Rethinking the Approach to Curriculum Review in Medical and Dental Education in Nigeria

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Abstract
Concerning many, is the contention that graduates from Nigeria medical colleges trained under the traditional curriculum may lack necessary skill and aptitudes necessary for success in the changing practice environment of the 21st century. In response, several attempts have been made nationally to review the curriculum of medical colleges and improve the quality of medical and dental training in Nigeria. This however, has not yielded the desired results. This article propose a workable, strategic approach to curriculum review based on program evaluation. This in addition will overcome the challenge of ownership and acceptance of the emerged new or reviewed curriculum.
Keywords: Medical Education, Program, Review, Evaluation, Nigeria

1.Introduction
Quality assurance in medical education is part of every country ethical responsibility and social accountability (Woollard, 2006). Simply put, physicians graduating from medical colleges must be trained to provide high quality medical care within clearly defined criteria of minimally accepted standards (Boelen, 200). Concerning many, is the contention that graduates from Nigeria medical colleges trained under the traditional curriculum may lack necessary skill and aptitudes necessary for success in the changing practice environment of the 21st century.

In response, several attempts have been made nationally to review the curriculum of medical colleges and improve the quality of medical training in Nigeria. This however, has not yielded the desired results (Ibrahim, 2009; Malu, 2010). The Federal ministry of health, and the medical education regulatory bodies; the National University Commission (NUC) and the Medical and Dental Council of Nigeria (MDCN) had on several occasions independently set up committees in an attempt to review the medical and dental education curriculum in the country. I recently participated in one of such committees. Medical educators in Nigeria will sometimes need to reflect on why the traditional medical education curriculum has lasted for so long as the method of teaching and learning in our medical colleges. Could it be as a result of the high quality of this curriculum? Or, our failure to overcome the inertia for change or possibly, a faulty approach to curriculum review process?

If significant changes are to be considered for the curriculum, it will be difficult to plan for meaningful and widely accepted change in the absence of high-quality data about the needs of the learners' and the health need of the populace and the related curriculum gaps. Decision makers in medical education in Nigeria were seldom equipped with high-quality data to guide them as they planned for needed curriculum change. The purpose of this article is to argue why the Nation should design a more effective system for a review of the medical and dental education curriculum based on reliable data obtained from a *scientific evaluation* of the current medical education program.

2. Traditional medical education curriculum in Nigeria
Medical education began in Nigeria 65 years ago, precisely in 1948 with the establishment of the university College Hospital, Ibadan as a college branch of the University of London.[4]

Presently, almost all medical colleges in Nigeria operate the traditional discipline-based curriculum; drafted by medical academics in London more than 60 years ago. In general, they operate a curriculum in which there is a distinct division between pre-clinical and clinical departments, with minimum or no integration; the preclinical training lasts the first 24 months of the program and the clinical training of 36 months duration. All medical schools are however expected to reflect a strong primary health care program and community based education in their curriculum(Ibrahim, 2009; Malu, 2010).

Course delivery is mostly didactic lectures and rote learning, tutorials, and bedside demonstration and teaching. Students' are expected to assimilate and integrate all the information acquired over the years are apply it to patient care. Examinations follow the traditional pattern of written theory and practical in the preclinical years, and written theory and clinical exposure in the clinical years. Long and short cases and viva voce are the pattern of clinical examination (Malu, 2010).

3. Challenges of traditional medical education curriculum

At the inception of medical education in Nigeria in 1964, the curriculum of medical colleges was adopted from the West so as to achieve comparable standards in training. Over the last half a century however, major global pedagogical changes have occurred in medical education in the West without most African countries keeping pace (Gukas, 2007). Traditional teacher- centred curriculum characterized by learning through rote and accumulation of non-integrated volumes of knowledge has been replaced by the promotion of self-directed and lifelong learning skills and personal development (Gukas, 2007; (Jackson and Calman, 2006). In essence, medical education has moved from emphasis on teaching to emphasis on learning.

The effect of this theoretical gulf in the process and possible standard of medical training between African medical colleges and medical schools in the West has not been formally documented, van Niekerk, (1999) however, belief that there is anecdotal evidence to suggest a significant lowering of standard. Medical colleges in Nigeria have attempted to maximize some of the benefits of the traditional undergraduate curriculum training methods, such as an effective bedside teaching and student-patient contact time (Ibrahim, 2009; Malu, 2010). This possibly has contributed to the success of postgraduate medical training programmes in Nigeria (Nwariaka, 2010).

3.1 International paradigm shift in medical education

New challenges in healthcare are being posed worldwide and medical educators are being asked to respond. Fundamental issues such as promotion of healthy lifestyles, integrated care, technology assessment and cost containment have led to the search for a new paradigm which can integrate all these factors (Ncayiyana, 1999). In response to this, major global pedagogical shifts have occurred in medical education over the last half a century among which includes:

3.1.1 Shifts in pedagogical theory and practice

There is now an understanding that knowledge is 'constructed' by learners using their own activity, it is not 'instructed' by the teacher; students organize and synthesize what they read, linking new information to knowledge structures that are held in the long-term memory so that they make personal sense of new information (Gukas, 2007; Biko and Kopp, 2004). Based on this pedagogy of learning, there has been a shift from teacher-centred traditional didactic lecture based teaching to a student-centred . Examples of student-centred learning methods in the 21st century include problem-based learning (PBL), case-based learning and outcome based learning.

3.1.2 Integrated system based learning

Medical curriculum is expected to support the presentation of biomedical science to students within the context of the patients' problems. People learn better when items of learning are presented in context (Billet, 1996). In recent times, educational researchers strongly recommend the integration of basic sciences and clinical training within a core-system based curriculum instead of the traditional practice of teaching these subjects as separate entities.

3.1.3 Medical educators as facilitators/tutors

The role of the teacher and students in medical education is changing from dispensers and receptacles of knowledge respectively to joint sojourners on the quest for knowledge. The modern teacher is expected to facilitate student centred, self-directed learning and actively create an environment conductive for such types of learning (Gukas, 2007).

3.1.4 Information technology in medical education

Educational technology is playing a dominant role in medical education, especially learner-centred method of learning. Modern curriculum incorporates the use of facilities such as the internet, computer-based virtual reality simulators, mannequins, professional patient-actors and skill laboratories to enhance learning in medical colleges (Gukas, 2007; Ncayiyana, 1999).

3.1.5 Behavioral science in medical education

Reports on medical school curriculum have emphasized the need to teach behavioral and social sciences to equip health care students to respond to patients as individuals and not just symptom (Biko and Kopp, 2004). The expected outcome is to more patient-centered. In most medical schools in the West, general competencies such as patient care, professionalism and teamwork and interpersonal and communication skills are included in the medical curriculum.

3.1.6 New methods of assessment of learning

Assessment often drives the curriculum of medical colleges and students measure their progress through the curriculum by the examinations they passed. Assessment methods in medical education have undergone significant changes, driven from within and without. In general, majority of medical colleges depends in its examination on multiple-choice questions, short answer questions with the aid of a "test blueprint" to sample large domain of knowledge in an effective and efficient manner, while acquisition of clinical skills is assessed by objective structured clinical examination (Ben-David, 2000). The reliability of the traditional long case and short case clinical examination is been questioned.

4. Issues of concern for medical education curriculum review in Nigeria
In reviewing the curriculum of medical colleges in Nigeria, certain pertinent issues needed to be addressed in the context of Nigeria medical education system;

4.1 An old curriculum
Nigeria, similar to most African countries still retains the old curriculum started in the colonial era.

4.2 Changing pattern in diseases and patient demographics
With emerging and re-emerging pattern of infectious diseases, increasing incidence of non-communicable diseases, growing poverty and inequality and increasing cost of medical services in Nigeria; a new medical education program is expected to be socially accountable, whose graduates will provides services based on cost-effectiveness, relevance, equity and evidence-based criteria.

4.3 Identification of national health needs
Nigeria will need to set local standard in its medical education in line with identified local competencies, based on the needs. If not, Nigeria stands the risk of imbibing completely inappropriate standards.

4.4 Integration of traditional/complementary health system into medical curriculum
A large proportion of Nigerians make use of traditional remedies but little or no effort has been made to simultaneously educate medical students. There is a need for evidence based evaluation and why traditional/complementary health systems should (or should not) be incorporated into the medical colleges curriculum in the 21st century (Ibrahim, 2009).

4.5 Faculty development
To understand and deliver the new global innovations in teaching and learning methods, medical teachers today are required to have expanded toolkit of professional teaching skills and clinical expertise. Medical schools in Nigeria are presently managed and teaching delivered by specialists with little or no training in higher education practices (Olasoji, 2014).

5. A Strategic approach for curriculum review and development
The Federal government and the two regulatory bodies for medical education in Nigeria have made statements for a review of the curriculum of medical colleges, more efforts and focus is required to allow progress from theory to a workable model for the 21st century.

A Strategic approach to curriculum review is hereby suggested that will required taking the following two essential steps;

- First, Nigeria need to conduct a scientific <u>evaluation</u> of the current traditional medical education program, and
- Secondly, changes or modifications in the curriculum should be based on the data/information collected from such an evaluation exercise.

 Medical school's have an obligation to direct their education towards addressing the priority health concerns of the community, region, and /or nation they have a mandate to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals, medical students, graduates and the public (Woollard, 2006; Boelen, 2004).

5.1 Definition of educational program evaluation
Educational program evaluation involves using information to make a decision about the value or worth of an educational program (Cook, 2010). More formally defined, the process of educational program evaluation is the "*systematic collection of information related to the design, implementation, and outcomes of a program, for the purpose of monitoring and improving the quality and effectiveness of the program*" (Frye and Hemmer, 2012). As is stated in this definition, program evaluation is about *understanding* the program through a routine, systematic, deliberate gathering of information to uncover and/or identify what contributes to the 'weakness' or 'strength' of the program (from within and outside the program) and what *actions* need to be taken in order to address the findings of the evaluation process (Frye and Hemmer, 2012; Duming et al, 2007).

5.2 Stakeholders
To overcome the challenge of ownership and acceptance of the program evaluation findings/report, it is necessary to involve a process of wide consultation with various stakeholders from within and outside the health and education sectors in Nigeria . The "partnership pentagram" outlined by the World Health Organization in the "Towards Unity for Health for All (TUFH)" (Boelen, 2007) can be used as a working model to inform the development of partnership required for an effective evaluation of the traditional medical education curriculum. This perspective as been used to good effect in other curriculum review and quality assurance processes (Boelen, 2004; Gastel, 1995).

Based on the "partnership pentagram", a medical education program evaluation *Task Force* be constituted that will include but not limited to the following stakeholders for the evaluation process;

- The National University Commission
- The Medical and Dental Council of Nigeria

- The Federal Ministry of Health
- The Federal Ministry of Education
- Nigeria Medical Association
- Representative of academic staff of medical colleges
- Administrators
- Graduates of Nigeria medical colleges
- Students' representative
- Allied health professions
- External evaluator/s

The *Task Force* will be expected to design pertinent evaluation questions and select an appropriate model of program evaluation for the exercise. I will however in this article suggest the use of the *Context, Input, Process and Product* (CIPP) evaluation model as described by Stufflebeam in 1971 (Stufflebeam and Shinkfield, 2007) for the evaluation of the traditional medical education program in Nigeria.

5.3 CIPP program evaluation model

The CIPP approach consists of four complementary sets of evaluation studies that will allow the *Task Force* to consider important dimensions of the medical education program. By alternatively focusing on program *Context, Inputs, Process, and Products*, the CIPP model will be expected to address all phases of the Nigerian medical educational program: planning, implementation, and a summative or final retrospective assessment if desired. The first three elements of the CIPP and model are useful for improvement-focused (formative) evaluation studies, while the Product,   the fourth element, is very appropriate for summative (final) studies (Frye and Hemmer, 2007).

Specifically, the <u>*Context* evaluation</u> component of the CIPP evaluation model will identify current medical students' learning needs and the Nigerian citizens' health needs. It will also assess problems/impediments, assets and opportunities available in relation to these needs. Because questions about potential impediments and assets are included, a Context evaluation is more inclusive than a conventional "needs assessment" (Stufflebeam and Shinkfield, 2007).

A number of data collection and analysis methods can be useful for such a context study, among which may include the following;

- Review of previous and current documents on the traditional medical curriculum
- Demographic data analysis
- Interviews of students, citizens, Nigerian medical graduates, lecturers, etc.
- Surveys
- Record analysis (examination results, publications, etc)
- Focus group discussions

An <u>*Input* evaluation</u> study will help assesses the feasibility or cost-effectiveness of an alternative curriculum or competing approaches to the educational need, including various staffing plan. It will help to assess the traditional curriculum against other potential curriculum, and building on the associated Context evaluation study, a CIPP model Input evaluation study will focus on how best to bring about the needed change. The findings will also be used to explain clearly why and how a given curriculum approaches was selected and what alternatives were considered.

In identifying and assessing potential approaches to the educational need in the Input study, the Task Force might consider any of the following methods;

- Literature review on various types of medical education curriculum
- Visiting exemplary programs outside the country
- Consulting experts on medical educational curriculum
- Inviting proposals from persons interested in addressing the identified needs

The CIPP <u>*Process* evaluation</u> component will be used to monitor the traditional medical curriculum implementation and potential procedural barriers, and identifies needs for adjustments or change. The CIPP Process study explicitly recognizes that an educational model or program adopted from one site can rarely be implemented with fidelity in a new site: contextual differences usually dictate minor to major adaptations to ensure effectiveness.

In designing the CIPP Process evaluation study, the Task Force will be expected to use the least-obstructive methods possible to assess the curriculum while being used in teaching and learning in selected medical colleges across the country; possible methods may include;

- Observation during site visits
- Document review
- Participants (students, administrators, lecturers) interviews

Finally, the _Product_ evaluation component measures, interprets, and judges program outcomes and interprets their merit, worth, significance, and probity. To encompass the breadth of a good Product evaluation study, the Task Force might select from these methods and data sources (Stufflebeam et al, 1971);

- Stakeholders' judgments of the program
- Comparative studies of outcomes with those of medical colleges especially in other African countries with similar curriculum
- Assessment of achievement of program objectives
- Surveys
- Case studies of selected students or lectures experiences

5. 4. National Report

A national report providing valuable data will be expected after the scientific evaluation exercise and subsequent curriculum review should be based on this data. This will ensure the development of a curriculum review process that will overcome the challenge of ownership and reflects the needs of the populace.

6. Conclusion

The ongoing current debate on the need to review the current medical and dental curriculum in our medical colleges is in the right direction.

The challenge however is an attempt to review or change a long standing traditional curriculum without the availability of adequate information based on a scientific evaluation of the existing curriculum. For example, do we adopt the problem-based curriculum when a large majority of medical teachers are not trained in this new approach to learning? Direct importation of a foreign curriculum stands risk of imbibing completely inappropriate standards.

In our quest for a curriculum change, we may need to consider the experience of Lerner (2008); the author while assessing the implication of borrowing exogenous pedagogical forms at an European University in St. Petersburg concluded that the product of a new culture in a foreign environment is never a complete replication or reproduction, but at best the product is "almost the same, but not quite". The need for a National University Commission sponsored evaluation of the current medical and dental program in Nigeria is long overdue.

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