



# Medical Personnel's Quality Service Delivery to NHIS-HMO Outpatient Enrollees' in Lagos Hospitals and its Impact on COVID-19 Containment

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## ABSTRACT

**Purpose:** The issue of quality in healthcare services depends heavily on the interactions between the service process; the customer as well as the health care providers. Thus, a question arises whether the perceived quality of medical personnel will have any impact on the coronavirus disease 2019 (COVID-19) pandemic containment.

**Methods:** This study triangulated in its methodology. Using quantitative (questionnaires) and qualitative In-Depth Interviews (IDIs) to elicit data on enrollees' perception, published articles on COVID-19 were reviewed to describe the plausible impact. Using a simple random and convenient sampling techniques, a total of 252 questionnaires and 9 in-depth interviews were used to elicit data from selected respondents across 9 healthcare facilities within the 3 senatorial districts, in Lagos, Nigeria.

**Results:** 69.8% of the respondents agreed that various medical personnel's were involved in the execution of their treatment, 69.8% agreed that their medical history was factored into their treatment and 35.3% were not motivated by the attitude of the medical personnel's. The medical personnel's quality rating weighed 37.7%, fairly over 30.6% negative perception. IDI responses showed personnel's quality was rated over attributes considered significant to the individual enrollees. *Chi-square* result shows significant correlation from the group comparisons existing between enrollees' quality of medical personnel's and enrollees' perception ( $P < 0.01$ ,  $\chi^2 (16) = 82.265$ ) and the Spearman's correlation was positive at .219. COVID-19 reviews revealed evidence of an ongoing and increasing shortage of skilled health workforce and overwhelmed human resources.

**Conclusion:** Enrollees provided insights into how and what they considered significant in personnel's quality assessment, making for a relevant recommendations that medical personnel's should be educated on the relevance of their expertise in the attainment of patient health outcomes. Medical personnel's quality should be prioritized at all times, not just during the COVID-19 pandemic.

**Keywords:** Perception; COVID-19; National Health Insurance Scheme; Health Maintenance Organization; Medical personnel; Quality of healthcare service

**Abbreviations:** HCFS: Health Care Facilities; HCPs: Health Care Providers; HMO: Health Maintenance Organizations; IDI: In-depth Interview; NHIS: National Health Insurance Scheme; SPSS: Statistical Package for Social Sciences

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## INTRODUCTION

Acts, behaviors and attitudes related to the healthcare process are social actions that define the health service delivery quality. The actions performed differ depending on the condition upon which the care is rendered as well as the kind of relationship developed by the actors [1]. Although, it varies from person to person in different care situations, it presents something in common that allows patient who experience them to make meaning as a social reality consequence. Healthcare actions, although experienced personally, is a major part of social life which involves interpersonal relationships. Determining health personnel's quality requires the establishment of a face to face relationship, defined by as a social relation built upon the expertise and biographical situation of the medical personnel who are involved in the promotion, prevention and recovery of health thereby leading to positive and or negative experiences of the individual's (patients) [2]. It occurs between subjects who are mutually aware (in time and space) [3]. Viewed the issue of quality of service of which health providing institutions belong to be included to be divided into two main comprising parts. Conscious experience such as determining health personnel's quality requires the establishment of a face to face relationship, this is so because it possesses a unique feature; patients experience them and live through or perform them. The first component of quality services in health care is the technical or clinical aspect, which comprises of all technical diagnoses and procedures (for e.g. surgical expertise). The second quality component is the functional aspect which is defined by how the health care services are delivered to the consumers (for e.g. the mannerism exuded by medical professionals during patient care, the structural and physical ambiance of the hospitals and the state of meals served at the healthcare facility) [4]. factors like skill set, knowledge, temperament and so on were determining factors influencing how healthcare personnel's dispense care to consumers. Several studies have been conducted to measure what areas of health care services are considered important and significant in building necessary cues in a patient's experience. For example a health consumer's quality perception may take into consideration their interactions with health care providers; and the healthcare professionals' skills and attitudes [5,6]. While quality healthcare included features like tolerability, capability, aptness, confidentiality, humane treatment, sensitivity and reliability, interpersonal quality aspect involved the extent of accommodating patient needs and preferences [4-7]. Being the most crucial public health issue facing people from all over the world in the twenty-first century, research in various disciplines like mental health, counselling and clinical psychology, public health and social psychology has been conducted since the outbreak of COVID-19 across countries of the world to understand and monitor the impact of the COVID-19 pandemic on every aspect of human existence. Therefore, this paper focuses on how the National Health Insurance Scheme and Health Maintenance Organization (NHIS-HMO) enrollee's perception of medical personnel's quality in Lagos hospitals impact on COVID-19 containment.

## MATERIALS AND METHODS

### Quality of medical personnel's through the lens of Alfred Schutz social phenomenology

The human essence noted by justifies the adoption the social phenomenology of Alfred Schutz in health personnel's quality assessment [8].

Schutz posited that humans relied on communication and their intellectual know-how in facilitating active participation in social acts. Social phenomenology essentially seeks to provide an understanding of how mutual relations occur during human interactions, environmental influencing cues and the construction of social reality.

The idea focuses on how individual actors use their attributed meanings of social actions within their social world to understand and interpret personal experiences [9]. From the perspective of Alfred Schutz, social phenomenology, health personnel's quality can be adjudged from the multiple social actions that occur within the healthcare facility. When valued, such an established interpersonal relationship (considering the amount of knowledge and experience acquired) permeates the recognition of the giver (personnel) within the care context. Caring for others assumes that a healthcare facility stands as a place involving interactions between subjects (medical personnel's and healthcare consumers), therefore, it must be recognised as a dynamic environment filled with social actions requiring awareness and acceptability of the subjects social behaviors [10].

One important implication on how social phenomenology works is that enrollees make sense or characterize health personnel's quality of be good and or bad in connection with the actions, situations and realities that take place within the healthcare facility.

The social phenomenology assumes enrollees perception of medical personnel's quality as one guided by the social relations established during access to care within the healthcare facility. This framework brings out the importance of interactive social relations between those involved in healthcare action as this impact on the containment of COVID-19.

This theory was adopted to guide the study in investigating how the social relationship among healthcare subjects in the healthcare facility plays an important role towards the containment of the pandemic.

This study triangulated in its methodology. Using quantitative (questionnaires) and qualitative In Depth Interviews (IDIs) to elicit data on enrollees' perception, published articles on COVID-19 were reviewed to describe the plausible impact. The population comprised of NHIS and HMO enrollees' between 18 years and 65 years visiting selected public and private hospitals in Eti-Osa, Ikeja and Ibeju-Lekki Local Government Areas (LGAs) within the three senatorial districts in Lagos, Nigeria. The accredited public and private HCFs included: St. Mary specialist hospital, Awoyaya hospital, Blue cross hospital, Unity hospital, The Eko hospital, general hospital akodo, Budo

specialist hospital, Etta Atlantic memorial hospital and St. Nicholas hospital [11].

Multistage sampling technique was used to select the study participants. Simple random sampling was employed at each stage to reduce selection bias. The first stage involved clustering twenty local governments into three senatorial districts, selecting only one local government from each district through balloting. Stage two involved obtaining a list of all registered HCPs within the local government and stratifying them into private and government administered. At this stage, a convenience method was used to choose three HCFs accredited by NHIS to provide primary, secondary and or tertiary services to be sampled in the study [11].

Factor analyses of subject to variable ratio with a minimum of ten subjects per variable in the study instrument was utilized to choose a sample size of 240 enrollee respondents which was calculated (20 subjects per each of the 12 variables in the study instrument) [12,13]. The minimum sample size of approximately 266 (240/0.9) patients was reached after adjusting for a 10% nonresponse to the questionnaire.

A total of 252 copies of a structured questionnaire and 5 IDIs were used to elicit data from the respondents. the quantitative

data collected was analyzed using nominal descriptive statistics of frequency and simple percentages with the help of the Statistical Package for Social Sciences version 20 (SPSS 20). The qualitative data was analyzed using inductive content analysis. To find the relationship between the variables and the test of hypotheses, the contingency *chi-square* and the Spearman's correlation analysis was performed.

## RESULTS

The quality indicator variables were presented on a five point Likert scale: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD) [14]. During hypothesis testing, these ordered categories were transformed, summated and the responses converted into five categories termed as five (very good), four (good), three (undecided), two (bad) and one (very bad). The perception variables were measured using Likert type items of five ordered categories, rated from five (very high in quality) to one (very low in quality) (Table 1).

**Table 1:** Socio-demographic characteristics of respondents.

Variable	Frequency (N=252)	Percentage (%)
<b>Gender</b>		
Male	82	32.5
Female	170	67.5
<b>Age</b>		
18-20	22	8.7
21-30	66	26.2
31-40	93	36.9
41-50	25	9.9
51-65	46	18.3
<b>Marital Status</b>		
Single	70	27.8
Married	134	53.2
Others	48	19
<b>Educational qualification</b>		
No Formal Education	22	8.7
First leaving school certificate	15	6
Secondary School	34	13.5

OND/NCE	32	12.7
HND/B.Sc	101	40.1
M.Sc/MBA/M.Ed	38	15.1
PhD	10	4
<b>Public private partnership</b>		
Public/ NHIS	47	18.7
Private/ HMO	205	81.3
<b>Public-private HCFs</b>		
Public HCFs	44	17.5
Private HCFs	208	82.5

This shows that the majority (67.5%) of the respondents were females. This percentage of female respondents corresponds to the last census report. Again, a larger proportion (53.2%) of the respondents was married. The majority (36.0%) of the respondents fall within the age bracket of 31 and 40 which represents the active working population with a mean interval of 3.0278. Although more expensive, a larger proportion of the respondents (81.3%) subscribed to the private HMO and 82.5% accessed care in private HCFs. This may be due to the fact that quality is mostly associated with the price tags as discovered in a study on patients' satisfaction with access to public and private healthcare centres in London [11-15].

In Table 2, the majority (69.8%) with a combined weight of Strongly Agree (SA) and Agree (A) shows that various medical personnel's are involved in treatment execution. While 69.8% combined weight of Strongly Agree (SA) and Agree (A) shows the factoring of respondents' medical history into treatment, 35.3% combined weight of Disagree (D) and Strongly Disagree (SD) respondents' reacted negatively to being motivated by the medical personnel's attitude.

**Table 2:** Distribution of respondents' on the quality of medical personnel.

Questionnaire item	Responses					Total
	Strongly agree (%)	Agree (%)	Undecided (%)	Disagree (%)	Strongly disagree (%)	
Various medical personnel's (CHEW, Nurse, Lab. Techs, etc.) were involved in treatment execution.	79 (31.3%)	97 (38.5%)	1 (4%)	49 (19.4%)	26 (10.3%)	252 (100%)
My medical history (previous illnesses and family history) was factored into treatment	62 (24.6%)	114 (45.2%)	18 (7.1%)	47 (18.7%)	11 (4.4%)	252 (100%)
Medical personnel's attitude motivated me to follow the treatment prescribed.	47 (18.7%)	87 (34.5%)	29 (11.5%)	33 (13.1%)	56 (22.2%)	252 (100%)

**Responses from the care element during the IDI elaborated on what was considered inclusive of humane treatment and the interviewee viewed thus:** The level of empathy from the healthcare workers beginning from the gate is so appalling (IDI 4, Male, 60).

**Another interviewee lamented thus:** I am still in pain, but what can I do, if you complain, you get delayed or you are labelled a trouble maker (IDI 1, Female, 25).

**Interviewee noted:** The medical facility needs to employ more personnel's or refer to other facilities to ensure quality services

at all times, as well as for a healthy mental state of the limited number of staffs to avoid a breakdown (IDI 3, Female, 28).

Table 3 reveals a significant 30.6% combined weight of low and very low rates negatively, while 15.9% perceived the quality of medical personnel to be average.

**Table 3:** Distribution of respondents' perception on quality of medical personnel.

Questionnaire item	Responses					Total
	Very high perception (%)	Fairly high perception (%)	Average perception (%)	Low perception (%)	Very low perception (%)	
Respondents' medical personnel's quality rate	40 (15.9%)	95 (37.7%)	40 (15.9%)	32 (12.7%)	45 (17.9%)	252 (100%)

**H<sub>0</sub>:** There is no significant relationship between enrollees' perception and quality of medical personnel's.

*chi-square*  $\chi^2$  (0.01), if not, do not reject. Data from statement three (3) were cross tabulated and used in testing this hypothesis. The result is shown in Table 4

### Hypothesis test

**H<sub>1</sub>:** There is a significant relationship between enrollees' perception and quality of medical personnel's.

**Decision criterion:** Reject H<sub>0</sub> if the calculated (observed value) of *chi-square* ( $\chi^2$ ) is found to be greater than the critical value of

**Table 4:** Cross tabulation of the relationship between enrollees' perception and quality of medical personnel's (as to whether enrollees' are motivated by personnel's attitude).

Variables	Very high, perception (%)	Average perception (%)	Very low perception (%)	Total	$\chi^2$
Very Good	24 (29.8)	7 (14.9)	16 (34)	47 (100.0)	$\chi^2=82.265$
Good	67 (77)	8 (9.2)	12 (13.8)	87 (100.0)	$r=.219$
Undecided	12 (41.3)	5 (19.4)	12 (41.4)	29 (100.0)	$P=.000$
Bad	12 (36.4)	7 (17.2)	14 (42.4)	33 (100.0)	$df=16$
Very bad	20 (35.7)	13 (21.2)	23 (41.1)	56 (100.0)	
Total	135 (53.6)	40 (15.9)	77 (30.6)	252 (100.0)	

**Note:** \*\* Correlation is significant at the 0.01 level.

This shows the relationship between enrollees' perception and the quality of medical personnel's. A total of ninety one respondents' who are very high in perception who also saw the quality of medical personnel's as very good and good is higher than those (32) who are very high in perception but saw the quality of medical personnel's as bad and very bad. Moreover the 91 respondents' were higher than those (37) who are very low in perception and saw the quality of medical personnel's as very bad and bad.

As we see from these group comparisons, therefore, we can see empirically that there is a relationship between perception and quality of physical structure and equipment.

Inferential statistics supports this empirical observation because the calculated  $\chi^2$  (16)=82.265 is higher than the *chi-square* table ( $P<0.01$ ). Therefore, the null hypothesis is rejected and the alternate hypothesis is accepted. Moreover, the Spearman's correlation ( $r$ )=.219 shows a positive relation between perception and quality of medical personnel's.



## DISCUSSION

During the IDI, medical personnel's quality was noted to be time and responsibility dependent. Likewise, the researchers observed that irregular personality traits and shortage of medical staffs in some of the HCFs could have affected the medical personnel's attitude. To contain the COVID-19 pandemic, as of 10 April 2020, over 9,000 contacts were traced within 2 days in Lagos, about 118,000 households were visited among which 119 confirmed cases were identified [16,17]. While this was a commendable effort by government, the critical shortage of skilled health workforce evident in sub-Saharan Africa has overwhelmed the human resources for improved health indices [18].

Observational analysis of enrollees' perception of medical personnel's quality and impact on COVID-19 containment during IDI showed that care must go beyond the procedure and take into account the human essence, by possessing characteristics such as amiability, promptness, respect and empathy. It will be good therefore, to take into account the attitudes of medical personnel's to prevent a decline in health indices while sustaining essential services in health system [19].

## FINDINGS

The aim of this paper was to describe how enrollees perceived the quality of medical personnel's in Lagos hospitals, thereby drawing inferences on the current containment state of the COVID-19 in the state. The hypothesis formulated for this objective was 'there is no significant relationship between enrollees' perception and quality of medical personnel. Four questions were asked in the questionnaire, thus generating the data presented in Table 2 and Table 3. While the majority (69.8%) of the respondents agreed to the involvement of various medical personnel's in their treatment execution as well as their previous medical history being factored into their treatment, 35.3% reacted negatively to being motivated by the medical personnel's attitude.

This study showed that various medical personnel's were involved in the treatment process of enrollees' and positive responses indicated the respondents' previous medical history was considered during the treatment process.

Data from Table 2 and Table 3 were cross-tabulated to test the hypothesis. The contingency *chi-square* test ( $P < 0.01$ ,  $\chi^2(16) = 82.265$ ) and Spearman Rank correlation coefficient analysis (.219) in Table 4 indicated a significant relationship between enrollees' perception and the quality of medical personnel exist, therefore, the null hypothesis was rejected and it was concluded that there was significant association between quality of medical personnel's and enrollees' perception.

Some of the respondents' in the IDI expressed varying perceptions regarding the quality of medical personnel's, which was dependent on time and crowd proportion. The different services provided by healthcare professionals' are based on varying factors, such as experience, individual abilities and personality could be the probable reason for the varying perception [20].

This finding is in consonance with the results of about 72% respondents' an indication of delay in health care services attention [21,22].

## CONCLUSION

This concludes that the intangible involvement of various medical personnel's previous medical history factoring and motivating attitude by medical personnel's care is significant in the quality of service assessment.

## RECOMMENDATIONS

- To manage a health service aiming at the quality of health services, HCF should only accept enrollees such as the professional personnel capacity of individualize and hegemonic to ensure quality service is guaranteed at all times without affecting the psychosocial as well as the mental wellbeing of the medical staffs who are the backbone in the COVID-19 pandemic fight.
- Due to the spread of COVID-19 around the world and its profound impact on healthcare workers, medical personnel's quality should be prioritized both during and after the COVID-19 pandemic to facilitate the achievement of the World Health Organization (WHO) "Health for All" targeted by the year 2030.

## DISCLOSURE

### Availability of data and materials

All data generated or analyzed during this study are included in this published article.

## COMPETING INTERESTS

The authors declare that they have no conflict of interests.

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The cited preprint work "Impact of Quality Healthcare Equipment and Physical Structure on Nhis-Hmo Outpatient Enrollees' Perception in Lagos Hospitals" (11)" is a different article.

## ETHICAL DECLARATION

The questionnaire and IDI study were approved by the ethics committee of the Lagos State Government Health Service Commission before the study commenced with an ethical

clearance code of: LSHSC/88/S.3/II/25711. Written informed consent was obtained from all HCFs/HCPs management as well as the participants.

### Availability of data and materials

All data generated or analyzed during this study are included in this published article.

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