Comparative assessment of the quality of the primary care system: A survey of family physicians’ perspective at a tertiary health facility and a new family medicine training facility in the Lagos State health system

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ABSTRACT

Background: Revitalizing the primary health care (PHC) centers has been at the top of the priority list of the Lagos State Government. Achieving this goal should restore the confidence of the people in and increase their utilization of PHC centers in their communities. At the forefront of the provision of comprehensive, continuous and coordinated care for individuals within the context of the family and community are family physicians (FPs), who are equally saddled with the task of clinical governance by virtue of their strategic position in the health system. It became expedient to expand human resource capacity building as a primary care quality improvement initiative of the state through the introduction of a post-graduate training program in family medicine at its biggest multi-specialist secondary health care facility.

Objectives: To identify the strengths and weaknesses of the primary care system at the new training center and also, to compare the strengths and the weaknesses of the primary care system between the new training facility and the tertiary facility.

Methods: Cross-sectional study design was employed to survey the perspective of the FPs and FPs-in-training at the new training facility and tertiary health facility about the primary care system in their facilities through self-administration of the Primary Care Assessment Tool-primary care practitioner (provider) survey.

Results: A total of 33 FPs and FPs-in-training participated in the survey. They were on full-time employment and had spent an average of 51 and 66 months in service at the new family medicine training facility and the tertiary facility, respectively. They perceived that patients’ waiting time at their facilities doubled (1 h 47 min at the new training center) and tripled (2 h 23 min) their expectations of a reasonable time to wait respectively. The weakest primary care quality dimensions were the same in both centers and the scores were closely comparable between the new and the old as follows: Coordination (43.8% vs. 52.9%), community orientation (44.1% vs. 63.2%), ongoing care (61.9% vs. 61.3%), and access (63.1% vs. 65.1%). However, the tertiary center had higher scores in all dimensions except ongoing care and the differences in scores between the new and the old were statistically significant in three dimensions namely: Comprehensiveness (P = 0.038), community orientation (P = 0.049), and cultural competence (P = 0.035).

Conclusion: The new training facility may leverage the experience of the old in the dimensions where the latter has demonstrated statistically significant differences in strengths (cultural competence, comprehensiveness, and community orientation). Health administrators/policymakers should consider doctors’ feedback as a necessity for planning and implementing changes to continuously improve the quality of the primary care system at these training facilities.

Keywords: Coordination, family medicine, family physicians, primary health care, quality assessment, quality of health care
Introduction

Primary care comprises both primary health care (PHC) and primary medical care. It is the provision of integrated accessible health care services by primary care practitioners’, (including family physicians) who are accountable for addressing the majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community. On one hand, PHC forms an integral part of the country’s health system. It is the first level of contact of individuals, the family and the community with the national health system bringing health care as close as possible to where people live and work. On the other hand, primary medical care is a patient’s main source for regular medical care, ideally providing continuity and integration of health care services.

In Nigeria, research has shown that there is an abundance of PHC centers; although, there is little correlation between the numerous health care centers and the access to quality and prompt health care services by the people.

There is more pressure on the secondary health care facilities as the majority of the people tend to bypass the PHC centers within their locality to go directly to secondary health care centers. Thus, secondary and tertiary health care facilities in Nigeria have a primary care unit General Out-Patient Department (GOPD) that serves the gatekeeping role in the absence of a strong linkage between them, and the existing PHC centers in the communities. The low level of confidence in the quality of services rendered at the PHC centers is responsible for the low uptake of their services. This, in turn, has impeded the goal of improving geographical access to health care for the general population.

Middle-level training in family medicine in Lagos State

The PHC board was established in Lagos with the core vision of promoting health, and the quality of life, and reducing the burden of diseases. In a bid to ease the pressure on the secondary and tertiary health care facilities in the state, the government took action to restore the defunct PHC delivery system.

To achieve the goal of improving the quality of the primary care system and the health indices in the State, the Lagos State Health Service Commission adopted a strategy with the end-point of strengthening the health services offered at the primary care level. An in-service training program in family medicine was conceived. It was originally proposed to be implemented in a number of the State’s secondary healthcare facilities after successful accreditation by the faculties of family medicine of the National and West African postgraduate medical colleges. If the desired outcome of the training program is realized, the overarching goal of improved quality of the primary care services would be achieved.

Quality in health care

According to the Wonca (World Organization of Family Doctors) working group on quality in healthcare, quality is defined as the best possible health outcomes that can be attained with the available resources and that are compatible with the patient’s values and preferences.

There are eight core dimensions of quality in health care: Accessibility refers to the ease of access to health care services when needed. It takes into cognizance geographical and financial barriers. Next is acceptability of and satisfaction with services rendered to the patients in all ramifications with no issue being ignored. Continuity implies that the process of care should be organized in a way that ensures the retention of information over time. Longitudinal continuity refers to the possibility of receiving treatment with at least a team of the same primary care providers. Coordination refers to the cooperation between the community and the clinic, within multi-professional team in clinics, between the clinic and the referral hospital.

Another dimension of quality is equity which denotes fairness toward all patients regardless of economic status or any other dividing lines.

Improving the quality of any primary care system must be preceded by an assessment of these core healthcare quality dimensions in addition to primary care-related dimensions of family centeredness, community orientation, cultural competence, and PHC team, as was demonstrated in this study.

The Primary Care Assessment Tool (PCAT) assesses the structure and process elements of primary care. It is the most widely used and adapted tool among other PHC measures such as the components of primary care index, the primary care evaluation tool, the EUROPEP interpersonal processes of care, the primary care assessment survey, and the general practice assessment survey.

The use of doctors’ ratings of the dimensions of quality at their practice facility was informed by the strategic position they hold, the crucial role they play, and their sworn oath of responsibility toward their patients and the health system. Consequently, they may be considered an authentic source of information about the system in which they practice.

This study was the first attempt at evaluating the quality of the primary care system in both family medicine training facilities. It addresses the questions: What are the strengths and weaknesses of the primary care system in the new Lagos State Family Medicine training facility and how does it compare with the
quality of the primary care system in the State's tertiary hospital from the perspective of family physicians?

Objectives
i. To identify the strengths and weaknesses of the primary care system at the new family medicine training facility.
ii. To compare the strengths and the weaknesses of the primary care system between the new training facility and the tertiary facility.

Methods and Materials

Study design
Cross-sectional study design was employed to survey the perception of family physicians about the quality of the primary care system in their practice setting.

Study setting
The study was in two locations. The Family Medicine Departments of the Lagos State University Teaching Hospital (LASUTH) and the General Hospital Lagos (G.H. Lagos). The LASUTH is a tertiary health institution which serves as a training, research, and referral center. Along with the general hospitals in the State, it caters to the healthcare needs of a projected population of 20.5 million. G. H. Lagos is the premier secondary health care facility in the country. It is the new family medicine training facility. It provides both out-patient and in-patient services across a range of medical specialties, paramedical, and rehabilitative services which include: Internal medicine, surgery, pediatrics, obstetrics and gynecology, emergency services, dental care, physiotherapy, dietetics, and nursing care. The Family medicine/general outpatients' clinics in both facilities serve as the portal of entry for all first-timers.

Family physicians, FPs-in-training and medical officers offer primary care services to undifferentiated, self-referred adult patients. These services include first contact care, health promotion, disease prevention, care of uncomplicated chronic diseases, and referrals to specialists and other healthcare providers.[12]

Participants and selection criteria
Family physicians and family physicians-in-training who had spent at least a year at the study locations.

The whole population of FPs and trainees in the family medicine department of the new training facility (23), and the total number of their counterparts at the general out-patient clinic of the tertiary facility (10) during the period of the study.

Sample size determination and sampling technique
A survey of the whole population of doctors was favored because of the small population size. Moreover, at 95% confidence level, a sample size of 30 was calculated to be representative of the population of 33 doctors using the online sample size calculator.[13]

The instrument for data collection
The South African adaptation of PCAT: Primary Care Practitioner (Provider) Survey; expanded version (2015) by Bresick et al. was used for data collection.[11] It has been validated in South Africa by the PCAT Study Research Team, Division of Family Medicine, University of Cape Town Faculty of Health Services and Cape Town Metro District Health Services.

The PCAT was originally developed by Barbara Starfield for Underserved Populations, at the Primary Care Policy Center of the School of Hygiene and Public Health Johns Hopkins University, Baltimore, the USA in 1998.[10] It was designed to assess the strengths and weaknesses of the primary care system.

The PCAT measures primary care organization and performance on four core dimensions: Access, continuity, coordination, comprehensiveness, and three derivative dimensions: Community orientation, family centeredness, and cultural competence.[11]

The PHC team functioning is an additional related dimension of the South African adapted version. The items are presented on a five-point rating scale.

The PCAT was pilot tested for face and content validity at the study setting and found to be satisfactory. It had high internal consistency with Cronbach’s alpha of 0.965.

Procedure for data collection
The PCAT-primary care provider version was distributed to the participants who self-administered them independently and returned them to the researcher on completion. They had been reassured that there were no correct or wrong responses.

Data analysis
The data retrieved from the study were analyzed using the Statistical Software for Social Sciences (SPSS) version 23.0 (IBM Corp. 2015, Armonk, NY). The results were presented with tables and charts showing the ratings for each of the dimensions of primary care. Mean percentage scores and frequencies were calculated for continuous data and categorical data, respectively. Inferential statistics such as T-test was employed with continuous data, whereas Chi-square test was used for categorical data.

Ethical consideration
Ethical clearance to conduct this study was obtained from the HREC of Lagos State University Teaching Hospital (Reference number: LREC.06/10/960; Date: March 07 2018). Informed consent was given by the Doctors who indicated voluntariness to participate.
Results

A total of 33 doctors on full-time employment at the two study locations participated in the survey. The average lengths of service of participants at the new training facility and the old facility were 50 months 35 weeks and 66 months, respectively. The difference in length of service between participants at the two facilities was not statistically significant ($P = 0.278$).

Figure 1 shows the average percentage ratings of both facilities across the quality dimensions of a primary care system.

Overall, the old training facility (LASUTH) had higher ratings across seven dimensions; however, the new facility was rated to be marginally better (61.9% to 61.3%) with ongoing care.

The strengths of the primary care system in the new training facility were in the dimensions of family centeredness, comprehensiveness, PHC team, and cultural competence. Similarly, these dimensions had the highest ratings in the old training facility. Coordination was the weakest dimension in both facilities, followed by community orientation in the new training facility and ongoing care in the old training facility.

Table 1 shows doctors’ perception regarding the length of time taken for patients to be given referral appointments at the two facilities. The majority at both the new (77.8%) and the old training facility (88.9%) responded that patients get referral appointments on the same day they are referred to the specialist clinics. However, the proportions are not significantly different between the two facilities which implies a similarity in their referral system ($P = 0.699$).

In Table 2, the proportions of doctors at the two facilities that perceived their patients were seen by a specialist within a month of being referred were almost the same (61.1% and 66.7% at the new and old training facilities, respectively). There was no statistically significant difference between the two facilities regarding the length of time taken for a patient to be seen by a specialist after referral ($P = 0.579$).

The perceived average length of time patients wait at the new training facility was 1 h 47 min and 2 h 23 min at the old training facility and the waiting times were not significantly different ($P = 0.280$). Whereas, the perceived average reasonable time for patients to wait in G. H. Lagos was 47 min and 44 min at LASUTH and these were also not significantly different ($P = 0.881$) as shown in Table 3.

Although the old training facility had higher scores in all dimensions of primary care system quality except one (ongoing care), the scores were only significantly higher in three dimensions: Comprehensiveness ($P = 0.038$), community orientation ($P = 0.049$), and cultural competence ($P = 0.035$) as shown in Table 4.

Discussion

This study presents the findings from the first survey of family physicians’ (FPs) perspective about the quality of the primary care system in a Nigerian context. There was a restriction to external comparison due to the paucity of studies regarding the topic both internationally and locally.

The core primary care quality dimension of coordination was the weakest in both facilities. It is a pointer to the weakness of the existing health information system and the weak referral system between the various levels of health care delivery; community PHC centers and the secondary health care facilities, between the secondary and tertiary health care facilities, including the low cooperation within the multiprofessional team in clinics.

The new training facility is yet to establish a community-oriented primary care culture as shown from the low score (44.1%), whereas the old training center has a community out-post where it has the possibility of combining frontline clinical practice with public health by providing PHC that prioritizes the identified health problems of that community. Two other core dimensions of quality that were scored poorly in both facilities were access and ongoing care. Geographical access poses a challenge for healthcare seekers who lack confidence

| Table 1: Length of time taken for patients to be given a referral appointment at the facilities |
|-----------------------------------------------|
| Hospital | Same day | Same week | Longer than 1 week | Chi square (P) |
|---------|----------|-----------|--------------------|---------------|
| G. H. Lagos (New Family medicine training facility) | 14 (77.8) | 1 (5.6) | 3 (16.7) | 0.716 (0.699) |
| LASUTH | 8 (88.9) | 0 (0.0) | 1 (11.1) |
| Total | 22 (81.5) | 1 (3.7) | 4 (14.8) |
in the PHC centers, particularly those who are self-referred to the secondary and tertiary health care facilities for primary care needs that should be served at the community PHC centers. Access was also assessed in terms of the perceived and expected waiting time. The doctors perceived that patients had to wait twice or thrice longer than expected at the new and old training facility, respectively.

The dimension of ongoing care (continuity) is hampered by a weak health information management system. Longitudinal continuity in terms of the possibility of receiving treatment with at least a team of the same primary care providers\(^8\) is also affected by the continuous rotation of FPs-in-training through various postings.

A similar study using the PCAT among doctors and nurses in Brazil revealed weaknesses in access and comprehensiveness and strength in coordination. In that study, some dimensions with high scores were attributed to non-doctor respondents.\(^1^3\) For this reason among others, our study gave precedence to post-graduate fellowship doctors’ perspective based on their broad knowledge of health care quality and the anticipated objectivity of their evaluation of the primary care quality dimensions at their practice settings. Specification of FPs as the participants at the design stage of our study was a strategy to minimize response bias.

In China, the PCAT-adult patients’ version was used to examine the relationship between the use of family practice physicians for primary care and the quality of primary care. The outcome showed that the scores in access, continuity, comprehensiveness, and coordination dimensions were higher among patients who contracted with family practice services compared to those who did not.\(^1^6\) Our study focused on FPs’ perspective to yield objective evaluations because it has been shown that patients’ negative or positive evaluation of health care services may be influenced by isolated events. Despite the prolonged waiting time, some patients have been shown to express overall satisfaction with services based on a satisfactory patient–doctor encounter at the consultations.\(^1^7\)

### Table 2: Length of time taken for patients to be seen by a specialist after referral

| Hospital     | <1 month | 2-5 months | More than 5 months | Chi Square (P) |
|--------------|----------|------------|--------------------|----------------|
| G. H. Lagos  | 11 (61.1) | 5 (27.6)   | 2 (11.1)           | 1.092 (0.579)  |
| LASUTH       | 6 (66.7)  | 3 (33.3)   | 0 (0.0)            |                |
| Total        | 17 (63.0) | 8 (29.6)   | 2 (7.4)            |                |

### Table 3: Perceived waiting time and perceived reasonable time to wait

| Hospital     | Variables                  | Mean (Std. dev) | Median | Min (max) | t     | P     |
|--------------|----------------------------|-----------------|--------|-----------|-------|-------|
| Perceived patients’ waiting time at the facility (hours) | G.H. Lagos        | 1.78 (0.94)     | 4.0    | 0.4 (4.0) | -1.102 | 0.280 |
|               | LASUTH                     | 2.38 (2.05)     | 1.50   | 0.5 (6.0) |       |       |
| Perceived reasonable length of time for patients to wait (hours) | G. H. Lagos       | 0.78 (0.70)     | 3.0    | 0.25 (3.0) | 0.152  | 0.881 |
|               | LASUTH                     | 0.74 (0.61)     | 0.50   | 0.17 (2.0) |       |       |

### Limitations
The cross-sectional study design weakens the ability to generalize the findings from this study to other primary care settings. However, it did not diminish the realization of the study objectives.

The survey focused on FPs because of their strategic role in primary care clinical governance.\(^1^8\) However, it might have been informative to obtain the perspective of some other primary care providers.

### Recommendation
An extensive review of the literature revealed only a few studies focusing on primary care system quality assessment. The authors recommend broader assessments of the quality of the primary care system to include the major stakeholders: Primary care practitioners, clients/consumers, and facility managers.

### Conclusion
A strong primary care system is assessed by easy access to first-contact care, coordination of care with other specialties, and rendering of essential healthcare.\(^1^9\) The findings from this study indicate an urgent need to address all the dimensions of primary care system in both facilities, paying particular attention to coordination (health information management system, referral system, etc.) as it impedes health care decision support, effectiveness, efficiency, and impacts on overall health outcomes. The introduction of the postgraduate fellowship program in family medicine is a step in the right direction. The new training facility may leverage the experience of the old in the dimensions where the latter has demonstrated statistically significant differences in strengths (cultural competence, comprehensiveness, and community orientation). It is imperative to set up continuous cycles of assessment and improvement of quality which are required for the upgrading of any health care system.

### Acknowledgments
The authors deeply appreciate family physicians and family physicians-in-training at the Family Medicine Departments of G. H. Lagos and Lagos State University Teaching Hospital. The authors also acknowledge the immense contribution to knowledge about family medicine and provision of learning resources by the team of Prof. Bob Mash and tutors on the MPhil family medicine program of the Division of Family Medicine.
Table 4: Test of differences in mean scores of the dimensions of primary care quality between the new and the old training facility

| Dimensions         | Hospital | n   | Mean  | Std. deviation | t (P) (df=31) |
|--------------------|----------|-----|-------|----------------|---------------|
| Access             | G. H. Lagos | 23  | 63.09 | 15.11          | -0.368 (0.751) |
|                    | LASUTH   | 10  | 65.11 | 12.79          |               |
| Ongoing care       | G. H. Lagos | 23  | 61.87 | 9.82           | 0.129 (0.898) |
|                    | LASUTH   | 10  | 61.28 | 16.37          |               |
| Comprehensiveness  | G. H. Lagos | 23  | 75.02 | 10.32          | -2.166 (0.038) |
|                    | LASUTH   | 10  | 83.41 | 10.01          |               |
| Family centeredness| G. H. Lagos | 23  | 77.85 | 13.78          | -0.412 (0.683) |
| Community orientation| LASUTH | 10  | 80.24 | 18.58          |               |
| Cultural competence| G. H. Lagos | 23  | 44.10 | 24.64          | -2.046 (0.049) |
|                    | LASUTH   | 10  | 63.17 | 24.56          |               |
| Coordination       | G. H. Lagos | 23  | 64.95 | 20.77          | -2.201 (0.035) |
|                    | LASUTH   | 10  | 81.51 | 17.46          |               |
| Primary health care| G. H. Lagos | 23  | 43.84 | 13.09          | -1.784 (0.094) |
|                    | LASUTH   | 10  | 52.92 | 15.44          |               |

and Primary Care of Stellenbosch University, Cape-Town, South Africa.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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