



# Evaluating Customers' Perceptions on the Reliability of Healthcare Services Provided by Government Hospitals: A Case Study of Ilala District Council

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## Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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## ABSTRACT

This article aims to evaluate customers' perceptions on the reliability of healthcare services provided by government hospitals. This study employed a descriptive research design and quantitative research approach. The target population includes customers of Mnazi Mmoja Hospital and Amana Referral Hospital. A sample size of 384 respondents was used. Data were collected by using the SERVQUAL questionnaire and interview method, and the collected data were analysed

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by using average scores and gap scores for quantitative data and thematic analysis for qualitative data. This study revealed significant gaps in service delivery and reliability. Service reliability meets expectations in timeliness; improvements are needed in consistency and accuracy. Medical staff show strengths in timely service but struggle with handling complaints promptly. Positive perceptions of trustworthiness and safety contrast with communication gaps in treatment plans and privacy protection. If these gaps are not addressed, the healthcare system risks higher rates of patient dissatisfaction, increased infections, longer recovery times, and potentially higher mortality rates, leading to declining public trust and worsened public health outcomes. The urgent need to evaluate and improve healthcare reliability is ensuring that government hospitals do not fall short in providing safe, timely, and consistent services. This study fills a gap by focusing on the specific reliability aspect in service delivery, particularly in Tanzanian government hospitals, where systemic inefficiencies often go unchecked. Based on the findings, it is recommended that quality assurance teams should develop and implement standard operating procedures to ensure consistent and reliable service delivery across all departments. The IT department should invest in and manage electronic health record systems to improve the accuracy and efficiency of patient information management. Department heads should strengthen processes to ensure timely delivery of services, including reducing wait times and providing prompt responses to patient needs.

*Keywords: Customers; customer perception; reliability; healthcare services; Government hospitals.*

## 1. INTRODUCTION

Customer satisfaction with health services is a critical metric for evaluating the effectiveness and quality of healthcare delivery systems [1,2]. Among the dimensions of healthcare service quality, reliability stands out as a key factor influencing patient satisfaction. Reliability in healthcare refers to the consistent ability of a healthcare provider to deliver promised services accurately and dependably [3]. Patient's perception of the reliability of healthcare services significantly impacts their overall satisfaction and trust in healthcare institutions [4,5]. Government hospitals, which serve as the backbone of public healthcare systems in many countries, particularly rely on maintaining reliability to meet the needs and expectations of patients. However, ensuring the provision of high-quality health services in government hospitals is crucial because the majority of Tanzanians depend on these facilities, yet customer satisfaction remains a complex issue [6,7].

Access to reliable and high-quality healthcare services is a global priority, and ensuring customer satisfaction is essential for achieving positive health outcomes. In developed countries such as Canada, the United Kingdom, and Australia, where government-funded healthcare systems are prevalent, patient perceptions of reliability are integral to measuring the success of healthcare services [8,9,10]. These countries prioritize service consistency and accuracy, with reliable healthcare seen as essential to public health and patient well-being. Research shows

that when patients perceive the reliability of care as high, their overall satisfaction with healthcare services increases, leading to better health outcomes and trust in the system [11].

In Africa, where healthcare systems face significant challenges, the issue of reliability is even more critical. Limited funding, infrastructure deficiencies, and a shortage of healthcare professionals often compromise the reliability of services in countries like Nigeria, Ethiopia, and Kenya [12]. In these nations, government hospitals are the primary providers of healthcare, and patient's perceptions of reliability in these institutions are crucial for improving healthcare delivery and fostering public trust [13]. Previous studies in Tanzania have highlighted several areas of concern. For instance, Mgaya and Gwahula [14] found that healthcare workers' perceptions of service quality at Mwananyamala Hospital's outpatient department were not consistently positive, indicating areas needing improvement. Similarly, Wang et al. [7] reported that patient satisfaction at Muhimbili National Hospital was below optimal levels, with dissatisfaction focused on specific aspects of the healthcare services provided. A comparative analysis by Farrukh et al. [15] of public and private health facilities in Tanzania, Kenya, and Ghana also revealed notable variations in client satisfaction, underscoring the need for focused improvements in government hospitals.

Tanzania, located in East Africa, relies heavily on its public healthcare system, with government hospitals serving the majority of the population.

While efforts have been made to improve healthcare services, challenges such as the unavailability of essential medicines, bureaucratic inefficiencies, and unofficial payments undermine the perceived reliability of the system [13]. Patients often experience delays in service delivery and inconsistent care, leading to dissatisfaction. These studies collectively emphasize the persistent issue of suboptimal customer satisfaction in Tanzanian government hospitals, particularly highlighting the need to address service reliability and consistency. However, there remains a gap in research concerning the customer's perceptions of the reliability of healthcare in government hospitals across different regions and hospitals. Understanding this aspect is essential for developing targeted interventions that can improve the quality of healthcare services and enhance customer satisfaction.

To bridge this research gap, the current study aims to examine the customer's perceptions of the reliability of health services in government hospitals in Ilala District. By focusing on this specific district, the study seeks to contribute to a comprehensive understanding of customer satisfaction in government hospitals and provide tailored recommendations for improvement.

## 2. LITERATURE REVIEW

### 2.1 Theoretical Review

This study was guided by the Service Quality (SERVQUAL) model. SERVQUAL, developed by Parasuraman et al. [16] in 1988, is a widely recognised model for assessing service quality. It has been applied in various industries, including healthcare, to understand and measure customer satisfaction [17]. The model focuses on five key dimensions: reliability, assurance, tangibles, empathy, and responsiveness. The SERVQUAL is a framework that identifies key dimensions of service quality, including reliability, assurance, tangibles, empathy, and responsiveness. It highlights the importance of meeting customer expectations in these dimensions to ensure high levels of customer satisfaction. By assessing the gaps between customer expectations and perceptions, organisations can identify areas for improvement and implement strategies to enhance service quality and ultimately meet customer needs more effectively [18].

One of the strengths of the SERVQUAL model is its comprehensive nature. It covers multiple

aspects of service quality, providing a structured framework for assessing customer satisfaction [19]. This allows researchers to gather data systematically and analyse it effectively. Moreover, the five dimensions of SERVQUAL apply to various service industries, including healthcare, making it suitable for evaluating health services in government hospitals. However, SERVQUAL also has its limitations. One of the weaknesses is its reliance on customers' subjective perceptions and expectations [18]. These perceptions can be influenced by individual biases or cultural differences, which may introduce some degree of variability in the results. Additionally, SERVQUAL does not provide a clear benchmark for determining acceptable levels of service quality, as customer expectations can vary widely [20].

In the context of a study on the reliability of healthcare services provided by government hospitals, the SERVQUAL model can be highly relevant. It offers a structured approach to evaluate service reliability and identify areas in need of improvement [19]. Researchers can utilise the dimension of SERVQUAL to assess the reliability of medical services provided by government hospitals to patients' needs. By leveraging this model, organisations can gain valuable insights to enhance the reliability of healthcare services delivered in government hospitals.

### 2.2 Empirical Review

The examination of healthcare service reliability and patient satisfaction has been extensively addressed across various healthcare settings and countries, revealing critical insights into service delivery and patient perceptions. Wang et al. [7] in their study noted that patient expectations and satisfaction are positively and significantly impacted by the reliability of the healthcare system. Additionally, patients' happiness was positively and significantly impacted by expectations. Because this can result in a speedier recovery for patients, hospital management must take all the required measures to guarantee that their facilities always offer the greatest treatment to patients. This research adds to the body of knowledge on the reliability of health services from the standpoint of developing nations. According to Straus and Schoeman [21], there were no appreciable variations in service reliability between clinics, age groups, or genders, and the mobile clinics had very high standards. Though there was

relatively little variation in the responses, response bias or severe prejudice could have been there. The lack of a comparison organisation might have also affected the respondents' answers. As part of their quality management process, healthcare service companies should work to uphold high standards and measure and improve their service reliability regularly. Through the assessment of the existing state of care that patients are receiving, opportunities for improvement in terms of perceived value have been found. According to Farrukh et al. [15], 51.4% of patients were happy with the hospital outpatient department's services overall. Patients who attended private hospitals accounted for 74% of their satisfaction, a considerable increase over those who visited public hospitals (29%;  $p < 0.001$ ). Female patients reported higher levels of satisfaction (58%) compared to male patients (47%). Red flags raised by patients were the doctor's lack of attention, the supporting staff's actions, and the poor administration of the medical record. According to patients' perspectives, the private sector offers satisfactory medical care at a high cost, while the public sector is a less expensive option but lags behind in the provision of high-quality services and patient satisfaction. Their study has demonstrated the significant relationship between healthcare reliability and economic conditions. According to Akinyinka et al. [22], 96% of respondents said their doctors treated them effectively, and all respondents (98%) thought the medical facilities were clean. Six out of ten respondents said the wait time was minimal, and sixty percent thought the majority of the medications were available. Ninety-five percent were satisfied with the services they received, and 85 percent thought the care they received was of acceptable quality. Customer satisfaction and care dependability were significantly correlated. Customer satisfaction was predicted by short wait times. Amporfro, et al. [5] argued that to improve patient satisfaction, hospital management should combine and reinforce aspects of service quality that center on a patient-centered environment and an effective service delivery system. Healthcare management must consider when ensuring that systems are enhanced for better health care, as key maternal features and elements connected to the health system have been shown to have a positive correlation with patient satisfaction with the delivery of health services. According to Aktar [10], service recipients had positive perceptions of responsibility and reliability but negative perceptions of cost and communication. The

main variables affecting the general level of service quality in private hospitals were identified using regression analysis. In terms of service reliability, the most important factors affecting patients' overall satisfaction with care are responsiveness and focus. The study found that these facilities' incentive systems have an impact on the standard of hospital care. The competent authorities should be more eager to provide patients with high-quality care to better meet their demands since private hospitals are not financed by the government and instead rely on patient fees. According to Umoke et al. [2], patients expressed great satisfaction with responsiveness, assurance, and empathy, as well as tangibility and reliability. The level of treatment received by the patients was satisfactory. But pleasure with tangibility was lowest and satisfaction with empathy was highest. Therefore, management ought to concentrate their efforts on improving the hospital's hygiene, attendant and patient waiting spaces, and healthcare professionals' immaculate appearance. Additionally, there should be a biannual evaluation of patient satisfaction, with the data used wisely to establish a foundation for health sector change. The study by Mgaya and Gwahula [14] noted that tangibility, reliability, and responsiveness significantly impacted patient satisfaction. Their study aligns with other research indicating that physical facilities, equipment, and staff appearance play a significant role in shaping patient perceptions, particularly during times of vulnerability.

From the empirical review, significant gaps remain in our knowledge of how patients perceive the reliability of government hospitals, especially in particular contexts such as Tanzania, according to the literature that is currently available. There is little research specifically focussing on the reliability dimension in Tanzanian government hospitals, even though earlier studies such as those by Wang et al. [7] and Aktar [10] highlight differences in service quality between the public and private sectors and other studies like Akinyinka et al. [22] and Mgaya and Gwahula [14] address variations in patient satisfaction. By offering a focused investigation of how reliability affects patient happiness in this particular situation, the study seeks to close this gap. The study not only closes a significant gap in the literature but also offers useful information for policymakers and healthcare administrators looking to improve patient outcomes and service

quality by providing insights into the particular difficulties faced by Tanzanian government hospitals and offering practical suggestions for improvement.

### 3. METHODOLOGY

#### 3.1 Research Design

Research design is a framework of research methods and strategies selected by a researcher, according to Sileyew [23]. The study design is determined by the nature of the research challenge and the data-gathering instruments. Stated differently, the choice and application of instruments are also determined by the research design. The study's primary goal was met through the application of a descriptive research approach. Descriptive research design therefore aids in achieving the study's primary goal. In general, this research design was carried out as a result of a study that outlined the traits of a pertinent group, estimated the proportion of the population that possessed these traits, made precise predictions, ascertained the frequency with which something occurs, and found correlations between various variables. Furthermore, the descriptive aspect focused on answering questions related to who, what, when, where, why, and how exactly the kinds of issues our study raises.

#### 3.2 Population of the Study

The target population for this study includes customers (patients) of Mnazi Mmoja Hospital and Amana Referral Hospital in Ilala District. Customers refer to individuals who have sought healthcare services at these hospitals. The choice of customers as the target population is directly relevant to the objective of the study, which is to investigate their satisfaction levels with the health services provided. By focussing on the individuals who have sought healthcare services at the hospitals, the study aims to gather firsthand experiences and feedback from the primary recipients of these services.

#### 3.3 Sample Size and Sampling Procedure

##### 3.3.1 Sample size

The sample size for customers from Mnazi Mmoja Hospital and Amana Referral Hospital was determined by using the Cochran Collaboration, a well-known formula for

conducting systematic reviews and meta-analyses in healthcare research.

$$n = [Z^2 \times p \times (1 - p)] / E^2$$

Where:

n is the required sample size.

Z is the Z-score corresponding to the desired confidence level (e.g., 1.96 for a 95% confidence level).

p is the estimated proportion of expected prevalence (0.5).

E is the desired margin of error (precision) (0.05).

Substituting these values into the formula:

$$n = [1.96^2 \times 0.5 \times (1 - 0.5)] / 0.05^2$$

$$n = [3.8416 \times 0.5 \times 0.5] / 0.0025$$

$$n = 0.9604 / 0.0025$$

$$n = 384.16$$

Rounding up to the nearest whole number, the required sample size would be approximately 384 customers. Therefore, in this study, 192 customers from Mnazi Mmoja Hospital and 192 customers from Amana Referral Hospital were used as a sample size.

##### 3.3.2 Sampling technique

Convenience sampling technique was used in the selection of customers from Mnazi Mmoja Hospital and Amana Referral Hospital. Convenience sampling is a non-probability sampling technique that involves selecting individuals who are readily available and easily accessible. This method was preferred since it allows quick and easy data collection by selecting individuals who are readily available at the hospitals during the study period. This approach is often used when time, resources, or logistical constraints make it challenging to implement more rigorous sampling methods. However, it is important to acknowledge that convenience sampling may introduce selection biases and limit the generalisability of the findings to the larger population, which should be taken into consideration when interpreting the results.

#### 3.4 Data Collection Methods

##### 3.4.1 Questionnaire

The researcher designed and distributed questionnaires to customers (patients) who could

fill them out on their own time but within the given period. The completed questionnaires were sent back to the researcher to allow individuals to maintain anonymity. Closed-ended types of questions were formulated and used to get rich insight into the customers' perceptions on the reliability of healthcare services of government hospitals. However, the researcher applied a self-administered questionnaire as the only way to obtain self-reports on people's opinions, attitudes, beliefs, and values because only trustworthy samples received questionnaires, which helped to more effectively and efficiently address the study issues that are posed.

### 3.4.2 Interview

The researcher also employed an in-depth interview method to evaluate customers' perceptions on the reliability of healthcare services in government hospitals. The interviews were conducted one-on-one using a predefined list of questions or a set of interest areas with customers (patients) around the Mnazi Mmoja Hospital and Amana Referral Hospital. The study involved 10 respondents, as a qualitative design is not a major research design, and 20–30 respondents are required when a qualitative design is a major research design, as recommended by Kothari [24].

## 3.5 Data Analysis Techniques

### 3.5.1 Qualitative data analysis

The qualitative data was analysed using thematic analysis, which involved identifying themes within the data gathered from interviews. The researcher interpreted the meaning in the dataset and wrote a report presenting the findings of the thematic analysis. The report included a description of the research process, the identified themes, illustrative quotes or excerpts from the data, and an interpretation of what the themes mean about the research questions on the customers' perception on the reliability of healthcare services of government hospitals.

### 3.5.2 Quantitative data analysis

The initial step in analysing the collected data involved calculating weighted mean scores (with the aid of the SPSS statistical software) for the reliability of healthcare services of government

hospitals developed by Parasuraman et al. [16]. Mean scores were preferred since they provide a straightforward and easily interpretable representation of the average value within a dataset, reflecting the typical response or measurement across variables [23]. In addition, while SD is essential for understanding the spread of data and the consistency of responses within a sample, it is often more detailed and less immediately interpretable than mean scores alone [24].

In this study, mean scores were derived from customer responses regarding their expectations and perceptions of healthcare services in government hospitals within the Ilala District. Perceptions were based on the actual healthcare services received, while expectations were shaped by past experiences and information about healthcare services in these hospitals. In this study, respondents were given a questionnaire with two parts: expectations and perceptions of healthcare services and were required to answer both parts.

To measure customer expectations and perceptions, weighted mean scores from a 5-point Likert scale for reliability were used. Higher weighted mean scores indicate greater levels of expectations or perceptions, while lower scores indicate lesser levels. Customer satisfaction with health services in government hospitals was determined by the service gap, which was the difference between perception and expectation scores (P-E). A positive P-E score (perception > expectation) indicates higher levels of service quality, leading to customer satisfaction, whereas a negative PE score (perception < expectation) indicates lower levels of service quality, leading to customer dissatisfaction.

## 4. RESULTS AND DISCUSSION

The reliability dimension of the SERVQUAL model assesses the ability of a service provider to consistently deliver dependable and accurate services. Evaluating customers' perceptions of the reliability of healthcare services in government hospitals in the Ilala District at Mnazi Mmoja Hospital and Amana Referral Hospital is crucial for understanding the quality and trustworthiness of the care provided. The perception, expectation, and gaps identified in the reliability dimension of SERVQUAL, highlight areas for improvement and alignment with patient expectations (Table 1).

**Table 1. Perception, expectation, and gap for reliability of healthcare services**

<b>Reliability</b>	<b>Perception Mean</b>	<b>Expectation Mean</b>	<b>Service gap Mean</b>
The hospital can deliver the service as promised.	3.59	3.18	0.42
Medical staff have a strong sense of responsibility and provide timely services.	4.31	3.90	0.41
The medical staffs have excellent skills.	4.38	4.17	0.21
The medical staff can accurately record the patient's condition	3.43	3.43	-0.005
The hospital informs the patient of the exact time of medical treatment.	4.68	4.35	0.33

Sources: SPSS Output (2024)

In terms of service delivery consistency, the study revealed that patients rated the hospital's ability to deliver promised services with an average score of 3.59, slightly exceeding their expectations, which averaged 3.18 (Table 1). This results in a positive service gap of 0.42; this has indicated that customers were satisfied; hence, patients generally perceive the hospital as fulfilling its commitments. However, there remains an opportunity for improvement to further align with and exceed patient expectations. In terms of timeliness and responsiveness, the results show that medical staff's sense of responsibility and timeliness in service delivery scored an average of 4.31, compared to an expected score of 3.90 (Table 1). The service gap of 0.41, which indicates that patients were satisfied, generally perceive the staff as highly responsible and punctual in their service delivery. However, there is variability in consistently meeting patient expectations across different instances.

In terms of skill and accuracy of medical staff, it was revealed that patients rated the skills of medical staff with an average score of 4.38, slightly exceeding their expectations, which averaged 4.17 (Table 1). The service gap of 0.21 indicates that customers were satisfied with the skills and accuracy of the medical staff. Also suggests that patients generally recognise and appreciate the high skill level of the medical staff. However, there are opportunities to further enhance and sustain these positive perceptions. In terms of accuracy in condition recording, it was noted that accuracy in recording patient conditions received an average score of 3.43, which closely aligns with expectations, also averaging 3.43, resulting in a negligible service gap of -0.005 (Table 1). While there is no significant discrepancy, ensuring accurate

medical records remains critical for both patient care and operational efficiency.

In terms of communication regarding treatment times, it was found that patients rated the hospital's communication regarding treatment times highly, with an average score of 4.68, surpassing their expectation of 4.35 (Table 1). This results in a gap of 0.33, indicating that patients value the hospital's efforts to inform them about treatment schedules. However, there is room for further enhancements to ensure consistent and accurate communication practices.

The results (Table 1) highlight several implications for improving the reliability dimension of healthcare services in government hospitals within the Ilala District: addressing slight gaps in service delivery consistency and timeliness could involve standardizing protocols and enhancing staff training on patient expectations; while medical staff skills are highly rated, continuous professional development and feedback mechanisms can sustain and further elevate patient perceptions; and improving accuracy in medical record-keeping and refining communication processes for treatment schedules are critical to enhancing overall patient satisfaction and operational efficiency.

The presented findings align with research by Félicité et al. [25], which emphasises the importance of standardising procedures and ongoing staff training in improving service consistency. Similarly, studies by Aktar [10] emphasise the role of continuous professional development in maintaining high levels of patient satisfaction. The focus on accurate record-keeping and effective communication processes is supported by the work of Amporfro et al. [5], who highlight that improvements in these

areas are crucial for operational efficiency and patient trust.

The reliability dimension reflects patients' perceptions of consistent and dependable healthcare service delivery. The government hospitals in Ilala District are generally meeting or exceeding patient expectations in this regard. This result is consistent with the study by Akinyinka et al. [22] which noted that reliable healthcare services are crucial for patient safety and trust in the healthcare system. Correspondingly, the study by Hailu et al. [26] which found that patients' perceptions of reliability are often influenced by factors such as waiting times, appointment scheduling, and accurate diagnosis and treatment. Effective management of healthcare processes and communication with patients are essential for maintaining this positive perception of reliability. Continued efforts to streamline processes and improve communication channels can further enhance patient satisfaction and reinforce the reliability of healthcare services in government hospitals.

Furthermore, the researcher addressed several questions to obtain the opinions of customers (patients) on the reliability of healthcare services provided by government hospitals through the interview. One of the interviewees claimed that Mnazi Mmoja Hospital and Amana Referral Hospital were their first choices because of their strong reputations for skilled medical staff and experienced doctors. They also valued the facility's convenient location and reputation as an inexpensive government service provider. Another interviewee said that they were happy with their choice because the personnel at Amana Referral Hospital and Mnazi Mmoja Hospital were kind and considerate. The medical staff at Amana Referral Hospital and Mnazi Mmoja Hospital ensured that patients were comfortable during all procedures by keeping open lines of communication regarding their treatment plan.

Also, one of the interviewees stated that they were impressed by the administrative staff's efficiency as well as the Amana Referral Hospital's and Mnazi Mmoja Hospital's organisation and cleanliness. These hospitals have highly qualified medical staff that take the time to attend to all of their issues. The interviewees also expressed their intention to revisit Amana Referral Hospital and Mnazi Mmoja Hospital due to their favourable

encounters with the staff and the superior quality of care received. Their decision to return is also heavily influenced by the hospital's reputation and the cost of the services. Another interviewee also said they would draw attention to the staff's compassionate and professional demeanour, the calibre of the medical treatment, and the effective way in which services are provided. They would also highlight the hospital's price and accessibility as important advantages.

## **5. CONCLUSION AND RECOMMENDATION**

The study concludes that the reliability dimension shows that patients generally view the healthcare services in government hospitals as reliable, particularly in terms of providing promised services, staff responsibility, and timeliness. These aspects meet or exceed patient expectations, indicating a trustworthy level of care. However, continued efforts are needed to maintain and improve the accuracy and consistency of service delivery to ensure sustained patient trust and satisfaction. The reliability dimension reflects patients' perceptions of consistent and dependable healthcare service delivery. Hence, reliable healthcare services are crucial for patient safety and trust in the healthcare system.

Certainly, based on the findings, it is recommended that quality assurance teams should develop and implement standard operating procedures to ensure consistent and reliable service delivery across all departments. The IT department should invest in and manage electronic health record systems to improve the accuracy and efficiency of patient information management. Department heads should strengthen processes to ensure timely delivery of services, including reducing wait times and ensuring prompt responses to patient needs.

## **ETHICAL CONSIDERATION AND CONSENT**

In evaluating customers' perceptions on the reliability of healthcare services provided by government hospitals, including the case study of Ilala District, ethical approval was sought from Jordan University College to ensure ethical considerations were addressed. The author also requested management from Mnazi Mmoja Hospital and Amana Referral Hospital to issue research permits for data collection at their respective units. Informed consent, was obtained



from all participants, including customers and medical officers involved in the study. They were fully informed about the research's purpose, procedures, potential risks or benefits, and their rights to participate voluntarily or withdraw at any time without consequences. Confidentiality and privacy were strictly maintained to protect participants' identities and sensitive information; data were anonymized and stored securely to prevent unauthorized access.

### DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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