Community- Based Education: Tikrit University College of Medicine Experience. PART THREE: Community Based Education Programme in Tikrit University College of Medicine: proposal for change

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Change management in order to introduce innovative approach [CBLA] into our health profession education.

The aim of CBME is to produce graduates who are responsive to the health needs of their community [1]. TUCOM has been developed through a collaborative process aimed at building faculty ownership and ongoing sustainability. The result is a capability-based program that features early clinical experience and small group teaching, which offer students considerable flexibility and achieves a high degree of alignment between graduates outcomes, learning activities and assessment.

CBME is a powerful teaching and learning strategy that allows students to study the source, nature and magnitude of health and related problems [2]. In exchange for the learning acquired in real life environments, students provide health services to the community [1]. CBME is conceptualized with the three following interrelated elements: student, institution, and community [3]. While students seek to learn about health problems, the institution provides the resources and assesses the students. The community on the other provides the learning environment. [4]. CBME has been found to have several benefits: first it helps to eliminate learning needs that are not important, thus reducing information overload. This has been achieved through designing learning objectives that are based on community needs. Secondly, CBME enables learning to take place in the real world where problems are based. In this regards, students in small groups are attached to rural communities. Thirdly, CBME assists students to take responsibility for their own learning [5]. As students interact with the community, they discover more learning needs. Fourthly, CBME has proven to be enjoyable to both students and the community. Through planning and implementing activities together, students and the community share the achievements [6].

The process of change in CBLA in medical college curricula is an important action and the institutions have to accept the challenge to respond more effectively to new healthcare needs, to become full partners in developing healthcare services policy, and to redefine their social mandate by adapting their Bachelor programs [7]. The change process that to adopt is the five step change process [8]: Establishing the diagnosis, Initiating change, tailoring the solution, implementing the solution, and evaluating the product. It is essential in proposing changes to take in consideration the barriers, which might completely counteract a change endeavour in teaching –learning [7]. The barriers include [9]:

1. Faculty members developed a sense of their own vocation at the time of their own duties.
2. Teachers are less open to be influence and /or constrained by internal or external forces.
3. Teachers are by and large skeptical about the idea of efficiency in academic life.
4. Universities as institutions are well structured to resist change in that their many levels of decision making contribute to counteract or even block any change process.

For a change process to be successful, conservative attitudes, professional protectionism, elements that provoke resistance and modification of the social position of the social partners, need to be well managed [10]. Ecological context concept should include in addition to the university or medical college environment, the political, economical and social context [11]. 'Change characteristics need to take in consideration demands from community, as expressed by political –decision makers, planners in education, healthcare professionals and users of the healthcare system [12].

Proposed change

Introduction: Tikrit University College of Medicine [TUCOM] in Iraq was established in 1989. Its mission is to provide knowledge and produce health professionals who have the technical, intellectual and analytical skills and are capable of working efficiently in a changing environment. To realize this mission, the TUCOM has been implementing an innovative education strategy, namely CBME incorporating PBL.

Context:

Setting:

Salahuldean is an Iraqi Governorate located Northern to Baghdad and extended from Baghdad in the South to Mosul in the North; and from Anbar in the West to Kirkuk in the East. It is a unique environment for training medical students. It occupies approximately one sixth of land area of Iraq and comprises 1.2 million populations. TUCOM located in Tikrit city and since its formulation in 1989 has been teaching their students in PHCC, community settings, and outpatients clinics and general hospitals.

TUCOM/CBME:

CBME has a sound educational basis, with a particular focus on patient's centeredness, whole person care, social determinants of health, multidisciplinary care, and continuity of care [13]. CBME in rural setting has been shown to deliver effective and high quality training [14], and has been implemented as a strategy to help address medical workforce shortage in many rural and regional areas.

The review of TUCOM/CBME curriculum revealed a relative lack of exposure to multidisciplinary work service, multiple disease screening programmes, community services, service learning, and community health education [specifically the nutrition]. Addressing this lack was a major driving force towards development and implementation of CBLA that balance the above lack.

Content of change

A series of activities aim at better preparing students for community needs. The public is becoming more nutrition conscious and demanding reliable sources of nutrition information. The primary goal of educating physicians, both in existing medical curriculum and in undergraduate medical program, seek to increase student awareness about the relevance of nutrition in prevention and treatment of disease. Thus a framework developed for integrating **nutritional topics in the TUCOM curriculum**. These topics must be taught in coordination with other aspect of programme, provide continuous in service programme, after appropriate teaching/ learning resources, and receive institutional support. As early as possible, the 1st year students are sent for a 2 week clinical immersion rotation in PHCC. This rotation is followed by 2 week community- based, problem- based and small group's activities in community settings in the second year.

Multiple disease screening may have several advantages over single disease screening because of the economic scale, with the high yield of detecting

asymptomatic diseases, identification of multiple disease or risk factors simultaneously, the enhancement of the attendance rate, and the efficiency of follow up. Through an integrated model of community –based multiple screening was designed and implemented in TUCOM/CBLA. This activity to be applied in Rural Community Project of the University which to be extended for 4 weeks period instead of 15 days. Also to be applied in community research project that is performed by students [1-6 years].

Concurrent with shift to ambulatory and community-based practice, medical schools have recognized increasingly the value of including clinical and community-based experiences early on in students training. These experiential activities endeavour to demonstrate and underscore linkages between basic science principles and clinical medicine practices. To realize these goals, a service-learning project was implemented into the existing TUCOM/CBE, field experience course for first year students during the summer vacation for 2 week duration. This project entitled 'Ambulatory Care Experience' [ACE]**,** this course to be first instituted in TUCOM curriculum in 2010 as a practical, CB field experience. Fourteen days long experiences provided learning opportunities for first year students to enter the human side of medicine, experience diverse dimensions and contexts of human development, enrich the links between basic sciences course and clinical medicine, and explore career opportunities in medicine and the personal meaning of a life career as a physician. A fundamental tent and goal of the ACE course was the first year medical students would develop a keen understanding of, and direct appreciation for, the vital work that community agencies (setting) and programs perform and how students will, as physicians, partner with these agencies to care for patients.

Process of change:

1. Change design development:

The key steps in the development of changes in CBME programme are summarized in Table 1 and elaborated below. These steps were not discrete activities, nor were programme development simple linear process-steps occurred in parallel and were often interconnected.

The necessary data collected and analyzed in order to justify the proposal. A short statement of reasons and general objectives should be prepared [4].' *CBE is not the end in itself but a means of improving the health status of the community by training health workers to have a positive attitude to change and the competence to implement them'* [4].

It is important to establish the needs or benefit for the change in CBE separate from the potential solutions and development. It is also important to ensure the widest possible sharing of the needs for change by consulting with all who can influence the outcome of a change initiative right from the beginning.

2. Engagement with key partners and stakeholders:

The important arm in successful CBME changes is the community engagement [15]. A community consultation process is to be conducted with key partners and stakeholders at the conception of new changes in the programme. Participants included in community health providers, general practioner physicians, college faculty members, students, and community. The consultation process highlighted the potential strength and weakness of the programme. Furthermore, the consultation process help to formulate the aims of the addressed changes in CBE programme and leads to establishment of a stakeholder forum and this inform and guide the development and implementation of changes.

3. Establishment CBME changes team:

The appointment of an academic [by Dean] to develop and lead the new change in CBE programme. The multidisciplinary nature of these new changes was reflected by the establishment of an interprofessional academic team. In order to overcome the obstacles, the authority of supervisors to start changes in CBE is needed at higher level. In addition, it is essential to obtain the political commitment necessary for change. It may be of importance for people who are to be involved in CBE changes to attend planning workshops [16, 17].

4. Development of aims and action plan:

The learning needs and goals to be identified and consequently the aims formulated. Following formulation of the aims, the plan for development and implementation of the new changes in CBE programme is written, consisting of key objectives, actions and targets.

5. Development of curriculum framework:

As soon as the decision is made to introduce changes in CBME programme, forming of a core group for the development of curriculum changes framework should be formulated. Implementation of these new changes in the programme therefore required the development of a new framework for curriculum changes delivery, attempting to best match the required learning objectives with available learning opportunities in each setting. The rest of the college staff, the students, and the community are encouraged to share in the implementation of changes by presence of the core group [Represent the early adopters] [18].

The development of a CBE curriculum changes framework is informed by a series of meetings with key groups. The core group should outline the obstacles to change implementation and progress and how to overcome the obstacles.

A curriculum change mapping exercise is then performed, based on previously formulated objectives, procedural skills, the Iraqi National Health priority areas. Gaps and redundancies were identified and the information was used to inform all participants in the change programme.

6. Improvement of the College administration:

The administrative functions assigned to Dean, Medical Education Department Director, teaching staff are additional to their teaching, service and research responsibilities [4]. In addition, there is some of the staff who is not familiar with CBE and some resist any changes. To achieve success for proposed changes there is a need to improve all the administrative processes and render them more cost-effective [4]. Involvement of administrative staff in the organization of the programme from beginning renders them to feel fully committed.

7. Multidisciplinary teaching:

The core of the new changes in TUCOM/CBE programme is based on patient's exposure in the general practice settings. Students are to spend training time in general practice, attending patients under the supervision of general practioner preceptors. However, one of the strength of TUCOM/CBE changes programme is to provide an opportunity for students to see the patients care pathway spans a range of services, and especially to experience teaching by non-medical teachers. Consequently, the CBE committee incorporated a range of non-medical community healthcare providers into the curriculum through the formulation of a programme [Continuing comprehensive care in the community].

8. Recruitment of training placement:

A practice recruitment process was undertaken, including individual and group meetings with general practioners and other health providers. Recruitment of early

adopters led to further visits and written agreements for placement. As a result, rural community settings, PHCC and community settings at the residence of the students involved in the ACE programme.

From the community providers the TUCOM/CBE team selected a core group to provide compulsory placements for students in the programme, for example family planning, community midwifes programme, nutrition education programme, multiple disease screening programme, and epidemiological treatment of endemic disease such as scabies that represent a social problem following Iraq invasion. A model of vertically integrated teaching was facilitated by interdisciplinary teacher training. The general practioners preceptors and community based providers were invited to a series of orientation and teacher training workshops, covering teaching skills, curriculum and assessment requirements.

9. Social responsiveness:

Another factor influencing curriculum development is the obligation for greater responsiveness [19]. Thus a programme of cultural safety training for both students and staff to be developed. This learning experience was developed to provide complementary clinical and cultural experience [3]... Additionally, the CBE curriculum aims to cover other priority community health concerns, including those for underserviced rural community settings, prisoners and other marginalised groups.

10. Patients encounter log: In order to assess clinical exposure in the training settings, a patient encounter log book was developed to capture student encounters with patient. For each encounter, students are required to document a basic demographic profile, presenting symptoms, working diagnosis and management, using the International Classification of Primary Care [ICPC] -2 [20]. The level of student involvement [observed, supervised or performed independently] is recorded. Students are also requested to identify up to 3 learning objectives from each encounter. Log books have been used for decades in the undergraduate setting to record the clinical and educational experiences of medical students. They come in a wide variety of formats, including handheld [e.g. pocket sized encounter cards] [21]. optically scanned [22], and electronic [23]. After consideration of the experience of our staff we choose the written format. It is proposed to use patient log to encounter details in all teaching sites in the new programme. Incorporation of the logbook into the TUCOM/CBE programme is planned. Data collected by logbook also used to support student learning, as a tool for reflection and feedback [24], and to measure achievement of educational objectives [25]. It is also intended that the data for academic staff and general practioners preceptor teacher training be used to encourage greater engagement in the programme.

11. Development of an evaluation framework:

The CBME evaluation framework was developed as part of the TUCOM quality assurance reporting requirements, in order to provide objective data about the programme efficacy and to identify potential areas for development. Specific evaluation methods and outcome measures were developed for each of the core domains of the framework, namely students, clinical preceptors, administrative staff and the curriculum.

Professional characteristics and style:

Medicine context must recognised and taken into account if change is to be successful and lasting [26]. The characteristics and style of changes in the CBME programme are as follows: *Consultation: the first step in change; Demonstration Project: reference to similar changes implemented elsewhere; Evolution: gradual*

change is preferred to radical or gross change; Ownership: without it there will be little enthusiasm and progress; Power to hinder: doctors autonomy means fewer consequences for lack of cooperation; and Commitment, energy and enthusiasm and motives: these attribute of leaders can influence success.

Adopters and resistance:

TUCOM since its foundation adopted CBME curriculum, thus the resistance to reform and implementation of a new changes is limited to some of the newly jointed staff. Rogers's curve of change adopters [18] indicated that innovators and early adopters not form the majority of change adopters. Thus these two groups represent the college environment that others rely on to try the innovative changes in the CBME programme. They are needed before reaching the critical mass, to act with others 34%, the early majority. The innovators, early adopters and early majority forms 51% of the whole personnel's involved in curriculum change. They are the important group that implement the changes in CBME programme and maintain its reform. Late majority adopters may play a good role in implementation of changes. However, their sharing is dependent on the ability of the innovator group and college administrative to persuade them to adopt the new idea of changes. The laggards stay isolated and may be resistant to any changes [7].

The useful understanding of the 'empowered manager' in a context of change is the Block [27] classification. Allies are those sharing the vision of the change and ready to contribute. To perform successful changes, there is a need for charismatic and expert leaders who ought to be tied to the college administration [7]. Leadership process implies a series of successive steps in influencing others to manage mutual agreement and organic tasks toward the same goals [28]. Leaders should progressively give up their involvement in order to be replaced by new leaders. Succesful change strategies need leadership that implies characteristics of the leaders who initiate and/or undertake a change process. Leaders are characterised by: their capacity to define clear objectives; to generate collaboration; to resolve problems; to guide others toward a goal recognized and accepted by the majority of social partners.

Table 1. Key steps in the development of changes in TUCOM/CBME

Main Step	Sub-step	Action
I. Establish Diagnosis	**1. Acknowledging need for change**	**. Identification of the opportunity to change . Dean political stands. . Community pressure- because the present CBE not fulfil their health service needs. . Faculty development. . Present programme outcomes [competencies of graduates]**
	2. Establish problems	**. Revision of college mission statement. . Review the TUCOM/CBE curriculum . Determine faculty perceived weakness**
II. Initiating Change	**3. Searching, selecting, validating solutions**	**. Nominate project leader. . Engagement with key partners and stakeholders/ community engagement [internal and external consultation] . Establishment of stakeholders forum**
	4. Specify the goals	**. Formulation of the specific task committee. . Address the goals of the programme . Formulation of learning objectives.**
III. Tailoring Solution	**5. Developing & implementing the plan**	**. Establishment of the multidisciplinary CBME team. . Development of curriculum changes framework . Establishment of plan for evaluation**
	6. Identifying the resources	**. Education and training of academic staff. . Orientation and training of GP preceptors . Development of multidisciplinary teaching programme . Recruitment of training placements.**
IV. Implementing Solution	**7. Adopting the solution and inserting it into the social system**	**. Adoption of changes by faculty members . University approval of the programme change . Starting change programme . Conduction of experience tutorials**
	8. Assuring its continuity	**. Formulation of external evaluation. . Accreditation . Provide support**
V. Evaluating Product	**9. Assessing impact of change**	**. Performing of continuous monitoring . External formative evaluation . Supervision by National Higher Committee for Medical Colleges. Performing of evaluation studies and research.**
	10.Generating self-renewal	**. Limited time for CBME change committee chairman . Workshops that attended by expert personnel .Regular revision of the programme . Sustaining collaboration with healthcare providers . Modification of plan in response to outcomes evaluation**

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