EVALUATING EXIT PROFESSIONAL COMPETENCIES IN RESIDENCY PROGRAMMES: ISSUES FOR DEBATE

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"Therefore, let nothing that is written here be taken as criticism of anyone or anything. It is only the perception of those who composed it concerning the way things seem to be."

[Culled from State of the Nation Address, February 2010. **President John Atta Mills**. [Deceased]

"Nothing that we suggest should be taken as detracting from the following points: Discipline is key. Professionalism is expected of all who are enrolled in Residency Programmes of this College. Our programmes should not only meet and exceed regional standards, but should also match international standards."

[**Addo Edwina, Arhinful C, Asare A, Kenu E, Konadu Akua, Misroame S and Nixon H**. Focus Group Participants, Ghana College of Physicians and Surgeons, 04 October 2012]

This report was first given as an open lecture to the Ghana College of Physicians and Surgeons (The College) on 14 October 2012.

Introduction

Quality Management in Higher Education deploys a range of tools with which to check if standards are being met. The authors considered that the evaluation of tools used to assess Residents' exit professional competencies might be of general interest to the College. They insisted that this review exercise must be data-driven. They were aware that the exercise would demand its pound of flesh: detailed examination of evidence.

Background

The College was established in 2003 as a national postgraduate facility for the training of specialists in medicine, surgery and related disciplines. The training programmes are based on a two-tier system leading to a Membership and Fellowship qualification respectively.

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Conflict of interest: The first author is the Rector of the Ghana College of Physicians and Surgeons

At present, the College is made up of 12 Faculties. Each faculty has its curriculum with defined methods of formative and summative assessment.

There have been concerns about the methods used by the College in assessing its residents. These concerns have been expressed following exit examinations; and have resulted in a uniform allocation of marks for sections of the examination with a defined "pass mark". Continuous assessments and Log book assessment do not generally contribute to the final mark.

There exist in the West African sub-region other postgraduate medical colleges that have related curricula and methods of assessment to the College. There has been interest in harmonizing the curricula and the modes of assessment of Colleges in the English-speaking West African colleges, the West African College of Surgeons, the West African College of Physicians and the National Postgraduate Medical College of Nigeria. All faculties of the College were involved in the process of reviewing their curricula. The West African Health Organization has spearheaded this harmonization effort.

Objectives

The objectives of this exercise were to see if residents' assessments as currently conducted by the College met Higher Education standards of quality and best practice. Of concern were exit examinations in particular, and, residents' assessments in general. Questions to be answered included:

- In the first place, are *formal* final exit assessments still necessary?
- If yes, are the tools being currently deployed valid, reliable, objective and cost-effective?
- In the opinion of participants in this review process (see below), and, according to the literature, what were the deficiencies (if any)? What are the remedies for the alleged deficiencies?

Methods

Planning Process

The planning of the exercise began on 02 September 2012 with exchange of Emails between the authors. The required human and material resources were listed. Depositions and directives from the Rector of the College were documented.

The evidence for the debate was based on review of curricula, information on final assessment of Residents available at the College (provided by the first

author), material resources, focus group discussion and in-depth interview.

Two sets of stakeholders were targeted: "students" and Medical Administrators of major health facilities that employ Specialists produced by the College. Focus Group Discussion (FGD) and in-depth interview were selected as satisfactory ways to gather stakeholders' opinion. Formal surveys, using structured questionnaires, had been considered, but set aside.

Interviews

Focus Group Discussion

The College arranged and selected a mix of residents including some in training and those who have completed their Membership training. These Residents participated in a FGD held at the College.

The convener of the FGD re-emphasized the objectives of the discussion. He suggested that, instead of following a structured agenda, the discussion could be allowed to "just flow", i.e. *begin* with a brain storming format. The group found this approach apt. They felt they were being treated as adults who could hold the reins and steer the process. They warmed up to this responsibility and promised to provide balanced and objective comments based on facts.

At the end of the session, the Rector addressed the residents. He expressed the hope that the discussions *had* met their unvoiced expectations. He then undertook to give effective feedback to the College community as a whole.

In-depth interview

The Deputy Medical Administrator of a tertiary institution and the Clinical Coordinator of a regional hospital participated in an in-depth interview.

Material resources

The material resources were sub-divided into four: (1) Foundational; (2) Assessment Tools; (3) Results of Assessment, and (4) Indicators.

Foundational

- The most recent version of Mission Statement of the College
- Curricula, including Rules and Regulations on evaluation, assessment and progression of Residents through the Programmes

Assessment tools

- Continuous Assessment (Course Work)
- Log books in particular, and what proportion of marks they contribute to the aggregation Exit examination
- Written Papers: Actual question papers in the past three years: MCQ, MEQs, Long Essays, Short Essays, etc
- "Clinical Exams" set up--whether long and short cases, OSCE, or, its variants
- The set up for "Viva" or Orals, Practical (s)
- Samples of final exit examinations (if any) for Internal Medicine, Paediatrics, Obstetrics & Gynaecology and Surgery
- Samples of Fellowship Examination papers

Results

- The distribution of grades---IF grades are awarded in exit examinations
- External examiners' report (s)

Indicators

- Volume indicators
- Output of qualified specialist from the inception of the College
- Apparent Progression Rate
- Apparent Completion Rate

Depositions from the Rector in the form of Volume indicators as well as the Output of specialists and Fellows were also provided.

Results

The key findings and suggestions of the FGD with the residents are listed as a 12-point plan:

1. We define ourselves as Residents. The term "student" is no longer appropriate. It can be safely expunged from the records pertaining to "trainees" in this College.
2. Assessment should be competency-based, use appropriate documentation of the professional skills developed, be done in the presence of the "supervisor" and signed by him/her, and countersigned by the Resident who should state whether s/he agrees with the assessment. If s/he disagrees, reasons must be given.
3. Independent Monitoring Authority to oversee Continuous Assessment should be established. Effective implementation demands careful forward planning. Membership includes our peers as well as faculty, supervisors and other professionals assigned proctorship roles during rotation.
4. Assessing the assessor should be enshrined in the rules and regulations of the College. Residents should have the chance to assess their Supervisors. The rules should protect Residents' anonymity as well as the Supervisors' rights.
5. We accept the responsibility to initiate and implement the demanding task entailed in Resident's Portfolio.

6. We accept that results of peer assessment will be used in conjunction with ratings by faculty and other trained health professionals
7. Continuous Assessment is to be assigned weight. E.g. Between 50 & 60% of final tally of exit examination.
8. Any individual professional who is adjudged competent to provide supervision at a point-of-need during rotations can provide Continuous Assessment by the end of that particular rotation.
9. Frequent changes of requirements specified in Log Books should be abolished outside planned changes in the curricula. These should apply to the cohort of Residents from beginning to the end of their final year.
10. Examiners are requested to avoid asking sub-intern questions at the Membership and even the Fellowship examinations.
11. Harmonization can proceed. However, the College is urged to maintain its academic independence. Our hope is that the final outcome will be fair.
12. As much as possible, the College should formally and continuously seek the opinion of our consumers and employers about the quality of our professional competencies.

The key recommendations from the in-depth interview with the hospital administrators are listed as an 8-point plan.

The College should:

1. Address the unintended but predictable consequences of assessment-centred training.
2. Correct the identified "areas requiring improvement", including clinical decision making and aftercare of patients.
3. Be proactive, head-hunt candidate hospitals, process them for accreditation and rotations.
    - Identify "faith-based" hospitals which meet accreditation requirements
    - Revise and expedite its own accreditation processes.
    - Explore the category of "substantial accreditation".
    - Build on promising initial experiences in all its out-reach programmes
4. Decentralize:
    - Membership training to reduce overcrowding with residents in some hospitals.
    - Fellowship training such that senior residents are posted to regional/district hospitals to render much needed service; and schedule regular meetings with their supervisors.
5. Manage public expectation of the professional capabilities of newly qualified specialists.
    - The current public perception is that some of them are "work-in-progress".
6. Initiate debate on the development of National Strategic Plan/Agenda for the training of specialists. Currently, residents choose specialties based on individual conviction rather than the nation's strategic manpower requirements.
7. Invest in Technology/Skills Laboratories with facilities for simulation.
8. Develop Public-Private Partnership programmes, especially in equipment-sensitive specialities.

Examination tools and samples of questions

At the time of the review, clinical examinations were of the traditional long case and at least two short cases; except for the Faculty of Family Medicine that had started modified OSCE. A panel of 2-3 examiners conducted *viva voce* or oral examinations; however, there were no formal guidelines for the conduct of oral examinations.

The second author reviewed samples of examination questions in a secure room in the College and returned them promptly. The four sets of examination papers considered during the planning stage were not reviewed on account of time constraint.

Indicators

Volume indicators

Records from the Rector's Office indicated that over a nine-year period (2004 to 2012) the College enrolled 874 Residents and has graduated 354 in the Membership examination.

Key Performance Indicators [KPI]

Attempts to calculate KPI's were made. One useful KPI is "efficiency of the enrolment process". It is defined as the proportion of residents who pass the Level One examination in minimum time. The denominator is the headcount of residents enrolled one year earlier. In this exercise, residents who passed Part I as a proportion of the number which sat the examination was taken as a proxy for the above KPI. It is accepted that, this quotient is merely the pass rate for Part I. The observed average for the year 2010 was 63% (range: 20% -100%).

Another useful KPI is "apparent completion rate". It is defined as the proportion of residents who complete their programmes in minimum time. The denominator is the headcount of residents enrolled *n* years earlier, where *n* is the minimum duration of the programme. [In the College, *n* ranges between four to six

years (for the fellowship programme).] The numerator is headcount of passes at exit examinations.

In this exercise, the authors sought but failed to establish the second KPI. The closest number available was "the proportion of residents who passed Part II" [i.e. the pass rate for Part II.] This was noted, but rejected as a valid proxy for "apparent completion rate".

Discussion

The aim of the exercise is to stimulate debate on a subject about which everybody knows everything, and are doing all they can to improve matters. The reviewers' hope is to help, not hinder progress in evaluating programme effectiveness. They argued that, if the College already had in motion reform of its tools and mechanisms for evaluating and assessing 'trainees', then this review might oil the wheels. On the other hand, if reform was planned but is yet to take off, then the review might help kick-start the process. The former scenario was the case.

Debate is the thread that runs through this section. Therefore, excluded from discussion are harmonization, formal final exit examinations, and assessment tools which are already being, or are soon to be deployed in the College.

Current assessment tools include long essays, unstructured *viva voce* without guidelines as well as the traditional long and short cases. These are *de facto* deficiencies, being the tools, which, in response to the stated objectives, are neither valid nor reliable nor objective. Remedies were already being applied. For example, OCSE, OSPE and allied tools have been agreed. However, cost is a rate-limiting factor.

The section continues with four comments on resources deployed in the review exercise and their productivity. The first author was committed to the evaluation of assessment tools and processes used by the College. He supported the initiative and the ensuing exercise. He provided depositions, and, within limits, granted access to the documents required. For example, since the security of examination questions was non-negotiable, due restrictions were imposed.

The composition of the participants in the interviews is noted. The in-depth interview represented major employers. As a group, the FGD participants was balanced in terms of gender and experience with the College and its exit examinations. Two were women. There were two senior specialists, two newly qualified specialists and three in-training.

The senior specialists would bring to the table "seasoned" opinion: i.e. opinion arrived at after reflection. It is a function of, among other things, time and a willingness to ponder deeply over situations and express conclusions with candour. Specialists were fresh from exit examinations. Instant recall of "what happened in examination halls" was one of their areas of strength. The trio in-training had ideas laced with "fears of the unknown".

The next comment is on the groups' output. It is commendable. The two employers demonstrated productive gravitas. The residents kept their promise to "provide balanced and objective comments." They accepted responsibility when this was the need. [One example was residents' portfolio.] If they were unsure of an issue, they said so. Veto marking in examinations was a case in point.

Finally, attention is drawn to the residents' declaration, which is quoted at the start of this paper. It provides a fitting lens through which to view their suggestions.

Employers' 8-Point Plan

The employers raised eight issues of which the College may wish to note: viz.: assessment-centred training, substantial accreditation, decentralisation, management of public expectation, national Strategic Plan, technology, skills laboratories and public-private partnerships. One unintended consequence of assessment-centred training was this - "Residents are in a hurry to pass exams, and flee the department. Their focus is on exams, not on acquisition of professional skills".

Five Instances of 'Good Practice' In Higher Education

Of the possible issues for debate, five are widely accepted as 'good practice' in higher education. They are assessing the assessor, peer assessment, continuous assessment, competency-based assessment and verification of standards.

Residents should have the chance to regularly assess their assessors. The corresponding College rules will protect residents' anonymity and supervisors' rights. With peer assessment (see below), its results are used in conjunction with ratings by faculty. Continuous assessment is assigned weight between 40% - 60% of final tally in all exit examinations. Professionals who provide supervision during a rotation can provide continuous assessment at its end.

The legacy of residents' training can benefit if the College establishes a body called "Independent Monitoring Authority". Its role will be to oversee continuous assessment. Its membership may include faculty, proctors and peers namely, final year residents and specialists.

Assessments are competency-based. They deploy documented professional skills, signed by supervisors and countersigned by the resident who indicates concurrence. If not, s/he gives the reasons.

'Verification of standards' requires that, among other measures, the College documents stakeholders' opinion about the quality of residents' exit professional competence. The measures include customer satisfaction surveys of alumni, employers, clients and patients as well as co-professionals (e.g. Nurses, Physiotherapists and Pharmacists).

Developmental Phase

It is the nature of things that when programmes are in their developmental phase, they can be subjected to frequent changes, including tasks listed in log books. But, once a programme becomes well established, it rids itself of *ad hoc* changes and the nightmare of 'shifting finish lines'. Residents may wish to take note.

Two practices which the College may wish to note

The College may wish to consider peer assessment, and, re-visit the issue of "veto" marks.

Peer assessment

Peer assessment raises an important consideration in assessment: viz.: who should assess residents? Four aspects are discussed in the literature: advantages and disadvantages, supporting findings, impact on learning, and, its implementation by institutions.

Studies have shown that peer assessment has at least three advantages. Peers observe each other performing the tasks and procedures being learned in 'real-time', and under real clinical conditions. Residents are more likely than consultants to observe their peers' performance. Peers can be more discriminating than faculty in their evaluations because of their increased (time) exposure to the observed performance.

Studies have also shown up two supporting findings. Peer ratings correlate highly with faculty ratings of the same behaviours and skills. Secondly, the mean ratings by self-raters are lower (i.e. more critical) than those of trained peer-raters. However, adequate training of peer-raters is a time-consuming business.

Peer assessment has profound impact on the residents' educational programme. On the positive side, it can transform the perceived nature of examinations. It helps learners to develop skills of self-appraisal. However, if done poorly it causes mistrust, suspicion and rivalry. In turn, these have devastating consequences to an education programme.

Concerning its implementation by training institutions, reports suggest three things. Peer assessment is little used. It needs further appraisal and development. If an institution decides to adopt it, the pattern of impact on education programmes is hard to predict. The institution must determine the final outcome. The required attributes of environments most likely to create a positive impact are three-fold: trust, acceptance or even tolerance of change, as well as an on-going and effective change management protocol.

The College may wish to implement evidence-based evaluation of peer assessment of residents' professional competence as part of continuous assessment.

The Veto Issue

To veto or not during adjudication of examination results remains an issue for debate. In some programmes, "passing the clinical is a veto". If a candidate fails in the clinical component, s/he fails the entire examination.

Veto marking must be put into context. The argument against it is that, in the setting of this College, teacher–learner interaction is one of the strategies adopted. This interaction is captured, signed, sealed and delivered in log books. Trainers counter-sign entries which the resident makes in his/her logbook. The summary section of the logbook is key. If the supervisor is satisfied, then s/he signs up. If not, s/he refrains.

Apprenticeship with robust supervision describes the training environment. Panels of supervisors have ample opportunity to evaluate residents' clinical competence over the years. It ranges from two to four. Individually and collectively, they confirm the residents' satisfactory clinical competence during his/her training years. In most cases, this period ends shortly before the exit examination. It seems inconsistent, invalid, unjust and unprofessional that the same resident should now be failed based on this one and the same component: clinical competence. The College may wish to re-visit the debate on the veto mark.

Limitations

Limitations in this exercise hinge on time constraint and feasibility. The study participants were limited to Accra to the exclusion of regional and district hospitals. Additional FGDs can be held with Chairpersons and members of Faculty, Consultants, Preceptors, co-professionals and Consumers. There can also be formal surveys using a structured questionnaire, with its inherent issues of populations, sample size and so on.

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