QUALITY ASSURANCE IN UNDERGRADUATE MEDICAL EDUCATION: THE BANGLADESH EXPERIENCE

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ABSTRACT

Background: The third wave of quality has now penetrated the higher education sector, including medical education. Due to its unique characteristics, i.e. its closed link with health services and medical practices, quality assurance in undergraduate medical education needs its own model. However, recent literature review has shown that research on this area has been lacking. This study attempted to learn inductively from the experience of a country who has implemented this scheme, nationally and at the institutional level.

Methods: This study is conducted under the qualitative paradigm using case study as the methodology approach, because the main aim of this study is to describe the experience of a particular setting. Data collection methods include documents, qualitative interviews with key informants and observation. To analyse the data, day's method has been applied, comprising of the following steps: describing, classifying, connecting, and creating an account in the end.

Result and conclusion: The description of the phenomena, i.e. quality assurance in undergraduate medical education, is divided into processes, strategies and scheme. The process describes the dynamics in developing the scheme. The strategy describes how the scheme is adopted. The scheme explains the actual scheme that has come up through the process and the strategy. Lessons learnt from this case show that leadership, decision making, agent of change, external pressures, adopters and rejects influence the implementation effectiveness of such scheme.

Keywords: quality assurance, undergraduate medical education, qualitative paradigm, case study, implementation effectiveness of quality assurance scheme

BACKGROUND

The notion of 'quality' and 'quality related concepts' has penetrated the higher education sector in the last two decades; it has been said that the third wave of quality movement has now hit this sector. Governments around the world have tried to adopt and implement a quality assurance system within their higher education sectors to show their public accountability.

In the field of medical education, the idea of quality assurance for its educational programme is quite new. Out of 1500 medical schools around the world, only a few have actually undergone the external assessment process, not to mention the internal quality assurance mechanism. Among this few, US has the longest history since Liaison Committee for Medical Education (LCME) was established in 1942 as a joint board of the Association of American Medical Colleges (AAMC) and the American Medical Association (AMA) to undertake medical school surveys, although the inspection of medical schools and teaching hospitals was started back in early 1900. In 1910, standards for medical colleges were well accepted.
Quality Assurance in Undergraduate Medical Education

From the literature review a specific conceptual model of quality assurance in medical education was not found. In the areas of higher education, several authors have proposed some models. Medical education needs to have its own conceptual model for quality assurance due to the close interface between medical education, medical practice and health services. The WHO has tried to unite these three distinct activities into a unified framework which is called Towards Unity for Health (TUFH) (Figure 1 and Figure 2).

At the impacting phase, the medical school should have taken initiative to ensure that it has produced physicians who can maintain their skills and deliver health services to the underserved.

In Figure 2 below, the WHO has strongly endorsed the partnership between all stakeholders to create a health service system which is based on the people's health needs.

As the quality assurance scheme for this unified framework had not yet been developed at the time of data collection, the author decided to use one model from the higher education field developed by Jackson and modify as necessary (see Figure 3 and Figure 4 in the next pages) as the starting point to guide the data collection.

The macro model (Figure 3) basically comprises two parameters and six elements. The end point of this model is achieving quality in undergraduate medical education; it means achieving 'fit' between the undergraduate medical education and the health service system. What aspects should be 'fit' between undergraduate medical education and the health service system, should be decided at the international level by the authoritative bodies, such as World Health Organisation or World Federation for Medical Education. At the national level, the government, in this case the Ministry of Health should develop a code of practice for medical schools to embrace a quality assurance scheme and TUFH initiative inspired by the international guidelines. Peer review in undergraduate medical education should be strengthened through the existing professional bodies. These peer reviews will play significant roles in the external quality assurance process within the medical schools. The professional body as subject experts should develop benchmark information for the undergraduate medical education program inspired by the international guidelines. The internal quality assurance process at the medical school level looks at the program specification as to what extent they comply with the subject benchmark.
Figure 3. Macro Model of Quality Assurance in Undergraduate Medical Education

Figure 4. Micro Model of Quality Assurance in Undergraduate Medical Education
Figure 4. Shows the micro model of quality assurance in undergraduate medical education. In this micro model, the author emphasises more on the process of change. It starts from the decision to adopt the quality assurance scheme by the decision makers, and is then facilitated by the agents of change to disseminate the scheme to all parties concerned in the medical school. There can be two responses. The first is those who reject the scheme – named as rejecters; they will not participate in the scheme. They might be doing nothing or they might inhibit the change process. The second is those who adopt the scheme – named as adopters. They will enthusiastically adopt the scheme and take participation in the scheme. They might be passive adopters or active adopters. Both will affect the implementation effectiveness that will eventually affect the improvement effort success.

THE AIMS OF THE STUDY

The main purpose of this study is to understand the process of adopting, developing and implementing a quality assurance scheme in the medical schools. Bangladesh was chosen using purposeful sampling due to its rich experience in this scheme and access given to the author by the key gatekeeper.

MATERIALS AND METHODS

This study is conducted under the qualitative paradigm using a case study as its methodological approach. This paradigm is best used to answer the question ‘what is happening’. Qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. Thus, the product of a qualitative research is the researcher's understanding and interpretation of the world or phenomena under analysis.

The case study inquiry copes with the technically distinctive situation where there will be many more variables of interest than data points, and where the result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion. It also benefits from the prior development of theoretical propositions to guide data collection and data analysis. Data collection methods include documents, qualitative interviews with key stakeholder as well as medical teachers and medical students, participant and non-participant observation, as well as questionnaire survey.

In analysing the qualitative data, the author mainly refers to Dey. It is described that qualitative analysis is an iterative and spiral process, ascending from data collection, describing, classifying, connecting and creating an account in the end. There is no clear distinction between one phase to the next phase. Qualitative analysis starts soon after the data collection in the form of transcribing verbatim for the interview, writing down field notes for the observation and summarizing the documents.

RESULTS

The Quality Assurance Scheme in Bangladesh Medical Schools

The Process

The Further Improvement of Medical Colleges (FIMC) Project, which is a part of the Fourth Health and Population Plan of the Government of Bangladesh, had taken a number of reforms in the field of medical education. The goal of the project was to strengthen undergraduate teaching of doctors through reorientation of medical education by community orientation, integrated Maternal
Child Health or Family Planning and by resourcing developments in medical education.\textsuperscript{10} The main aim of the project was to improve mother and child health in Bangladesh through a programme of educational and staff development which focused on the priority disciplines of Obstetrics and Gynaecology, Paediatrics and Community Medicine.\textsuperscript{11} Although the development of a quality assurance scheme in medical education was not an initial objective of the FIMC Project, it was later identified in participation with the stakeholders during a log frame exercise in 1995. The concept with its implications was then agreed and endorsed in a high level meeting in the presence of the Honourable Minister, Ministry of Health and Family Welfare. This was in recognition that the achievement and sustainability of the other objectives of the Project would be less certain unless a quality assurance scheme was in place to promote their implementation.\textsuperscript{12}

Apart from introducing the concepts and principles of quality assurance in medical education, another important action to be taken is to actually get the final shape of the scheme, decide the adoption of the scheme and implement the scheme.

Through a series of national workshops during the period of 1995-2000, involving principals of medical colleges, representatives from Ministry of Health and Family Welfare\textsuperscript{13} Universities, representatives from Bangladesh Medical and Dental Council (BMDC), medical teachers as well as overseas consultants, the final concepts including the organisational and the operational framework of the quality assurance scheme was eventually refined and agreed.\textsuperscript{14}

In December 1995, a workshop was held in Dhaka. The purpose of the discussion was to reach agreement with respect to the following issues.\textsuperscript{15}

<table>
<thead>
<tr>
<th>Issues discussed and Agreed in the Workshop in Dhaka, December 1995</th>
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<tr>
<td>• The role of the Ministry of Health, the Bangladesh Medical and Dental Council, the Centre for Medical Education, and the Medical Colleges in the formulation and implementation of Quality Assurance in the Medical Colleges, and to determine who would ultimately enforce adherence to policy.</td>
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<tr>
<td>• The organisational framework within which QA would be addressed in the medical colleges (and their parent universities), including the committee structures from Senate to course operation, and identification of respective responsibilities.</td>
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<td>• Procedures for the planning, approval and review of courses in each medical college, including identification of the process involved and what was required at each stage of the process.</td>
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<td>• Procedures for the appointment of external examiners, formulation of their terms of reference and responsibilities and guidelines regarding the report which they have to submit.</td>
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<td>• Development of a framework within which the views of students, both current and former, and employers could be sought and considered.</td>
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<td>• Development of a framework within which career review and development, together with the concomitant staff development, could be operated within the colleges.</td>
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According to Stewart\textsuperscript{15} each of the above issues was introduced and discussion invited. The purpose of the discussion was to reach consensus and by the end of the discussion on each section there was unanimity about the thrust of the argument and the action to be taken. Subsequent to the workshop, a number of groups (called QA Manual Group) were given responsibilities to bring the ideas together and came up with suggestions. Stewart\textsuperscript{15} concluded that the workshop for Principals and senior staff, together with the follow-up endeavour by the QA Manual Group resulted in the clarification of the situation and the formulation of proposals which, when
adopted, would give the medical colleges an effective system of quality assurance. The following subsections show how each issue had been discussed.

Roles in Relation to Formulation and Implementation of Quality Assurance

Stewart\(^5\) stresses that this was the most difficult issue to be explored. The Bangladesh Medical and Dental Council has statutory responsibilities in relation to quality but it is widely recognised that, for one reason or another, it is not able to discharge them. It was agreed, however, that the BMDC, as the professional institution, should be involved in the accreditation of the colleges, including a quinquennial review of all colleges.

In discussion of the role of the Ministry the point was made that the system of "postings" made it very difficult to deal with the issue of quality assurance. It was acknowledged that perhaps the most significant contribution which the Ministry could make to the quality assurance process was to ensure relative stability in relation to staffing.

There was broad acceptance that the Centre for Medical Education should have a major co-ordinating role in the quality assurance process since it was at the centre of the infrastructure for the medical colleges, was deeply involved in the training of medical college staff, and had already a major role in the review and development of the curriculum. With respect to the role of the medical colleges, it was agreed that their primary role would be to implement the system and make it work.

There was agreement that there needed to be a body which would have overall responsibility for ensuring that quality assurance in medical colleges was minted. This body would be accountable to the Minister of Health and would have representation from the Ministry, the BMDC, the CME and the Universities.

At the medical college level, much of the discussion focused on the desirability of regarding the MBBS course in its entirety and having a committee and/or individual who would have overall responsibility for the delivery of the course. It was agreed that there were to be a course committee for the MBBS course, and that it should be responsible to the Academic Council of the College.

Planning, Approval, and Review of the MBBS Course

There was widespread agreement that in the 1998 curriculum review process, the Centre for Medical Education had had a major coordinating role to play. At the Executive Steering Group for the FIMC Project in December 1994, the contribution of CME had also been acknowledged. It was recognised, however, that other bodies had a legitimate interest in the review process. The BMDC, as the professional body in the country, should have an input, and the Ministry of Health and Family Welfare, as the employers of the doctors who provided health care within the community should have a major contribution to make. The medical colleges which train the doctors also had an interest, and it was acknowledged that the internal review process which the colleges would undertake within the quality assurance framework would provide a sound basis for their contribution to the process. The role of CME would be to coordinate inputs and to provide a forum for discussion and evaluation.

In its deliberations the QA Manual group tried to distinguish between national and local responsibilities in relation to the MBBS course planning and review procedures.

Function and Appointment of External Examiners

There was virtually unanimous agreement that the External Examiner concept was central to any institutional policy on standards and quality assurance. There was also unanimous
agreement that there would be a requirement for the responsibilities of the External Examiner in relation to the assessment system to be clearly defined. The idea of the External Examiner being involved in the review of courses and in the evolving development of courses found some merit, but it was recognised that there could be considerable difficulty if these activities took too much time. In relation to the reporting by External Examiners, it was suggested that reports should be in a form which minimised the writing required of the examiner.

The QA Manual Group looked first of all at the overall situation regarding the External Examiners and considered what the current duties entailed. This was then reviewed in the context of the requirements of a quality assurance scheme. It was recognised that External Examiners are currently involved with only one subject and for only one round of examinations, and that there is no sense in which they can have an overall perspective of the course, whether over subjects or over time.15

Consultation with Interested Parties (Stakeholders)

In any quality assurance scheme in medical education, it is necessary to have consultation with current students, former students and those who employ the output of the medical colleges upon graduation. It was recognised that currently there was no attempt to gather the views of these interested parties. It was acknowledged that the views of current students on their experience of teaching and learning in the MBBS course need to be sought on at least an annual basis. Similarly, the views of former students need to be sought to ascertain whether what they learned has equipped them for the tasks they are required to perform. The view of the employers of medical graduates were recognised as important, particularly in respect of the adequacy of the training undergone at medical colleges in relation to the employers’ expectations of fitness to purpose.

Career Review and Staff Development

Participants in the workshop accepted that staff development was a vital part of the quality assurance process. They acknowledged that the current position in the medical colleges with respect to staff development was less than desirable. They also accepted that it would be appropriate to consider staff development within a career review and development framework and that a staff development policy would have to be formulated and accepted in each medical college.

The QA Manual Group proposed that there should be available to all teaching staff in the colleges an on-going programme of staff development concerned with teaching and learning, assessment and evaluation, educational media, research methodology, research and technical writing, and information technology. These programmes could be offered nationally or locally as appropriate.15

Strategies for the Introduction and Adoption of National Quality Assurance Scheme

Stewart11 reported that fairly early in the project, the Project Manager highlighted a number of organisational problems in the medical colleges which had serious implications not only for the effective management of the colleges, but also for the effective adoption of educational initiatives in the colleges. Subsequently the internal reviewer suggested that there could be advantage in trying to strengthen the management of the colleges. Since a full-frontal approach to management of the colleges was extremely unlikely to be unsuccessful, a
decision was taken to address management of the colleges in the context of Quality Assurance in Medical Education. He further argued that the focus would be on management for a particular purpose rather than simply management per se. Quality assurance was being promoted as a means of strengthening management but, also, as a potentially ally in the cause of educational development in medical education.

Stewart\textsuperscript{11} argued that introducing the concepts of quality assurance in medical education among the senior officials in the Ministry of Health and Family Welfare should be through the terms that they had already been familiar with. For this purpose, the existing Project of Quality Assurance in Health Care which also came under the MOH and FW\textsuperscript{13} was raised. An appropriate way of introducing Quality Assurance in Medical Education was, therefore, to present it as a way of strengthening endeavours to establish quality assurance in health care delivery. It was argued that shared perceptions of the importance of quality assurance would, hopefully, lead to a new relationship between those who have responsibility for the delivery of health care and those who have responsibility for training to deliver that care, since they have common purpose. Stewart\textsuperscript{11} further warned that this approach tends to suggest that quality doctors deliver quality care, thus the focus being on the product rather than the process of getting there.

Stewart\textsuperscript{11} suggested that the introduction of quality assurance in medical education should be based on principle rather than practice, particularly since the practice concerned was not indigenous to Bangladesh. Accordingly, principles of accountability, self-evaluation and external peer review were presented as the foundation upon which a quality assurance scheme should be built, since they could provide the basis for the organisational structure within which the quality of teaching and learning could be considered, and the operational framework within which the undergraduate medical course could be monitored and evaluated.

Islam\textsuperscript{13} reported that the Quality Assurance Scheme in Bangladesh has been piloted in three medical colleges since January 1997. The three pilot colleges shared their experience with other medical colleges in a national workshop on August 20, 1997.

In preparation of Quality Assessment and Audit Review of the three piloted medical colleges, an international Technical Assistance was invited in January 1998. During the short period of consultancy, through a series of meetings and workshops involving the Director General of DGHS, key personnel of BMDC and Centre for Medical Education, and representatives from medical colleges, a number of key issues were addressed and related documents produced. These included an organisational framework (Academic Council, Course Committee, Phase Coordinators, Academic Coordinators, student representative, External Examiners, External Assessors, and the Quality Assurance Body). Faculty Development and Review Schemes for academic staff, methodologies for dealing with cohort analysis, student evaluation and subject evaluation.\textsuperscript{16}

The Quality Assurance Body (QAB) was formally created by Government order, under the Chairmanship of the Director General of DGHS in January 1998.

The second consultancy by an international Technical Assistance was carried out from 27 March-3 April and 17 April-1 May 1998. During this consultancy, a workshop and a series meeting for preparing the External Reviewers for Quality Assessment and Audit Review (QAAR) were conducted. These involved Director of Hospitals and Director of Medical Education of DGHS, principals of
government medical colleges, key personnel of Centre for Medical Education, Institute of Education and Research, Dhaka University, NIPSOM, Project Director and Project Manager of FIMC Project. The outcomes of the workshop were an agreement of the aspects and elements of the Quality Framework document as well as a set of Core Meetings and formal teaching observation to be covered during the QAAR.¹⁵

A QAAR was conducted at each piloted medical college during this consultancy, i.e. between March-April 1999. It was reported that despite the provision of the Notes for Guidance (for both Reviewers and Reviewers) and a handbook entitled Quality Assessment and Audit Review: 1998, none of the three medical colleges managed to submit their Critical Review to the DGHS on the due date. Dhaka Medical College attributed this delay to the problems of operating within a tight time schedule, lack of secretarial support and problems associated with the transfer of a number of staff who was central to the quality assurance process. The Critical Review itself made no attempt to be either comprehensive or critical, thus adding to the problems faced by the External Reviewers in this event. Whilst, the Critical Review from Rangpur Medical College – although delayed significantly – was considered to represent the best attempt at producing such document to the specifications outlined in the QAAR Handbook. Its general weakness was a lack of critical and analytical interpretation of the information. The Critical Review from Chittagong Medical College was not delayed significantly and was one which made a most valiant effort to cover the issues; however it did not succeed in being particularly critical or analytical but rather merely provided the raw data for a number of key performance indicators together with measures of quality assurance and enhancement.¹⁶

To respond to the above situation, a complete simulated and annotated Critical Review was published as a reference for the future events of QAAR. The consultant also noticed that during the QAAR, there was a significant and very real communication gap between those directly involved in formal quality procedures and most other staff in the college. It was then suggested that CME played an active role in encouraging the medical colleges to have regular discussions on topics relevant to the maintenance and enhancement of quality and standards in their education provision as well as the delivery of the teaching and learning through innovative approaches.¹⁷

Following this consultancy, in August 1998, A National Conference was held to disseminate the results of the QAAR activities and share with other medical colleges. After this, due to shortage of funds, the whole process slowed down.¹⁸

In the preliminary draft of HRD Strategy for Change¹³, it was mentioned that all medical schools, public and private will work together to develop an accreditation system. Each medical school must name a representative to the Accreditation Council. The professional bodies that would be directly involved comprises of the Bangladesh Medical and Dental Council, the Bangladesh Nursing Council, the Bangladesh College of Physicians, Surgeons, the State Medical Faculty, and The Pharmacy Council of Bangladesh. Islam¹⁴ reports that the present system of accreditation in Bangladesh is complicated, time consuming and there is misuse of manpower and money due to duplication. Bangladesh became a member of the task force of WHO or SEARO for Accreditation of Institutions of Higher Education of Health Personnel to Ensure Academic Standards and Social Accountability. Backed up by WHO funding, in November 1999 a National Consultation meeting on
Accreditation of institutes was conducted. It was decided that the existing National Quality Assurance Body would function to ensure the quality of education and accreditation and the Quality Assurance Scheme should be made operational in all medical colleges. As a first step to materialise the recommendations, a meeting of the National Quality Assurance Body was held at the Centre for Medical Education, Dhaka on March 27, 2000 and a decision has been taken to make quality assurance scheme operational in all the government Medical Colleges. Initiatives have been taken to train all the faculties of the medical colleges so that they can start with quality assessment and audit review of their own institutes.

The Scheme

The widely accepted definition of Quality Assurance adopted in Bangladesh which is taken from the definition by Higher Education Quality Council:

"...the arrangements by which an institution discharge its corporate responsibility for the quality of teaching and learning it offers by satisfying itself that the structures and mechanisms for monitoring quality control procedures are effective and, where appropriate, they promote the enhancement of quality".

The QA Scheme basically has three components, namely course appraisal, faculty development and review scheme and lastly external reviewer. This is represented in the following figure.

In formulating the QA Scheme, the Medical Colleges of Bangladesh have built on the following principles:

- **Accountability** which means that the Medical Colleges are accountable to the people of Bangladesh to produce medical graduates who are competent to deliver the health care which the community requires.
- **Self-Evaluation** which means that each Medical College will operate the QA process within a management system consistent with the ethos of a self-evaluating institution.

- **External Peer Review** which means that the Medical Colleges believe that a system of nationally organised independent peer review of the MBBS course is the primary safeguard of QA. In this context, a wide spectrum of external advice should be sought in the review and evaluation process.

These principles provide the basis for the organisational framework and the operational framework of the QA scheme. As for the organisational arrangements, two aspects are involved. The first is national arrangement involving the Ministry of Health and Family Welfare and the Bangladesh Medical and Dental Council; the second is the local arrangement within each medical college. A Quality Assurance Handbook was produced in each of the medical colleges, based on a format agreed nationally, but customised to each college. A manual on the QAAR was produced and made available to all colleges.

A significant feature of the organisational structure and operational framework has been the appointment of an External Assessor in addition to what are now called Specialist External Examiners. The latter are appointed for only one examination in one subject and the External Assessor is appointed for up to five years and has course-wide responsibilities, considering the reports of the specialist
examiners, consulting with staff and students, and preparing an annual report to the Course Committee in accordance with a specified pro forma. The structure and lines of communication and reporting are shown in Figure 5 and Figure 6.13

Within each medical college there is now an organisational structure which makes possible the implementation of quality assurance in relation to the MBBS course. An important feature of these arrangements is that they cover the course as a whole, but also ensure appropriate emphasis at the individual subject level. Responsibilities for the MBBS course lie, ultimately, with the Academic Council, but each college now has a Course Committee which is responsible for: the development and delivery of the teaching and learning programme of the course; on-going appraisal and evaluation of the course; periodic review of the course; the review of resources required for the operation of the course; and preparation of an annual report on the operation of the course to the Academic Council. An Academic Co-ordinator has been appointed with responsibility for coordination of the various functions of the Course Committee. The MBBS course is in three phases. Each college now has a Phase Coordination Group for each of these phases, and for each group there is a Phase Coordinator. For each discipline area, there is a Subject Coordinator. Students are represented on all groups and committees.13

CONCLUSION

Lessons Learnt

Looking at the detailed process of how a quality assurance system is developed, adopted and implemented subsequently from the two case studies presented above, using the micro model presented in Figure 4, page 6, the author concludes that the following factors are instrumental in bringing about changes in moving towards quality assurance and greater public accountability of the medical educational programs.

a. Leadership, decision making and agent of change

No doubt that the role of leadership is crucial in bringing about changes.
Implementing a Quality Assurance Scheme needs a total change in outlook, in the way people think and in the way people do their works. It is still debatable where the leader should come, either from bottom up or top down. In the case of medical education, the leadership may come through University or through Ministry of Health.

b. External Pressures

In Bangladesh, no real external pressure was present. It was the FIMC project that gave the strongest force and set the direction.

c. Adopters and Rejecters

In Bangladesh, the activities were very much geared by the project requirements. The danger in this situation is when the project stops, the activities will also stop. This happened in Bangladesh.

d. Implementation Effectiveness

From the field work the author observed that in reality, the scheme did not work as had been planned in Bangladesh. The morale and spirit were deteriorating as the project budget finished. Although a number of key personnel at the Centre for Medical Education tried pursue other funding, but the author perceived that it would be a long way to get the enthusiasm back.

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