malakoane et al., 2020).

The South African National Health Insurance (NHI) represents a significant health policy. This policy is driven by the need to address inequities and provide equal access to efficient and quality healthcare services for the entire population. Nonetheless, the disparity between the public and private health systems continues to be debated and scrutinized. Nonetheless, there is inadequate evidence of the gap between the healthcare service and the user's expectations. Various studies have examined the overall state of health care in South Africa and the factors influencing health outcomes (Coovadia et al., 2009; Naidoo, 2012; Mathews et al., 2019; Michel et al., 2020). However, a gap still exists in the literature because a dearth of research examines explicitly the expectation gap within the NHI framework. Given this gap, this study aims to identify the factors influencing the expectation gap in the NHI in Tshwane Municipality. By focusing on healthcare users' expectations, the research aims to bridge the gap in the current literature, which has mainly addressed healthcare access, quality, and distribution.

2. Literature review

2.1. South African health system

The public and private health systems in South Africa are deeply divided, resulting in ongoing debates and challenges in the healthcare sector. Despite being classified as a middle-income country, South Africa's per capita health spending far exceeds those recommended for low-income countries, indicating a relatively significant investment in healthcare (Rangasamy, 2021). However, the increased spending has not resulted in equitable health outcomes, and gaps in healthcare access remain (Michel et al., 2020). According to Stewart and Wolvaardt (2019), the South African government has implemented several measures to promote healthcare fairness and quality to address historical inequities resulting from apartheid. The planned NHI program seeks to eliminate health disparities and provide inexpensive, high-quality healthcare to all individuals, regardless of socioeconomic status. Nonetheless, the Gini index shows that inequality in South Africa is rising (Chatterjee, Czajka & Gethin, 2022; Achoki et al., 2022).

The concept of NHI dates back to 1944 in South Africa, but significant progress has been made since the World Health Report of 2010, which acknowledged it as a vehicle for achieving the Millennium Development Goals. The NHI plan is part of a global effort to build low-cost national

health systems in response to the Millennium Declaration promises made in 2000 (Naidoo, 2012; Matsoso & Fryatt, 2013). South Africa's NHI program aims to give all citizens universal access to comprehensive health care. However, properly implementing NHI presents significant challenges, particularly regarding funding and resource distribution (Matsoso & Fryatt, 2013). The predicted budget imbalance and the strain on taxpayers' income raise concerns about the scheme's long-term viability. Innovative finance strategies, public-private partnerships, and sound resource management are necessary to ensure the NHI's sustainability and ability to deliver on its promises (Douwes, Stuttaford, & London, 2018).

2.2. Understanding beneficiaries' expectations of the NHI

Only a limited number of electronic public consultations on health policies have been published (NDoH 2020). As Putnam, Leonardi, and Nanetti (1994) advocate, involving the public in decision-making is vital to promoting goals, fostering unity, supporting civic and political identity, and ensuring competence and responsibility. Some factors need to be considered when planning for the NHI. One such example would be the research presented by Rossouw (2015), which highlights the under-reporting of ill health by people experiencing poverty and how this could threaten the sustainability of the NHI. The actual health needs would only become apparent once the NHI is operational and the poorer groups use the additional free services. The expectations of these poorer groups are critically important for the NHI's planning to ensure that these expectations can be met.

Moreover, the South African Health Standards Review of 2013/14 (Moleko, Msibi & Marshall 2014) revealed six areas of critical concern for patients, which are considered non-negotiable priorities. These areas include the values and attitudes of staff, reducing waiting times and queues, maintaining cleanliness in hospitals and clinics, ensuring patient safety and reliable care, preventing infections in healthcare facilities, and ensuring the availability of medicines, supplies, and equipment. These broad areas align with the need for improved service efficiency, equity, affordability, and fair resource allocation, as emphasized in the study by Weimann and Stuttaford (2014) on consumers' perspectives regarding the NHI in South Africa. According to Weimann and Stuttaford (2014), these findings support the need for reform and concur with the objectives of the NHI. Participants in their study further highlighted that the current state of the health system does not hold anyone accountable; it is inefficient, there are shortages of medicines, uneven distribution of health services, and poor availability of equipment and services.

There is a general perception that private hospitals provide superior quality care and shorter waiting times. The staff in public hospitals have been criticized for being less organized, less attentive, and less patient-orientated than in private hospitals (Weimann & Stuttaford 2014). The expectations identified in the study by Weimann are consistent with those of other countries (Bowling, Rowe & McKee 2013; Backman, Hunt, Khosla, Jaramillo-Strouss, Fikre, Rumble, Pevalin, Páez, Pineda, Frisancho & Tarco 2008; Coulter 2005; Coulter & Jenkinson 2005).

2.3. Evolving perceptions and challenges in South Africa's healthcare landscape

The attitudes and perceptions of South Africans regarding health care and specifically national health have changed in the last two decades, and there is now a greater expectation than ever for the government to right the wrongs of the past and provide for the extra healthcare needs of its population (Ataguba, Akazili & McIntyre, 2011). South Africa faces a challenge in that it must narrow the gap between the rich and the poor in wealth, health, and education. Equal opportunities must be created to ensure all human potential is realized and all people can lead healthy, productive lives (Mayosi et al., 2012). In South Africa, the discriminating factor in health is no longer based on race but rather on the inequalities that exist in the socioeconomic status of individuals and how it impacts their access to essential social services (Ataguba et al., 2011).

With the release of the Green Paper and as part of phase one, the DOH introduced its intention to pilot the NHI in ten districts covering all nine provinces in South Africa. The objective of the pilots would be to test interventions necessary for implementing the NHI while also strengthening the functioning of the district health system. The intention was also for the pilots to strengthen the performance of the public health system in readiness for the full rollout of the NHI (DOH 2011). In November 2013, the National Strategic Plan Review had the following to say about the pilots being implemented:

Initial assessment of the pilot phase found little evidence of a coordinated implementation strategy; and most of the district administrators, facility managers and healthcare workers were

unclear about what the National health insurance piloting phase hoped to achieve or what they were expected to do (Spotlight, 2013).

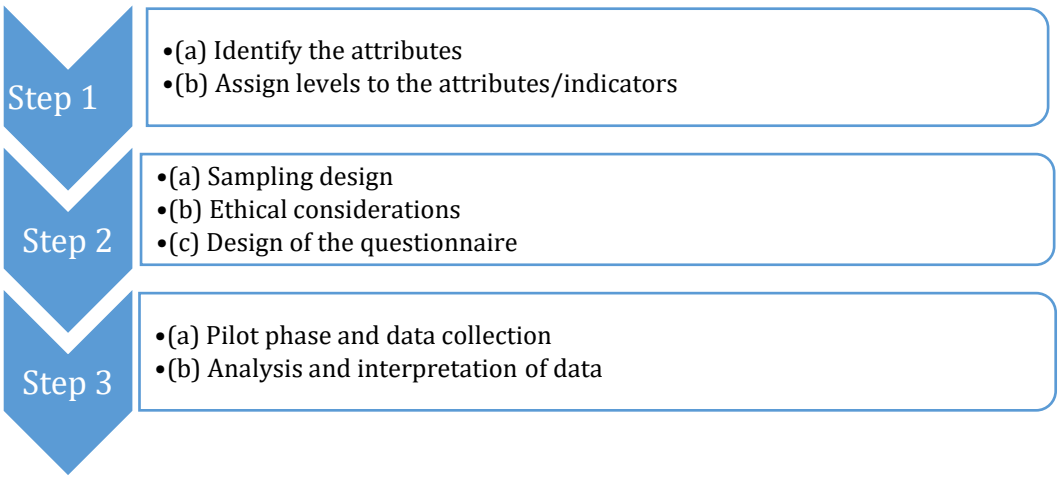
The review further noted that the 12-month progress report issued by the DOH was "…generally positive. However, it is evident that there are at least four key weaknesses in the pilot phase" (Spotlight, 2013). Budgets were being spent late; infrastructural improvements were falling behind. There was uneven progress across the districts and a lack of progress in establishing clinic committees and hospital boards. Even early in the rollout of the pilots, it was evident that progress was not where it should be. To avoid the situation where vast amounts of money are spent on NHI without any improvement, efforts must be better coordinated, and progress and monitoring must be more structured.

The literature review highlights the multifaceted aspects of the NHI, emphasizing its historical significance, objectives, and current state of health in South Africa. Focusing on beneficiaries' expectations reveals the importance of public involvement in decision-making processes to ensure the NHI's success. Addressing the expectations of different socioeconomic groups and considering critical areas of concern for patients is pivotal in shaping effective policies and strategies for the NHI.

3. Methodology

This research assesses whether there is an alignment between the offerings of the government and the expectations of citizens in the Tshwane Municipality regarding the NHI. To achieve this, the study applied the rankings-based conjoint analysis. Conjoint analysis is a well-established methodology for analyzing preferences and trade-offs among various attributes. The study design involved several steps, which are illustrated in Figure 1.

Figure 1: Steps in a conjoint analysis study



The first step involved identifying the attributes related to the NHI and assigning appropriate levels to each attribute. The next step involved deciding an appropriate sampling strategy by identifying the target population, determining an optimal sample size, and selecting an appropriate sampling methodology. The next stage involved designing a questionnaire. The questionnaire was designed and presented to accommodate various approaches, from verbal descriptions to paragraph-based explanations.

After designing the questionnaire, we conducted a pilot phase to identify its effectiveness and potential areas for improvement. This iterative process helped to refine the questionnaire and improve its reliability and validity. Upon successful pilot testing, the actual data collection process commenced. The study adhered to a rigorous methodology to ensure the acquisition of high-quality data that accurately reflected the underlying phenomena. In tandem with data collection, the focus transitioned to data analysis. The selected analytical technique was influenced by the deliberate input choices made earlier in the research process. This consideration ensured that the analysis method resonated harmoniously with the nature of the collected data and the research objectives.

3.1. Target population and sampling technique

The target population for the study consisted of residents aged 18 and older from four different population groups: Black/African, White, Coloured, and Indian, living in the Tshwane

metropolitan area. Tshwane was chosen as the study's population because it was one of the districts where the NHI was piloted in 2012. The population size in the Tshwane metropolitan area was approximately 2.3 million citizens aged 18 and older, classified by race as follows: Blacks/Africans - 1,766,682, Coloured - 44,399, Indian - 38,957, and Whites - 450,747 (StatsSA, 2016).

A non-probability sampling approach was used to select respondents, as there was no specific probability of an individual being part of the sample. The sample size was determined based on statistical requirements, aiming for a minimum of 200 respondents. According to Krejcie and Morgan's (1970) sampling formula, a sample size 281 was found suitable. The target population was disproportionately distributed over the four population categories to guarantee proper representation, resulting in 130 responses from the Black/African group, 70 from the White group, 40 from the Indian group, and 40 from the Coloured group.

3.2. Data collection method and procedure

The study was divided into the pilot phase and the primary survey. The questionnaire was distributed to 40 households in the Tshwane area during the pilot phase to identify any necessary adjustments. The adjusted questionnaire was then delivered to the sample population in the primary survey. Data was gathered in the field, and healthcare users were surveyed at their homes. MarkData Pty (Ltd), a private consulting firm, administered the questionnaire. Field personnel were trained to ensure correct administration and adherence to ethical guidelines. The questionnaire consisted of three scenarios presented to respondents, each with varying attributes related to the NHI. Respondents rated each scenario on a scale of 1 to 10, indicating acceptability. They were then asked to select their preferred scenario from the three options.

3.3. Data analysis method

Once the data regarding healthcare users' choices had been collected, the next step was to analyze the responses. To establish the importance of the choices to the different attributes, the trade-offs the respondents made between these attributes, and the overall benefit of considering these trade-offs, a relationship between the attributes' utility and the choices made must be specified. This process started with the cleaning and weighting of the data. Next, various descriptive and inferential analyses were conducted. The analysis used two methods, the conjoint analysis simulator, and the independent samples t-test, described in the following sections.

3.4. Conjoint analysis simulator

The first level of analysis applied under inferential analysis was to analyze the raw utilities or part-worths. In analyzing raw utilities, each indicator was isolated to determine its importance in the overall picture. The utilities in their original form are called "raw" utilities since they came directly from performing a regression analysis as applied by the Sawtooth Software for the conjoint analysis model. Conjoint utilities or part-worths were scaled to an arbitrary additive constant within each indicator and are interval data. To characterize the relative importance of each indicator, the study determined how much of a difference each utility made in the overall product or service, in this case, healthcare services. The percentage calculated represented how important that indicator was to the overall package.

The next phase of the data analysis involved the application of a market simulator, usually considered the most valuable tool coming out of a conjoint analysis study (Orme 2010:89). A conjoint analysis simulator was applied to the data, enabling the creation of simulated market choices based on raw utilities and part-worths. This simulator considered various options and reported the percentage of healthcare users likely to choose those preferences. It provided valuable insights into individual and group-level preferences, cross-elasticity effects, and differential substitutability between product features. Additionally, it serves as a pricing guide, helping determine price sensitivity and offering details on product or service bundles. For this study, the extensive search space consisted of nine features with three levels each, resulting in 19,683 possible service combinations. The exhaustive algorithm, known for finding the global optimal solution, was chosen for analysis. The simulator's ability to account for a competitive environment and respondent heterogeneity and accurately project market choices made it a powerful tool in this research.

3.5 Independent samples t-test

To compare the means of two independent groups, independent samples t-tests were used to identify significant differences in attribute importance between public and private healthcare users. The assumptions necessary for this test were met, and the data was normally distributed and showed homogeneity of variances.

4 Analysis and discussion

4.1 Market simulator

The market simulator was used to predict the optimal mix of indicators (and levels) that healthcare users expected and then compared to what was identified as the optimal levels, looking at the raw utilities. The simulator provided indicator levels, which could then be compared with what the government proposes in terms of NHI, and this comparison would then assist in formulating the size of the expectation gap. Various indicators were inputted into the simulator, and the indicators and levels are applied in Table 1. The highlighted ranks indicate the optimal product mix of indicators. The service mix is optimal, which yields a 100% ranking. The product mix in the simulator was varied using the different indicators until the optimal level of each indicator was identified.

Table 1: Indicators and levels

INDICATOR	LEVEL	VALUE
Range of services	Limited	1
	Broader	2
	Comprehensive	3
Waiting time (general) medication	One week	1
	One day	2
	Immediately	3
Waiting time (chronic) medication	Four hours	1
	Two hours	2
	Immediately	3
Waiting time (general) consultation	Four hours	1
	Two hours	2
	Immediately	3
Waiting time (casualty) – consultation	Four hours	1
	Two hours	2
	Immediately	3
Consulted by	Doctor	1
	Nurse	2
	Indifferent	3
Waiting time – elective procedure	Six months	1
	One month	2
	One week	3
Location	Hospital	1
	Clinic	2
	Consultancy rooms	3
Waiting time – specialist	Four months	1
	Eight weeks	2
	Four weeks	3

Table 1 represents the optimal service mix that healthcare respondents in Tshwane expected from NHI. The table highlights the level at which each indicator was optimally selected. This optimal level is the expectation from NHI, which was tested by incorporating rankings-based conjoint analysis. The optimal mix of indicators identified through the simulator and seen in Table 1 has been expanded upon in Table 2, with the added dimension of what the government proposes. By incorporating the government proposals in terms of NHI, the expectation gaps, if visible, will be addressed. Table 2 was informed as follows: the respondents' expectations through the simulator, the government's proposals through the literature review, and the resulting expectations gap identified by comparing the respondents' expectations with the government's proposals.

Table 2: Gap analysis

Indicator	Respondent expectation	Government proposal	Gap
Range of services	Comprehensive	Comprehensive	None
Waiting time (general) medication	Immediately	Not clearly specified	Gap
Waiting time (chronic) medication	Two hours	Not clearly specified	Gap
Waiting time (general) consultation	Four hours	Not clearly specified	Gap
Waiting time (casualty) – consultation	Immediately	Not yet determined (Bill of Rights)	Gap
Consulted by	Doctor	Doctor/Nurse	Gap
Waiting time – elective procedure	Six months	Not specified	Gap
Location	Clinic	Clinic	None
Waiting time – specialist	Four months	Not clearly specified	Gap

The gaps identified emerged because the government has not yet clearly specified the details of the health care to be provided under NHI, which refers to the lack of communication and would result in tension and conflict. The rational choice indicates that individuals are motivated by what is best for them in all their actions and that their actions are shaped by their desire for more rather than less to maximize their gain. It is clear from the analysis that respondents in the public sphere applied simple heuristics when making complex decisions. Based on the seminal work of Kahneman, this behavior is explained through the discipline of rational economic theory. This demonstrates that rather than taking the time to consider the long-term consequences of a decision, respondents typically rely on their emotional state or experience to make quick decisions, and this is known as simple heuristics (Kahneman 2011:40). This is evident in the choices made by the respondents where they did not necessarily select the optimal or best option for every utility but instead that there was a trade-off between what would be simple and easy for them, which possibly was informed by experience, as opposed to the best option.

However, the consistency of the utilities for the individuals speaks volumes. It strengthens the argument that these individuals shared experiences and worlds impacted by significant and general others. This influence should flow in both directions: as much as the individual is influenced by the significant other and the general other, both should be affected by the individual. The following sections discuss the indicator levels of the optimal service package based on the respondents' expectations and the government's proposals.

Range of services – comprehensive

The idea of a comprehensive range of services garnered agreement from both the government and the respondents. The respondents indicated that this encompasses unrestricted access to unlimited services and medications, mirroring perceptions of private healthcare norms. This concept stems from their collective understanding influenced by interactions with significant others and the broader society. In contrast, the government's portrayal of a comprehensive range of services remains ambiguous, as disclosed in the White Paper (DOH 2015), acknowledging that some personal healthcare services might not be covered.

Notably, media reports highlighting service shortages due to inadequate medical personnel, medicines, and equipment have molded the expectations of healthcare users. The prevalent shortage-related negative coverage has driven users to demand an all-inclusive package. Their concerns arise from witnessing and hearing about these deficiencies, fuelling their desire for an all-encompassing package that guarantees prompt access to medical attention, medications, and treatment.

Divergent expectations about the components of a comprehensive health package inevitably lead to an anticipated gap. The DTC (2017) pointedly emphasizes this gap by noting the contrast between the theoretically unencumbered promise of a comprehensive benefits package and the actual, practical benefits provided. Thus, despite the shared term "comprehensive range of services" used by the government and healthcare respondents, the interpretation of its contents markedly differs. This discrepancy underscores a communication breakdown within the public sphere.

Waiting time for medication after a general consultation – immediately

The respondents firmly expected to be attended to immediately when visiting health centers. This preference may have been shaped by their past experiences, where they had to endure long waiting times and are now unwilling to be patient. This indicator was the absolute requirement for 21.6% of the sample (the third highest). This indicates that healthcare users were tired of waiting

and expected to receive their medication immediately after a consultation. The united choice in this preference is socially informed: healthcare users who wait for their medication with other patients also waiting. This interaction between the patients and their wait context influences their choices.

However, the government has not committed to specific time frames for attending to patients at casualty. The lack of a clear commitment makes it challenging to measure and address this issue effectively, creating an expectation gap between what respondents expect and what the government proposes. When comparing this indicator to others, it is essential to consider the context in which waiting times occur. In specific contexts, healthcare respondents' choices are socially informed, and group thinking influences their decisions. The context of waiting with other patients impacts their choices. The literature also highlights instances where patients have had to wait the entire day and were then asked to return the next day or told that no doctor or nurse was available.

Monthly waiting time for chronic medication – two hours

In the overall ranking of totally unacceptable indicators of health care, the waiting time for chronic medication was indicated by 24.1% of respondents as the unacceptable indicator of health care that ranked the highest. This indicator was important to healthcare users, and they were not prepared to take time off every month to wait longer than two hours for their chronic medication. As noted above, there has been no government commitment to waiting times and also the problem of drug stock-outs. Based on this lack of commitment to time frames, it can be concluded that an expectation gap does exist.

This analysis reveals that respondents did not demonstrate purely instrumental reasoning, given that they did not select the best option, "no wait". This is evidence that healthcare respondents exhibit strategic reasoning since they are prepared to compromise and understand that expecting the medication to be given immediately is unrealistic. This decision indicates the application of simple heuristics to make complex decisions and is further informed by possible experience or lack of confidence in the government to deliver healthcare services and medication.

Waiting time for a general consultation – four hours

The respondents desired a swift four-hour waiting time for general consultations upon arrival. The government, however, has yet to commit to specific timeframes, acknowledging only the necessity for reduced waiting times without explicit details. Literature underscores that prolonged waiting times predominantly stem from a scarcity of medical personnel, a prevailing challenge within the public health sector. Notably, the NHI's pilot phase aimed to appoint 450 full-time equivalent doctors across districts, yet only 156 of these positions were filled, highlighting the impact of doctor shortages on waiting times.

The government's capability to institute the NHI, even within the pilot districts, is questionable. Various stakeholders, such as doctors, nurses, business figures, and more, expressed vehement criticism of the White Paper (DOH, 2015), citing inadequate information about the eleven pilot districts and allocation of funds (Health Policy, 2016). Despite the National Treasury's allocation of an additional R4.5 billion in 2015 for pilot district healthcare enhancement, less than R2 billion was earmarked for the project, and a significant portion of the budget remained unspent (Health Policy 2016).

This confluence of factors underscores the pressing need to address waiting times for general consultations, as exemplified by cases like the Newlands Clinic servicing eight villages in East London. Analyzing this context with literature illuminates a disparity between healthcare user expectations and government proposals. This schism, rooted in a breakdown within the public sphere, fuels an expectation gap—diverging what healthcare users anticipate and what the government can feasibly deliver.

Waiting time for a visit to casualty – Immediately

The respondents indicated they expected to be attended to immediately when visiting casualty. This expectation could be driven by their experience, where they have had to endure long waiting times, so they were no longer prepared to be patient. Since the government has not committed to any time frame, this commitment is not measurable, and there will surely be a gap between what respondents expect and what the government proposes. When comparing this response to the other indicators dealing with waiting times, the context in which the waiting time takes place needs to be considered. In specific contexts, the choices of the healthcare respondents are socially informed, and groupthink dominates their choices. The context in which the healthcare user is placed impacts his/her choice. The literature has also highlighted the plight of patients who wait for the entire day only to be told to return the next day or that a doctor or nurse is unavailable.

Prefer to be informed and consulted by a doctor/nurse–doctor

Based on Table 2, the respondents preferred to be first attended to by a doctor. However, the government's key driver for the NHI is primary health care, meaning patients would be attended to by a nurse and referred to a local clinic or another primary healthcare facility for treatment. A disconnect is apparent between the planned functions and the rollout of the NHI scheme. Infrastructure limitations and medication shortages lead to inefficient doctors and nurses use (Surende et al., 2016, pp. 1094). Moreover, there is a severe shortage of nurses in South Africa, and the quality of care provided by nurses has come into question.

The conflicting results from the analysis point to a possible breakdown of communication in the public sphere regarding the concept of a "nurse", as understood by both government and the respondents. The respondents expect the level of service from a nurse they have come to appreciate in the private healthcare sector from a doctor, and this does not appear to be the level of service that can be expected from a nurse in the public healthcare sector.

Waiting time for an elective medical procedure – six months

According to Table 2, the respondents indicated they would be willing to wait six months for an elective medical procedure. Respondents again demonstrated that they applied strategic instead of instrumental reasoning, given that they did not opt for the best option, which would have been "one week", but instead chose the six-month option. The government's acknowledgment that waiting times need to be reduced is far removed from reality. As reported, treatment delays have been a common problem, and the situation remains unresolved. The healthcare respondents chose based on the socially informed context they used to construct their reality. Their choice has been influenced by knowledge of treatment delays and the fact that even a six-month wait would be highly optimistic.

Location of first visit – clinic

Based on the findings, the respondents and the government have identified clinics and consulting rooms as the first visit locations. The fact that respondents again spoke with a single voice in support of being treated at a clinic as opposed to a hospital indicates, firstly, that they applied simple heuristics to make complex decisions and, secondly, their choice was informed through their lived experiences, and the lived experiences of their significant others as well as the general others. The literature has identified that healthcare users find it difficult and time-consuming to be treated at a hospital, possibly explaining the strong preference to be treated at clinics. Treating at a hospital would also translate into transport costs and longer waiting times for most healthcare users, so their choice is socially constructed. Notwithstanding this observation, there again appears to be a disjoint between what the government sees as a facility that can deliver an acceptable level of care and what the respondents expect. Based on the evidence of the OHSC survey of health facilities conducted in the 2016/17 financial year, it is again apparent that despite both the respondents and government identifying a "clinic" as the location for a first visit, it is very probable that a gap exists between the service that healthcare respondents expect to receive at a clinic and what the government is currently able to provide at its clinics.

Waiting time to see a specialist

According to the results, healthcare respondents indicated they were prepared to wait eight weeks for an appointment with a specialist after a referral. This choice on the part of respondents was again driven by strategic rather than instrumental reasoning, given that the optimal choice would have been the lowest option of four weeks. Choosing the middle path rather than the optimal option is indicative of individuals who realize that they cannot have everything and are thus willing to compromise on what would be a feasible option. It could also be that the respondents were realistic in their expectations. The government has not committed to a time frame for a visit to a specialist. Still, the literature informs us that there is an unequal distribution of health services across the country, which is evident by the 33 specialists per 100 000 residents in the Western Cape compared to 1.3 specialists per 100 000 in Limpopo (Wilson, 2018, pp. 1). Despite this unequal distribution there is still a substantial shortage of specialists in the public section, as acknowledged by the government in their draft proposals. Primary health care will be the first entry-level, so patients requiring specialized, or hospital treatment will have to be referred to higher levels of treatment. Anyone who goes directly to a specialist will have to pay what the White Paper (DOH, 2015) calls a "bypass fee" (Jeffery, 2016, p. 28).

Table 3 presents a heuristic model of what is being proposed and what is expected:

Table 3: NHI proposals and the expectations of healthcare users

Attribute	NHI Proposals		Expectations of Citizens	
A1. Quality of Care	**GP1**	Quality of care – Safety – Efficacy – Continuity	**E1**	The quality of care – Cleanliness
A2. Access to health care	**GP2**	Access to health care – Location of healthcare facilities	**E2**	Access to quality care without suffering financial hardship
A3. Staff Attitudes	**GP3**	Improvement in staff attitudes – Respect for patients – Patient orientation	**E3**	Treating patients with due respect and courtesy.
A4. Safety	**GP4**	Ensuring the safety and security of staff and patients	**E4**	Health safety at healthcare facilities
A5. Waiting time – Medication	**GP5**	Eliminating drug stock-outs	**E5**	Availability of medication, both chronic and treatment.
A6. Waiting Times – Consultations	**GP6**	Reduction in waiting times – Availability – Timeliness	**E6**	The waiting times for consultations and surgery should be improved to acceptable levels.
A7. Inequalities	**GP7**	Reducing health inequalities	**E7**	Treatment should be the same for all citizens regardless of race, age or gender.
A8. User costs	**GP9**	Financial risk protection	**E9**	Access to quality care without suffering financial hardship

The research findings on the Inferential Analysis of factors influencing the expectation gap in National Health Insurance in the Tshwane Municipality have significant implications for various stakeholders involved in implementing the National Health Insurance (NHI) system in South Africa. First and foremost, the study emphasizes the need for effective communication and transparency in policymaking. Policymakers must engage the public to understand their NHI expectations, concerns, and preferences. In addition, there is a need to provide clear and precise information on the proposed healthcare services, timeframes, and resource allocation. The findings also highlight the need for healthcare professionals to be aware of the expectations of healthcare users and the sources of the expectation gap. Regular evaluations of healthcare user satisfaction, service quality, and accessibility can help identify areas needing improvement and provide feedback for policy changes.

5. Conclusion

The NHI program is a game changer in South Africa's quest for universal healthcare coverage. However, the extent to which it satisfies the expectations of healthcare users remains an open question. This study employed conjoint analysis and a market simulator to identify the expectation gap between what the NHI proposed to offer and the needs of healthcare users. The study further identified the major factors contributing to the proposed NHI's expectation gap. This research assessed whether there is an alignment between the offerings of the government and the expectations of citizens in the Tshwane Municipality regarding the NHI. The study applied the rankings-based conjoint analysis. The target population for the study consisted of residents aged 18 and older from four different population groups: Black/African, White, Coloured, and Indian, living in the Tshwane metropolitan area. A non-probability sampling approach was used to select 280 respondents. The sample was distributed over the four population categories to guarantee proper representation, resulting in 130 responses from the Black/African group, 70 from the White group, 40 from the Indian group, and 40 from the Coloured group. Two data analysis methods were employed: a conjoint analysis simulator and the independent samples t-test.

The inferential analysis revealed that despite the initial indication of a homogeneous population, there was a more heterogeneous population with various preferences. This result demonstrates the complexities of healthcare users' decision-making processes. Understanding these complexities is critical for policymakers because it allows them to develop a healthcare system aligned with the heterogeneous population's expectations. The study further found several expectation gaps between the proposed offering of the NHI and users' preferences. First, the study found a disparity in the service delivery metrics, such as medicine and consultation wait times, the behavior of healthcare professionals, and the scope of services. Unsurprisingly, healthcare users wanted rapid access to drugs and consultations. However, government suggestions for addressing these concerns lacked defined time frames, leading to uncertainty and dissatisfaction among healthcare users. Policymakers need to provide clear and detailed information about NHI services

and time frames to manage healthcare users' expectations. Addressing these concerns will lead to the successful implementation of the NHI. This research contributes to healthcare policy and management by highlighting the significance of considering healthcare users' preferences and expectations in designing and implementing the NHI system. By bridging the expectation gap, South Africa can achieve universal healthcare coverage and improve the overall well-being of its citizens.

This study has revealed significant gaps between healthcare users' expectations and the South African government's National Health Insurance (NHI) proposals in Tshwane Municipality. Key findings include:

1. Healthcare users strongly demand immediate access to medication consultations and comprehensive services and prefer doctor-led care.
2. There is a notable disparity between users' expectations for waiting times and the government's lack of specific commitments in this area.
3. Users and the government interpret the concept of "comprehensive services" differently, potentially leading to dissatisfaction.
4. Users' preferences are significantly influenced by their social context and past experiences with the healthcare system.

From a practical perspective, these findings highlight the urgent need for:

- Clear communication from the government about NHI services, timeframes, and limitations to manage public expectations effectively.
- Strategies to address critical issues such as waiting times and service comprehensiveness in NHI implementation.
- Consideration of users' preferences in the design and rollout of NHI services to enhance public acceptance and satisfaction.

From a scientific standpoint, this research contributes to the literature on healthcare policy implementation by:

- Demonstrating the application of conjoint analysis and market simulation in understanding public expectations of healthcare reforms.
- Highlighting the importance of aligning policy proposals with public expectations for successful implementation.
- Providing empirical evidence of the factors influencing the expectation gap in healthcare policy.

While this study provides valuable insights, it is limited to the Tshwane Municipality and may not fully represent the entire South African population. Future research should extend this analysis to other regions and explore how expectations vary across different demographic and socioeconomic groups. Additionally, longitudinal studies could track how expectations evolve as the NHI is implemented.

In conclusion, bridging the expectation gap identified in this study will be crucial for implementing the NHI in South Africa. By addressing these gaps, policymakers can enhance public trust, improve healthcare outcomes, and move closer to the goal of equitable, high-quality healthcare for all South Africans.

Declarations

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and material

The data are available on request.

Competing interests

The authors declare no conflict of interest or competing interests.

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