Original Article

Preferred Approach to Clinical Performance Improvement among Physicians at the University College Hospital, Ibadan Nigeria

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Abstract

Background: Training needs assessment involves the identification and prioritization of training requirements. The medical practice regulatory authority in Nigeria recommends continuing medical education for physicians. The courses are preplanned and often do not take into consideration the training needs and the preferred method for performance improvement. This study aimed to assess the preferred method for performance improvement among physicians at a tertiary health facility in Southwest Nigeria. **Methods:** This is a descriptive cross-sectional survey carried out among 355 doctors employed in the University College Hospital, Ibadan. Sampling was conducted using stratified random sampling with a proportionate allocation to size across different cadres of doctors in various departments/units. The World Health Organization Hennessy-Hicks Training Needs Analysis Questionnaire was adopted for this study. The self-administered questionnaire consisted of 33 items (assignments) grouped into five subcategories: clinical assignments, communication/teamwork, research/audit, management/supervisory assignments, and administration. Participants were requested to rate each of the 33 items/assignments along with seven-point scales (one = not at all important and seven = very important). The Hennessy-Hicks training manual quadrant chart was adopted for the interpretation of the training needs gap. **Results:** Three hundred and three (85.4%) of 355 participants responded to the survey. The mean age ± standard deviation of participants was 37.62 ± 6.7 years. About four-fifths of the participants were resident doctors. Regarding the most important rating, the clinical assignment subcategory was rated (6.3) as the most important to participants' job, out of the five subcategories. Participants, however, rated their performance best in the communication/teamwork subcategory. The training needs gap was highest (0.82) in the research/audit subcategory and lowest (0.48) in the communication/teamwork category. All subcategories reported a similar score (5.8) on participants' perception of the organization's development as a method to bridge the gap in training needs. Participants also rated the training course method as a better method to improve performance in all five subcategories. **Conclusion:** The research/audit subcategory reported training needs gap that requires close monitoring and possible intervention. This could be done by organizing and sponsorship physicians for training courses.

Keywords: Health resources, Nigeria, physicians, training needs assessments

Introduction

Physicians are an important group of health-care providers performing roles that range from providing leadership at patients' bedsides and harnessing clinical team resources in delivering quality care to patients.[1] The physician has also been found to be a good manager of hospitals, and studies have demonstrated a positive association between the quality of a hospital and whether the hospital is headed by a physician manager or not.[2] The professional competence of physicians is always monitored by regulators to ensure the continuing capacity to deliver quality care to patients. Thus, physicians are often required to undergo continuing medical education (CME) in various forms to update both clinical and managerial

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skills. These may be mandatory for annual license renewal, revalidation, or recertification.[2]

The Federal Ministry of Health, Nigeria, emphasized the need for a competent workforce as one of the methods to improving health system performance in the country. Health systems are weak in many of the Sub-Saharan African countries, and this has been attributed to a combination of the following issues with health systems building block domains such as funding, employment, training, capacity and functionality of health personnel, capacity building, and material resource deployment.[3] In addition, clinical skills are limited in dealing with the prevailing and emerging challenges of health systems in Nigeria;[4] therefore, there is a need for health professionals, especially physicians, to acquire additional knowledge, continuing education, and attitude to foster creative and logical thinking, flexibility, and teamwork among others. Training and retraining typically contribute significantly to the development and maintenance of quality service delivery skills. According to Cascio,[5] training need is a need for human performance improvement that can best be met through training while training needs assessment involves identification and prioritization of training requirements.[6]

Training influences productivity positively[7] and may be an important instrument for workers' retention.[8] This is particularly effective when it involves inputs from the employees as well as the management and in line with organizational goals. Evaluation of training needs seeks to determine the difference between "required level of performance" and "current level of performance." This will enable the identification of gaps in knowledge, skills, and other performance requirements to be addressed. Critical to making meaningful progress toward achieving organizational set goals is understanding what works well and what needs to be changed.

The medical profession is well regulated and the regulatory bodies often demand continuous training to enhance knowledge/skills which are continually emerging. With the adoption of evidence-based health-care delivery, health-care professionals need continuous updating through continuing professional training and certification, license renewal, or revalidation.

The Nigerian clinical practice regulator recommends continuous in-service training of physicians in the form of graded CME modules. These are preplanned and often do not take into consideration the training requirements and the preferred method to improve output on specific assignments. Thus, participants only attend CME modules to satisfy certain requirements for licensing, registration, or promotion exercises and not to fill the training requirements gap. The study, therefore, aimed to assess the training requirements gap and the preferred method for output improvement among physicians at the University College Hospital (UCH), Ibadan. It is believed that identifying training requirements with employees and following it up with the actual training, will enhance a sense of ownership of the training programs among them and thus a better sense of commitment to improving service delivery in the health institution. Information obtained from the study will be useful for hospital management and trainers in making appropriate policies that could strengthen the health system at the local institution level and as well improve individual and population health outcomes required for societal growth and development.

Methods

This was a descriptive cross-sectional survey carried out among physicians across various specialties at the UCH, Ibadan, Nigeria. The hospital is the first teaching hospital in Nigeria, and it is owned by the Federal Government of Nigeria. The hospital has more than 1000 bed spaces and 200 examination couches. There are about 268 consultants (both honorary and hospital) and 430 resident doctors and other health-care workers. House officers and full hospital consultants without a research portfolio were excluded from the study.[9] Using Leslie-Kish formula for estimating simple proportions, $n = (Z\alpha)2pq/d2)$[10] where; n = estimated minimum sample size, Z = a standard normal deviate = 1.96, at 95% confidence level, p = 70% which was the proportion of those who had undertaken job-related training in a previous survey,[11], d = margin of error of 5%. Adjusting for a 10% non-response rate, 355 was estimated as the minimum sample size required for the study. Seven hundred and forty-five physicians were working in the study facility at the time of the survey. The physician population was made up of 430 resident doctors, 268 honorary consultants, and 47 hospital consultants across all departments. Physicians were categorized into consultants and resident doctors.

Within each cadre of doctors, proportional allocation of the estimated sample size was done. This was similarly extended to the distribution of participants in each department. At the departmental level, simple random sampling was adopted to select participants from the sampling frame.

The study instrument used was the Hennessy-Hicks Training Needs Analysis Questionnaire, a tool approved by the World Health Organization as a training appraisal tool.[12] The self-administered questionnaire consisted of 33 items (assignments) grouped into five superordinates/subcategories: administration (items 2, 20, and 29), communication/teamwork (items 1, 5, 8, 13, 14, 27, 31, 32, and 33), clinical assignments (items 10, 12, 17, 18, 22, and 24), research/audit (items 3, 6, 7, 9, 15, 21, 25, 26, and 28), and management/supervisory assignment (items 4, 11, 16, 19, 23, and 30). Other information collected included the sociodemographic characteristics, job designation, and field, departments, number of years in post, and years since qualified.

Participants were asked to rate each of the 33 items/assignments along with two seven-point scales (one = not at all important and seven = very important): (A) how central the assignment is to the successful performance of the participant's job (importance rating criterion) and (B) how well the participant

is currently performing the assignment (performance rating criterion), that is, participants' perceived performance. Thus, if the participants rated an item/assignment higher in its importance to the job than they rated their own perceived performance of the assignment in their job, it would imply that there was a training needs gap for that item/assignment.

Participants also rated which methods (training courses method or organizational development/change method) were perceived as important in bridging the training needs gap on a seven-point scale (one = not at all important and seven = very important): (C) perceived capacity of organizational development method in bridging the gap and (D) perceived capacity of training courses method in bridging the training needs gap.

Data management and analysis

Data collection was done by trained research assistants who were postgraduate students of the University of Ibadan. Research assistants were trained by the investigators. Data collection spanned a period from July–November 2019. Incompletely filled questionnaires were excluded. Data were managed with SPSS statistics version 20.0 (IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp, USA).[13] An initial frequency of data was generated to observe any incongruent entries. These entries were compared with the primary source questionnaires and corrected. Frequencies and percentages were generated for the sociodemographic characteristics and specific training needs identified by participants while scores were reported for the ratings and mean (± standard deviation [SD]) was generated for the age. The average training needs gaps for assignments and subcategories were reported in bar charts. Hennessy-Hicks manual developed the four quadrants and the four inner squares (monitor zones) for ease of interpretation of importance and performance rating [Figure 1].[12] This consisted of plots of importance and performance ratings. The performance ratings of the right quadrants (upper and lower) are satisfactory and require no interventions. The converse holds for the left quadrants.[12]

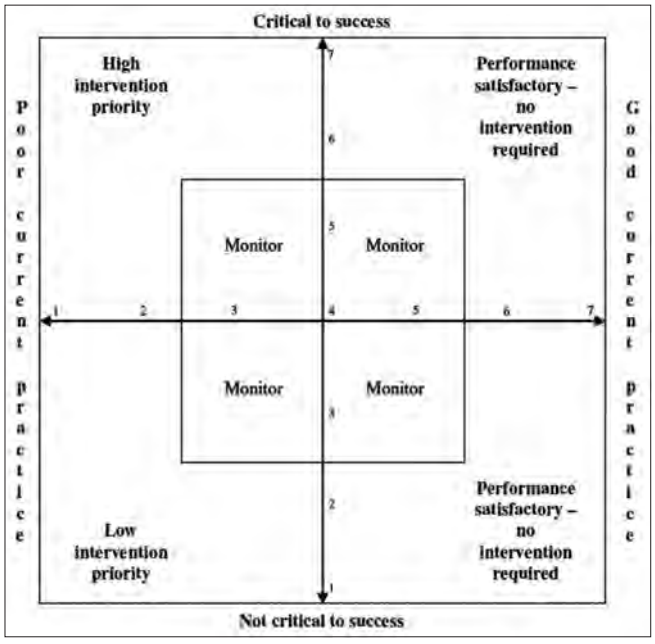

Figure 1: Training Needs Scores in a Quadrant Graph Format (Adapted from Hennessy-Hicks)[12]

Ethical considerations

The study was conducted under the guidance of ethical principles guiding the use of human participants in research. To ensure confidentiality, names and other information that could be linked to participants were not collected. Only identification numbers were assigned to the questionnaires. Participants were informed that participation was voluntary and those study findings would help identify different areas where there were deficiencies and need for further training with the best method for the effective performance of health-related assignments. The study did not pose any direct harm to the participants except for the inconveniences of the time used in filling the questionnaire for which they were thanked immensely. Each participant signed informed consent before the questionnaires were administered. Ethical authorization was obtained from the joint University of Ibadan and University Of Ibadan/University College Hospital, Ethics Committee (UI/UCH EC).

Results

Three hundred and three (85.4%) of a total of estimated 355 participants responded to the survey. The mean

Table 1: Sociodemographic characteristics of participants

Characteristics	Frequency (%)
Age (years)	
25-29	27 (8.91)
30-34	73 (24.09)
35-39	92 (30.36)
40-44	70 (23.10)
45+	33 (10.89)
No response	8 (2.64)
Sex	
Male	186 (61.39)
Female	117 (38.61)
Job title	
Consultants	54 (17.8)
Resident doctors	249 (82.2)
Years in post	
<1	36 (11.9)
1-3	152 (50.2)
4-5	45 (14.9)
>5	67 (22.1)
No response	3 (0.90)
Years since qualified	
1-5	54 (17.82)
5-10	158 (52.15)
>10	81 (26.73)
No response	10 (3.30)

age ± SD of participants was 37.62 ± 6.7 years. More than half 165 (54.45%) of participants were between 30 and 49 years [Table 1]. Four-fifths 249 (82.2%) of the participants were resident doctors, more than half 188 (62.0%) have spent three years or less in their current positions, but the majority 249 (82.2%) had qualified professionally five years ago or longer [Table 1].

Regarding the importance rating, the clinical assignment subcategory was rated (6.3) as the most important to participants' job, out of the five subcategories [Figure 2]. Participants, however, rated their performance best in the communication/teamwork subcategory (5.7) [Figure 3]. The training needs gap was highest (0.82) in the research/audit subcategory and lowest (0.48) in the communication/teamwork category [Figure 4]. However, there was a training needs gap in each of the five subcategories.

All subcategories reported a similar average score (5.8) on participants' perception of the organization development as a method to bridge the gap in training needs [Figure 5]. The rating of the training course method as a means of bridging the training needs gap was highest for the research/audit subcategory (6.1) [Figure 6]. Participants also rated the training course method as a better method to improve performance in all five subcategories. This is as seen in Figures 5 and 6.

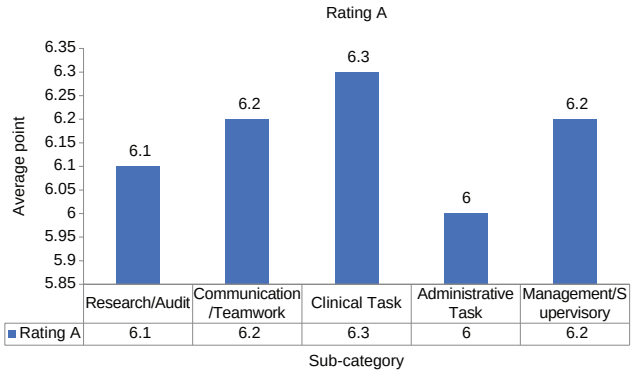

Figure 2: Importance rating in the assignment subcategories

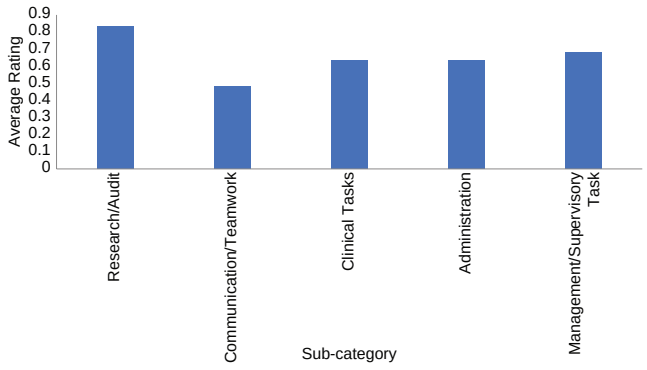

Figure 4: Training needs gap for the subcategories

Figure 6 shows all four ratings for the 33 individual assignments. Figure 6 shows the research training significances among the study participants. For all the 33 assignments, participants' perceived importance (rating A) was scored higher than the participants' perceived performance of the assignment (rating B). Rating A ranged from the lowest score of 5.3/7 "applying research results to your own practice" to the highest score of 6.5/7 for the assignment "treating patients." Rating B was lowest in "critically evaluating published research," statistically analyzing your data and accessing research resources (time, money, and information) with a score of 5.0/7 in each of the three assignments, while it was highest in "treating patients with a score of 6.0/7." For each of the 33 assignments explored, the difference between perceived importance (rating A) and performance (rating B) was high, thus indicating a training needs gap for all the assignments. This difference was highest for the item "establishing a relationship with patients" 1.2/7 in "critically evaluating research work," "statistically analyzing your research," "writing report of your research studies," and "accessing research resources." It was the lowest for the item "applying research results" – 0.5/7. As for the method to address the needs identified, overall, training was scored higher than organizational change [Figure 6 and 7].

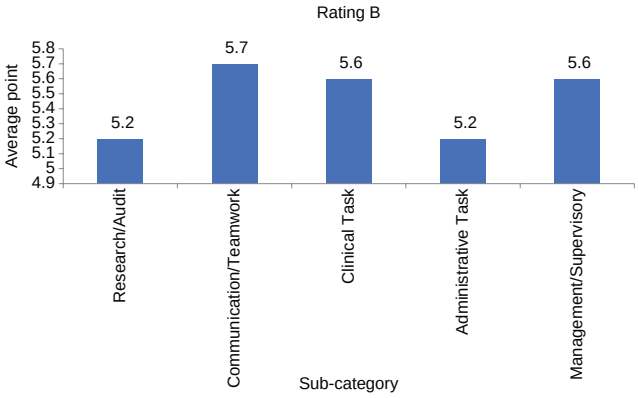

Figure 3: Performance rating in the assignment subcategories

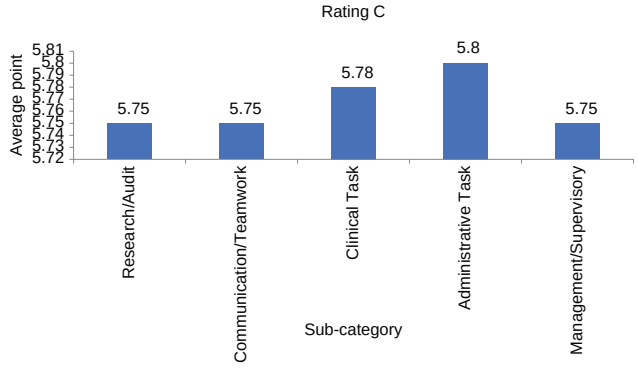

Figure 5: Rating of organisational development/changes for performance improvement

The top five specific training needs expressed by the participants included: training in research methods/financing 59 (19.5%), use of technical equipment/modern technology 46 (15.1%), public health/health promotion and management 33 (10.7%), stress management 24 (7.8%), and human relation 18 (5.9%).

Discussion

The study aimed to assess the training needs gap, and the preferred method for performance improvement among physicians at the UCH, Ibadan. Of the five subcategories of assignments assessed, the clinical assignment was rated as the most important to the participants. The performance rating was the highest for the communication/teamwork subcategory. The training needs gap was highest in the research/audit subcategory, and participants rated the training course method as a better method to improve performance.

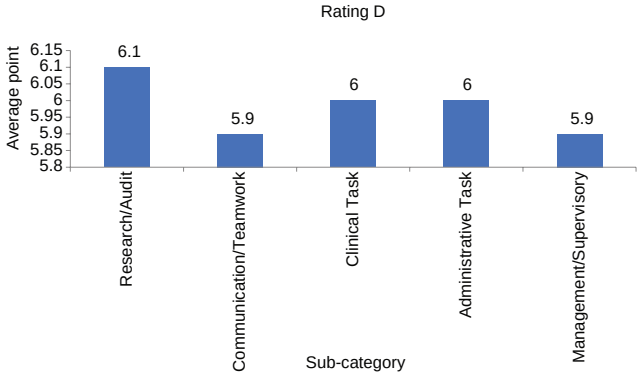

Figure 6: Rating of training courses for performance improvement

With a vast majority of the study participants consisting of resident doctors, the study appeared more representative of the resident doctors' population than it is for the other group of doctors. The majority of the participants were also younger, among whom only 11% were 45 years in age or older. The work experience of the participants also appeared average because only a quarter of participants had qualified professionally as a doctor for 10 years or longer. These could partly account for some of the training needs gaps reported in this study.

The recommendations for interpreting findings as given in the Hennessy-Hicks graph describe the implications of findings from the training needs assessment.[12] For all subcategories, the importance rating was six or higher, indicating that all subcategories were rated as critical to the success of participants' work. The performance rating for the research/audit and administrative subcategories was lowest at 5.2 and falls within the inner square (monitor zone) of the right upper quadrant. The implication of this is that both subcategories require close monitoring and may eventually require urgent intervention. The training needs gap also supports that the research/audit and administration subcategories were among the three highest training needs gap subcategories indicating urgent performance improvement needs for these subcategories. The results showed a similar trend with what was reported in a study conducted among health workers in Saint Lucia which also demonstrated the highest training needs gap in research/audit, administration/supervisory assignments, and clinical assignments.[11] However, the Saint Lucia study was conducted among a broad population of health workers including nurses which may indicate more general training

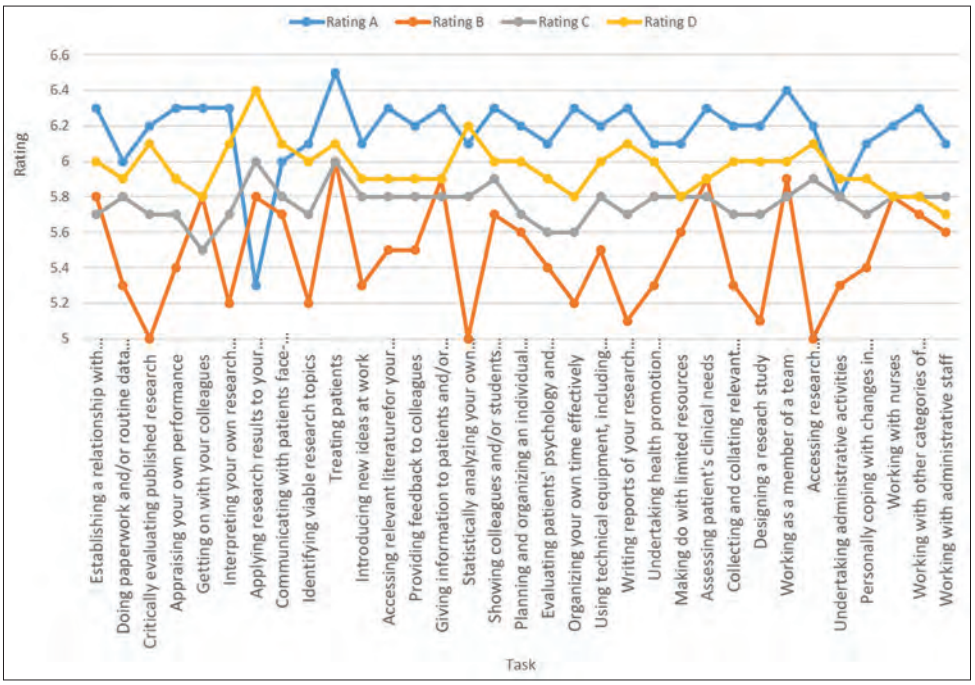

Figure 7: Ratings on importance, performance, organizational development method, and training courses method

needs for all categories of health workers in developing countries.

The other three subcategories were also located in the right upper quadrant marginally outside the monitor zone cutoff of 5.5 for the performance rating.[12] Thus, these subcategories may not require urgent intervention even though training needs gaps were reported. This is particularly relevant considering resource-constrained environments like Nigeria and similar other settings where resources to address all training needs for performance improvement, are likely to be limited. The training needs were higher in all subcategories for nurses in the same hospital.[14] A slightly lower training need than was recorded for the nurses could reflect the fact that resident doctors, the majority of who were the participants in this study were currently in training which could have assisted in closing the (training needs) gaps better than was recorded for the nurses who were on the other hand not trainees like resident doctors. However, the training needs gaps reported among the two professional groups as documented in the two separate studies give more credence for an urgent need to address training gaps for these professional groups; doctors and nurses are the two most essential groups of health-care workers in a health institution.

In this study and other studies conducted within the same environment, the training course method was rated higher as the preferred method for performance improvement.[14,15] This may be related to learning familiarity among the study participants who may not be familiar with the organizational change method. Thus, hospital management needs to adopt training course methods to improve doctors' performance of assignments.

Conclusion

The research/audit and the administration subcategories reported a training needs gap that requires close monitoring and possible intervention. The hospital management and policy makers would need to intervene by facilitating training courses in the areas where training needs have been demonstrated.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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