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Community-oriented medical education: what is it?

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Summary. The pressing need for this communication has emerged from the author's experience in conducting educational workshops, seminars and meetings for the orientation of health professionals in community-oriented medical education. Many questions are raised and many statements made which clearly indicate that the term 'community-oriented medical education' (COME) is still misunderstood. It carries a different meaning for different people. Many give it their own meaning and attach to it their own interpretations. This has resulted in wide propagation of the wrong concepts to the detriment of promoting the approach. (It is worth noting that 'community medicine' has over the years suffered the same fate. Is it because both terms include the word 'community', which often has a poor image for much of the medical profession?)

An attempt is made here to clarify the situation by a process of questions and answers, the questions being those frequently asked as such or posed in the form of statements. They are by no means exhaustive.

Seven major such questions are addressed with reference to personal experience and the literature.

(1) What do we mean by COME, community-based education (CBE) and community-based learning (CBL)?
(2) COME is third-grade medical education producing third-grade graduates and 'barefoot doctors'.
(3) COME produces community health doctors/specialists.
(4) COME is not scientifically based (based only on soft sciences) and basic sciences are neglected.
(5) Graduates from COME programmes are not competent in dealing with patients as they spend most of their time in the community.
(6) If it is community-oriented education, then what about the hospital? Is it not part of the community?
(7) COME is expensive and requires more resources than traditional approaches?

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(1) What do we mean by COME, CBE and CBL

The author has contributed (Hamad 1984) to the definitions recently agreed by the World Health Organization study group (WHO 1987). Just as the concept of primary health care is an approach to the health system, COME is an approach to medical education. It is an education which is 'focused on population groups and individual persons taking into account the health needs of the community concerned' (Network of Community-Oriented Educational Institutions for Health Sciences, First Meeting, 1979).

The term 'community' has a variety of definitions in the above reference (WHO 1987) but the definition by Duchle (1961, cited by Salih 1981) may satisfy the purpose of this communication: 'A group of individuals and families living together in a defined geographical area, usually comprising a village, town or city'.

In general terms COME can be defined as *relevant* medical education, which takes into consideration in all aspects of its operations the

priority health problems of the country in which it is conveyed. Its aim is to produce community-oriented doctors who are able and willing to serve their communities and deal effectively with health problems at primary, secondary and tertiary level. The aim is not to produce community medicine specialists or a new category of health personnel, but to respond to the needs of the community concerned. Likewise it is not intended that all these doctors continue as non-specialized, general duty doctors in the service of rural populations all their lives. Although some may do so, the majority are expected to become specialized family doctors or general practitioners in their own right or pursue another specialty according to their own interest and the needs of their country. But it is expected that whatever their practice and specialty, including research, these doctors will adopt a community-oriented approach. Surgeons, for example, should ask themselves about cases of trauma, 'Where do they all come from?' or cases of goitre, 'Where do they all come from?' Can they initiate activities and contribute to addressing the problem at its source rather than waiting to receive it at the end of the line when it has already assumed advanced proportions which are hard to contain?

COME therefore serves the purpose of a health-oriented physician education (HOPE) rather than a disease-oriented physician education (DOPE) (Jonas 1981).

As any institution which has only a slight degree of focus on the population and the needs of the community may unjustifiably claim to be community-oriented, we need to consider some quantitative aspects of COME and its basic components. Answers to the following questions may be helpful:

(a) How far are the aims, objectives and basic principles on which the educational activities are based determined by the needs and priority health problems of the community within which the institution exists?

(b) To what extent does the programme adopt a comprehensive approach to medicine (health promotion, prevention and rehabilitation) as opposed to focusing mainly on curative activities? What activities in the programme indicate in particular its commitment to the goal of Health for All (HFA) by the year 2000 through primary health care (PHC)? HFA is defined by WHO as 'the attainment by all citizens of the World, by the Year 2000, of a level of health that would permit them to lead a socially and economically productive life.'

(c) How much of the total training is based in the community at large (e.g. families) and in peripheral health units (e.g. primary health care centres and clinics) rather than being limited to highly equipped teaching hospitals, i.e. is there an appropriate balance in training to cover the whole spectrum of health care: primary, secondary and tertiary? Does this training start early enough and continue throughout the undergraduate years?

(d) How much does the training make use of the resources available in the community and the technology appropriate to it and how far does it provide for training students in real-life situations in which they are likely to work after graduation?

(e) How far is the programme as a whole integrated with the health system, thus promoting an integrated development of health services and human resources for health? Is it sufficiently involved in the health system throughout right from the planning stages, and does it involve health service personnel likewise in its activities, including monitoring and evaluation?

(f) What are the indications that graduates will have the ability and conviction to serve their community and perform particular duties which fulfil the objectives of COME, e.g.:

mobilize, organize and inspire the community and participate in community development activities;

diagnose and manage priority health problems in the country at the individual, family and community levels and contribute to the promotion of the health system; function effectively within a health team; etc.

To perform these and other required duties effectively, it is desirable that students develop,

in the process of their education, sufficient self-confidence and know-how to solve problems, find out for themselves and continue their own education after graduation (lifelong learning). They should be able to evaluate themselves, realize their limitations and so relate well to their colleagues and others.

For the definition of community-based education, which in essence is the means by which COME can be achieved, and community-based learning, which is the specific learning activities by students in community settings, the reader is referred to the Appendix.

(2) COME is third-grade medical education producing third-grade graduates and 'barefoot doctors'

In spite of the vast developments which have taken place in the field of education in general and medical education in particular the vast majority of medical schools the world over continue to use outdated methods of teaching and learning; for example, it has recently been mentioned (Friedman *et al.* 1990) that 'over 90% of North American schools operate traditional programmes' and that for the 87 medical schools in the whole of the USSR, only one standardized curriculum is reported (WHO 1988), which raises a big question mark over relevance to local needs; in the UK 'in many medical schools the preclinical and clinical phases remain quite distinct despite the General Medical Council protestations since 1957 (GMC 1957, 1967, 1980) that this is educationally undesirable. The . . . links between theory and practice . . . (are) not being satisfactorily addressed in most medical schools' (Coles 1990). The picture is no better in other developed and developing countries.

In contrast, the majority of community-oriented schools, in addition to trying to make their education relevant to community health needs, also try their best to make use of the science of education in their teaching/learning strategies; this is by no means an easy task, and a great effort is put into it by both teachers and students. The aim is to improve and develop medical education. Therefore, it is illogical to view this in reverse and claim that it is done for the purpose of producing second- or third-grade doctors. For any person to graduate as a doctor a minimum level or core of knowledge, attitude and professional skills must be acquired.

Evaluation studies still have far to go but the few which have been carried out came up with promising results. It has been shown (Richards & Fülöp 1987) that 'the performance of the graduates of the 10 innovative schools or programmes' studied 'was comparable or superior to that of graduates from traditional schools in all areas evaluated. None of the inter-school comparisons indicated that innovative-school graduates performed worse than traditional-school graduates in such traditional ways of measuring achievement as national examinations or the observation of clinical skills in internships and residencies' and as far as clinical performance is concerned it has been reported that 'some data suggest that the students in some innovative programmes may be better problem-solvers and that they are more skilled in clinical work, especially in dealing with patients', and the 'innovative students are more concerned, more committed to patients, better communicators and strong patient advocates'.

In their review of 15 studies comparing educational outcomes of problem-based, community-oriented medical curricula with traditional ones, Schmidt *et al.* (1987) discussed the difficulties of carrying out such research and were inconclusive about a difference in clinical competence. They found however, that a significantly larger proportion of graduates from COME programmes sought careers in primary health care. A conference specially convened last year for the design of these studies recommended 26 areas with expected differences and five areas with no expected differences between graduates of innovative and traditional curricula as well as three areas of anticipated distinctive outcomes of innovative programmes, i.e. interpersonal skills, continuing learning and professional satisfaction (Friedman *et al.* 1990).

The author's personal experience as a Founding Dean of the Faculty of Medicine, University of Gezira, Sudan has shown that the graduates were highly rated as interns and the programme evaluation carried out recently in collaboration with WHO and extending for more than a year came out with some conclusions on strengths and weaknesses. The weaknesses ranged from those related to resources and the curriculum to

organizational problems. As for graduates 'programme effectiveness was also dramatically demonstrated by the extremely high ratings on a rigorous outcome basis: supervisor ratings of graduates' performance for the first two batches. Among the highest ratings were several patient interaction variables, knowledge of both endemic diseases and social cultural factors related to health, and collegiality and team working skills. Data from the field, including hospitals, health centre staff and paramedics, patients, and community leaders indicated acceptance, and in some cases preference for Gezira University students, faculty, and programme features'.

'One of the programme's greatest strengths has been its community impact. It has stimulated national discussion of the national health system all the way to the ministerial level. Locally it provided an increase and initiation of a number of services at the hospitals, including clinical laboratories, endoscopy, and ultrasound techniques. Surveillance related to epidemics, ORT, immunization, and child nutrition have been notably improved through the efforts of the school.

An unprecedented accumulation of national, regional, and international workshops, seminars, and courses have been offered in the Gezira region through the auspices of the Faculty. These have focused on themes consistent with the school's innovative philosophy, covering such areas as medical education, primary health care, and organization of rural services' (Seefeldt *et al.* 1989).

Is this what we call third-grade medical education?

(3) COME produces community-health doctors/specialists

This has been addressed in (1) above. However, it is pertinent to add here that Kerr White in 1972 expressed the need for doctors who combine a 'commitment to medicine's clinical and social problems'. Their focus on the health of the population distinguishes them from their colleagues working at the bedside, clinic or laboratory and their concern for all personal health services distinguishes them from their colleagues in traditional public health.

(4) COME is not scientifically based (based only on soft sciences) and basic sciences are neglected

For decades what is called the 'soft sciences' have been neglected in medical education. There is now growing awareness of the need to make them part and parcel of contemporary medical curricula (e.g. GPEP Report 1984; Field 1988; Miles *et al.* 1989). The last study, which is a literature review, cites 100 references in this connection with emphasis on medical ethics education. A recent article by a Harvard President (Bok 1984) expressed in more than one way the need for 'a new way to train doctors' and strongly suggested that these sciences be incorporated.

As far back as 1912 it was stated by Abraham Flexner that 'the physician's function is fast becoming social and preventive rather than individual and curative. Upon him society relies to ascertain . . . the conditions that make positively for physical and moral well-being'.

As for not being scientifically based, COME programmes attempt to be rather more scientific than classical systems of medical education. They try as much as possible to benefit from educational sciences and apply whatever is relevant and effective. This has opened more avenues for them, especially those which combine the community-oriented approach with problem-solving. The reader may be aware that these have emanated from sound scientific studies.

As for basic sciences, COME programmes are usually integrated and in most of them students continue to learn their basic sciences throughout the whole period of their studies. The teaching/learning of basic sciences is therefore not limited to the first 2 or so years of medical studies and, what is more, they are learned with relevance to medical practice and not in isolation. In this way, students become more motivated to study them. The study of basic sciences within the context of the clinical sciences is supported by many recent studies (e.g. Patel & Dauphinee 1984; Patel *et al.* 1988; Eisenberg 1988; Balla *et al.* 1990; Coles 1990) to help learning them with ability to use them when needed. On being introduced to our new programme one of my previous teachers frankly told me that they used to consider basic sciences as a hurdle and once they were over it to clinical sciences they forgot all about it. The new

approaches are in fact in favour of basic sciences. In Gezira, for example, the basic scientists actively participate in the final certifying examination, both in its theoretical and practical components.

However, doctors need to be equipped with capabilities and values that traverse the boundaries of just basic sciences and clinical medicine. 'One of the unresolved questions is just what constitute the combination of disciplines that best enables students to become ethically sensitive, literate and compassionate human beings'. 'The potentialities inherent in teaching ethics, humanities and human values to the physician of the 21st Century must be realized as fully as possible' (Pellegrino 1989).

(5) Graduates from COME programmes are not competent in dealing with patients as they spend most of their undergraduate studies in the community

First let us ask ourselves 'Where are these patients?' The patient in the eyes of the profession has been stamped with the seal of the hospital whereas various studies have shown that the vast majority of patients are in fact not to be found in the hospital but outside it. The usual state of affairs is that not more than 10% of patients visit the hospital and not more than 1% are admitted. Why do we then continue to limit our clinical teaching within the walls of the hospital and claim to be producing competent doctors? For these doctors to be competent it is vital that they receive a balanced training in all levels of health care: primary, secondary and tertiary as well as having familiarity with the culture, traditions and other psychosocial aspects of the families and communities within which they are to practise medicine.

Another notion which needs to be corrected is that training neglects the hospital. In fact, a large number of the existing community-oriented medical schools base a large proportion of their educational activities in the hospital but utilize ambulatory and out-patient departments as well as bedside teaching. We are not trying to minimize the role of bedside teaching, what we are saying is that it should not be the sole or major mode of clinical teaching, as it would then be irrelevant.

(6) If it is COME, then what about the hospital? Is it not part of the community?

This is a further question in support of hospital-based teaching. It is *part* of the community but not the whole community, and therefore community-oriented does not mean hospital-oriented. In defining community-based learning, the tertiary-care hospital as a site for that kind of learning was excluded. Other hospitals were not. The aim is to have some degree of judgement which is based on some quantitative values: How much of the training is actually outside the hospital and how much inside, i.e. community-based *versus* hospital-based. Harden *et al.* (1984), in their informative review of educational strategies, advocated the SPICES model, which views these values as a continuum, each school finding its own position along the spectrum in each of the six strategies described, i.e. student-centred versus teacher-centred, problem-based versus information-gathering, integrated versus discipline-based, community-based versus hospital-based, electives versus standard programme, systematic versus apprenticeship-based or opportunistic. A study of this article would be useful in this context.

(7) COME is expensive and requires more resources than traditional approaches

This could have emerged because COME often utilizes small-group teaching and learning and often has to make available a number of learning resources for students to find out for themselves and meet their learning needs. The author has noticed that on a number of occasions this assumption of high cost and need for vast resources has been used as a deterrent and strong tool to discourage those who would want to take such a course. Admittedly such resources are available in such places as McMaster, Canada but this is not necessarily the case in other places.

There are regrettably not many studies yet on the cost of these programmes. One study from the primary care curriculum at the New Mexico University Medical School (Mennin & Martinez-Burrola 1986) found no difference in the total amount of teaching time between teachers of the innovative track and those of the traditional system. There was, however, a difference in the

manner that time was spent, the former mainly with the students, the latter mainly in their absence. The authors rightly proposed giving more weight to educational merits than financial considerations.

It is known that innovations in medical education need far greater effort on the part of both students and staff, especially if they are being started from scratch. This has been the personal experience of the author, but the resources were never a barrier. By any stretch of the imagination there could never be any less meagre resources than those available in Gezira at the time it was started (see Hamad 1985) or more than those denied, through sheer bureaucracy, the Faculty of Medicine and Health Sciences in the Unitied Arab Emirates. In spite of all this the two programmes were successful and they are still running with fewer resources than those in traditional schools.

This article will not clear away all the clouds, but it may clear at least some, and in the process bring forward further questions in pressing need of better answers.

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Appendix: Community-based education

Community-based education is a means of achieving educational relevance to community needs and, consequently, of implementing a community-oriented educational programme. It consists of learning activities that use the community extensively as a learning environment, in which not only students but also teachers, members of the community, and representatives of other sectors are actively engaged throughout the educational experience. Depending on how the population in a country is distributed, the learning environment may be an urban community, even though at present most of the people in developing countries live in rural areas. Indeed, community-based education can be conducted wherever people live, be it in a rural, suburban or urban area, and wherever it can be organized.

Community-based learning activity

A community-based learning activity is one that takes place within a community or in any of a variety of health service settings at the primary or secondary care level. Community-based learning activities include:

(1) assignment to a family whose health care is observed over a period of time (it is to be noted that it is not only health care that the student 'observes' (see Mirghani *et al.* 1988));
(2) work in an urban, suburban or rural community designed to enable the student to gain an understanding of the relationship of the health sector to other sectors engaged in community development, and of the social system, including the dominance of special interest and elite groups over the poorer sections of the community or over women;
(3) participation in a community survey or community diagnosis and action plan, or in a community-oriented programme, such as immunization, health education of the public, nutrition, or child care;
(4) health education of the public, nutrition, or child care; supervised work at a primary care facility, such as a health centre, dispensary, rural or district hospital.

Learning activities conducted in large-scale, specialized medical care facilities, such as hospitals providing tertiary care, cannot be considered as community-based activities. (Source: Community Based Education for Health Personnel; WHO Technical Report Series No. 746, 1987, pp.9).

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