

## Original Article

# Managerial Competencies-A Survey of Healthcare Managers in A Tertiary Hospital in Calabar, South-South Nigeria

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### ABSTRACT

**Background:** Tertiary hospitals are specialized institutions that provide managed care for patients. It has been shown that the productivity of any organization/institution is as good as the performance of its managers. **Aim:** This study assessed the management knowledge of Healthcare Managers in a tertiary hospital in Calabar, Nigeria. **Methodology:** This was a descriptive cross-sectional study that employed a structured questionnaire (adapted from the Health Leadership Alliance competency directory). Data were analyzed using SPSS version 20. **Results:** A total of 266 managers were included in this study with a M: F ratio of 1.3:1. The knowledge rating of role of non-clinical professionals, regulatory agency standards, preparation of business communication, change process management and policy formulation and analysis varied significantly among the three levels of management ( $p < 0.05$ ). Less than 50% of operational and middle managers rated themselves as experts in all the competency domains while majority (80%) of strategic managers rated themselves as more than proficient in most of the competency items. **Conclusion:** There is inadequate managerial knowledge at all levels of management in a typical tertiary hospital in Nigeria with the potential to impact negatively on quality healthcare delivery.

**KEYWORDS:** Calabar; management knowledge, Nigeria, south-south, Tertiary healthcare managers

## INTRODUCTION

The skills required of a manager in any organization have been described as those associated with planning, leading, organizing, and controlling.<sup>[1]</sup> It is generally considered that management requirement across various industries is the same and differences are only contextual. However, some experts argue that healthcare managers should possess a different set of management skills and competencies as opposed to managers in other industries.<sup>[2]</sup> It has been suggested that an organization's performance is linked to the management skills and knowledge of the organization's workforce.<sup>[3]</sup> Health management is inimitable because it involves technical and social processes managers must perform to achieve health objectives through effective and efficient use of health resources within different socio-economic and cultural context. However, irrespective of context, basic functions expected of health managers especially at the

tertiary level of health care delivery include health policy analysis and formulation, strategic health planning, organizing, implementing, leading, coordinating, controlling, monitoring, and evaluating services. This requires knowledge and application of management and leadership skills and competencies.<sup>[4]</sup>

Tertiary health care organizations provide managed or specialized care and by their structure and function, are required to perform multifaceted health care services in a constantly changing socio-economic environment. It has been shown that although Primary healthcare was adopted as the trust of healthcare delivery in Nigeria, the bulk of human and financial resources for health

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are expended on tertiary hospitals.<sup>[5]</sup> It is therefore, imperative to ensure that managers of tertiary health institutions are well situated and equipped to utilize scarce health resources to provide services to the community in an appropriate, effective, efficient and sustainable manner.

A lack of management capacity has been identified as the key stumbling block to attaining the goals of health for all in some African countries.<sup>[6]</sup> This can be said to be especially true in the Nigerian tertiary healthcare system. Although there is no consensus on the type of management competences and skills required of health managers at different levels of management, it is obvious that there is need for improvement in knowledge of management skills and professional development of management competences for the performance of efficient and effective managerial functions in an extremely dynamic, composite healthcare environment.<sup>[7]</sup> There is evidence that research, analysis, and assessment of management knowledge of healthcare managers are basic preconditions for the development and implementation of adequate programs to close management gaps in the tertiary health care system.<sup>[8,9]</sup> This research aims to evaluate the tertiary hospital managers' perception of their management knowledge and capacity to function effectively in their current role as part of a process to re-position tertiary hospitals for improved performance.

### Aims and objective

The objective of this study was to assess the managerial knowledge of health managers in a tertiary hospital in Calabar, South-south, Nigeria.

### METHODOLOGY

The study was a descriptive cross-sectional study conducted on operational, middle and strategic managers at the University of Calabar Teaching Hospital, 1 of the 56 federal tertiary healthcare institutions in Nigeria. The hospital serves three main functions; the training of undergraduate and postgraduate medical and paramedical personnel, tertiary healthcare delivery and research and community health development.

### Inclusion and exclusion criteria

All managers at the operational, middle, and strategic levels of management who gave informed consent were included in the study while those who were not available at the time of the study or refused to give informed consent were excluded from the study.

### Sample size determination

The sample size for this study was determined using the LeslieKish formula<sup>[10]</sup> which states that

$$n = z^2pq$$

$$d^2$$

where  $n$  = sample size (number of persons required for the study).

$z$  = confidence interval of 95% which is equivalent to a confidence

Co-efficient of 1.96

$p$  = proportion of occurrence of managers knowledgeable in management competencies which is 19.6%<sup>[11]</sup>

$$q = 1 - p$$

$d$  = the desired precision which is 5%

Substituting the above values,

$$n = z^2pq = (1.96)^2 \times 0.196 \times (1-0.196) = 3.84 \times 0.196 \times 0.804 = 0.605 = 242$$

$$d^2 (0.05)^2 = 0.00250.0025$$

To account for non-response, 10% of the above figure will be added and was rounded up to 266 which was the minimum sample size for this study. Probability proportionate to size (PPS) was used to determine the number of managers to be sampled from the three management categories; strategic, middle and operational. Afterwards, simple random sampling was used to select 266 managers.

The instrument for data collection was a structured questionnaire consisting of a competency rating scale derived from the Healthcare Leadership Alliance competency directory.<sup>[12]</sup> This assessment tool comprises five critical management domains healthcare environment, communication and relationship, professionalism, leadership and business/financial management. Instructions for the instrument required respondents to select the corresponding rating based on their knowledge of each competency statement from a Likert scale indicating the level of knowledge on a 15 scale with 1 implying "no knowledge/experience", 2 "familiar but not competent" 3 "competent" 4 "proficient" and 5 "expertise". The questionnaire was self administered by the respondents.

### Statistical analysis

Statistical analysis was performed using the statistical package for social sciences (SPSS) version 20. Categorical variables were presented as frequencies and percentages while continuous variables were presented as mean or median. Bi-variate analyses (Pearson's Chi-square and Fishers exact test) was used to compare association between categorical variables while continuous variables was compared with the

Student's *t*-test. One way Anova was used to test for the significance of difference in ratings between groups of subjects and post-hoc test was done to determine difference between sub-groups. *P* value of <0.05 was considered significant.

### Ethical clearance

Ethical clearance was obtained from the Health Research Ethics committee, University of Calabar Teaching Hospital, Calabar.

## RESULTS

A total of 266 managers were included in this study. There were 166 operational managers, 53 departmental managers and 5 strategic managers with a M: F ratio of 1.3:1. The mean age was  $44.37 \pm 7.95$  years. The median age was 43 years.

A total of 5 competency domains were tested for knowledge. Of the 10 competency items/statements in the first competency domain which was on healthcare environment, Operational managers rated clinical/technical skills related to their profession as most knowledgeable with a mean score of  $4.11 \pm 0.8$ . New technology had the least score with a mean of

$3.33 \pm 0.9$ . The middle managers' knowledge was similar to that of the operational managers. The strategic managers rated regulatory agency standards and clinical/technical skills as most knowledgeable with a mean score of  $4.8 \pm 0.4$  each. Information systems and computers and role of non-clinical professional were the competencies with the least score of  $3.6 \pm 1.3$  and  $3.6 \pm 1.1$  respectively [Table 1].

Analysis of the Communication and relationship management domain showed that operational managers were most knowledgeable in effective counseling strategies and least knowledgeable in preparation of business communication. Middle managers rated communication of hospital's mission, vision and objectives and team building techniques as most knowledgeable while. Mediation, conflict and dispute resolution technique was rated least knowledgeable. Strategic managers rated communication of patients' rights/responsibilities as most knowledgeable while knowledge of provision and reception of constructive feedback was rated least. [Table 2].

The third competency domain which was on professionalism/management concepts showed that

**Table 1: Knowledge of healthcare environment**

Knowledge item	Operational Manager	Rating	Middle manager rating	Strategic manager	Rating	<i>p</i>
Regulatory agency standards	3.51±0.9*	7	3.52±0.9*	8	4.8±0.4*	0.01*
Clinical/technical skills	4.11±0.9	1	4.28±0.7	1	4.8±0.4	0.08
Evidence-based practice	3.77±0.8	5	3.82±0.9	3	4.75±0.5	0.09
Role of clinical professional	3.98±1.01	2	3.94±2.01	2	4.6±0.5	0.4
Role of non-clinical Professional	3.34±1.04*	9	3.76±0.9*	4	3.6±1.1	0.03*
Information systems	3.66±0.9	6	3.6±0.9	7	3.6±1.3	0.9
Referral systems	3.91±0.9	3	3.62±1.01	6	4.2±0.8	0.1
Conflict issues in healthcare workforce	3.43±0.9	8	3.3±1.04	9	4.4±0.8	0.06
New technology	3.33±0.9	10	3.26±0.4	10	3.8±0.8	0.4
Infection control practices	3.79±1.01	4	3.69±1.01	5	4±1.2	0.8

Test statistics- Anova and post-hoc tests, \*statistically significant

**Table 2: Knowledge of communication and relationship management**

Knowledge item	Operational Manager	rating	Middle manager rating	Strategic manager	rating	<i>p</i>
Communicate hospital's mission, vision and objectives	3.85±0.8	4	3.96±0.8	1	4.6±0.5	0.14
Team building techniques	4.01±0.8	2	3.96±0.9	2	4.4±0.8	0.57
Provide and receive constructive feedback	3.71±0.8	7	3.63±0.8	8	4.2±0.8	0.36
Constructive performance evaluation	3.77±0.9	6	3.73±0.9	7	4.4±0.8	0.3
Effective counseling strategies	4.18±3.6	1	3.87±0.9	6	4.6±0.5	0.78
Effective disciplinary strategies	3.7±0.8	8	3.63±1.04	9	4.4±0.9	0.2
Delivery of credible reports using modern communication gadgets eg power point	3.82±0.9	5	3.88±1.05	5	4.6±0.5	0.22
Preparation of business communication	3.57±1.01*	10	3.9±0.9	4	4.6±0.5*	0.01*
Mediation, conflict and dispute resolution techniques	3.65±0.9	9	3.54±0.54	10	4.4±0.8	0.15
Patients rights and responsibilities	3.93±0.9	3	3.92±1.1	3	4.8±0.4	0.14

Test statistics- Anova and post-hoc tests \*statistically significant

**Table 3: Knowledge of professionalism**

Knowledge item	Operational Manager	rating	Middle manager	rating	Strategic manager	rating	<i>p</i>
Ethical principles	4.16±0.89	1	4.25±0.93	2	4.75±0.5	2	0.36
Strategic planning	3.88±0.9	5	3.74±0.89	6	4.75±0.5	2	0.09
Policy formulation and analysis	3.54±0.98*	7	3.58±0.88	7	4.6±0.54*	3	0.04*
Systems theories and thinking	3.42±1.01	9	3.32±1.09	9	4.2±1.09	6	0.19
Healthcare management theories	3.49±0.98	8	3.54±1.03	8	4.2±0.33	7	0.27
Professional standards and codes of conduct	4.04±0.93	3	4.08±1.02	4	4.25±0.5	5	0.88
Continuing education and career development	3.94±0.96	4	4.19±0.85	3	4.8±0.44	1	0.3
Membership of professional organizations	4.14±1.05	2	4.37±0.76	1	4.6±0.89	4	0.24
Quality/process improvement	3.84±0.87	6	3.94±0.75	5	4.6±0.54	3	0.11

Test statistics- Anova and post-hoc tests \*statistically significant

**Table 4: Knowledge of leadership**

Knowledge item	Operational Manager	rating	Middle manager	rating	Strategic manager	rating	<i>p</i>
Leadership theories styles and situational application	3.69±0.99	5	3.87±0.88	2	4.6±0.54	1	0.07
Decision making	3.97±0.9	1	4.04±0.89	1	4.6±0.54	1	0.28
Staff retention strategies	3.59±0.96	7	3.54±1.07	7	4.2±1.09	3	0.35
Change process and management	3.5±0.97*	8	3.38±1.1*	8	4.6±0.54+	1	0.03*
Stress management	3.67±1.03	6	3.65±0.99	6	4.4±0.54	2	0.25
Interdisciplinary work coordination	3.78±0.95	4	3.72±1.05	4	4.6±0.54	1	0.15
Support innovation and creativity (motivational)	3.9±0.91	2	3.66±1.11	5	4.4±0.54	2	0.13
Mentoring/coaching principles	3.87±0.94	3	3.86±1.06	3	4.6±0.54	1	0.24

Test statistics- Anova and post-hoc tests \*statistically significant

**Table 5: Knowledge of business/financial management**

Knowledge item	Operational Manager	rating	Middle manager	rating	Strategic manager	rating	<i>p</i>
Cost-benefit analysis	3.57±0.94	2	3.5±1.05	1	4.4±0.83	2	0.3
Cost-effectiveness analysis	3.54±0.98	3	3.5±1.22	2	4.4±0.89	3	0.18
Performance of audits of operations and Systems	3.33±1.07	6	3.44±1.12	4	4.4±0.89	3	0.08
Inventory control systems	3.46±0.94	4	3.37±1.16	7	4.0±1	5	0.39
Productivity measurements	3.65±0.98	1	3.49±1.12	3	4.4±0.89	3	0.13
Operational and capital budget forecasting and generation	3.3±1.14	7	3.39±1.25	5	4.2±1.3	4	0.22
Prepare and analyze financial statements	3.27±1.17	8	3.25±1.23	8	4.2±1.3	4	0.23
Risk management strategies	3.37±1.12	5	3.38±1.08	6	4.4±0.54	1	0.12
Principles of public-private partnership	3.23±1.15	9	3.23±1.13	9	4.4±0.54	1	0.07

Test statistics- Anova and post-hoc tests

operational managers were most knowledgeable of ethical principles and least knowledgeable of system theories. Middle managers considered membership of professional organization as most knowledgeable and systems theories as least knowledgeable with mean scores of  $4.37 \pm 0.76$  and  $3.32 \pm 1.09$  respectively. Strategic managers considered continuing education/professional development as most knowledgeable and systems/management theories as least knowledgeable with a mean scores of  $4.8 \pm 0.44$  and  $4.2 \pm 0.83$  respectively [Table 3].

Analysis of the fourth competency domain on leadership styles/principles showed operational and

middle managers considered decision making most knowledgeable with a mean score of  $3.97 \pm 0.99$  and  $4.04 \pm 0.89$  while change process was considered least knowledgeable with a mean score of  $3.5 \pm 0.97$  and  $3.38 \pm 1.1$ . Strategic managers rated their knowledge of most of the competency items very high with a mean of  $4.6 \pm 0.5$ . Staff retention strategies had the least mean score of  $4.2 \pm 1.09$  [Table 4].

The fifth competency domain on business/financial management showed that the most knowledgeable competency for operational and middle managers were productivity measurements and cost-benefit analysis with a mean score of  $3.65 \pm 0.98$  and  $3.6 \pm 1.22$ .

**Table 6: Frequency of '5' (Expert) rated competencies**

Variable	Expert Knowledge		
	Operation manager <i>n</i> =208 Frequency (%)	Middle manager <i>n</i> =53 Frequency (%)	Strategic manager <i>n</i> =5 Frequency (%)
Healthcare environment domain			
Reg. agency standards	15.9	14.6	80
Professional skills	37.1	46	80
Evidence-based practice.	21	22.6	60
Role of clinical staff	35	41.5	60
Role of nonclinical staff	12	24.5	20
Information systems	19.2	18.8	40
Referral systems	29.8	20.7	40
Conflict issues	12.5	11.3	60
New technology	10.1	5.6	20
Infection control practices.	25	26.4	40
Communication domain			
Hospital's mission	23.1	28.3	60
Team building techniques	31.2	26.4	60
Constructive feedback	16.8	13.2	40
Performance evaluation	21.1	22.6	60
Counseling strategy	27.4	28.3	60
Disciplinary strategy	16.8	22.6	60
Modern communication gadgets	29.3	32.1	60
Business communication.	20.1	32.1	60
Mediation/conflict resolution.	19.7	13.2	60
Patients' rights/response.	29.3	37.7	80
Professionalism domain			
Ethical principles	38.9	49.1	60
Strategic planning	26.4	16.9	60
Policy formulation	16.3	15.1	60
System theories/thinking.	14.4	7.5	60
Healthcare management theories	14.9	16.9	40
Professional standards	35.5	41.5	20
Continuing education	31.2	41.5	80
Membership of professional organization	46.1	51	80
Quality process	24	20.7	60
Leadership domain			
Leadership theory/style	22.1	24.5	60
Decision making	29.8	32.1	60
Staff retention strategy	17.3	15.1	60
Change process	14.9	13.2	60
Stress management	23.5	20.7	40
Work coordination	25	20.7	60
Support innovation	27.4	22.6	40
Mentoring principles	28.3	28.3	60
Business domain			
Cost-benefit analysis	14.9	22.6	60
Cost-effectiveness anal.	13.9	13.2	40

Contd...

Table 6: Contd...

Variable	Expert Knowledge		
	Operation manager <i>n</i> =208 Frequency (%)	Middle manager <i>n</i> =53 Frequency (%)	Strategic manager <i>n</i> =5 Frequency (%)
Audit of operations	13.9	16.9	60
Inventory control syst.	13.4	16.9	40
Productivity measures	20.6	18.8	60
Budget forecasting	14.4	18.8	60
Analysis of finance	16.8	16.9	60
Risk management	17.3	11.3	40
Principles of Public-Private Partnership	14.9	11.3	40

Strategic managers rated their knowledge of most of the competency items above 3. [Table 5]. The frequency of “5” (expert) rated competencies showed that only a small percentage of the operational and middle managers rated themselves experts in all the tested domains. The strategic managers also reported deficiencies in knowledge of some management competencies [Table 6].

## DISCUSSION

Tertiary healthcare managers play crucial roles in creating healthy work environment and engaging staff to achieve organizational aims and objectives. This study explored the management knowledge of healthcare managers to determine gaps (if any) at the different levels of healthcare management.

In this study, majority of the strategic managers considered themselves more than proficient in most of the competency items in the 5 management domains. The reverse is true for both the operational and middle managers. The later finding is in keeping with what had previously been reported that managers of tertiary healthcare institutions did not consider themselves adequately equipped for their role as managers.<sup>[8,11]</sup> Knowledge of ethical principles, decision making, continuing professional development and membership of professional organizations was high among all the managers and compares with findings among nurse managers in the USA<sup>[13]</sup>. The knowledge of the role of nonclinical staff and new technology was very low across the three levels of management. While the dearth of technological advancement in the country may account for the later, the former collaborate previous reports that in tertiary hospitals in Nigeria, the role of the nonclinical professional is poorly understood and contributes to conflict in the work environment.<sup>[14]</sup>

It is noteworthy that knowledge of regulatory agency standards, mediation/conflict resolution skills are low among operational and middle managers. This is

likely to impact negatively on their ability to ensure staff compliance with the rules, regulations, policy and procedures that govern the different professions in the healthcare organization as well as foster team work, shared vision, mutual respect and commitment to the growth and development of individual members and the organization.<sup>[9,14]</sup> Moreover, majority of the managers were not knowledgeable in communication of patient's rights and responsibilities and constructive feedback. This suggests that the practice of paternalism where by health workers treat patients without giving them adequate information on treatment processes and outcome and alternative options available nor take into cognizance patient's preferences and cultural beliefs in decision making is a occurrence common in our environment. Operational and middle managers were mostly unaware of the hospital's vision and mission statement. This maybe one of the reasons for the seeming disconnect between hospital's policy and implementation.<sup>[1]</sup> Aina<sup>[15]</sup> reported that the ineffectiveness in the healthcare system is mostly due to the inability of healthcare managers particularly at the operational and middle management levels to implement laid down policies in the work environment. Managers' rating of some competency items was at variance with expected management function. For instance, in the communication and professionalism domains, strategic managers rated communication of patients' rights and responsibilities and continuing medical education/career development which ideally is the function of operational/middle managers as most knowledgeable.<sup>[16]</sup>

There were statistically significant differences between knowledge of strategic managers and other managers in some items in all the domains except business domain. Mean knowledge scores in the business domain was low/moderate across the three management levels. This is unlike in most developed countries where the management of hospitals has been taken over by professional managers equipped with business/financial management skills with the aim of improving

productivity and business performance of health institution.<sup>[17,18]</sup> This finding reiterates previous reports that our health care managers are ill-equipped to manage scarce health care financial/human resources; evaluate the cost-benefit -analysis of several new technologies and broker complex financial deals to position their hospitals for quality service delivery.<sup>[19,20]</sup>

## CONCLUSION

There is inadequate managerial knowledge at all levels of management in a typical tertiary hospital in Nigeria. The operational and middle managers are notably more affected. In some competency domains, managers' reported knowledge rating is asynchronous with the expected key management function with potential to negatively impact quality healthcare delivery.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

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