

*Full Length Research Paper*

# Mainstreaming quality assurance philosophies, objectives, and measures in the existing health structure in Nigeria: The case of Akwa Ibom State

\*Chinua E. Azikiwe, Olusegun Femi and Yakubu A. A Musa

Department of Physical and Health Education, Obafemi Awolowo University, Ile-Ife, Osun, Nigeria.

Accepted 9 August, 2015

Persistent poor health care quality attributable to non-responsive alien models necessitated this study to develop quality assurance package (QAP) for health care in Nigeria with focus on Akwa Ibom State. Quality assurance index (QAI) was the instrument for data collection. A multi-stage random sample of 340 respondents was drawn from 840 health managers in primary health care settings in the state. The research and development (R&D) survey designed was used to develop the package through progressive steps such as: (a) Exploration and establishment of need for the package through library search; (b) determination of the elements (contents) for quality assurance; (c) preliminary validation of the elements; (d) empirical validation of the contents to determine the suitability; and (e) integral feedback mechanism. From the findings of the study, suitable elements for quality assurance identified were: the philosophy {(care should be at minimal risk to client (84.9%), care of benefit to client (79.5%), health worker should aim at best result as they demonstrate moral sense of duty (73.6%); workers should strive for best results (62.4%)}; objectives (giving consumers adequate information in tandem with local needs and exigencies (80.4%), continuous care innovations (67.6%), and safeguarding consumers' satisfaction (76.6%); and measures for quality assurance (continuous education for health workers (87.2%), licensing all health care givers (83.5%), close supervision (79.8%), minimizing unjustified geo-variation of care (85.3%), reducing access barrier (79.4%), among others). The package was recommended for adoption for health care administration in the country.

**Key words:** Ikorok, healthcare quality assurance parameters.

## INTRODUCTION

Public health practitioners, over the years have struggled to leave a legacy of quality as a strategy for service efficiency, effectiveness and efficacy. The necessity for quality assurance can be perceived in recent trends in Nigeria, whereby the National Agency for Food and Drug Administration and Control (NAFDAC), Nigerian Standard Organisation (NSO), and professional associations, by their activities tend to be demonstrating the lack of confidence in quality of care and apparent deficiencies in quality control over the years. As the former Director General of (NAFDAC), Prof. Dora Nek Akunyili, observed during the 3rd English-Speaking Congress of Catholic Nurses in 2004, the Nigerian Government has renewed

focus on quality matters by establishing statutory organisations to see to the restoration of quality to the health system in Nigeria. The relevance of such organisations arose from the obvious and serious doubt on the ability of the current health system in Nigeria, on its own, to deliver quality care to meet the yearnings of the people. Thus, the designated agencies are to institute surveillance on quality concerns at the level of production and distribution, in order that the nation's health care be compared with their counterparts, and at the same time meet international health expectations.

In a changing health care market with increasing consumer awareness and gross ignorance by a majority of the population, concerned bodies should take responsibility to safeguard the health of the population in all considerable experiences. The demand for quality should be the rallying point for both providers and

\*Corresponding author. E-mail: [chinua\\_azikiwe@gmail.com](mailto:chinua_azikiwe@gmail.com).

consumers of health care, realizing that the concern of consumers has been on the highest quality outcome at the lowest cost (Young, 1998; Ikorok, 2000a). This implies that consumers desire to get value for money paid on care, derive satisfaction and evident utility for seeking care, and benefit from outcome of care. Moreover, recognising that information provides empowerment, consumers want information about quality of care in order to be able to determine which to patronize. In the United States, for instance, such models like “total quality management and continuous quality improvement (TQM/CQI)” are used as a form of initiative to facilitate health care quality (Wold, 2004). TQM/CQI refers to evidence-based management philosophy that facilitates good performance and continuous improvement on work processes by the application of scientific facts. In this model experts view quality assurance or quality control as a strategy for enabling consumers to receive quality care and utility for seeking care. This model serves as the basis for the present study.

It is common knowledge that both consumers and providers of health care have vested interest on quality of care as stakeholders. The health care provider, for instance, has three basic reasons for being concerned about care quality based on the principles of their ethical code of practice namely, the:

- (a) Principle of non-maleficence (that above all, do no harm) - thus, a health worker must ensure that the consumer does not come to harm in the course of care.
- (b) Principle of beneficence (do good work always to the benefit of all affected by such work, a basic principle of professionalism).
- (c) Strong social works ethics which in the culture places a high value on “doing a good job”.

Besides, as a moral and civic justification, the health care provider should strive to protect the interest of the client in the clientele, at least for the survival of the profession. This implies that the health worker must demonstrate commitment and responsibility for optimal outcome of care by conscientiously targeting quality improvement. These principles have also been adopted as the philosophical principle for the quality assurance packaged proposed in this work on the basis of Leatherman and McCarthy’s (2002) assertion that if quality improvement strategies are applied to health care performance, it could enhance efficiency in both process and outcome of health care.

### **The concept of quality in perspective**

Davis (1994) defined quality as a continual striving for excellence and conforming to specific approaches or guidelines. Similarly, the Institute of Medicine (IOM, 2001; p. 1000) viewed quality in the perspective of the “degree

to which health services for individuals and population increase the likelihood of desired health outcome, and its consistency with current professional knowledge”.

The definition of quality, however, tends to vary with situation, application, judgment, and perception of the care-giver, care manager, and the clients who pay for care. Health professionals view quality in a technical perspective, while that is interested in outcome of care.

Client’s interest is adjudged by the fact that performance of care justifies the reason or need for seeking care, money paid for care, and that there is adequacy of personnel for care, in kind, number, competency, qualification, and certification; such that care is provided by the appropriate personnel. Similarly, public health officials would judge the appropriateness of care on the basis of use of resources to improve population’s health status.

Interestingly, quality of health care has been threatened by a number of problems emanating from overuse, underuse, and misuse of services. The misuse category focuses on consumer behaviour and safety consciousness as they interact with the health care system. The underuse category concerns care disparity, and non-universality of care (exclusions), while the overuse category denotes frivolous use as well as abuses in the use of the health care goods and services.

Quality assurance denotes the promise of or guarantee of standard of excellence in health care. It concerns accountability for susceptibility of the client (McLaughlin and Kaluzny, 1999; Chassin and Galvin, 1998). Thus, the focus of quality assurance and control rests on standard set: continuous evaluation of care on the basis of standard and continuous innovations to meet standard.

Quality assurance has traditionally been an important issue in health care delivery. Relying solely on standard as yardstick, however, tends to limit the optimal concern for quality. Therefore, under the TQM/CQI framework, quality assurance should consider measures for meeting clients’ satisfaction; this implies that health agencies and care personnel should strive to fulfil client’s requirements for the services, and then seek innovations to meet up with current trends. However, Sprague (2001) argued that CQI operates at a higher continuum than just clients’ satisfaction, that it requires commitment of well-equipped personnel in the organisation of resources to move in the positive direction. It also focuses on sources of differences in the on-going process of health services in respect of how well procedures are accomplished, accurate diagnosis or problem identification, and effectiveness of services as well seeking to improve the process. In this work, therefore, the term quality assurance and quality improvement are used interchangeably.

### **Statement of the problem**

Quality assurance approach can be used in health care

to adjudge whether or not clients are receiving value for care. Juran (1998) provided a trilogy of framework for quality regulated by the level of commitment to service philosophy and goals of care organisations. Her model comprised “quality planning - QP, quality control – QC, and quality improvement - QI. Here, quality planning implies determining in advance who provides care and the needs of client; quality control denotes performance evaluation to compare with outcome and make corrections as necessary; while quality improvement concerns the provision of infrastructure to enable individuals identify improvement in project for better care. This trilogy can be optimized if health workers demonstrate adequate commitment.

The irony in the Nigerian situation is that despite acceptance of the dwindling quality of health care and the necessity for the contrary; the country tends to play down on the activities of quacks and the consequent quality erosion in the health care system of the nation (Akunyili, 2005). Health care must experience a paradigm shift from individual provider responsibility to team responsibility with a well-articulated framework that is responsive to local needs and exigencies. Unfortunately, despite the adoption of various existing strategies to assure quality care, not much impact has been recorded due to the lack of suitable models to the Nigerian background (Ikorok, 2000b), particularly in the area of study as evidenced in the consistently low utilization of health services, and high morbidity and mortality statistics from preventable health problems (Akwa Ibom State Ministry of Health, 2008). This situation is worrisome. Therefore, an urgent necessity for objective and culturally-oriented criteria to reverse the trend motivated the researchers to propose in this work a framework or package for quality assurance in health care delivery in the Nigerian community based on the TQM-CQI model (Leatherman and McCarthy, 2002) and the Juran (1998) quality trilogy.

## Research questions

Three research questions were posited to guide the study thus:

1. What suitable philosophies should guide the provision of health care for quality assurance?
2. What are the suitable objectives for quality assurance?
3. What are the suitable measures that could be adopted for quality assurance in the provision of health care?

## METHODS

### Research design

The research and development (R&D) design was used for the study to develop a quality assurance package (QAP) for Health Care in Nigeria. This design was adjudged relevant due to its suitability in similar studies for developing educational and health intervention programmes through series of steps (Gay, 1981; Borg

and Gall, 1989; Ikorok, 2000a). This design is conceptualized by Ali (1990) as developmental design, a concept used in the domain of psychology to study the developmental trends of children and adolescents through either cross-sectional or longitudinal studies. Though the design is often used for large scale studies by institutions, Borg and Gall (1989) averred that undertaking R&D by individual researchers requires “scaling down the scope and limiting the process of development to just a few steps” and ending the study at the preliminary field test phase.

The sequence for the R&D study, according to Borg and Gall (1989) and Ali (1990), which was adopted for the present study commenced with: (a) exploration and establishment of the need for the study by library search, researcher’s work experience and consultations with experts in the field; (b) determining the components of the package - the philosophies ( $\phi$ ), objectives, measures and agents of quality assurance – through content, construct, and face validation of certain parameters tagged “quality assurance measures”; (c) reviewing the process (evaluating) to meet specifications, and (e) empirical validation of the parameters based on data from field trial of the package to adjudge its suitability, as well as an integral feedback mechanism.

### Population for the study

The population of the study comprised 840 health workers of managerial status (Salary Grade Level 12 and above) in the Primary Health Care (PHC) settings in Akwa Ibom State, made up of public health nurses and community health officers (Planning and Statistics Division of Akwa Ibom State Ministry of Health, 2009).

### Sample and sampling technique

A multi-stage random sample of 360 PHC workers was drawn from the population. Firstly, a ballot sample of 18 LGAs was drawn, six each from the three Senatorial Districts. Thereafter, a ballot sample of four health centres were drawn from each of these LGAs. Finally, a purposive sample of health workers with salary Grade Level 12 and above was drawn from each of the health facilities earlier sampled. This was equally distributed to represent the three senatorial districts in the State.

### Instrument for data collection

A 21-item researcher-developed “quality assurance index (QAI)” was used for data collection. The QAI was divided into two sections. Section A was designed for gathering demographic data, while section B was used to elicit information on the philosophies, objectives, and measures for quality assurance, based on their suitability (low suitability - LS and high suitability – HS).

### Validation of the instrument

The QAI was adjudged valid by three experts, one each in health education, measurement and evaluation, and health service administration, who also validated the draft of the package. Validators were requested to examine the specific sections of the questionnaire and the draft of the package, to justify the relevance of contents, logical accuracy, semantic clarity, and identify malapropism, propinquity of statements, and adjudge their suitability for meeting the objectives of the study. Modifications were made on the opinion of two or more of the validators.

### Reliability of the instrument

The internal consistency of the instrument was ascertained by the

**Table 1.** Percentage analysis of the suitability of philosophies for guiding quality assurance.

S/N	Philosophy of quality assurance	Responses			
		LS	%	HS	%
1	Health workers should demonstrate moral sense of duty for proper work organisation within clients' cultural background	92	26.4	248	73.6
2	Service outcome should be to the benefit of client	52	20.5	228	79.5
3	Health care should be of minimal risk to client in view of client's socio-cultural setting	45	15.1	295	84.9
4	Health workers should strive at giving the best result always	132	38.6	168	62.4

LS = Low suitability, HS = high suitability.

**Table 2.** Percentage analysis of the suitability of objectives for quality assurance.

S/No.	Objectives of quality assurance	Responses			
		LS	%	HS	%
1	Give client adequate and appropriate information concerning care in tandem with local needs and exigencies	77	19.3	263	80.4
2	Aim always at continuous innovations in care provision within local capacity for sustenance	122	32.4	218	67.6
3	Clients should receive value for money expended on care (service outcome meets consumer's satisfaction)	44	23.4	296	76.6
4	Consumer should receive utility for service received (care meets purpose for seeking care) in view of locally available alternatives	295	79.7	55	20.3

analysis of the split-half data from a trial test on 30 similar respondents who were not used for the study. A reliability coefficient of 0.72 was obtained by Kuder-Richardson Formula 21.

#### Data collection and analysis

With the consent of the heads of the health institutions, the researchers gathered information from the selected health facilities. Copies of the questionnaire were retrieved upon administration to maximize return rate. Of the 360 questionnaires administered, 20 (5.5%) were not properly completed and were not used for the study. The 5.5% loss was not considered significant to alter the validity of the study.

Percentages were used for data analysis. The choice of parameters for QAP was based on the categorization of scores as low suitability (LS) – below 50%, and high suitability (HS) – 50% and above. Any parameter that scored below 50% was adjudged to have scored low and so not suitable for inclusion in the package; 50% and above was adjudged suitable for inclusion as an index for quality assurance. The philosophy for quality assurance served as the grand stand; the objectives provided the specific mission, for quality assurance, while the parameters constituted the measurable specific actions to be performed to achieve quality care.

## RESULTS

The data in Table 1 reveals the percentage analysis of

the philosophies or principles that should guide the provision and administration of health services to evoke quality. Under the high suitability index, the data show that the principle that health workers should demonstrate moral sense of duty and proper work organisation within client's cultural background scored 73.6%; service outcome should be to the benefit of clients scored 79.5%; health care should be of minimal risk to client in view of client's socio-cultural setting scored 84.9%; and that health workers should strive at giving the best result scored 62.4%. Based on the data, all the philosophies identified scored above the criterion score of 50% and qualify for inclusion as suitable philosophies for quality assurance.

The data in Table 2 shows the parameters that should serve as the objectives for health care in order to ensure quality. Three of the four parameters validated met the criterion score of 50%, thus: Give clients adequate and appropriate information concerning care in tandem with local needs and exigencies scored 80.4%; aim always at continuous innovations in the provision of care within their capacity for sustenance scored 67.6%; and that clients should receive value for money paid for care (service outcome to meet consumer's satisfaction) scored

76.6%.

The data in Table 3 shows the analysis of the parameters on measures or activities that could be adopted to produce quality assurance in health. From findings under high suitability level, it could be inferred that most of the parameters had a percentage score of more than the criterion score of 50%, and qualify for inclusion in the package for quality assurance. The parameters that did not meet the criterion score though accepted by some segment of the respondents were: Remove social exclusion by application of equity principle in the provision of care (37.1%); exercise good financial management (35.6 %); and, show commitment to work (19.4%). The following parameters were accepted by respondents as being highly suitable as the measurable specific actions for quality assurance, namely: (1) manpower development (on-going formation, continuous education and clinical updating) for health workers (87.2%); (2) licence all health care giver (83.5 %); (3) supervise health workers closely (79.8%); (4) remove or reduce barriers to access to care (79.4%); (5) intensify health education for informed voluntary decision for care (79.4%); (6) innovate and improvise as need arises (75.6%); (7) minimize unjustified avoidable geographical variation in the provision of care (integrate care) (85.3%), and others. Thus, the health worker must demonstrate responsibility for optimal outcome of care by conscientiously targeting quality improvement.

## DISCUSSION

The data in Table 1 shows the responses of health workers on the suitable philosophies to guide planning and implementation of health care. The parameters that health workers should always aim at ensuring minimal risk to client scored 84.9% as highly suitable; that service outcome should be to the benefit of clients, scored 79.5%; the principle that health workers should demonstrate moral sense of duty and proper work organisation, scored 73.6%; while the parameter that health worker should always strive at giving the best result recorded a score of 62.4%. These findings go to buttress the assertion of Kousyanis (1989) and Young (1998) that consumers expect the highest quality outcome of care even at a low cost and would patronize care if care is capable of providing its utility. Thus, concerned bodies should take responsibility to safeguard the health of the population in all considerable experiences. Moreover, the demand for quality should be the rallying point for both providers and consumers of health care to ensure that care is suitable, appropriate and adequate with respect to type and amount of care as well as calibre of personnel. This is in recognition of the fact that providers of health care also double as consumers since they take decision on the type and magnitude of care the client requires.

If every health worker goes to the field with such principles as these, it follows, therefore that the plan of care will consider matters of quality right from the beginning, since quality has been acknowledged as a very significant index of effectiveness of health service. Thus, the health worker develops a sense of value to guide the attainment of the best outcome of client's interaction with care as an attempt to assure best practice in the health professions.

Similarly, the data in Table 2 shows the parameters that should serve as the basic objectives for service administration to ensure quality. Predictably, three of the four parameters validated met the criterion score of 50% and were included in the package. These comprise: (1) Give clients adequate and appropriate information concerning care (80.4%); (2) aim always at continuous innovations in the provision of care (67.6%); and (3) clients should receive value for money paid for care by safeguarding consumer satisfaction (76.6%). These parameters were included as objectives in the package to serve as the mission for provision of care. The inclusion of these variables in the package was also in line with experts' assertion that well-set objectives help the health worker to be focused for effectiveness (Jonas, 2002) and that it also facilitates evaluation of service effectiveness as well as accurate problem identification (McLaughlin and Kaluzny, 1999). This is important because to assure quality, an organisation must have well set purpose and value to guide action in a collaborative manner. The findings are also in congruence with Sprague's (2001) argument that CQI specifically operates at a higher continuum than just clients' satisfaction, but that it requires commitment of well-equipped personnel in the organisation of resources to move in the positive direction, prevent abuse and frivolous use of services. This is possible if an organisation is able to have set objectives to guide its activities as proposed in this study.

Further findings in Table 3 reveal most of the activities, that is, culturally oriented measures or strategies, that is, measurable actions that should be adopted alongside the set philosophies and objectives for quality assurance in health care. Twelve of the 15 parameters identified were accepted by the health workers as being highly suitable for quality assurance. The data revealed that most of the parameters had a percentage score of more than the criterion mean of 50%, as being highly suitable for inclusion in the package for quality assurance. The parameters that did not meet the criterion score were: (a) remove social exclusion by application of equity principle in the provision of care (37.1%); (b) exercise good financial management (35.6 %); and (c) show commitment to work (19.4%). This notwithstanding, it is necessary to consider this set of parameters as quality indices, because at some points, they may pose substantial threats if neglected.

Thus, the following parameters were accepted by respondents as being highly suitable for quality assurance,

**Table 3.** Percentage analysis of the suitability of parameters for quality assurance.

SN	Parameters for quality assurance	Responses			
		LS	%	HS	%
1	Aim at consistent, appropriate and effective care	152	44.7	188	55.3
2	Minimize unjustified avoidable geographical variation in the provision of care (integrate care)	50	12.7	290	85.3
3	Remove or reduce barriers to access to care	70	20.6	270	79.4
4	Promote responsiveness to client's concern by involving client in care plan	134	39.4	206	60.6
5	Remove social exclusion by application of equity principles in provision of care	214	62.9	126	37.1
6	Continuously evaluate care	146	42.9	194	57.1
7	Innovate and improvise as need arises	58	17.1	282	82.9
8	Show commitment to work	274	82.1	66	19.4
9	Consider team work and interdisciplinary concerns	85	25.0	255	75.0
10	Consider manpower development (on-going formation of health workers)	44	12.9	296	87.2
11	License all care providers for practice	56	16.5	284	83.5
12	Supervise health care workers closely	122	35.9	218	64.1
13	Exercise good financial management	219	64.1	121	35.6
14	Promote clients' awareness about health care through intensive health education	52	15.3	288	84.7
15	All health workers should undergo at least one year period of internship during the course of training	60	17.7	280	82.3

namely: (1) Manpower development (On-going formation, continuous education, and clinical updating) for health workers (87.2%); (2) licence all health care givers for practice (83.5 %); (3) supervise health workers closely (79.8%); (4) remove or reduce barriers to access to care (79.4%); (5) innovate and improvise as need arises (75.6%); and (6) minimize unjustified avoidable geographical variation in the provision of care (integrate care) (85.3%) and others.

These parameters are really necessary for health promotion. The basis for this assertion is that networking for adequate consumer awareness, better access to services, greater responsiveness to clients' needs, effective continuity of care, and excellence in clinical and management practice, have formed the essential contents of health promotion advocacies in recent years. In order for these priorities to be successfully implemented and enshrined in the PHC philosophy in line with the aforementioned findings, Turnock (2004) submitted that education and training of all health professionals should:

1. Be competency-based with shared learning relationship between practice; research and education.
2. Have one common foundation programme at least in the first two years of professional training on PHC.
3. Contain more skill teaching technique.
4. Ensure that trainees or students spend a substantial amount of time in the field in addition to providing a holistic and comprehensive training base.

It may be equally necessary to establish a health professions council for licensing all health professions that are currently not providing licensure, with representation

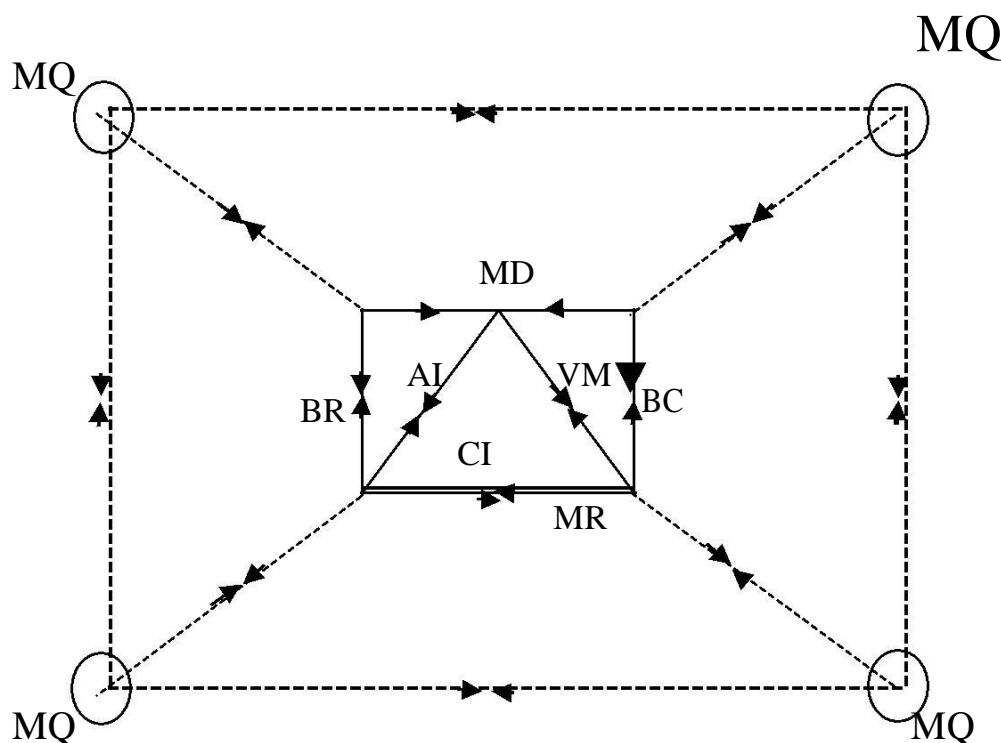
from all respective professional disciplines in health. Furthermore, all health and health-related professionals should be engaged in ongoing and continuing professional development, and competence assessment. Attempts should be made to ensure adequate growth in the profession as an incentive for commitment of staff by maintaining a healthy relationship with professional organisations, labour unions and employers. Possibly, the Ministry of Health of the country should make adequate provisions for the interactions of these bodies in a healthy and progressive manner because of the necessity for quality assurance in the global health system reforms.

## Conclusions

Based on the findings of the study, the following conclusions were made:

1. Four variables validated under basic philosophy for quality assurance met the criterion score to merit their inclusion in the proposed package, namely: (1) Health care should be of minimal risk to client (84.9%); (2) service outcome should be to the benefit of clients (79.5%); (3) health workers should demonstrate moral sense of duty and proper work organisation (73.6%); and (4) health workers should strive at giving the best result scored 62.4%.

2. Also, items validated under high suitability level for inclusion as objectives of quality assurance met the criterion score of 50% and were adjudged suitable for the package as follows: (1) Give client's adequate and appropriate information concerning care in tandem with



**Fig. 1: Quality Assurance Package for health care in Nigeria (QAP)**

Philosophy: MD (QAP) - Moral

sense of duty; BC - benefit of client; MR - minimal risk; BR - best result. Objectives: AI -

Adequate appropriate information; CI - continuous innovation; VM - value for money. Parameters

for quality: MQ - Measures for quality;  $\longleftrightarrow$  - continuous harmonious interaction among variables.

local needs and exigencies (80.4%); (2) aim always at continuous innovations in the provision of care within their capacity for sustenance (67.6%); while clients should receive value for money paid for care (service outcome to meet consumer's satisfaction - 76.6%).

3. Finally, most of the parameters validated as suitable measures that could be adopted for quality assurance in the provision of health care also met the criterion score of 50% and merited inclusion in the package, namely: (1) On-going formation (continuous education) for health workers (87.2%); (2) licensing all health care giver (83.5%); (3) supervising health workers closely (79.8%); (4) removing or reducing barriers to access to care (79.4%); (5) innovating and improvising as need arises (75.6%); and (6) minimizing unjustified avoidable geographical variation in the provision of care (integrate care - 85.3%).

Therefore, the philosophies, objectives, and measures empirically validated and adjudged as meeting the criteria in the study were used to develop QAP represented in the diagrammatic model in Figure 1.

The package is recommended for adoption and application by mainstreaming quality assurance philosophies, objectives, and measures in the existing health structure in the state health service, and the country at large.

## REFERENCES

- Akunyili DN (2005). The menace of fake drugs in Nigeria. A paper Presented at 3<sup>rd</sup> English-Speaking African Regional Congress of CICIAMS: Facing the Health Challenges in Africa, Women Development Centre, Abuja, Nigeria, p. 4.
- Akwa Ibom State Ministry of Health (2005). Unpublished data. Planning and Statistics Division of Akwa Ibom State Ministry of Health, p. 25.
- Ali A (1996). Fundamentals of research in education. Awka: Meks Publishers, p. 59.
- Borg WR, Gall MD (1989). Educational research: An introduction. New York: Longmans, pp. 181-802.
- Chassin MR, Galvin RW (1998). The urgent need to improve health care quality. J. Am. Med. Assoc., pp. 280-1000.
- Davis ER (1994). Total quality management for health care. Aspen: Gaithersburg, Md., p. 9.
- Federal Ministry of Health (2006). National policy on health. Abuja: Author, p. 11.
- Gay LR (1981). Educational research: Competencies and application. London: Charles E. Merrill Publishing Co., p. 10.
- Ikorok MM (2000a). Health care cost-reduction model for effective consumer access to health care in Akwa Ibom State. PhD Thesis, University of Nigeria, Nsukka, pp. 102-103.
- Ikorok MM (2000b). Cost factors that deter financial and functional access to health care in Akwa Ibom State. Inter. J. Educ. Dev., 3(2): 71-78.

- Institute of Medicine (2001). *Crossing the quality chasm*. Washington, D. C.: National Academy Press, p. 1000.
- Jonas S (2002). Measurement and control of the quality of care. In A. R. Kovner (Ed.) *Health care delivery in the United States*. New York: Springer, pp. 76-94.
- Juran JM (1998). *Juran's quality handbook*. New York: McGraw-Hill, p.15.
- Leatherman S, McCarthy D (2002). *Quality of health care in the United States: A chart-book*. New York: Commonwealth Fund, p. 32.
- McLaughlin CP, Kaluzny AD (1999). Defining quality improvement: Past, present and future. In C. P. McLaughlin and A.D. Kaluzny (Eds.) *Continuous quality improvement in healthcare: Theory, implementation and applications*. Gaithersburg: Aspen, pp. 43-49.
- Sprague L (1995). Quality in the making. *Am. J. Med.*, 111(5): 422.
- Turnock BJ (2004). *Public health: What it is and how it works*. London: Jones & Bartlett Publishers International, pp. 400-401.
- Wold JL (2004). Quality management. In M. Stanhope and J. Lancaster (Eds.) *Community and public health nursing*. St. Louis: Mosby Inc., pp. 516 -540.