Community Based Education in Health Professions: Global Perspectives

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Regional Office for the Eastern Mediterranean

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Professor Wagdy Talaat holds a Ph.D. in Pathology jointly between Boston University in the United States and Suez Canal University in Egypt. He received his medical education training and earned his diplomas during the early 1980s. He joined FAIMER (The Foundation for Advancement of International Medical Education and Research in Philadelphia, USA) as a FAIMER Institute Fellow in 2007. In 2009, he joined the FAIMER Institute faculty.

In 2001, Prof. Talaat introduced Medical Education as an academic science to Egypt and the Arab region by establishing the first Medical Education Department in Egypt and the eastern Mediterranean region at the Medical School of Suez Canal University in Egypt. In March 2004, in collaboration with Dr. Jan van Dalen from the Netherlands, he launched the Joint Master of Health Professions Education, an international distance learning program administered by Suez Canal University and Maastricht University that serves 22 countries in the eastern Mediterranean region in addition to the whole world. In October 2008, as his FAIMER fellowship innovation project, he launched the Diploma of Health Professions Education, a national distance-learning program that serves Egyptian health professionals. In 2010, he launched the Joint Diploma in Health Professions Education, a program administered by Suez Canal University in Egypt and Lahaye International University in the Netherlands that serves Iraqi health professionals exclusively. In 2011, he launched the Arabic Diploma of Health Professions Education in collaboration with the Eastern Mediterranean Regional Office of the WHO to serve the Syrian health professionals who were taught medicine in Arabic. Hundreds of senior-level faculty in health professions education graduate annually from these four medical education programs, including presidents of medical universities, deans and vice-deans of health professions education institutions, chairpersons, and full professors.

Prof. Talaat has also worked for more than 20 years as a World Health Organization (WHO) Consultant for health manpower development and, since 2003, as a WHO Accreditation Project Director in Egypt and the eastern Mediterranean region. He has been awarded a number of national, regional, and international awards for his longstanding efforts to promote medical education at the three levels.

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Dr. Ladhani has a vast experience of planning and managing primary health care programs, training and supervising community based workers and providing technical back stopping to local and national health care organizations. She has written a number of successful grants for initiating and managing health programs for all age and income groups.
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Introduction

Purpose of the book

Since the emergence of the Community Based Education (CBE) in the early seventies of the twentieth century, those who were concerned with this educational strategy in Health Professions Education (HPE) had always felt the need to document experiences from different parts of the world that describe the unique ways of planning and implementing this significant educational strategy. The initiative came from the Eastern Mediterranean Regional Office of the World Health Organization (EMRO, WHO). Contributors were invited from six health professions education institutions from all over the globe, from (in Alphabetical order): Bangladesh, Brazil, Egypt, India, Pakistan, and South Africa. The chosen institutions represented different styles of implementing CBE and were invited to tell their stories and learnt lessons. It was also assumed that sharing of such unique case studies will illustrate how practical tools and creative approaches have worked in a variety of local circumstances that could be generalized in similar situations globally.

Our mission was to document and share these experiences with educators, teachers, and community workers who intend to adopt such strategies and to organize know-how, what works, what doesn’t, pitfalls, and creative ways of approaching and involving local communities in such programs. We wanted every contribution to be a unique experience that merits special attention, study, and comparative analysis and synthesis not only by the authors, but also by all audience of this book.

The following questions were the guiding points that all contributions were made around:

- How was /is CBE defined in your institution? What were/ are the guiding parameters?
- How did CBE start in your institution? What was the prime motivation?
- How did your school contact/ enter/ become involved with the local community in the planning, conduction, and evaluation of the program/ students?
- Whom did you first contact to achieve this? What is/was his/ her rank/ role in the community?
- How easy/ difficult was it to involve the community?
- How early, how frequently, and how long are students engaged in CBE?
- Describe the nature of your CBE program in terms of curriculum design, instructional methods, and evaluation tools. It would be of interest to know about the duration of Community Based Learning Activities (CBLA), when the program starts, how different is it from one phase to another, who is responsible for students’ training in community settings, what different kinds/ levels of community settings are involved, what is nature of planned educational activities, (research/ health services), and how evaluated?

- What are the different roles played by the Faculty/ Students/ Community?
- How do you deal with Interprofessional Education and Collaboration, if that could be integrated in your CBE program?
- To what extent is there Intersectoral Collaboration in or outside of the health field?
- To what extent is the possible collaboration between medical education (University), and the health services (Ministry of Health)?
- Pitfalls that have been faced during the planning/ implementation/ and evaluation of your CBE program. How handled?
- To what extent and at what level is Social Accountability part of your program?
- In what ways is Community Empowerment a prerequisite for the development of partnership between the community and university?

The book is a fine collection of great stories from Asia to Africa to Latin America. The case studies or the “stories”, as we would like to call, are intended to provide information about activities carried out as a source of inspiration to many. These stories are not aimed at evaluating the effectiveness of CBE as an educational approach or its impact on the health of the community it served, rather it is simply an account of the planning and implementation activities, of what worked and what did not; the technical know-how; the trials and errors; the lessons and challenges of what the contributors considered important and interpreted as essential. It is also important to stress that the stories shared in this book are neither selected as models ready for replication as such nor selected as the standardized recipes from a cookbook rather these are various ways of implementing one common agenda -CBE -through which we are hoping readers would be motivated to reshape Health Professions Education to become more socially relevant and more responsive to community health needs at all levels.

Moreover, this book is a humble effort to describe the process of initiating and sustaining CBE by presenting to its readers remarkable stories, from different parts of the globe, of embarking upon the journey of preparing community oriented, socially responsive health professionals. Each story is unique and differs considerably in the degree to which it is creative and maintaining the local and national needs and especially with limited resources. These programs also differ in the sense of the strategies employed, the educational processes, the organizational structures and their relationship with overall health system. There is also a common thread which runs through all the stories, i.e. the commonness of attitude of perseverance, of belief, of accepting the challenge, and of having the vision. Also each of the stories is based on the same question – how can an educational program be effectively organized to ensure that its fundamental purpose - educate health care providers; advance knowledge through research, and provide care to the communities they serve- be achieved?
Chapter 1: Evolution of Community Based Education

Community Based Education (CBE)

Oxford Dictionary describes Community as “a group of people living in the same place or having a particular characteristic in common” or “the people of a district or country considered collectively, especially in the context of social values and responsibilities; or a society”. Community, therefore in the context of the subject of this book is the core of all activities and the learning; it is all about community and care of the people. Without the community the entire purpose of education defies; without which the preparation of professionals is meaningless; and without which we would not have been writing this book.

Community Based Education (CBE) is a form of instruction where students learn professional competencies in a community setting to help students build a sense of connection with their communities. CBE is a popular approach for all forms of education and for all age groups especially at higher education level where the primary purpose is to foster interdependence between education and communities for enhancing the capacity of individuals and groups for improving their quality of life. The definition developed by the Community Based Learning (CBL) Working Group at Johns Hopkins University states that “it is a pedagogical model that connects classroom-based work with meaningful community involvement and exchange”. Within the context of equitable partnership, community organizations and students mutually benefit from the CBL experience both by meeting course objectives and addressing community identified goals. CBE or CBL – as the chapter uses these two terms interchangeably- is not a new idea and it means more than “education or learning based in the community”. It implies an education plan created as a result of community involvement and designed to match community interests. As Villani & Atkins rightly put it ‘CBE goes beyond cognitive capacities and encompasses the social and emotional aspects of learning’; the emotional and social development of students comes from the collaborative efforts of parents, schools, and communities. Furthermore, CBE expands the definition of “intelligence” to include the learner’s ability to gain understanding, use knowledge, and solve problems, while developing a sense of self. Success is not based solely on learning core academic subjects, but couples academics with creativity and personal willpower through an emphasis on interpersonal relationships and intrapersonal development. CBE is centered on the student’s ability to recognize and support the needs of the surrounding community. In this way, students become accountable for providing values which stem from their freedom to express, develop, and solve the inherent problems or concerns they have for their community. Over the long-term use of this ideal model, the entire community will become involved in the process, thereby making the educational process cyclical and continuously propelled. Reciprocal relationships based on these ideals are promoted and fostered by all. It also creates collaborative efforts between educational institutions and communities to solve various problems.
CBE in the Health Professions Education

The fundamental purpose of establishing a Health Professions’ Education (HPE) institute is to achieve three goals: educate health care providers; advance knowledge through research, and provide care to the patients and communities they serve. To achieve these goals, various educational approaches were and are continuously being developed, innovated, experimented and implemented primarily to keep up with the rapidly changing societal health care needs and demands. During the last century, a number of reforms ranging from apprenticeship models of training to moving HPE to tertiary levels i.e. achieving educational relevance to community needs. CBE, on the other hand, refers to learning activities that take place in a particular setting, the community setting. In recent literature, the term CBE is frequently used as a general term encompassing the concept of COME as well.

For the book, we have used the term CBE for health professionals training as it is about education and preparation of a number of professionals concerned with the health care of populations and to resonate with the interdisciplinary, nonhierarchical blending of both conventional and complementary care from multiple professionals who may not identify their practice as being medicine-based. Furthermore, the notion of integrative health care includes the goals of treating the whole person, assisting the innate healing properties of each person, promoting health and wellness and the prevention of disease. To achieve this goal, an interdisciplinary team approach is required that is guided by consensus building, mutual respect, and a shared vision on health care, thus making CBE an inclusive term and hence our rationale to prefer CBE over COME.

Goals of CBE in Health Professions Education

CBE must consist of activities that utilize the community extensively and in a variety of, mainly, primary and secondary health care settings where not only students but also teachers, members of the community and representatives of other sector are actively engaged throughout the educational process. As Mennin elaborates, "CBE provides students with opportunities to become increasingly involved in health issues and, as their competency grows, to plan and provide care. CBE is about engaging in a creative way with communities in the context of real health problems while at the same time learning essential attitudes and skills applicable in both hospital and community settings." The overall goal of CBE is to improve the universal accessibility of basic health care; it aims at training of undergraduate health professional students in the diagnosis, management and, if possible, solution of community health problems. The general objective of CBE programs is to expand students’ notion of community health problems through their learning, service and research in the community and thereby to improve the health of the community in which the program is carried out, in particular to achieve:

- Universal access to and quality of health care including in remote and hard to reach populations.
- Holistic and comprehensive health care comprising of preventive, curative and rehabilitative services.
- Promote healthy behaviors and lifestyles.
- Reconcile individual and community health requirements, ensuring a balance.
- Team work within the health sector and with other socioeconomic sectors that influence health.

Historical Perspective of CBE

Before proceeding any further, we will discuss the historical context of CBE to illustrate how the idea was pioneered within health sector in general and education of health professionals in particular during last 50 years.

In 1978, in a meeting of world health leaders in Alma Atta, Kazakhstan, Primary Health Care (PHC) was considered as the vehicle for improving health care of populations and health care for all to be achieved by the year 2000 was set as a target. To ensure achievement of this goal, one of the strategies was to foster the type of educational program for health care providers that could make them responsive to the needs of populations they serve. Hence, one year later, a number of medical schools which were already into reforming their curriculum towards community needs and were trying to be more socially relevant, created a network - Towards Unity for Health (TUFH). In its founding meeting in Kingston, Jamaica, the terms Community Based Medical Education (CBME) and Community Oriented Medical Education (COME) were officiated.

The idea of training of health professionals to ensure care of sick (and healthy) population at their homes and neighborhoods, health promotion, proper sanitation and clean water for disease prevention started to show its current shape roughly a quarter century before the Alma Atta or the Network meetings. For example, as early as 1948, John Ryle emphasized the same notion and suggested that “the training of the doctor, which began with observations on and the care of the sick individual, is due now for a great forward stride. Observations on whole communities, whether great or small (or on appropriate samples), and improved health provisions for them,
must henceforward become the prior objective.” Few years later, Engel gave his Bio-Psycho-Social model emphasizing understanding of human behavior, the psychological and social dimensions (personal, emotional, family, community) in addition to the biological aspects (diseases) to be integrated in patient care and education of health professionals.16-17

Reflections of structured CBE started to appear in several HPE institutes around the world from early 60s, and by the time the term CBE was coined there were more than 20 HPE institutes that had already started offering innovative strategies for various categories of health professionals including physicians (many models), dentists (Australia, Colombia), Midwives (Thailand) Nurses (Philippines) and allied health workers (Papa New Guinea). These programs either revised their strategic orientation (a) to create community based and health oriented instead of disease oriented medical programs (Australia), or (b) made attempts to expand the training settings to include community hospital and health centers (Edinburgh, Finland, Thailand,) or (c) made changes in the educational processes and the organizational structures (Maastricht), to extend their relationship with the health services (Mexico City, Philippines) and other sectors (Nepal, Mexico City) and with community partnership (Mexico city, Yugoslavia) or (d) prepared their curricula based on the functions of health providers working in community health center (Australia, Algeria). Each program had at least attempted to introduce one or several modifications to what was later described as CBE.18-20 Amongst the later models, it would be worth mentioning a few more, in particular the three CBE models: Egypt, Sudan and Pakistan that emerged almost concurrently and pioneered the concepts in their own countries. The Faculty of Medicine at Suez Canal University developed their program based on the needs of the local community (El-Tal El-Kebir, a district in Ismailia Governorate, Egypt, then extended to included many other districts in 5 governorates) and designed learning activities around the idea of social responsibilities whereby the university and local community benefitted mutually21. Similarly, at the University of Gezira, Sudan, the philosophy of medical education was to strengthen local community through various partnership programs22 and Community Health Sciences Department of the Aga Khan University in Karachi, Pakistan started its program for urban poor and pioneered the concepts in their own countries.

Today, the health care scenario is faced by serious challenges such as widening gaps and inequities in health and its access, new re-emerging and reemerging communicable diseases in combination with upcoming non-communicable diseases, increased risks of infectious, environmental, and behavioral health problems and poor population at large, particularly of developing nations are still the ones who are suffering the most from these challenges. And along all this time, the HPE reforms...
did little good to avert the present health care scenario due to many interrelated problems as Frenk et al. in their recent paper have identified: “fragmented, outdated, and static curricula; mismatch of competencies to patient and population needs; poor teamwork; persistent gender stratification of professional status; narrow technical focus without broader contextual understanding; episodic encounters rather than continuous care; predominant hospital orientation at the expense of primary care; quantitative and qualitative imbalances in the professional labor market; and weak leadership to improve health-system performance.”

There are a number of challenges in implementing Community Based Education; unfortunately CBE remains misunderstood in many minds and serious doubts about its need and place in Health Professions Education continues to exist. Educators, practitioners and policy makers are still grappling with basic issues of accessibility, affordability, availability and quality health care at all levels of health care be it primary or tertiary. In the recent past there was an increased proliferation of HPE institutes moving in this direction, albeit without much change in the health status of population and with many un-answered questions: what are the implications of the reforms HPE was experimenting? What significant differences—if at all- will it bring? How do we learn from this and explain it? What more do we need to learn? What works? Where and with whom?

For HPE programs to be capable of producing community oriented health professionals who are available to improve access to health care, who are competent to improve the health outcomes of the population and who could avert the current health care challenges of society, it was imperative that the implementation of CBE takes place in its true sense, demanding strategic and sustainable change at large, i.e. well balanced HPE elements including institutional structure, curriculum and faculty, resource allocation and commitment at all levels.

References:
Chapter 2: Planning and Implementing Community Based Education: Global experiences and perspectives
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Introduction

Before we started to receive the contributions, we thought we will analyze, digest, and synthesize the received experiences from all contributors, then transform all the information into an integrated global experience that will be a guide for those who intend to adopt the Community Based Education strategy. By going through the received material, we were overwhelmed with the richness and uniqueness of each of these experiences that made us decide to keep every experience as an independent case study and to start with some analysis for the common characteristics and differences that were extracted from each experience and would help paint a vivid picture to what the CBE looks like around the world after decades of implementing such educational strategy. It is worth mentioning that these experiences were told from a student point of view (as in Egypt’s case study), faculty point of view (as in the Brazilian and Pakistani case studies), faculty administration point of view (as in the South African and Indian case studies), and from the clinician point of view (and this was uniquely described in the Bangladesh case study).

Towards a new definition of CBE

Community-Based Education (CBE) is learning that takes place in a setting external to the higher education institution.1 "Community-Based Medical Education (CBME) consists of activities that use the community extensively as a learning environment, where students, teachers, community members and representatives of other sectors are actively engaged throughout the educational experience in providing medical education that is relevant to community needs".2 This is how CBE is being defined since its inception, with a focus on the geographical location of the community but with a lower profile on the function and relationships that were more defined later on. For so long, the word “use the community” in the above definition may have given wrong signals of all kinds of “abuse of the community” that prevailed in the past especially by medical researchers who dealt with community people as guinea pigs, examining them, taking samples from their bodies, then turned their backs on them and never came back with any results or medicine. The full rights of the community people were translated at a later stage than the emergence of CBE in a relatively newer concepts like “Social Accountability” that held the Health Professions Education institutions, especially those which adopt CBE, accountable for their communities as well as being accountable for their students. Placing students in a setting external to the higher education institution and within the community would not meet, by itself, the challenge of Social Accountability of such institutions to their communities.

Another concept that prevailed in the previous decade was about “University-Community Partnerships” which fairly made an “on equal foot” relationship between the academia and community. This fair relationship has to be visible in the updated definitions of CBE, and clearly stated in the mission, institutional goals, and specific objectives of the community based schools and in a measurable way.

Kausar Khan and her colleagues from Aga Khan University in Pakistan (see their chapter later in this book) in their trial to update the definition of CBE and to integrate the relatively newer concepts say:

“A key component of the concept of Community Based Education is developing an ‘understanding’ of community, which includes understanding of their beliefs, customs, priorities, and power dynamics within families and the community groups. Centrality of ‘understanding’ the socio-cultural dynamics is different from understanding communities through survey results – through demographic profiles, health indicators and social determinants, to name some elements of conventional surveys. ‘Understanding’ communities also means respecting them as fellow human beings, even if there is disagreement with community values, for example communities may uphold inequalities between women and men. Once what it means ‘to know’ communities is clear, the meaning of CBE would also become clearer – that it is not just physically locating oneself within a community, but striving for building a non-judgmental understanding. How this is to be done is a matter that needs careful attention”.

As CBE does not necessarily contain within its meaning the imperative of ‘understanding’ communities, and as the trend of physical presence in communities shows as missing the desire to understand communities as they understand themselves and their lives. The phrase ‘community oriented’ or ‘community centered’ could be considered as an adjunct to CBE. However, the value of being physically ‘based’ in communities cannot be denied. To optimize understanding of community, being ‘community oriented’ is not enough. Being ‘community oriented’ along with being ‘community based’ enhances understanding of communities, when compared to just being ‘community oriented’.

A cautionary note: even if the conceptual commitment to understanding communities is unequivocally stated. The understanding to be attained would be compromised if adequate attention is not given to the pedagogies needed for acquiring this understanding. There is also a need to be conscious of the ideology that drives the desire to know communities. Thus, it would not be enough to merely wear the hat of an anthropologist for understanding community.

The ideology that recognizes the centrality of communities includes acceptance of the role of the communities in bringing change in their lives. Communities are not considered helpless, but have the ability to be agents of change – a change that yields better health outcomes, and changes in the determinants that adversely govern their lives. This ideology would require a pedagogy that sets in motion the making of the ‘critical consciousness’ (Paolo Freire) in communities. If this approach is taken, then partnerships with communities will reflect the relationship whereby all
interactions become educational, whereby the educator and learner reciprocate learning. In this partnership, the students coming from their learning sites (medical and nursing schools) are driven by two learning needs— to know the communities and, to know the learning needs for becoming health professional.

CBE is not merely establishing a physical presence in a community, and learning to give some services to various community groups – women, children, and disabled, to name some. CBE is being community oriented or community centered, whereby striving to know the community is a central concern. To understand and/or ‘to know’ the community means to learn to see how the communities see their realities and the world they live in. This desire to know with empathy the lives of community members, and the community at large (like knowing the trees but also knowing the jungle) would be a critical base for establishing partnerships, for they would be based on the notions of equality of being humans. The relationship thus established would enable the partners to hold each other accountable as they together strive for better conditions and health outcomes of the communities.

In their trial to revisit and update the CBE definition, Marietjie de Villiers and her colleagues from Stellenbosch University, in South Africa noted: “In the same way that our work in CBE progressed over the years, we found that our concept of CBE evolved over time. It became clear to us that the issue of where the training was taking place (the site) was no longer the main defining feature. New imperatives inserted themselves into our thinking which prompted us to consider broadening the definition of CBE, to embrace these emerging perspectives in order to better describe what we know happens in practice. Engaging on such a process of definitional revision is critical as the educational implications of CBE now, more than ever before, depend on what one understands by the concept”.

Based on the above contributions and drawing on the original WHO definition, our contemporary definition of CBE has expanded to include:

“Community Based Education is about the facilitation of learning in, with, for, and from the community, rendering relevant, meaningful and mutually agreed upon learning outcomes for health professionals and services to the populations in a community setting. CBE promotes active citizenship and social responsibility in learners as it is based on partnerships and reciprocity between communities and the educational institutions. Ultimately, CBE seeks to produce graduates who are available for improving access and enhancing quality health care for all”.

Why?

Starting from the rationale why each of these Health Professions Education institutions, thousands of kilometers away from each other, has taken CBE as its educational strategy is a story to tell by itself.

Who will challenge the strong rationale of Suez Canal University in Egypt that was established in 1978 to help develop the devastated Suez Canal Zone after the 1973 war between Israel and Egypt? The community of this area was in desperate need for a medical school that could help them help themselves in promoting their own health. The need for communication and collaboration with the community to identify its health needs and priority health problems was an essential prerequisite to build up a relevant curriculum for a medical school that starts, as it should, with needs assessment. To do so, there was no other way but to adopt an educational strategy that allows the community to be a significant and an integral part of the educational resources and decision making process of that institution. At that time, CBE was the strategy of choice that made its emergence and adoption a necessity, not just an attractive alternative.

The purpose of adopting Community Based and Community Oriented Medical Education in Aga Khan, Pakistan was to provide medical students with an opportunity to get to know and understand the community, the social and economic environment of the country and to assess the community’s health care needs. It was thought that the students needed to learn and practice skills and competencies not easily taught in tertiary hospitals.

In addition to its pivotal role in curriculum development, CBE often yields personal insight, growth, and values clarification; these are considered important aspects of students’ development. CBE provides a way for students to make a difference in their communities as part of a relevant, credit-bearing class experience. This concept was clearly stated in the experience at the School of Medicine of Ribeirão Preto–University in São Paulo (FMRF-USP) – Brazil. There was a clear message in the guidelines for medical education that were published in 2001 that through adopting and implementing Community-Based Education, and according to these guidelines, the medical school should: “provide opportunities for the students to learn relevant aspects of their future professional practice in real scenarios since the beginning of the course”.

From the students’ perspective, and according to the Brazilian experience, CBME has many advantages that include access to a wider variety of persons, both healthy and ill with early exposure to clinical skills; more continuity of care with patients in terms of following the natural history of diseases; added relevance to learning; more experience with the determinants of health and the impact of social, economic and political events on the health of people; more enjoyable educational experiences; and teachers who show interest in students and provide feedback.
As described in every chosen model, there was a good rationale why CBE was adopted in the first place. In Egypt’s model, the desperate community was the prime mover to this link between the community and academia and lead later to a clear inclusion of Social Accountability commitment in the school mission that was reflected in their institutional objectives, educational strategies and instructional methods. On the other hand, and in the Pakistani and Brazilian models, gaining advantages for a better development of the curriculum and for better students’ learning opportunities were the real reason behind adopting a CBE strategy. Probably we can hardly separate between the interest of the community from one side and the students and their curriculum from the other side as long as a mutual collaborative relationship is ensured where both partners equally contribute and equally benefit.

Who and when?

As a unique educational strategy, CBE is not regularly taken as the principal strategy when a HPE institution is to be established. In the meantime and for a well established school, transfer of education to the community is not an easy task. It takes a significant will and determination from a competent leadership and core of well convinced and highly trained faculty to do so. Who takes the initiative, according to the reported experiences in this book, is different from one experience to the other and especially between the well established and newly established schools. In case of a newly established school, like in Suez Canal Experience in Egypt back in 1978, the founding leadership adopted and started with CBE educational strategy and built up the school resources around this demanding strategy. In this case, it was not a specific department that lead and managed this transform, but a whole administration and whole team of faculty and assisting staff worked together towards this goal. On the other hand, when this decision was made by a well established school, like Stellenbosch University in South Africa, a division of Family Medicine and Primary Care was established in the Department of Internal Medicine, and then took the initiative to create a pilot site for initiating Community-Based Education. Also, in the FMRP-USP – Brazil, the Department of Hygiene and Preventive Medicine was created and among its responsibilities was defined the need to integrate Community-Based Education into the existing disciplines under the responsibility of other clinical departments.

The difference between the three experiences is related primarily to who owns the resources, especially the human resources, to lead such significant change. In all experiences, the stake holders were almost the same. Besides the faculty and students, the community representatives played the major role in initiating, supporting, and sustaining this strategy. Community representatives donated land to establish University-Community Partnership projects, provided labour in the form of male and female health workers and above all offered informal leaders who had the keys to the community outdoors. Community Participation played a significant role in giving context to the students’ activities within the community, and made the Social Accountability of the schools more relevant as an integral part of Community-Based Education. Without Community Involvement, students’ field activities would have gone only one way. Early exposure of students to the Community Based Learning Activities was a common feature in all CBE experiences and since day one in the curriculum. Who introduced the students to the community and coordinated their field activities was a different story. At Suez Canal experience all faculty, whether clinicians or working in Basic Sciences Departments, were trained to play the role of field tutors at one stage in their careers. They regularly get credit from working in such inter-departmental jobs that is added to their evaluation upon promotion to higher jobs. Field tutors work as catalysts for learning rather than to be considered as the only source of information for the students. In this respect, we should differentiate between the job of the field tutors (faculty staff), and the primary health care units doctors (belonging to the Ministry of Health) who also contribute actively in the educational process. In Aga Khan, the major challenge to sustain CBE is the human resources needed to facilitate students’ learning, and the finances needed to address the health and medical issues seen in the community as they differ substantially from those seen in patients in hospital settings. CBE curriculum in this school required adequate number of faculty to accompany the students to the field sites. The faculty: student ratio for field work and tutorials was around 1: 25. As most of the faculty were medical doctors with little or no systematic introduction to primary health care or experience of mentoring students in community health, this continues to make a burden on the “fit for purpose” human resources of the school.

There was no agreement among all experiences on when students are sent outside the school campus to perform their Community Based Learning Activities (CBLA). In fact, some schools provided a month-long rotation every year to the same site; others provided long-term experiences in a district hospital. According to the Suez Canal experience, CBLA were spread all across the curriculum and on weekly basis. In the first year (Phase 1 or pre-pathogenic phase) it was ranging from 1 to 2 days/week. In the second and third year (Phase 2 or pathogenesis phase), it was for 2 days/week. In years 4, 5 & 6 (Phase 3 or clinical clerkship phase), it was from 2 to 3 days including training in the primary and secondary care sites. Training on tertiary care was done mainly in the university teaching hospital inside the university campus. It was recorded that the all in all duration of Community Based Learning Activities have reached around 35% of the total undergraduate study time in that school. Thirty five years later, and due to economic constrains and change of leadership styles, the duration of CBLA were shortened, with shrinkage of the geographic outreach area of training students especially in far remote areas.

The cost of sending students, with daily back and forth transportation, to far remote areas made some schools have a second thought about making this a regular activity in the curriculum and was later substituted by sending the students in summer camps to such areas as an elective study, and in some other occasions for students’ research purposes. In some other instances, creative solutions were sought to overcome such problems, and to provide more structured rural training activities and
with a lower cost as will be described later in the South African and Brazilian models.

Where and how?

One of the challenges that CBE faces is where the students are learning, and how we ensure a safe, informative and well-organized environment for the students’ learning. Preparing urban field training sites close to the school was no big deal for most of the CBE schools with a low, affordable cost for students’ transportation, scientific and social care. The big challenge was where and how we introduce rural health to the CBE students?

A clear example of doing so was described in the South African model (Stellenbosch University), where a rural platform was designed as part of the undergraduate students’ training. A typical rural training site is a health sub-district serving a population of 30000 – 90000 people. The sub-district offers the services of dieticians, physiotherapists, occupational therapists, and speech-language and hearing therapists. Specialists from the regional hospital visit the district hospital on a regular basis. The fixed and mobile clinics are run by clinical nurse practitioners and the fixed clinics are generally visited once a week by a medical officer. The rural rotation is jointly presented by the Divisions of Family Medicine and Primary Care, Community Health and the Centre for Rehabilitation Studies in the Department of Interdisciplinary Health Sciences. This approach was adopted as part of a strategic curriculum decision to stimulate the integration of clinical and population-based health approaches in training and ultimately in the graduates. The module coordinator for this rotation is a lecturer in the Division of Family Medicine and Primary Care who is based at the rural regional hospital. Tutors at the rural sites are generally family physicians. In the absence of family physicians, however, resident medical officers provide the training. The University accredits these tutors as extraordinary lecturers. The aim of the rural rotation is to expose students to the generalist nature of rural practice, allowing them to enhance their skills in clinical judgment, and their diagnostic, therapeutic and procedural skills, as taught by a team of expert rural health workers. In addition, the exposure seeks to develop self-reliance and an understanding of the health challenges facing people and health workers in these areas. During the rotation the students are exposed to a wide variety of health services in the rural area. Students are introduced to community-based services and community care workers accompany them on home visits. The rural rotation is evaluated through the use of a log book of activities which students are asked to complete. Students rate each activity for perceived educational value and enjoyment. The results show that well-functioning rural health care centres provide excellent opportunities for students to develop the most relevant practical skills required of generalist doctors working in resource-limited settings. During the last 18 months of their studies (late clinical rotation), medical students become known as student interns as they undergo full-time clinical exposure in the major clinical disciplines. Approximately a third of student interns do the 5-week Family Medicine/Community Health/Rehabilitation rotation at a rural site.

Another model of rural training sites was developed thousands of miles away and described in details in the Brazil story (School of Medicine of Ribeirão Preto from University of São Paulo). An outpatient clinic was started at Cassia dos Coqueiros municipality, the health care unit that has been serving the local community and medical school as a teaching/learning platform and is co-managed by the local secretory of health. In the past decades the local society of this area, in partnership with medical students and faculty members, has been working together on many actions related to health promotion and individual and collective care. Till now this medical center is the only service in that municipality and all the medical care has been provided by undergraduate medical students in their final year, along with assistant physicians, family medicine residents and faculty members. The main goal of this rotation is to offer the experience of primary-care carried out in short-population municipalities, to the students. During 4 weeks, a group of 4-5 students move from Ribeirão Preto to Cassia dos Coqueiros for their clerkship rotation, and have accommodations and meals in the school center dependencies. Students have the opportunity to take care of patients with an extended spectrum of clinical conditions from primary care until the basic emergency room. Besides this, they are also required to assist patients in their home (domiciliary visits) or in long-term care facilities, as well as to conduct health education in local schools and kindergartens. Students and faculty are also involved in a municipal Inter-professional network that includes social service, education, sports, public security, aiming at promoting the quality of life in that municipality. This is a rare opportunity for students to develop skills beyond the strictly medical techniques, such as communication, leadership, and teamwork. The management of this health unit is established in a formal agreement and is shared in a Management Council which includes: medical school representatives (administration, faculty members, and students), local health system managers, health care workers, and local people representing the community. This model assures an open space for the community to bring their perception and needs to be debated with other stakeholders. There is a clear and maintained belief that this experience offers much more than health care learning opportunities. It stimulates and empowers the community members and also medical students on their journey to become doctors.

The Christian Medical College (CMC) at Vellore, India has also a unique experience in finding the proper places for their students’ Community Based Learning Activities. Following the mandate of the Medical Council of India that all medical students needed to be exposed to the community and its health needs, CMC was the first institute to implement a structured program to this effect. Since the Community Health Department was already conducting primary care programs in the community and the leaders of all the villagers appreciated the work being done, they were happy to have the students live in the village. They thought it would benefit the community. The head of the village offered an unused building as a class room and a part of his agricultural land to construct a temporary hall for the students to camp in. He also
permitted the use of his well. Temporary sanitary latrines were constructed. This was a novel structure in a village which usually used the open land. It was difficult to arrange the logistics for girls to stay in the village over night. They stayed in the college hostel and left early in the morning to reach the village by 6.00 am every day before the morning session started. They left only at 7.30 pm after dinner. This enabled the girls also to have a full day’s program in the village. They only missed the overnight stay in the village which the boys enjoyed. The program was a combination of house to house surveys, conducting simple studies such as assessment of nutritional status of children, conducting a clinic for the sick, organizing games for the children, giving health education through street plays and folk media. This program emphasized the concept of learning by doing. In addition to the main objectives of COP, students also learnt biostatistics, sociology, behavioral science and environment science, subjects which until then were not the most popular among medical students and the real value of which was not fully appreciated at that time. Fortunately the program was a big success. Learning by doing was an effective learning tool. Student feedback affirmed this as well.

It is worth mentioning here that focusing on primary care and rural health does not mean that secondary and tertiary care are not as essential in training health professionals in Community Based Education curricula. Giving primary care and rural health what they deserve according to their importance and real weight in training health professionals is what the CBE is all about.

What?

Through reviewing and analyzing the above included experiences, we can conclude that many institutions from different poles of the world have succeeded over the years to implement a full CBE strategy that is reflected all across their curricula and on all its components: education, service, and research.

In relevance to education, and starting from the identification of the national health needs and community health problems, then the formulation of the school mission, it is evident in all the displayed examples the commitment of all these schools to the concepts, principles, and values of CBE. Take the Aga Khan University example and its mission that states: “to produce competent general physicians equipped with a sound foundation of basic biological, biomedical, clinical and social sciences, able to serve both individuals and populations, in rural and urban areas, and work with limited financial and human resources”. It made it easy for the educationists of this school to derive the institutional objectives that translate this mission into intermediate and specific objectives down to the level of intended Learning Outcomes that both the faculty and students can be very clear about and work straight forward towards its achievement. We will pick up another example which is the Suez Canal University and focus on their Institutional objectives that were derived from their mission and describe in so many words their intent to create a learning environment that also reflect the concepts, rationale, and strategies of CBE as follows:

1. To qualify physicians whose primary objective is to provide health care in a combined hospital-community system with major emphasis on primary health care.
2. To relate medical education to the community health needs of the society, so that the graduate physicians would be able to diagnose and manage the community health problems.
3. To develop and implement with the Ministry of Health, and other health care delivery bodies, an integrated system for comprehensive health care delivery and health manpower development in the Suez Canal Region and Sinai.
4. To develop and provide programs for postgraduate training and continuing education of health personnel.
5. To develop research programs that address primarily the real health needs of the local community with a wider focus on the essential national health research.

The curriculum content differs from one school to the other according to the identified health needs and priority health problems of the local/regional/national and to some extent the international community with more focus on the local and national needs and problems. As a consequence, the curriculum becomes highly dynamic, and very responsive to the frequent changes in the health map.

As a next step in designing the CBE curriculum, there was a consensus among all the contributors that the instructional methods are based on Community Based Learning Activities that diversify the experiences of the students with early, but gradual, exposure to the community and are also based on learning than teaching, and students-centered than teacher-centered. Urban, rural, occupational, school health, household (family visits), primary health care, secondary and tertiary health care settings were planned and prepared for this purpose. Faculty are mostly playing different roles than their traditional roles as teachers and primary source of information through lectures and labs. In addition to that, they play the roles of field tutors, field coordinators, block planners, mentors, and evaluators. Students’ portfolios are used for students’ reflection on their CBLA and regularly evaluated by their tutors. In Stellenbosch University, the rural rotation is evaluated through the use of a log book of activities which students are asked to complete. Students rate each activity for perceived educational value and enjoyment. The results show that well-functioning rural health care centres provide excellent opportunities for students to develop the most relevant practical skills required of generalist doctors working in resource-limited settings.

In terms of the service component which represents the major bulk of the Social Accountability of the school, and in all included experiences, the services were targeting mainly the unprivileged communities in remote areas who are deprived from the governmental services. Building health facilities by the university in such rural areas is a common practice in most of the included experiences in this book, but highly evident in the Stellenbosch University example, where faculty of different
specialties and from different health disciplines like medicine, dentistry, pharmacy, and nursing are working together within an Interprofessional Collaboration concept to provide chance for students from all these disciplines to learn together in an Interprofessional Education concept. The students, under strict supervision from faculty are learning through serving the community people. As well, they play a pivotal role in training male and female health workers who are chosen from the local community to actively participate towards the promotion of their own health.

As for the research component, creative ideas have lead many of these schools to allow students to participate in the community diagnosis at an early stage of the undergraduate study, then to start intervention when they reach the clerkship phase. Aga Khan University was a good example in applying that where community representatives and community health workers are deeply involved in these students’ research work activities from the planning phase, through data collection, analysis of results, and defense in the presence of all share holders including community members.

What it takes to adopt and run CBE strategy? What would be needed in terms of resources whether human, technical, physical, or financial cannot be ignored when a decision is about to be made in the direction of adopting CBE. Investment in training and change of mindset of faculty and their attitude towards the new trends in medical education is highly recommended even before taking the actual steps to convert to such innovative educational strategies like CBE. Many misconceptions usually take place when this option is considered for discussion especially in well established schools of medicine like: What kind of graduates we aim to produce? Are we going to produce bare-footed doctors? It takes transformational leaders to be able to lead such change in attitude towards this controversial and demanding educational strategy.

Aga Khan University was well aware of this demand during the establishment of its CBE program. Its curriculum required adequate number of faculty to accompany the students to the field sites. The faculty: student ratio for field work and tutorials was around 1:25. Most of the faculty were medical doctors with little or no systematic introduction to either primary health care or experience of mentoring students in community health. Pakistan still is, and has been short of qualified faculty particularly in Basic and Community Health Sciences (CHS). Initially CHS had to recruit faculty that the administration saw as having potential in public health. They were given a short intense course of training (the “Preceptor Orientation Programme” or POP) to develop a potential cadre of “preceptors” who were useful field instructors. Every year the newly recruited faculty received training in sciences relevant to Community Health before they started interacting with the students. This early initiative of educating faculty for Community Based Education was itself community based. The Preceptor Orientation Program was supplemented with other related in-house learning courses and assignments (for example, communication skills; participatory approaches). With these in-house learning, the faculty were assigned to different field sites as Community Health Doctors (CHDs) who teamed up with Community Health Nurses (CHNs, another evolving cadre), and after a year or so in this position, the preceptor would become a Field Director and experienced the making of management skills – managing a three tier team of health workers, and required to use information generated by a well developed Management-Information-System for monitoring progress in the field and planning new interventions.

At Suez Canal University, this process, by time, became more organized. All new comers who work as faculty should start their faculty development program in the school’s Education Development Centre (EDC) called CRD (Centre for Research and Development in Medical Education) by being trained to be field tutors among other inter-departmental jobs. This would be just a starter for a continuing training program that goes all along their professional career. Junior faculty, who finish only their preparatory training courses, work as field co-tutors under supervision from senior tutors and for quite sometimes until they prove proficiency to work, on their own, as tutors. Taking higher levels of training in this field allow faculty to share in higher inter-departmental jobs like block planning, field work coordinators, phase coordinators, and even higher jobs.

In relevance to the physical resources, moving from the hospital to the community centers requires months and sometimes years of negotiation between the HPE institution and the local health authorities to reach acceptable agreements, and definitely this is not an easy process: this is what the School of Medicine; Ribeirão Preto-University of São Paulo had to say. They also said that the values, priorities and culture of these two entities are not the same and may reflect opposite interests and expectations. This should be taken into consideration during the negotiation process, which has to find common interests and opportunities for both medical school and local health system. One good example of a situation that may generate conflict may be a new medical service offered by the medical school in an outpatient clinic that needs to be interrupted during academic vacations. Students and faculty members stop their activities and come back weeks or months later. From the patients and health system perspective this attitude is not acceptable and the medical school must find a way to maintain the service even if the students are not there.

Community Involvement

Community-Based Education has broader implications on the educational process as a whole and involves the community as an indispensable part of the education developmental process\(^1\). It is no longer appropriate to regard the role of the community in Health Professions Education as an add-on to a curriculum dominated by biology and technology, with establishments and students steeped in a hierarchy of disciplines where biology rules to the exclusion of most of the other social, political, economic and psychological factors that play important roles in the determination of health\(^2\). According to Suez Canal experience, and other global experiences, there are levels for involving the community in CBE. It usually starts with Community
Participation where community people donate land to build students’ training facilities, and donate food and drinks to students during their training. Community people usually react positively to the little, but significant, services done by the students and their faculty as long as they feel that they come together for a long, sustained relationship that will last for quite some time and not just a one way relation where community people will be used as guinea pigs for the academia’s selfish research work. Among the participatory activities of the community is their role in the evaluation of the students’ performance especially when they are invited to attend the presentations and defense of the students at the end of the students’ field projects where the community representatives are usually invited as jury in the presence of faculty as judges. Gaining confidence would move the community to a higher level of involvement which is the “Community Empowerment” level. At this stage people are ready to learn skills from academia that would help them help themselves like communication skills, training of male and female health workers, and even training women through “functional literacy programs”, and children through “child to child programs”. Taking community people to this stage of readiness to be treated on equal foot qualify them for the next level of involvement as they become equal partners in “University-Community Partnership”.

In the Bangladesh case study, we found a unique experience in involving the community in both education and health services especially during wars. Dr. Chowdhury and his colleagues reported: “The young community volunteers learned fast. In less than two weeks they learnt temperature reading with thermometers, radial pulse taking at wrist, respiration recording, blood pressure measurement, observing and recording chest movements, wound dressing, identification of common drugs, and above all nursing with a smile. They also learnt to recognise signs of shock, jaundice and anaemia. They managed daily 480 patients and their compassionate caring helped in the recovery of a large number of wounded guerrilla fighters. Every week at least 10% of the wounded freedom fighters returned to the battle field. Doctors and medical students gained and learned the most. Their closed minds opened and they realized the value of teamwork, the importance of every member irrespective of education level and responsibility. Given the opportunity, people with less education can acquire many important skills and perform important medical tasks thus enabling a few doctors to serve a large population”.

Walking students through the Community Based Learning Activities

In Bangladesh, and in Gonoshasthaya Samaj Vittik Medical College (GSVMC), the local paramedics and the GK clinic doctors introduce the students to female headed households, village elders, local elected leaders, and doctors of the nearest government hospital and members of the Management Committee for GK program. On the first day, students get to know each other through detailed introductions where they learn about each other’s family and educational background. They are usually amused to find that almost all of them had studied in big towns and had private tuition and had never ever lived in a village for a fortnight. On the second day, paramedics teach the students to cut nails of villagers, thermometer reading, pulse and measurement of Blood Pressure. Paramedics introduce them to pregnant women at domiciliary antenatal clinics, and orient them to the care of elderly and disabled persons.

Students are taught by paramedics how to recognise various social groups on the basis of family size, assets, lifestyle, daily food consumption, education, occupation, health situation, access to market, school and local government offices, availability of water and sanitation, religious beliefs, social security and credit worthiness.

Students in batches of 5 are taken to different villages to identify destitute, ultra poor, poor, middle class and rich families and to make case reports. They are also tasked with the identification of malnourished children and aneamic pregnant women. They are encouraged to talk to family members to discover the causes of maladies.

Students are encouraged to donate blood and are taught blood grouping, cross matching and haemoglobin estimation and to identify a potential recipient of their blood, an anaemic man or woman to receive their blood.

They are encouraged to visit the nearby governmental hospital and private clinics. They discovered that people with greater need for services receive less care. GK clinic doctors help them understand the value of ‘the Inverse Care Law’.

The study of social history of medicine is important, but even more important is walking through villages and visiting people of various social categories; students begin to understand the anatomy and physiology of the society. Learning about the manifestations and causes of poverty is an essential part of becoming socially responsible doctors.

The groups also find out who gets health care and where. Finally, they prepare reports to be discussed in the class room of GSVMC. The students have to spend in rural areas another 2 weeks during 2nd and 3rd semester, and 4 weeks in each of 6th, 7th, 8th and 9th semester. The latter 4 months are more oriented to clinical work. These clinical student groups staying at GK rural clinics for 4 weeks in four consecutive semesters are accompanied by 4-5 clinical teachers. Relevant clinical problems which are observed during visits to village homes and schools at day time are discussed in the evening. Students also accompany paramedics (sometimes during night hours) to observe homebirths assisted by Traditional Birth Attendants (TBAs). They discuss with the family the reasons for their preference for home birth despite a campaign for institutional delivery by medical professionals, The Ministry of Health and Family Welfare (MoHFW) and international organizations such as UNICEF, WHO, Save the Children etc.

Students are encouraged to calculate and compare the expenditure involved in Home Births and Institutional Delivery and analyse why increasingly higher number
of Caesarean Sections are performed in private clinics, the impact of privatization on health care and private practice of government doctors. They visit local medicine shops, practice of village doctor or spiritual healers, religious leaders, local government offices, government community clinic, union, sub-district and district hospitals to observe their functioning and utilization of services. Who uses these services most? Try to find out why more poor children die than non-poor children. How to prevent this? How the poor survive in the market economy turmoil? Students are asked to discuss all these questions and their observations and findings with members of the community to learn their views, beliefs and perceptions and also record their suggestions for remedy.

Students participate in campaign against smoking and betel nut chewing.

At night, the students, teachers and paramedics discuss and debate the Alma Ata Declaration and Peoples Charter for Health. They find out causes of ill health and understand better the social determinants of health. They discuss their findings with the local health officials who in return make the students understand problems and constraints of the government health system.

Social Accountability

The Social Accountability of medical schools has been defined as their "obligation to direct . . . education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to direct . . . education, research and service activities towards addressing the priority health concerns of the government health system.

Community Involvement in planning and implementing research projects. To do so, the students should be always oriented to the priority health needs and problems. The service component should involve the faculty, students, with full participation from other sectors than health to participate in the integrated and comprehensive development of the local, and national community with an eye on what’s happening around in the regional and global communities.

Integrating other approaches

Although CBE was considered as a full educational strategy in some HPE institutions all over the world, yet in so many occasions other educational strategies have been integrated with CBE to help achieve its goals and objectives. If we take Suez Canal experience as an example, Problem Based Learning (PBL) was chosen to fulfill many of the institutional objectives in a unique combination with Community Based Education that address clearly the community health needs and priority health problems in its integrated curriculum. The problems chosen for PBL class tutorials were selected and continuously updated, by contributions from the faculty, students, and community representatives during training of students under faculty supervision in the Community Based Learning Activities. Addressing such community needs and health problems that the students have witnessed by their own eyes during their field work in CBLA settings add more value, depth, and benefit to the problem solving practiced within the PBL strategy. On the other hand, the problem solving skills, and critical thinking experienced during PBL tutorials help students better communicate, discuss, and solve community problems during their field work activities within the community in CBE sessions.

Inter-Professional Education (IPE) was also one of these educational strategies that forced its existence to fulfill certain requirements during implementing the Community Based Learning Activities. In CBE, students learn through serving the community, and to serve the community it takes a whole health team from different health professions to collaborate together for both serving and learning. In 2010, an Inter-professional Working Group was established in Stellenbosch University consisting of representatives from all the undergraduate health professions programs. The new strategy took into consideration the pivotal role that IPE can play in equipping students as agents of change to effectively address the health needs of individuals and populations in the 21st century. The Faculty Board consequently accepted a strategy aimed at integrating IPE into all undergraduate curricula. The point of departure was not to present IPE as a loose-standing curriculum or activity, but as an integral part of a patient- and community-centred approach to be adopted by lecturers, students and graduates. The aim was thus to cultivate Social Accountability through transformative learning and an interdependence between various professions and service providers by modelling Inter-professional and Trans-professional Collaboration and Practice. It was decided to initially implement this strategy in the Stellenbosch CBE programmes where the traditional disciplinary silos were perceived to be less entrenched than in the tertiary environment and where learning activities were being experienced as more flexible and therefore open to creative innovation. The process of integration has included a number of key activities: Faculty representatives participated in an initiative by the Medical and Dental Professions Board of the Health Professions. Community-Based Inter-professional Service-Learning Activities in CBE were promoted and encouraged. In addition, research projects were initiated to determine to what extent Inter-professional and Service-Learning Activities contribute to transformative learning and the development of these core competencies. This process was enabled by the appointment of IPE facilitators at each rural placement site. These facilitators not only guide students in the inter-professional bio-psycho-social-spiritual approach in caring for a patient and a community, but they are also responsible to engage with the local community at
grassroots level. In doing so they determine needs with the community and help to facilitate a process whereby students can assist in addressing these health needs as well as reaching their learning outcomes. These facilitators also build trust with local health professionals and seek opportunities to assist with capacity building.

Obstacles & Challenges

For long, CBME institutions were seen as providing second-rate medicine that produces by the end bare-footed doctors. It took such institutions a long time to change this image in the eyes of the tertiary care minded people.

One of the main obstacles that has been faced and dealt with by Suez Canal University in Egypt was the lost trust between the community and the academia especially from the community side. For decades, academia and scientific researchers used to contact community people asking them questions related to their researches, conducting clinical exams, and even taking samples for investigations, then turn their backs on them and never come back neither with the results of investigations or with free samples of medicine. It was quite a challenge for FOM SCU team to change this image in the minds of simple people who used to hide inside their homes and never open the door for any academia. It took the team months and months to succeed in breaking the ice and get closer to the people with proper channels of communication. Frankness, openness, and transparency were the values that made difference in regaining the lost trust. The informal leaders were the keys to the community outdoors. Formal leaders were appointed by the government and contacting them first was a waste of time. Informal leaders played a significant role in breaking the ice by starting an awareness campaign in the local councils, mosques, churches, and during their social visits to the families. Staying within the community for sometime without asking people to provide anything, instead they carefully listen to what the community has to say conveys a clear message that the academia is here this time to help and stay rather than to abuse and run.

Another major challenge was to find or to substitute a leadership capable of inducing and sustaining the required change in the school environment. It takes a transformational leadership to keep an eye on the faculty under change, empowering them to the level that they become potential leadership capable of sustaining change and even modifying the change and enhancing its quality. Retirement of the great leadership who established the Suez Canal Faculty of Medicine, as the first CBE school in Egypt, had its impact on the quality of CBE program for quite some time until the second generation of leaders took over.

Financial issues related to implementing CBE programs come also as a challenge and cannot be ignored or underestimated. The Aga Khan experience confirmed that CBE is a resource intensive program. Substantial costs are clearly involved in implementing CBME that include: developing a curriculum, faculty recruitment and training, transport, office and accommodation costs for field work, as well as salaries for faculty and field staff. The General Medical Council in England has issued a call for an increase in Community-Based Medical Education. Accordingly, many medical schools are enhancing the community component of their curricula. A community-based junior medical firm has explored the potential costs, and highlighted some of the unresolved problems, which a major transfer of education to the community might engender. It came to the conclusion that Community-Based Medical Education is not a cheap option. The cost of this program for the academic year 1992-93 in this institution was 266,494 pounds, or 60 pounds per student session. This compares with the Service Increment for Teaching and Research (SIFTR) provision of 41,140 pounds per student per annum, or (excluding the 25% of SIFTR which is supposed to cover research costs), 64 pounds per student session.

Also, students’ initial resistance to learn in a Community Based Education mood is another big challenge to face. Unless faculty are well trained to lead students smoothly into this direction, problems are expected to happen. According to the Aga Khan experience, students prefer to leave this optional. Faculty according to the Brazilian experience, are mostly resistant to leave their fancy work environment in the teaching hospitals that provide mainly tertiary care and go with their students to the community based training sites to act as catalysts for students learning. The challenge of having faculty members interested in moving from the hospital and medical school facilities to other places with less governability and high workload is one of the relevant aspects to be taken into consideration while planning to start and sustain CBE activities in the FMRP-USP curriculum. FMRP-USP is a traditional school on basic and clinical research. The university and the medical school follow the dominant paradigm of “publish or perish”. The career is valued based on the publications like many health professions education institutions in the world including CBE, well known, schools which never put the service or education components of the faculty role into consideration when promotion is considered. Suez Canal University in Egypt has realized this problem very early after its establishment and included items in its bylaws that makes interdepartmental education and community service an essential component of the promotion process and give regular credit for its regular practice and minimum credit points that are needed to complete the promotion process that makes faculty offer their services in this domain without any effort from the school administration.

A “Burn out” syndrome was described in the Christian Medical College (CMC) at Vellore, India, where a fresh batch of students visited the same village every three years and the same family was often allotted to different batches. The family got tired of answering the same standard questions that the students needed to ask in order to complete their log books. “Burn out” of the community was avoided by using different villages each year and going back to the same community only once in 10 years. A second problem was that the village visit was between 2.00 and 4.00 pm. This was the time that the tired farmers, would be resting after a hard day’s work and the students would disturb them. The third limitation was the lack of opportunity to
see the village life in its entirety. Most village activities took place in the mornings and late evenings when the students were not present. With the pressure of regular examinations in other subjects such as pharmacology, microbiology and pathology as well as clinical subjects, there was a temptation for the students to absent themselves from this part of the Community Based Learning Activities.

The same institution from India sees that, and in comparison with the institutions that have full, well integrated community based programs all across their curricula, the community oriented/based programs, according to their own experience are largely confined to the Community Health Department and their project areas. There is inadequate integration with the teaching activities in the pre-clinical, para-clinical and clinical areas and consequently the chasm between community health and hospital based medicine has not been adequately bridged. Students are therefore more attracted to challenges of hospital based medicine. They do not see their clinical teachers practicing in the community, nor can they easily identify how the community approaches are applied in the hospital. Students may perceive that there is one kind of medicine for poor rural communities and another type of medicine in the hospital for people who can afford the treatment. These dichotomies need to be bridged for the training program to have more impact. It also needs to constantly adapt to the student needs and the health issues of the country. Some of the possible directions for development of this program are:

1. Strengthening of linkages between tertiary care and community.
2. Involvement of clinicians in planning and execution of community based health programs.
3. Teaching of clinical medicine by medical college hospital based teachers in the community.
4. Continuing involvement and responsibility of students for the health of the communities.
5. Increasing quantum of undergraduate clinical training in the primary and secondary training.
6. Increasing collaboration with programs like secondary hospital program, clinical epidemiology teaching programs, family medicine etc.

The political issue was, also, a big concern in the Brazilian experience. Changing health managers, whom all the agreements are held with, with every election leads to starting collaboration plans between HPE institutions and the Ministry of Health all over again. According to the same experience, evaluating students in Community Based Education settings is also a huge challenge, and needs a lot of organization and experience to conform to the scientific rules for evaluation of students in health professions. Convincing community members, and especially community representatives, to contribute to the process of periodically evaluating the students after their Community Based Learning Activities would even add more challenge.

**Sustainability of CBE programs**

Most of the CBE schools have been struggling over the years to anchor the change that has been made between the medical education and medical practice in the system. Memorandum of Understanding (MOU) was signed between the medical school administration of Suez Canal University and the local Ministry of Health (MOH) Officials upon the establishment of this school in Ismailia, Egypt to allow its students to be trained in the MOH facilities especially in the primary and secondary health care facilities. Such MOU has been subjected to ups and downs according to the type of leadership in both sides as it has never been supported by any legislative decrees.

In contrary to that situation and in Brazil in 1990 a Federal law was approved and called the unified health system also known as “SUS” (Sistema Único de Saúde) and stated that:

“All the public health system and facilities of SUS are scenarios of practice for training the new generation of health professionals, being a field for teaching and learning practice as well as research on public health in agreement with the Ministry of Education”. That was one of the greatest achievements that helped FMERP-USP in São Paulo to confidently train the new generations of health professionals and become capable of facing the challenges of a society in constant change.

In this respect, legislations have provided a safer environment to build up a more sustainable future of collaboration between the Health Professions Education Institutions and MOH than agreements that depend on personal motives.

Finding careers for graduates of CBE schools that match their training and suit the morals and values that they acquired during their learning would help sustain such programs and would give them reason to continue. Providing post-graduate consultations and continuing training is a guarantee for accomplishing the mission of CBE schools and will give example to other institutions to follow.

The Christian Medical College (CMC) at Vellore, India identified important factors that have contributed to the sustainability of their programs for almost 40 years which are:

1. The commitment of the institution to Community Based Education: This is reflected in the curriculum and the resources provided for Community Based Education Activities. The commitment of the institution is further reflected by the participation of the faculty in community based learning programs and by the continuing training given to its faculty and the efforts to upgrade their knowledge and skills.
2. Infrastructure: The infrastructure includes communities which have an extremely strong link with the institution.
3. Benefit to the community: If the community based program is to be successful and sustainable, there should be benefits for the community as well (mutual interest). The institution goes beyond medical care and addresses issues of
overall development such as environment, housing, water and empowerment of the disadvantaged and marginalized.

4. Community Exhaustion: Does the community get tired of students visiting their homes and asking them the same questions year after year? Every 10 years a new batch of students return to the same village and the community welcomes them.

5. Providing reasonable living Conditions for the students: To make the program attractive to the students, the living conditions must be satisfactory. It may be necessary to give them “live-in” experience at the community level but facilities should not be so poor that it becomes a deterrent. Fun should be considered to be part of their evening if they will spend the night in the village.

6. Benefit to students and the faculty: Students should see Community Based Education as an opportunity to improve their awareness, skills and attitude and should be an enjoyable learning activity. The faculty should also benefit from the community based activities. They should not see it as a teaching exercise alone but also as a means to promote community based research and service. There is ample opportunity to do health systems research to study risk factors and behavioural issues which they normally are not able to do in a teaching hospital.

Way Forward

Community Based Education is not just a way for students’ learning, it is in fact a whole strategy where students, faculty, local health authorities’ health professionals, and above all community people are learning how to collaborate together and participate towards improvement of the community and individual health. CBE was one of the translations of WHO initiative: health for all. Two main objectives were behind adopting CBE in a number of HPE institutions in the developing countries: These two objectives were, (1) to train a health team of students with considerable knowledge, skills, and attitude to work effectively in both rural and urban areas of the state and the nation, and (2) to provide comprehensive health care to a defined geographical area of the state and involve members of the community in the provision of health care to their communities.

Teaching students within the Health Professions Education Institutions and in their university teaching hospitals will not contribute much in reaching such goals. Graduates from traditional institutions know little about the national health needs, priority health problems, and essential national health research of their communities, and are not prepared to work in rural or remote areas especially with limited resources. Community Based Education can contribute significantly to solving such pertinent problems of Health Professions Education.
References:


Case Studies
(In alphabetical order of countries)
Bangladesh
Brazil
Egypt
India
Pakistan
South Africa
Chapter 3: Struggle for Community Based Medical Education in Bangladesh

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2. Laila Parvin Banu
3. Manzur Kadir Ahmed

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Bio-sketch
Dr. Zafrullah Chowdhury

Founder Trustee of Gonoshasthaya Kendra (GK) where he served as Projects Coordinator from 1972 till May 2009. Since then he has been working as Community Surgeon and General Practitioner for GK’s outreach programs in river and coastal islands of Bangladesh, and in urban slums of Dhaka. Trained as general and vascular surgeon in United Kingdom from 1965-1971. He passed Primary FRCS examination of Royal College of Surgeons in 1970, but did not sit for final F.R.C.S. examination as he left UK to join Bangladesh’s war of liberation initially as a guerilla fighter and later along with another Orthopedics and accident surgeon from England, Dr. M.A. Mobin set up Bangladesh Field Hospital. This was the first field hospital for freedom fighters and the refugees, located in the border between Tripura State of India and the then East Pakistan (Bangladesh). This was a make-shift 480-bed hospital run by 5 Bangladeshi doctors and a dozen volunteers, mostly female students, with no previous medical training.

In 1972, Zafrullah Chowdhury took on the challenge of developing an effective rural health care delivery system based on his experience of running a wartime field hospital with young women and men with no previous medical training and Gonoshasthaya Kendra (GK) was set up. The first concept paper on this ‘Basic Health Care in Rural Area’ presented in Dhaka in April 1972 later became the basis for international discussions on Primary Health Care. The experience of GK was one of the main working papers on which the Alma Ata Declaration of the World Health Organization was framed.

Dr. Chowdhury has translated a number of WHO publications from English to Bengal. He is the Chair of Board of Editors of monthly journal ‘Mashik Gonoshasthaya’ in Bangla which has over 200,000 readers. Numerous national and local awards were given in recognition of his role as a freedom fighter, community worker, social activist and innovator in the field of health care, education, women’s development and disaster management.
Chapter 3: Struggle for Community Based Medical Education in Bangladesh

I. BACKGROUND: Discovering How Doctors Think

Two young surgeons from United Kingdom arrived in India in early May 1971 to participate in Bangladesh’s War of Liberation against Pakistan. They were shocked to discover that not even fifty graduate doctors had joined the freedom struggle or the humanitarian work for the 10 million Bangladesh refugees who had fled the military crackdown, even though there were over 10,000 graduate doctors in the then East Pakistan. Did they not care about the people and their sufferings? The one and only senior surgeon and professor of surgery who did cross the border started private practice in Kolkata, India.

While millions were fleeing for their lives, did most doctors stay back because they felt protected by their class background? Or was it greed and opportunism? Ivan Illich4 ridiculed the medical profession as “sick and traders of sufferings, disease, disability and death” and always wishing “to convert the whole world in to a hospital ward”. George Bernard Shaw in The Doctor’s Dilemma said of doctors ‘most of them have no honour and no conscience’.5

In 1948, British doctors vehemently opposed free universal health coverage under the National Health Service (NHS). The British Medical Association (BMA) condemned the NHS ‘as the first step and a big one towards National Socialism as practiced in Germany’6. To contain the greed of consultants, Nye Bevan conceded the right to private practice by consultants and paying beds in NHS hospitals. Bevan referred to this concession as having ‘Stuffed their mouths with gold’7. In 1965, when the US Congress passed the Medicare Act to provide elderly people with free hospital insurance and physicians’ fees, the American Medical Association (AMA) spent 50 million USD on a campaign calling the act a ‘dangerous device invented in Germany’, ‘a communist plot’ and ‘Socialized Medicine’8.

Historical facts are important to sojourn through, but how does one manage an ever increasing flow of wounded freedom fighters and sick persons from refugee camps with only half a dozen freshly qualified young doctors. A large makeshift hospital was built with bamboos. The two British trained surgeons trained one of the junior doctors in basic anaesthetics; intubation, tracheotomy and spinal anaesthesia.

II. Learning from Rural People: The Birth of Gonoshasthaya Kendra9

While the liberation war was won on December 16th, 1971 and geographical and political independence was achieved, the struggle for social justice, health and education for all and better living began.

Returning from the battle front, a group of volunteers of the Bangladesh Field Hospital started visiting villages in Savar, 40-50 kilometres outside of the capital city Dhaka. Every day they met a variety of people, rich, poor and middle class, and also a few women, school teachers and students. The villagers welcomed the returnee volunteers with local foods and fruits. The villagers complained of too many children and too many child deaths, the absence of any health facility, too few schools, and scarcity of water, seeds and fertilizer.

Doctors gained and learned the most. Their closed minds opened and they realized the value of teamwork, the importance of every member irrespective of education level and responsibility. Given the opportunity, people with less education can acquire many important skills and perform important medical tasks thus enabling a few doctors to serve a large population.

The 480 bed makeshift hospital on the border of Tripura State of India and then the East Pakistan was known as the Bangladesh Field Hospital.
The group suggested hand tube wells for safe drinking water to prevent diarrhoeal deaths. Villagers together retorted, or two will die for lack of safe water while a whole family will die if the crop fails due to water shortage. “We need water for our crops as first priority and family planning supplies at domiciliary level. But no foreigners (people from other districts are called foreigners); please respect our culture”.

“What about health facility and maternity?” “Our children are born at home; we have good Dais (Traditional Birth Attendants) and our grandmothers. We need a hospital for management of insecticide poisoning, diarrhoea, cholera, ulcers, bad chest problems and repair of cut injuries that occur during village feuds”. “Who will build it?” the group asked. Silence for a few minutes. “We can give land for the hospital, bamboos and wood to build the structure”. “Who will pay for the running of the hospital” the group asked. Village elders suggested that, “every family will donate, 1 or 2 kilos of rice with each harvest”.

Why will the rich and poor contribute equal amounts? The rich earn more; they own more cultivable land, and have more domestic animals, more fruit trees. In such case, equal contribution is not fair, the group suggested.

A makeshift hospital was built on donated land and Gonoshastha Kendra was established on April 24th, 197210. An equitable Health Insurance (HI) with a monthly premium of taka two per family was introduced to a community of 50,000 people in the sub-district of Savar.

In Savar, the literacy rate was less than 10%, and among females it was even lower. A number of young village girls with 6 to 8 years schooling were recruited and taught basic body structure and its functions, especially that of reproductive organs, the dangers of smoking, value of colostrums and breast feeding, indications and side effects of family planning supplies and their contraindications, management of insecticide poisoning and cut injuries. Lessons were given on 20 frequently used medicines for infections, worms, cholera, diarrhoea, anaemia, common fevers and pain, peptic ulcers, skin problems, night blindness, lice infestations, eye and ear problems. They were trained in pulse, temperature and Blood Pressure (BP) recording, use of oxygen, incubator, suction apparatus, nebulizer, AMBO Bag for resuscitation, how to put up ECG connections (not interpreting ECG recordings), immunization, water and sanitation, home preparation of oral rehydration solution, distribution of family planning supplies, care of pregnant women (i.e. Antenatal Care) blood, stool and urine examination, detection of malaria parasite and tuberculosis bacteria.

All of them learnt venesection and how to apply an intravenous drip, washing and cleaning of wounds with soap and water, suturing of wounds and dressing. They also had practical lessons on menstrual regulation (early abortion) using vacuum aspiration. Some of them also learnt to perform lumbar puncture for drawing cerebrospinal fluid (CSF) and spinal anaesthesia. Some of them learnt to assist in the operation theatre and even perform minor surgery and Mini-Laparotomy tubal ligation which was reported in international media and the Lancet.11

Over 70% of these health workers, known as paramedics, were female. Field based training of paramedics continues for 6-12 months. They report and discuss every maternal and child death in an open community meeting (Death Audit) to establish the detailed facts of what happened and why, determine responsibility of paramedics, household members and the community, and finally, suggest improvements. Accordingly, GK paramedics adapt their suggestions to improve the service.

The World Bank12 observed in 2007 ‘Gonoshasthyay Kendra (GK) is now the second largest health service provider in the country after the Government.

a) GK has been actively applying the same basic model since 1972 and the model is therefore time-tested.

b) GK provides the whole range of health care from a specialized teaching hospital to community level field workers, and is accordingly most comparable in scope with the public system;

c) GK’s unit costs are low and thus replicable across the country;

d) GK has kept full records of its patients and their background since its early days;

e) GK carries out detailed verbal autopsies for all cases of maternal mortality and so provide a very rich and useful source of quantitative data and;

f) Unlike many NGOs ‘GK works in partnership with local government in a way that suggests the model could be replicated across the country’.

Presently, GK provides most cost effective comprehensive Primary Health Care to 1.2 million rural people in 23 sub-districts through 45 clinics and 5 hospitals. Every area health program has a Village Development Committee headed by an elected woman member of the local Union Parishad to oversee the work of paramedics.

GK also runs mobile clinics for approximately 0.5 million slum dwellers in Dhaka and Tongi (adjacent town of Gazipur district) and specialist medical and surgical camps in distant rural areas every 6-8 weeks.

10 From Battle Front to Community: Story of Gonoshastha Kendra, Gono Prokashoni, Dhaka, 1996

11 Chowdhury, S. and Chowdhury, Z, Tubectomy by Paraprofessional Surgeons in Rural Bangladesh, the Lancet, London, 27 September 1975

Learning from people has given GK paramedics a good dividend. True to learning from the villagers in 1972, GK paramedics presently provide ANC services to over 18,000 pregnant women every year. 77% births occur at home managed by dais and elderly relatives. The rest are institutional deliveries of which 9% are conducted at GK Hospitals and Centres. 63.85% eligible couples are practicing family planning.

<table>
<thead>
<tr>
<th>Place of child birth</th>
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<tbody>
<tr>
<td>Home</td>
<td>76.61%</td>
</tr>
<tr>
<td>GK Hospitals or Clinics</td>
<td>8.95%</td>
</tr>
<tr>
<td>Private Clinics</td>
<td>8.84%</td>
</tr>
<tr>
<td>Government Hospital</td>
<td>4.44%</td>
</tr>
<tr>
<td>Other NGO Clinics</td>
<td>1.16%</td>
</tr>
</tbody>
</table>

Demand from poor families to bring changes in uniform monthly premium of Taka 2 (US 2.5 cents) led to the introduction of a 6 category of social class based annual premium system. The 6 social classes are –

1. Destitute/ultra poor
2. Poor
3. Lower Middle class
4. Middle Class
5. Upper Middle Class
6. Rich

Geographical location of residence away from towns and difficult rural areas has a lower rate of annual premium. Smokers of all social categories have to pay a higher premium.

Paramedics had achieved MDG 4 and 5 in GK program areas before the target date of 2015.

<table>
<thead>
<tr>
<th>Place of child birth</th>
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<tbody>
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</tr>
<tr>
<td>Other NGO Clinics</td>
<td>1.16%</td>
</tr>
</tbody>
</table>

### Types of Child Births

<table>
<thead>
<tr>
<th>Types of Child Births</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal Delivery</td>
<td>88.49%</td>
</tr>
<tr>
<td>Normal Delivery assisted episiotomy</td>
<td>1.49%</td>
</tr>
<tr>
<td>Vacuum Extraction</td>
<td>0.10%</td>
</tr>
<tr>
<td>Caesarean Sections</td>
<td>9.92%</td>
</tr>
</tbody>
</table>

### Location of all Caesarian Section Child Births

<table>
<thead>
<tr>
<th>Location of all Caesarian Section Child Births</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Clinics</td>
<td>68.56%</td>
</tr>
<tr>
<td>Government Hospitals</td>
<td>11.78%</td>
</tr>
<tr>
<td>GK Hospitals &amp; Clinics</td>
<td>16.46%</td>
</tr>
<tr>
<td>Other NGO Hospitals</td>
<td>3.20%</td>
</tr>
</tbody>
</table>

Geographical location of residence away from towns and difficult rural areas has a lower rate of annual premium. Smokers of all social categories have to pay a higher premium.

Did the Medical Education wing of WHO take note?

### II Gonoshasthaya Samajittik Medical College (GSVMC)

- **GSVMC** was established in 1998 at Savar, Bangladesh (40 Kilometres from the capital city Dhaka) with 3 main objectives:
  1. Meritorious poor students from rural areas will be given free education.
  2. Paramedics and nurses with 12 years of education and minimum 5 years of practical work will be eligible for admission into MBBS and/or BDS course.
  3. All students will interact with community members during session periods and vacations, at sufficient lengths to be able to observe and exchange with the community and local families their perceptions, beliefs, experiences, knowledge and problems in the students’ field of study. The students will bring these case materials in to the class rooms for critical deliberation in which the concerned families and other community members may also be invited to attend at suitable times.11

### National 2010+2011

<table>
<thead>
<tr>
<th>GK Programme Area 1419 Bangla year (April 2011-April 2012)</th>
<th>National 2010+2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Mortality Ratio per 100,000 pregnancies</td>
<td>117.79</td>
</tr>
<tr>
<td>Infant Mortality per 1000 live births</td>
<td>14.06</td>
</tr>
<tr>
<td>Neonatal Mortality per 1000 live births</td>
<td>10.21</td>
</tr>
</tbody>
</table>

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13. Hossain Zillur R, Crisis and insecurity: The other face of poverty in Rethinking Rural Poverty, SAGE, New Delhi, 1995
15. Professor Anisur Rahman and 23 members of Working Group, Concept paper for community oriented ‘Gono Bishwabidyalay (People’s University), Dhaka, 1994
GSVMC has failed to achieve its first two objectives. The Admissions Committee was flabbergasted as not a single ‘meritorious poor student’ from a rural area applied for admission for the first few years. The committee discussed the matter with villagers and paramedics. Paramedics laughed and said, ‘how come you did not know that the poor do not produce ‘meritorious students’ as now-a-days ‘merit’ is a commodity to be acquired with expensive private tuition. Furthermore, most village schools do not have teachers of English, Mathematics and Sciences.’

The Ministry of Health and Family Welfare (MoHFW) and the Bangladesh Medical and Dental Council (BMDC), counterpart equivalent of the British Medical Council (GMC) objected and refused to register paramedic type students in MBBS or BDS course as these students had break of studies’, five years learning from the field and the community is not considered continued education!!

Upper echelon of the society knows how to prevent students from lower social backgrounds from entering higher education. Their aptitude and compassion for healthy life of the community is not considered important.

40% of British medical students came from professional families who were only 3% of the population16. 29% school leavers with three or more ‘A’ levels are privately educated and secured 57% of medical schools places17. In Bangladesh, at present over 80% medical students are from urban upper class background.

The college in accordance with its third objective, randomly distributes newly admitted 150 medical and 50 dental students into 5 groups (of male and female students) and asks them to report at 5 different rural locations for 14 days where they will have simple accommodation and ordinary meals similar to that consumed by rural poor and lower middle class. 4-5 teachers of anatomy, physiology, nutrition, community health or social anthropology accompany and stay with the groups for the whole period.

Going to the village

Local paramedics and the GK clinic doctors introduce the students to female headed households, village elders, local elected leaders, and doctors of the nearest government hospital and members of the Management Committee for GK program. On the first day, students get to know each other through detailed introductions where they learn about each other’s family and educational background. They are usually amused to find that almost all of them had studied in big towns and had private tuition and had never ever lived in a village for a fortnight. On the second day, paramedics teach the students to cut nails of villagers, thermometer reading, pulse and measurement of Blood Pressure. Paramedics introduce them to pregnant women at domiciliary antenatal clinics, and orient them to the care of elderly and disabled persons.

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Caring for the Elderly

Students are taught by paramedics how to recognise various social groups on the basis of family size, assets, lifestyle, daily food consumption, education, occupation, health situation, access to market, school and local government offices, availability of water and sanitation, religious beliefs, social security and credit worthiness.

Students in batches of 5 are taken to different villages to identify destitute, ultra poor, poor, middle class and rich families and to make case reports. They are also tasked with the identification of malnourished children and anaemic pregnant women. They are encouraged to talk to family members to discover the causes of maladies.
Students are encouraged to donate blood and are taught blood grouping, cross matching and haemoglobin estimation and to identify a potential recipient of their blood, an anaemic man or woman to receive their blood.

A student measuring pulse to an old woman

A student measuring blood pressure to a villager

They are encouraged to visit the nearby government hospital and private clinics. They discover that, people with greater need for services receive less care. GK clinic doctors help them understand the value of ‘the Inverse Care Law’\(^\text{18}\).

The study of social history of medicine is important, but even more important is walking through villages and visiting people of various social categories; students begin to understand the anatomy and physiology of the society. Learning about the manifestations and causes of poverty is an essential part of becoming socially responsible doctors.

The groups also find out who gets health care and where. Finally, they prepare reports to be discussed in the class room of GSVMC. The students have to spend in rural areas another 2 weeks during 2\(^\text{nd}\) and 3\(^\text{rd}\) semester, and 4 weeks in each of 6\(^\text{th}\), 7\(^\text{th}\), 8\(^\text{th}\) and 9\(^\text{th}\) semester. The latter 4 months are more oriented to clinical work. These clinical student groups staying at GK rural clinics for 4 weeks in four consecutive semesters are accompanied by 4-5 clinical teachers. Relevant clinical problems which are observed during visits to village homes and schools at day time are discussed in the evening. Students also accompany paramedics (sometimes during night hours) to observe homebirths assisted by Traditional Birth Attendants (TBAs). They discuss with the family the reasons for their preference for home birth despite a campaign for institutional delivery by medical professionals, MoHFW and international organizations such as UNICEF, WHO, Save the Children etc.

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Students are encouraged to calculate and compare the expenditure involved in Home Births and Institutional Delivery and analyse why increasingly higher number of Caesarean Sections are performed in private clinics, the impact of privatization on health care and private practice of government doctors. They visit local medicine shops, practice of village doctor or spiritual healers, religious leaders, local government offices, government community clinic, union, sub-district and district hospitals to observe their functioning and utilization of services. Who uses these services most? Try to find out why more poor children die than non-poor children. How to prevent this? How the poor survive in the market economy turmoil? Students are asked to discuss all these questions and their observations and findings with members of the community to learn their views, beliefs and perceptions and also record their suggestions for remedy.

III. Long March Ahead

Community Based Education (CBE) brings students closer to different classes of people, who in turn help students learn about social stratification and poverty and the implications for health and well being. CBE improves the understanding of rural power structure and its impact on health and illness. CBE learning is interesting but requires a new type of pedagogy.
Future doctors discover a new horizon and better understanding of the needs and priorities of the community. Unlike classroom teaching CBE requires a large number of dedicated and enlightened teachers who are also willing to learn from the community. Such teachers are in short-supply because of government’s policy of imitating “centres of excellence” ignoring the need of the masses in the name of adherence to so-called “International Standards” of medical education. The medical professional elite are prolonging the duration of post-graduate studies in order to prevent competition and protect their turf. In some developing countries, the medical establishment is discouraging short certificate and diploma courses and instead introducing long duration courses.

GSVMC’s struggle to educate future “Doctors for Health” instead of traders of diseases will continue.

Chapter 4: Community-Based Education experience at the Faculty of Medicine, RibeirãoPreto-University of São Paulo (FMRP-USP) –Brazil

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Bio-sketch
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Prof. Bollela was graduated at School of Medicine of Ribeirão Preto - University of São Paulo (Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo - FMRP-USP) in 1992. He did his specialization in Internal Medicine and Infectious Diseases (1993-1995). He finished his PhD in Internal Medicine in 2000. At the same year he was hired to teach in a new medical school in Ribeirão Preto where he was clerkship coordinator, Internal Medicine Head of Department and Dean with the responsibility of implementing the proposed PBL curriculum and its’ new community-based component, until 2007. From 2007 to 2010, he moved to São Paulo city where he was invited to be the clerkship coordinator of a new medical School. In 2005 he applied and was selected to a Fellowship Program at Foundation for Advancement of Medical Education and Research-FAIMER Institute (2006-2008) with a project focusing on clerkship curriculum design. In 2007, he participated as one of the co-founders of Brazilian FAIMER Regional Institute on Health Professions Education, where he still contributes. Since 2008, he has been serving as Global Faculty at Philadelphia FAIMER Institute. In 2009, Prof. Bollela finished his specialization in Hospital Administration and in 2010 applied for a position and was hired by FMRP-USP, his home medical school. In the same year he published a book titled: Competence-Based Curriculum for the clerkship: bridging the gaps. From 2007 to 2012 he participated as a member of the Ribeirão Preto Municipal Health Council, and had an active role on the discussions and deliberations about the Community-Based Education’s regulatory marks in the city. Actually, he coordinates the Infectious Diseases clerkship rotation, and he is: a member of FMRP-USP’s Graduation Committee, member of Residency Committee and has been a resource on Faculty development for curriculum design and student assessment in Brazil.

Chapter 4: Community-Based Education experience at the Faculty of Medicine, RibeirãoPreto-University of São Paulo (FMRP-USP) –Brazil

1. INTRODUCTION

The inspiration and motivation to write about the experience of Community-Based Education (CBE) at the Faculty of Medicine of RibeirãoPreto University of São Paulo [Faculdade de Medicina de RibeirãoPreto da Universidade de São Paulo – (FMRP-USP)] came from the invitation to participate in this book. The mission was to document and share FMRP-USP’s experience with educators, teachers, and community workers who intend to adopt such strategies and mainly want to organize know-how, what works, what doesn’t, pitfalls, and creative ways of approaching and involving local communities in such programs. The perspective presented here comes from a representative group of faculty members with some experience in implementing curriculum and for many years working with Community-Based Education program at FMRP-USP. Many of these people also have active roles as teachers and/or managers of health care facilities related both to the medical school and the local health system.

Considering the size and the huge diversity of Brazilian territory, this experience cannot necessarily, be generalized for all the regions and medical schools in the country. However, it certainly brings a realistic perspective about the main aspects that has been driving the actions related to CBE curriculum review and implementation in the past decades.

The chapter will be presented in sections, starting with the global vision about the Brazilian health care system and medical educational regulations; FMRP-USP context and its experience on CBE considering two periods: before and after the publication of Brazilian guidelines for undergraduate medical education curriculum, in 2001. Considering that FMRP-USP has more than 60 years of existence and many different curricula were proposed and implemented, there will be a section showing the evolution of the CBE in the past six decades and a description of the most relevant CBE experiences in the school. After that, authors present the synthesis of faced challenges and the lessons learned along the way. To close the chapter there will be a summary with the key take-home messages.

Before starting, we would like to present the concept of CBE which guided this chapter and is stated in two WHO documents. CBE consists of activities that utilize 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 involved throughout the educational experience. The other concept used here is the Community-Oriented Education (COE) which means a type of training of health personnel that focuses on both population groups and individuals, and that takes into account the health needs of the community. The COE might happen exclusively inside medical schools, while the CBE requires new and fresh air coming from outside the medical school or the university hospital walls. CBE is a mean of achieving educational relevance to community needs and, consequently, serves as a
way of implementing a Community-Oriented Education program.¹⁴

2. CONTEXT AND BACKGROUND

2.1. Brazil and the Brazilian Public Health System:

Brazil is a country with continental dimensions and widespread both regional and social inequalities. In 2011, Brazilian population was estimated to be 190.7 million people over an area of 8.5 million Km². Brazilian society is highly multicultural, with 47% classified as white, 46% as mixed race, and about 7% are black, Asian or natives. Urban areas concentrate 84% of the population, and the Southeast remains the most populous, with more than 80 million inhabitants.⁵

When Brazil emerged from military dictatorship in 1988 the wealthiest 10% of Brazilians held 49.5% of the national income, while the poorest 10% were left with just 0.7%. Between 1990 and 2011, poverty rates fell from 3.5% to 12.9% but almost 40 million people are still classified as poor, and 13 million people extremely poor. Ten percent of the adult population is illiterate. Health outcomes have improved, but sizeable disparities persist. After the return of democracy a new Federal Constitution was approved and, for the first time in Brazilian history, the State was obliged to provide universal and equitable access to health services. An integrated health system was established following principles of decentralization, and stating priorities for prevention. The new public health system was called “Unified Health System”, also known as “SUS” (Sistema Único de Saúde).⁶ It is written in the Brazilian constitution that SUS must provide comprehensive health coverage to every single citizen in the country. Despite the achievements of the past three decades, gradients in health status and access to health services persist along the lines of income, educational background, race, and country region.⁷ A defining characteristic of the contemporary health sector reform in Brazil is that it was driven much more by civil society rather than by governments, political parties, or international organizations.⁸ Brazilian law imposes no restrictions on the types of medical services to be provided by SUS, based on the view of health as a human right. SUS provides universal coverage, free of charge, however 20 to 30% of the population, mostly in the upper part of the income distribution, also have additional health insurance for private healthcare.⁹, ¹⁰

In the early 1990’s, initiatives in family oriented, community based primary care gained prominence, eventually leading to the reorientation of the system towards a primary care led model. In 1991, the Ministry of Health introduced the community health agents’ program, in an effort to reach underserved communities that had been excluded under the previous model. This led to the creation of the “Family Health Program” in 1994. This program works with teams of health professionals assigned to geographical areas that encompass 3,500 people each. The typical family health team includes a physician, a nurse, two nursing assistants and four or six locally hired community health workers.¹⁰

One of the greatest challenges regarding the sustainability of SUS has been the training of a new generation of health care workers capable to face the challenges of a society in constant change. The Brazilian Constitution states in the article 200:

“The unified health system (SUS) has the competence, according to the law, to coordinate the human resources formation in Health Professions Education (HPE)”.¹¹

In September of 1990 was approved the SUS law (8080 Federal Law), which stated that:

“All the public health system and facilities of SUS are scenarios of practice for training the new generation of health professionals, being a field for teaching and learning practice as well as research on public health in agreement with the Ministry of Education”.¹¹

Finally, in December of 1990, another complementary law was approved (Federal Law 8142) focusing on regulation of the new health system community representativeness. It stated that:

“…..representatives of the society (all the citizens who uses the system) has the right to participate in deliberative Health Councils in all levels (municipality, State and National) being responsible for sharing decisions regarding the health system”.¹¹

Each municipality had to organize and keep its’ own Health Council and 50% of the members ought to be from ordinary citizens while the other 50% will represent the municipality, health professionals, educational institutions, hospitals, health care workers and others instances.¹²

These laws have had a huge impact on health system organization and medical education changes. Their directives are systematized in 2001 Brazilian Guidelines for Medical Education, which is the most important document that guides all curriculum review and implementation¹.

2.2. Brazilian movement for change in Medical Education

The first two Imperial Academies of Medicine in Brazil were created in 1808. After two centuries, the country has around 200 hundred medical schools. From the beginning until the second half of the 20th century, many schools were created by the government initiative correlated to the Catholic Church. Since then, the number of private and non-profit organizations’ medical schools has risen to comprise almost 60% of Brazilian medical schools in 2013.¹³, ¹⁴

In 1918, the Rockefeller Foundation started a mission in Sao Paulo, the most developed State in Brazil. The Foundation started working as consultant of State government, especially on public health and medical education at the School of Medicine of University of São Paulo.¹⁵ The presence of the Rockefeller Foundation in Brazil had an impact on reorganization and expansion of basic sciences Labs and the first “permanent health units” with the focus on endemic infectious diseases. In the Medical Education field Rockefeller Foundation followed the dominant thinking in
The Flexner report impacted North America Medical Education and a few decades later also Latin America and Brazil. The most notable changes in Brazilian medical schools after this period were the investment in basic science infrastructure, inclusion of biomedical disciplines in the first two years of the medical curriculum, full-time job for medical teachers at University, and the creation and expansion of academic hospitals under the control of the medical school. These new hospitals were the required scenario for clinical teaching and practice for medical students. Most of them were managed by faculty members, and their purpose was closed related to the clinical research and teaching. For many decades the “gold standard” on clinical training for medical students in the Americas was the university hospital. After 1970, some important events like: Declaration of Alma-Ata (1978), the Declaration of Edinburgh (1988), the National Commission on Evaluation of Medical Education in Brazil (decade of 1990) were the inspiration and the theoretical basis for the publication of Brazilian Guidelines for Medical Education, in 2001.

Since 2001, the Brazilian Guidelines for Medical Education have been influencing the curriculum design and implementation of all the Brazilian medical schools. This ambitious document recommends a Competence-Based Curriculum with active, Student-Centered Learning. The aim is to graduate physicians capable of working as a general practitioner with critical, thoughtful, and humanistic characteristics. These doctors must be capable to diagnose and treat diseases and to interact with and assist communities to promote health and prevent disease. There is also a clear message in the guidelines towards a Problem-Based and Community-Based Education, and according to them the medical school should: “Provide opportunities for the students to learn relevant aspects of their future professional practice in real scenarios since the beginning of the course”.

This recommendation clearly breaks the tradition of teaching only basic sciences in the first two years of medical school. The guidelines sign to the diversity of scenarios for the undergraduate experience of medical students and clearly say that the university hospital is not enough for undergraduate medical education. Finally, it is defined that medical academy and health system must be articulated and sensitive to the society needs with emphasis on the Brazilian Unified Health System (SUS), which has the competence to have the final word regarding the real needs on Health Professions Education in the country.

Despite of what the guidelines states, it’s important to say that Brazilian society, in general and the higher education system in particular, is highly bureaucratic. Inertia and a number of unnecessary but compulsory official procedures, together with little autonomy for individual faculty members, create barriers to innovation and limit the introduction of new educational experiences. This is the context where medical schools try to move from the hospital centered to a new model that includes other scenarios and experiences within the community. Convergence of the educational and health system reforms have been actively stimulated by both the Education and the Health Ministries, working together to fund initiatives that foster curriculum changes HPE nationwide.

2.3. The School of Medicine of RibeirãoPreto of University of São Paulo-Brazil (FMRF-USP)

In 1948 a law was approved authorizing the creation of new medical schools outside the capital of the São Paulo state. RibeirãoPreto was chosen as this new medical school site. RibeirãoPreto is a city located in the São Paulo State, 300 kilometers far from São Paulo city and has a strong tradition on agriculture, especially coffee plant and sugar cane (FIGURE 1). Many young and experienced faculty members moved from first School of Medicine of University of São Paulo in the Capital to RibeirãoPreto city. Some international faculties were invited and accepted the challenge to initiate the new medical school. One of the guarantees offered by the state government and the Rockefeller Foundation was the funds to build a university hospital. In 1951 the course was authorized and in 1952, the new medical school started with the first class of students. The first university hospital was donated to the medical school and the FMRF-USP own hospital was finished 22 years later. The characteristics of the university hospital changed along the time. Before 1988 and the introduction of SUS, FMRF-USP faculty members had freedom to decide the profile of patients who will be followed in the hospital. This decision was based on the research lines and interests of each clinical specialty. Most of them were related to Chagas disease, which was a big public-health problem in this region, till the end of the 20th century. After the implementation of the new health system (SUS) and the incorporation of the university hospital in the national health system, patients could not access the university hospital care without a reference form, based on the new rules of the regulatory system. This change led to changes in the profile of patients seen in the hospital, and increase of cases’ complexity (cancer, complex surgery cases, immunodeficiency, etc.). Since its beginning, FMRF-USP had a strong tradition of research and post-graduate education, including Masters and PhD programs. FMRF-USP is the unit of the University of São Paulo with the highest number of published papers on Health Sciences, and University of São Paulo is the first in South America. It is natural that the main tradition in the school has been to value the research production more than undergraduate education, residency programs or assistance activities. The current number of post-graduate students exceeds the number of medical undergraduates, which is 600 for the total 6 years of medical curriculum. The FMRF-USP university hospital also offers medical residency programs since 1956 and has more than 500 residents every year. The FMRF-USP hospital complex has nowadays as well as the University Hospital, an emergency hospital, a Maternity hospital (MATER), and two secondary General Hospitals, one in RibeirãoPreto city and another in a city called AméricoBrasilienne, 60Km far from the medical school.
2.4. Evolution of curriculum at FMRP-USP

Analyses of FMRP-USP medical curriculum informs us that since the beginning of the medical school i.e. from 1952 the curriculum has continuously been improved and there were always some ingredients that could be characterized as Community-Oriented or Community-Based Education. From early on, the Department of Hygiene and Preventive Medicine was created and among its responsibilities included integration of preventive concepts into other disciplines and clinical departments. The intention was to integrate the concept of community practices into the entire curriculum, rather than creating isolated disciplines. For initial few years, however, teaching of community concepts continued as a subject named as “discipline of Hygiene”, which was part of the first year medical curriculum. Within few years FMRP-USP curriculum was revised and concepts of Preventive Medicine were added including topics like Statistics, Demographics, Epidemiology, Health Planning and Administration, and Social Sciences. There was still far way to go, as these topics remained part of theoretical instructions with limited real insertion in the community.

In 1966, health care programs for mothers and children were started along with Community Medicine or “rural clerkship” in a small municipality area named Cassia dos Coqueiros. These two activities turned around the situation and face of CBE at FMRP-USP. For decades now the rural rotation is not progressing but has become the most popular rotation at FMRP-USP. In the 1971 curriculum reform, new disciplines named as Preventive Medicine I, II, and III (375 hours), were created and offered to the third and fourth year.

In 1980, the credits and organization of Preventive Medicine courses were reviewed, but rural rotation remained unchanged. At that period, besides the Department of Social Medicine, only two departments had community-based curriculum activities: the Department of Pediatrics at Vila Lobato Community Center and Pradopolis (a small town close to RibeirãoPreto), and Department of Obstetrics and Gynecology at the Vila Lobato Community Center. Such panorama remained until 1993, when it was deployed a new curricular reform.

With the curriculum reform of 1993, there was a new attempt to expand activities following principles of CBE. The new disciplines were: “Health Care Initiation” offered to the first year (75 hours) and a major initiative called “Integrated Training Rotation” to be offered at the School Health Center (240 hours) during the 5th year. It was also called the “Community Medicine I” rotation at the family health centers and, as well, during the 5th year. The 1993 curriculum preserved the activities of Pediatrics and Obs. & Gyn. departments at Vila Lobato, as well as the traditional rural rotation that was renamed as “Community Medicine II”.

The latest FMRP-USP curriculum reform that sought to incorporate the national curriculum guidelines published in 2001, took place in 2007. It consolidated the achievements in terms of CBE from 1993 curriculum and there was an expansion of activities in the first four years and a new internship design increasing the CBE component. Following the guidelines, the early insertion of students in diverse community scenarios was carried out by creating a new set of disciplines from the 1st to the 4th year of medical school named “Community Health Care (CHC)” I to IV. During the fifth year “Integrated Training Rotation” and “Community Medicine” were combined (450 h) and in the sixth year “Community Medicine II” (240 h) was preserved. Internal Medicine, Surgery, Psychiatry and Orthopedic Departments started a new clerkship axis on emergency and urgency care which was held outside the medical school walls. In this new proposal, students will rotate in a general State Hospital (50%) and emergency room of School Medical Center (50%). Despite of not creating new rotations, Obs. & Gyn. Department included a new maternity hospital sharing with the university hospital as a clinical setting for the 5th and 6th year students. All these disciplines have mandatory character and at this point, CBE disciplines totalize 18.8% of FMRP-USP current medical curriculum. Considering the clerkship experience, 28.3% of students’ experiences in 2013 are happening outside the university hospital. TABLE 1 shows a summary of FMRP-USP CBE curriculum evolution.
### TABLE 1: The evolution of CBE/COE curriculum at FMRP-USP in the past six decades.

<table>
<thead>
<tr>
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<th>Department</th>
<th>Setting</th>
<th>Clerkship</th>
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<td>(Rural)</td>
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<td>Soc.Med.</td>
<td>Medical School</td>
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<td>SHC; General hospital</td>
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<td>Obs&amp;Gyn</td>
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<td>Soc.Med.</td>
<td>Cassia</td>
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* Consortium of Social Medicine, Pediatrics, Obs&Gyn, Neurology, Surgery, Psychiatry and Internal Medicine. # mixed activities within medical school and community (School Health Center and Family Medicine Units). SHC= School Heath Center; Fam. Med = family medicine units; Cassia Coqueiros= city where rural clerkship happens; SGH: secondary general hospital. Mater= maternity outside the university hospital.
3. THE MOST IMPORTANT EXPERIENCES ON CBE AT FMRF-USP IN THE LAST 60 YEARS

Considering the six decades of existence, it was decided to present the most relevant FMRF-USP experiences on CBE having the publication of Brazilian Guidelines for Medical Education as a turning point. This option emphasizes the original initiatives on CBE presented at FMRF-USP curriculum since 1961, with the institution of a Community Medicine rotation in the 6th year clerkship and many others after that. After 2001, FMRF-USP and many others medical schools in the country were pushed to review their curriculum and really consider increasing the students’ experiences outside the hospital, since the first year of the medical curriculum. This was facilitated by the national guidelines which increased the clerkship period from 12 to 24 months. The next four sections will present the most important CBE settings and their educational activities at FMRF-USP.

3.1. Cassia dos Coqueiros Community Medical rotation (Rural clerkship)

Cassia dos Coqueiros is a small town located in the State of São Paulo, with approximately 2,634 inhabitants, 32% of them residing in rural areas and 68% in the urban area. Cassia dos Coqueiros is 81 kilometers far from RibeirãoPreto and was a research scenario before the foundation of FMRF-USP, in 1951. Since 1945, Professor José Lima Pedreira de Freitas, a young parasitologist and medical doctor from the School of Medicine of the University of São Paulo, conducted studies focusing on clinical and epidemiological features of Chagas disease. Later, in 1953, Prof. Pedreira de Freitas was admitted as a professor of the FMRF-USP medical school, where he funded the former Hygiene and Preventive Medicine Department, currently named Social Medicine Department. On his own initiative, an outpatient clinic was started at Cassia dos Coqueiros municipality. The health care unit has been serving the local community and medical school as a teaching scenario and is co-managed by FMRF-USP and the local secretary of health (FIGURE 2).

In the past decades the local community, in partnership with medical students and faculty members, has been working on many actions related to health promotion and individual and collective care. This historical relationship between FMRF-USP and Cassia dos Coqueiros municipality was an example of a mutual relationship and mutual interest between the community and academia. The constitution of the National Unified Health System (SUS) in 1988 was an extra-stimulus for this relationship. Till now FMRF-USP medical center is the only service in that municipality and all the medical care has been provided by undergraduate medical students in their final year, along with assistant physicians, Family Medicine residents, and faculty members. The main goal of this rotation, currently named as Community Medicine II, is to offer the students the experience of primary-care carried out in short-population municipalities. During 4 weeks, a group of 4-5 students move from RibeirãoPreto to Cassia dos Coqueiros for their clerkship rotation, and have accommodations and meals in the school center dependencies. Students have the opportunity to take care of patients with an extended spectrum of clinical conditions from primary care until the basic emergency room. Besides this, they are also required to assist patients in their home (domiciliary visits) or in long-term care facilities, as well as to provide health education in local schools and kindergartens.

FIGURE 2 : Cassia dos Coqueiros at 1960’s with a group of students and faculty members looking for Trypanosoma Cruzi, the causative agent of Chagas’ disease (A); Cassia dos Coqueiros Rural Unit with local people and students after its renovation and re-opening (B).

Students and professors are also involved in a municipal Inter-professional Network that includes social services, education, sports, public security, among others, all aiming at promoting the quality of life in that municipality. This is a rare opportunity for students to develop skills beyond the strictly medical techniques, such as communication, leadership, teamwork, practice based learning and improvement. Student’s assessment is based on the global rating of live performance, cognitive assessment and direct observed procedure skills. It’s surprising how updated and aligned with the Brazilian Guidelines of Medical Education is the curriculum proposal and the clinical practice offered in this “senior” rotation, which has more than 45 years of existence.

The management of this health unit is established in a formal agreement and is shared in a Management Council which includes: medical school representatives (administration, faculty members, and students), local health system managers, health care workers, and local people representing the community. This model assures an open space for the community to bring their perception and needs to be debated with other stakeholders. In the past decade with the creation of other professions courses, there was an opportunity for Inter-professional Education in this scenario where Nutritionists and Health Informatics’ students have been involved with local leaders and population. There is a clear and maintained belief that this experience offers much more than health care learning opportunities. It stimulates and empowers the community members and also medical students on their journey to become doctors.
3.2. Vila Lobato Community Social Medical Center

In 1968, a group of pioneer teachers from the Departments of Social Medicine, Obs. & Gyn. and Child Care and Pediatrics from School of Medicine of RibeirãoPreto and School of Nursing of RibeirãoPreto from the University of São Paulo, started a conversation about health education outside the academy walls. As a result, emerged the idea of setting up the first medical center in a suburb of RibeirãoPreto. After agreements between the municipality authorities and FMRP-USP Pediatrics Department, it was decided to build a new medical center in a neighborhood called Vila Lobato, which consisted of hovels with no sanitation and no medical services, and strategically close to university campus.

Activities at Vila Lobato Community Social Medical Center began in 1969. At this time, the service was multidisciplinary: Internal Medicine, Pediatrics, Obs. & Gyn., Social Medicine and Psychiatry. Over the time, just Obs. & Gyn. and Pediatrics remained working at this medical center. Since the beginning, it was planned to offer opportunities for the undergraduate students to experience a more realistic scenario with focus on prevention rather than cure. These activities, based on outpatient child care for children living in the neighborhood, were (and still are) performed by undergraduate students from FMRP-USP and pediatrics residents. Currently, residents of the Family Medicine Department also participate. All these activities are under supervision of faculty and medical assistants of Pediatrics and Obs. & Gyn. Departments.

FIGURE 3 : Vila Lobato Community Social Medical Center with people waiting in front of the doctors’ offices (A); and a pediatrician consultation (B).

After three decades, all the families have sanitation in their houses. The support for this service comes from a partnership between medical school and municipality of RibeirãoPreto. Acting in this community, for more than 40 years, has been creating strong ties between the school and the community. A second generation, and possibly a third generation of patients from the same family has been using the services of this medical center. Besides the medical school staff, students, and residents, there is a set of different health professionals working together especially the nurses and social workers. In this unit, students can really experience Inter-professional integration of patient care. More recently nutrition students were included in clinical practice assisting children and adolescents especially fighting obesity.

The Vila Lobato CBE experience was reaffirmed but not impacted by the Brazilian guidelines and the SUS implementation. It was, and still is a primary health care unit managed by the partnership between municipality and medical school. It has been interesting to see new scenarios in the community being implemented and there is no doubt that Vila Lobato’s experience has been a model for Community Based Education within FMRP-USP in the years before the clerkship rotations. Despite of being a well succeeded experience on CBE at FMRP-USP, the curriculum activities of Pediatrics and Obs. & Gyn. Departments are still more predominant inside the university hospital, mainly because most of the teachers are specialists and have their clinics and teaching practice in the hospital.

3.3. School Health Center (SHC)

As presented before, the creation of one SHC beyond the university hospital was predicted by the original planning of FMRP-USP curriculum in 1951, but it took almost three decades for the SHC to become a reality. Among the reasons for the delay there was a group of people who did not want to move from the hospital to the community, and another group of people who said that such a well-planned and resourceful facility did not offer a “real experience” to the medical students, and would not prepare them to work in the primary health care. Actually, they were not against the community-based experience, but had the feeling that the SHC was not adding too much to the professional experience of future doctors. On the other hand this new scenario was under direct control of the medical school and less subjected to the political interference that usually disturbed the teaching conditions outside the medical school. After the introduction of the Unified Health System (SUS) in 1988, the SHC was integrated into the municipal system and since then the management of this unit has been shared by the medical school and the Secretary of Health. It’s important to say that when it was proposed and implemented (in 1980’s) this model of integration between the university and health system was a model where health unit was funded, under supervision and management of the medical school, and its services offered to the local community. There was not co-management between municipality and medical school. Consequently, there was a big difference from the municipality health care units and the SHC. Considering the differentiated funding and financial support, FMRP-USP medical center had much more in terms of infrastructure (offices for students, classrooms, etc.) and human resources, if compared with a common health unit under municipal control.

When started in 1980’s the SHC was established as a Secondary-Health Care facility, which would be a reference for general practitioners working in Primary Health Care units. In addition, it was also equipped with an emergency room with
open access to the population. Until 2001, the disciplines teaching in the SHC was very limited and restricted to Obs. & Gyn., Social Medicine and Pediatrics. Internal medicine and Surgery Departments were very reluctant to move their activities from the university hospital to the SHC. In 1990’s and with more intensity after 2001, the medical school made important review in the curriculum, with the intention of increasing CBE activities. One of the biggest challenges for education in this scenario was the perception that the unit was overloaded with patients presenting a huge variety of conditions. This situation was a challenge for both service and education, since there was no enough time available for taking care of the people and to discuss these cases with the students. Despite the constant offer for teachers to increase their activities in the SHC, only few accepted the challenge. One of the ways to solve this situation was the establishment of two assistance teams: one that deals with selected patients and is formed by the preceptors and their medical students, and another formed by assistant physicians who deal with the remaining patients. Another issue was the lack of space to accommodate more than a few groups of medical students. Considering the decision to increment CBE in SHC involving all the different specialties such as Internal Medicine, Pediatrics, Obs. & Gyn., an outpatient departments of the medical school, the university decided to build a new area where students. Considering the decision to increment CBE in SHC involving all the departments of the medical school, the university decided to build a new area where would be located the new emergency room and an outpatient clinic offering many different specialties such as Internal Medicine, Pediatrics, Obs. & Gyn., an outpatient clinic for small Surgery procedures, Psychiatry and Neurology. Another interesting point in this proposal was the real possibility for medical staff and students to work with other health professionals and students.

The evaluation of this experience showed that the original objectives of integration were not completely accomplished because the medical students were not learning by working within an Inter-professional teams. Perhaps, the most notorious exception to that is an ambulatory service called “Integrated Training Rotation”, proposed in the 1993 curriculum reform and implemented in 1998 for the 5th year students. This course, headed by the Social Medicine Department, intended to be an opportunity for students and medical residents to experiment a real integrative care, at least inside clinical medicine. Invitations were sent by the Graduation Committee to Internal Medicine, Surgery, Pediatric, Neurology, Psychiatry and Gynecology Departments and everybody took some degree of participation, mainly sending preceptors, rather than faculty members to participate in the new clerkship rotation. Groups of 3-8 preceptors simultaneously assist patients referred from the primary health care and discuss some cases seen by students, who are in groups of 10-15. Every day, each case is discussed with everyone attending the course that day, promoting a very meaningful contact, on a learning perspective. One of the limitations of this model might be the restricted number of patients that could be seen and followed every day. Reviewing the main diagnosis of patients followed in this service there are: chronic non-communicable diseases (hypertension, diabetes mellitus, dyslipidemias, metabolic syndrome, thyroid disorders, obesity, heart failure, renal failure, anxiety, and depression); infectious diseases (leprosy, tuberculosis, sexually transmitted diseases, skin and soft tissue, urinary tract and respiratory tract infections). Cancer patients are also diagnosed by the team, but most of them are referred to the university hospital.

In 2007, the latest curriculum review of the school was started. In this new curriculum there was an emergency care axis during the clerkship, and it was divided in two main experiences: the emergency room in the SHC plus general hospital rotation (5th year), and emergency room in the university hospital (6th year). The reason for that was the re-organization of the local and regional emergency care system. Since the year 2000, in RibeirãoPreto health system, nobody is allowed to reach the Hospital’s emergency room without a previous evaluation in the emergency district units. It is necessary for the patient to be referred and accepted by the local regulation to be seen in the reference hospital. This change had a huge impact on the undergraduate experience on emergency which was offered exclusively in the university hospital. After this change, students did not have the opportunity to see the most common and simple acute cases, like community-acquired pneumonia, or a chest pain due to gastritis. They could only see and follow more complex cases that were referred to the university hospital emergency room. For this reason the Internal medicine, Orthopedic and Surgery Departments discussed and proposed a 15-day rotation in the emergency room of SHC for the 5th year students.

Obviously, to achieve and maintain a preceptor/student ratio that is most of the time close to 1:2 is not easy, especially with taking into consideration the faculty members’ priorities. While the assistant physicians take it easy, not being pushed for publication or post-graduation, teachers face the challenge of balancing their participation on such a great-demanding learning activity with other relevant tasks of their function.

Finally, we believe that the most relevant role of the FMRP-USP SHC in the medical course is to fill the spectrum of degrees, in terms of medical-care complexity. While the university hospital accounts for the tertiary and quaternary medical-care, and the family health units account for the primary care, the SHC experience complete the teaching scenario, exposing students to a secondary-level of care and emergencies outside the hospital, which is also necessary to prepare doctors for the most common situations they will face in their professional life.

3.4. Family Medicine Units

In 1998, ten years after SUS creation, family health was defined as the strategy for primary health care and Ministry of Health had encouraged this kind of practice and stimulated medical schools to expose more and earlier students to Community-Based Education. In 1999, the School of Medicine of RibeirãoPreto responded to this call with the creation of family health units, in partnership with the municipal Secretary of Health and the Brazilian Ministry of Health. The funds for this new program came from the three involved institutions (Medical School, Ministry of Health and
This new scenario of medical education in primary health care was initially incorporated in one discipline - Integrated Training Rotation and Community Medicine I, for the 5th year clerkship. Subsequently, new changes were made in the medical curriculum and new disciplines, such as Community Health Care I and II (to the 1st and 2nd years of medical school), were carried out in family health units. Disciplines from other courses such as Nutrition, Physiotherapy, Speech Therapy, Occupational Therapy, Nursing, Dentistry, Pharmacy and Psychology also defined disciplines with a focus on primary health care. This allowed a multidisciplinary and multiprofessional experience with early integration of students in SUS.

The team’s activities consist of family health care to people living in the limited area of the unit, around eight hundred families on average. The modalities of care include: Reception, Medical, Dental, Nursing and other health professional consultations. Home visits are conducted by community health workers with other professionals. Health promotion and disease prevention activities are conducted in groups, such as pregnant women, childcare, hypertension and diabetes, and a number of activities aimed to integrate the members of the community: groups of oriented fitness, handicraft, getting together, visual screening, and orientation to prevent sexually transmitted diseases and undesired pregnancy, tours and parties (FIGURE 4-S).

Learning within this scenario is an opportunity for the students to experience not only patient care, but an active participation in the local community life. Medical students are introduced to community activities since the beginning of their medical education, through the discipline of Community Health Care I. This course aims to introduce students to the Health System, its principles and organization, the various types of service provided, from primary to secondary and tertiary care, so the student can see how SUS works and how citizens are supported by this system. Visits are scheduled for all types of services: units of family health, basic health unit, emergency care, specialized outpatient clinics, hospitals, and tertiary services as the university hospital and their specialties. After this step, the student remains in the family health units in order to be familiarized with its operation, staff, routine activities, surrounding environment, and how the units are organized to provide health care to the population. Finally, the student will know the family environment through home visits and discussion of its main health needs and problems.

FIGURE 4: Community Health Care discipline I. Medical students and teacher in front of primary local school (A); students explaining to the school children how they should do the Snellen’s test for visual acuity screening (B); students pointing in the Snellen’s chart (C); children closing one of the eyes and doing the test (D).

During the second year, students have Community Health Care II and the central objective is to improve their knowledge about the family and its dynamics. Every student follows one or two families throughout the year, through home visits. Students’ responsibility increases and will have families under their care with faculty supervision. Regularly, there are team meetings to talk about: home visits, work process and health staff, humanization of care, life cycles, dynamic and family resilience, social support networks and family contexts in the health care of children, adolescents, women, adults, elderly, family violence and mental health.

During the fifth year, students will return to units of family health, in the “Integrated Training Rotation”, now in the clerkship cycle, focusing on clinical practice. This rotation is carried out at family health units and School Health Center outpatient clinics. The main objective of the course is to expose students to daily clinical practice in primary health care. The student performs medical consultations, medical home visits for bedridden patients, groups of health education and integrated care with other professionals of the family health team. There is also a focus on procedures such as dressings, minor surgical procedures, and vaccines. They also have training on surveillance of patients with diseases and disorders of compulsory notification, and case-based learning activities.
4. FACED CHALLENGES AND LESSONS LEARNED ALONG THE WAY

The introduction, expansion and maintenance of CBE in the medical curriculum have been a constant challenge for generations of teachers and educational managers around the world. More recently there is a clear trend on medical education towards CBE and the question of the moment is: how can we make these teaching practices a reality and meaningful for the next generation of doctors? This short but complex question raises issues related to: medical school decision makers, faculty members, students, health system mangers, healthcare workers, and the society.

Despite having an early community insertion among FMPR-USP curriculum goals, this issue gained momentum with the creation of the Unified Health System and with the publication of the Brazilian Guidelines for Medical Education. Since then the Federal Government has created programs that stimulated teaching at primary health care. The most known government programs with these purposes are PROMED (encouraging curricular changes of medical courses towards CBE), PRO HEALTH I, II and III (with the same purpose of PROMED, but including also incentives for articulated actions between the Medical, Nursing and Dentistry schools), and Tutorial Education Program For Health (PET-Saúde: financial incentive for health care professionals who act as tutors for students in the primary health care units). These programs and grants have been a small but strong signaling towards this direction. However, even with the institutional motivation and government stimulus, CBE implementation faces many difficulties. Among them we can mention: the historical model of hospital-centered health care, the resistance of faculty members in transferring their educational practice to the new scenarios in primary care, health-care workers resistance to collaborate in these activities, increase workload for mentors, travel to community sites, preceptorship in these multiple scenarios, and the students’ resistance to the new practices in the community (frequently manifesting predilection for systematized and structured practices in laboratories or classrooms).

**Students’ resistance**: In our experience, this is much more intense in the early years of the medical course. Students don’t understand the reason why they should participate in a domiciliary visit and living the daily routine of a family health unit. They felt like they are wasting their time, which could be spent in the anatomy/skills labs, or even studying to improve their knowledge about medicine to become a better doctor in the future. The lack of well prepared preceptors, deficiencies in curriculum design and communication about the purpose of these activities might be involved in the genesis of this situation. The experiences of final years students seem to be more meaningful and recognized as important experiences for the future clinical practice. Here, one of the reasons might be the plethora of students and residents in the university hospital and less opportunities to take responsibility of the patient care, as they can do in the rural rotation or in the School Health Center.

**Health care workers**: The presence of the students outside the academic boundaries elicits questions among municipal health care workers about why they should be interested in doing preceptorship for these students, if they are not hired and prepared to teach and assess them. There are no periodical programs that have been designed that are focused on preceptors who teach in different scenarios outside the medical school and hospital.

**Faculty members**: The challenge of having faculty members interested in moving from the hospital and medical school facilities to other places with less governability and high workload is one of the relevant aspects to be taken into consideration while planning to start and sustain CBE activities in the curriculum. FMRP-USP is a traditional school on basic and clinical research. The university and the medical school follow the dominant paradigm of “publish or perish”. The career is valued based on the publications, impact factor of the journals and do not worry about how many hours someone dedicated to teaching and assistance in the community. Even though, FMRP-USP history shows that there is always a group of highly motivated and interested faculty who decided to participate in a process of implementing CBE disciplines or rotations. It is important to realize that it is not enough to hire preceptors...
for all the students in all the different settings. Out of our experience, there are
different ways of assigning different categories to play the role of preceptors in the
community sites and these are: 1. To oblige teachers to dedicate part of their time
and play a role in the community scenarios, 2. To hire as many as new faculty members
to do this job, or 3. To hire preceptors who already work in the community or want to
do so and train them on the preceptorship role. The first option has never worked out
all along the FMRP-USP history. The combination of the second and third option has
proven to be the best alternative to guarantee adequate supervision and learning of
the students in the CBE sites.

Medical School and Health System Managers: moving from the hospital to the
community centers requires months and sometimes years of negotiation between
the medical school and the local health authorities to reach acceptable agreements,
and definitely this is not an easy process. The values, priorities and culture of these
two entities are not the same and may reflect opposite interests and expectations.
This should be taken into consideration during the negotiation process, which has to
find common interests and opportunities for both medical school and local health
system. One good example of a situation that may generate conflict may be a new
medical service offered by the medical school in an outpatient clinic that needs to be
interrupted during academic vacations. Students and faculty members stop their
activities and come back weeks or months later. From the patients and health system
perspective this attitude is not acceptable and the medical school must find a way to
maintain the assistance even if the students are not there.

Political issues: There are some other political issues and challenges to sustain
these agreements because of the real possibility of changing all the health managers
in every election. If this is not well agreed, every four years (elections’ period in Brazil)
there is a possibility that medical school has to start again the conversations with a
new group of representatives of the municipality. To protect the program and all the
investment (time, energy, money, etc.) in developing and implementing a CBE
program it is crucial to write all the agreements and decisions in a document that
should be communicated to the society and approved by the Municipal and Local
Health Councils. The Municipal Council is a deliberative instance of SUS with 50% of
ordinary citizens as its representatives with the right to vote and make decisions that
will be implemented by the Secretary of Health. Another strategy is the proposal and
derendorsement of local laws that regulate the relationship between the medical school
and the municipality. RibeirãoPreto has one law which regulates this relationship
between medical school and local health system. This is not a total guarantee but
might be flexible to incorporate new ideas and ways of dealing with population health
care.

The CBE experience at FMRP-USP before SUS and the Brazilian Guidelines for
Medical Education were developed based on individual faculty motivation and beliefs.
Both Vila Lobato community center and Cassia dos Coqueiros rural rotation initiatives
had direct participation of eminent professors of the Social Medicine Department
(Prof. Pedreira de Freitas) and Child Care and Pediatrics Department (Prof. Jacob
Renato Woiski). This direct involvement increases governability and facilitate
decision-making within the medical school. After the Brazilian guidelines and SUS,
the external pressure and stimuli had an important role in changing the medical school
perspective about CBE. FMRP-USP and most Brazilian medical schools reviewed
their curriculum for many different reasons, including: the belief in CBE, government
grants/funding accreditation, and re-accreditation requirements.

The medical curriculum at FMRP-USP has been changing towards CBE and after 60
years almost 1/3 of the students’ experiences in the clerkship happen outside the
University Hospital and the Medical School. Last but not least, there is another
challenge to be faced, when we look to the desired the future. We still don’t have a
comprehensive and effective assessment system for the students; no matter they’ve
been learning in the University Hospital or in the community centers. FMRP-USP has
been working hard on Faculty Development focusing on training teachers and
preceptors to perform effective formative and summative assessment in all these
settings. The actual situation could be briefly described as: most of the clerkship
student assessments are based on the global rating of live performance, some areas
have been assessing knowledge and few are doing direct observation Workplace-Based
Assessment (Mini-CEx and/or Direct Observation of Procedural Skills-DOPS).
Regarding to the program evaluation of the Medical School, the University of São
Paulo already has an interesting and well structured evaluation process of the
disciplines and faculty members, named SIGA (integrated system of academic
management), which suffers from the same fragility of many other evaluation
programs. They are not systematic (don’t collect representative number of students’
opinions) and the results and actions towards improvement are not regularly
communicated to the academic community. As a direct consequence, the evaluation
program still lacks of credibility among students and faculty members.

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5. TAKE HOME MESSAGES

• Regulations (Constitution, SUS law, etc.) were critical to initially foster and also as a support for sustaining medical schools initiatives towards CBE. The guidance and support of legal marks has been decisive for most curriculum reviews of all of HPE in Brazil.
• CBE creates a unique opportunity for Inter-professional interactions among health care workers, students and preceptors. This kind of collaborative work and learning opportunities rarely occurs without intentional and mindful induction.
• CBE experiences have a greater acceptance among final year (clerkship) students compared to the experiences offered in the first years of the medical school. Careful planning and effective communication of expected goals and learning opportunities might be a way of dealing with this among pre-clerkship students.
• The improvement of medical education passes through the enhancement of undergraduate education, the recognition of the importance of good education in primary health care and the role model played by the teacher in this scenario.
• After 60 years, 30% of clerkship students’ experiences at FMRP-USP are happening outside the university hospital. The pessimists can say that it’s a shame to have so little, while the optimists would celebrate the huge achievement towards a new and desired model.
• FMRP-USP spent 60 years to reach the actual stage. Changes have their pace, the main challenge it to maintain a clear vision and keep walking.

The way towards change is not linear. There are uncountable backs-and-forth and sometimes round-and-round movements that seems to reach to nowhere. It’s necessary to have patience, create and sustain conditions for the maturation of the process.

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Chapter 5: Flashback to Suez Canal University experience with the local community in Egypt

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Chapter 5: Flashback to Suez Canal University experience with the local community in Egypt

You should bring a chair!

I wake-up earlier than usual that morning or maybe I did not really sleep! I was so excited; it was my first day in medical school in my beautiful home city by the Mediterranean. I was accepted into one of the top three prestigious old and renowned medical schools in Egypt. My heart was bounding as I was directed to the lecture room. I walked in and was amazed! The lecture room was huge, loud and stacked with students everywhere standing, sitting on the benches, and sitting on the floor or small foldable chairs. There was no room for a foot. No air to breath. I squeezed in and walked up the stairs in the lecture room trying to find a spot to stand. One of the students noticed my anguish; he said: ‘next time bring a chair!’

I could not help but make the comparison between what I experienced that day and what I recall of a new medical school in Ismailia, a small city 350 km from my big city. It was a non-traditional new school that none of my friends ever heard of: the Faculty of Medicine, Suez Canal University (FOMSCU). The school has a new teaching system based on problems and not systems. The students start clinical training at the medical facilities as early as the first year. The school started few years ago with a small number of students. It had no graduates yet. On my occasional trips to Ismailia; I once attended Problem-Based Learning (PBL) small group discussions. I also visited a community health center. I liked how the medical students had their white coats on and used stethoscopes and blood pressure devices. They talked to the patients confidently.

In a turning point in my life, I made the earliest and one of the most important decisions for my career. I didn’t want to be lost in a crowd. I wanted to learn in a small group where I can listen, be listened to and my opinion counts. I wanted to interact with people not just attend lectures and laboratories. Also, I didn’t want to carry a chair to school!

The Faculty of Medicine, Suez Canal University

The Faculty of Medicine Suez Canal University was established in 1978. It was an innovative student-centered medical school. It adopted Problem-Based Learning (PBL) with a spiral approach that integrates the basic, clinical and psychosocial sciences dynamically throughout the six medical school years. It was a Community-Based Education (CBE) medical school. Community-Based Education is a means of implementing a Community Oriented educational program. It consists of learning activities that take place in the community where ‘not only students’ but also teachers, members of the community and representatives of other sectors are actively engaged throughout the educational experience. CBE can be conducted wherever people live, be in rural, suburban or urban and wherever it can be organized1.

The Suez Canal Area is comprised of 3 main cities Ismailia, Port Said and Suez. Ismailia city engulfing the Temsah lake (stands for crocodile lake but has none) is the central head quarters of the Suez Canal University and the Faculty of Medicine where the dean’s office is located, the PBL classes, labs, seminar halls and the largest medical library in the region that came second to the World Health Organization (WHO)’s Medical library in Egypt. Port-said city by the Mediterranean Sea is about 80 km north, and Suez city by the Red Sea is about 90 km south from Ismailia city respectively. All cities border the Suez Canal. Also Sinai Governorates were included as a community out-reach area where we were exposed to Bedouins life (see map). Community Based Education is embedded in the curriculum or more precisely; it is the backbone where the curriculum of FOMSCU was embedded.
The medical school training in Egypt was, and still, six years. It was uniquely divided at FOMSCU into three phases: Phase 1: Year one: non-pathogenic: cell biology, Phase -two: years two and three: pathogenic and Phase three: years four to six: clinical clerkships. All years were clinical-based years. In Egypt, The medical school training is followed by one year of internship of general medicine rotation. After the internship, a medical student becomes a certified general practitioner and obtains the practice license. Most Physicians pursue graduate studies of 3 years residency specialty training.

The FOSMSCU started in 1978, but medical school training was launched in 1981. The two pillars of the school Prof. Esmat Ezzat and Prof. Zohair Nooman were aware of the importance of the preparatory stage to mount such a dramatic change in medical education in Egypt and the region. Recruiting the right faculty was the biggest challenge. The right faculty was not simply the ones who have the knowledge regarding the FOMSCU’s unique philosophy and mission; as few have heard of these innovative trends in medical education. However, they were the ones who show potentials for transformation and were willing to learn and adopt the FOMSCU’s mission and objectives. The four preparatory years were geared towards faculty recruitment, sharing vision, capacity building, trainings, workshops and infrastructure. Thirteen faculty members were selected to receive a two-year master degree study at University of Illinois, Chicago, USA. The core group specialized in different areas in Medical Education; Community-Based Education, Curriculum Design, Program Evaluation, Students Assessment, Research Methodology, Problem-Based Learning, Administration etc. The studies were partially held at the University of Illinois in Chicago and the theses materials were gathered from Egypt. The masters’ students were mentored by renowned experts in medical education from the University of Illinois together with innovative medical education experts from Egypt.

Fostering Community Passion

Esmat Ezzat; Professor of Internal Medicine and Nephrology was the founding vice-dean of FOMSCU and Zohair Nooman, Professor of Internal Medicine and Hepatology was the dean. Both the wife and the husband alternated the deanship and vice-deanship during my undergraduate and part of my and graduate training at FOMSCU. Esmat scheduled periodic students’ meeting in her office to follow up on their progress, satisfaction, concerns and suggestions regarding the learning process. When I met with her few weeks after I started she inquired how I was doing. What were the problems and difficulties that I anticipate? I told her how I was excited about the PBL but uncomfortable being at the community health facilities and dealing with the people. Reflecting back decades ago on this conversation, I appreciated later in my life how this comment must have bothered her; it threatened her vision for community advocacy, the goals of this innovative medical school and the very reason for her existence! What I appreciate now more is her skillful approach to my concerns. The effort she put to cultivate the passion of the community in the minds and hearts of the medical students. Her approach was consistent and persistent over our training years; subtle remediation, mentoring patiently, capturing, investing and fanning on our aha and triumph moments with the families in the community. Taking opportunity of our pride stories of advocacy and services for the sick people to make us realize how we made a difference and making us reflect on our value to the people, Prof. Esmat Ezzat demonstrated the art of mentorship, reflection, and influencing self-perpetrated change to nurture Social Accountability among the medical students more than thirty years ago.

I moved to Ismailia and started my journey. The FOMSCU was the only place at that time in Egypt and maybe in the region that you walk into the school’s doors and see a huge board with the school’s objectives. I guess it is the only place I know that you will be asked to recite the five ‘sacred’ objectives at the beginning of your oral evaluation!
Establishing Partnership with the Ministry of Health.

The Primary Health Care Centers (PHCC) are run by the Ministry of Health (MOH) physicians (Interns, residents, specialists and consultants). During the field training both the FOMSCU faculty and the MOH physicians instruct the medical students.

The first year was a major transform in my life. Gaining numerous clinical skills by the end of the first year was empowering and gave FOMSCU students an edge over other conventional medical schools students in their early training years. The extensive real life experience and patient-students-faculty relationship nurtured the attachment to the community. In my personal experience the sense of obligation developed into a state of belonging to the community.

The FOMSCU founding leaders established a partnership with the Ministry of Health. The dream of an innovative school of medicine that adopts primary care and community needs became a vision. It took them extensive and structured planning and anticipated obstacles and problem shooting for FOMSCU to accomplish the mission. One of the biggest obstacles that had to be resolved for this dream to come true was the collaboration with the health team of the Ministry of Health (MOH) in their health facilities. Before the program at FOMSCU was launched in 1981, in the preparatory years, dialogues and negotiations were started with the MOH to use their resources and facilities. In return, the MOH attended Faculty Development workshops at FOMSCU and were funded to attend some training abroad. They were empowered to work with the students, they were granted privileges for post-graduate studies for Master and Doctorate degrees (PhD) through FOMSCU. Physician from MOH were given priorities for post-graduate studies registration and were waived from registration fees. Also, FOMSCU contributed to the renovations of the PHCC and established ten new family care centers that were shared with MOH.

Reaching the unreachable: The school car taking students to rural villages passing through unpaved roads
The objectives of training at the PHCC:
1- To enable the students to bond to the community and appreciate the importance of primary care, disease preventive services, and the concept of social accountability.
2- To identify and prioritize the common health problems in the community.
3- To identify the different roles of the members of the health care team and act as an integral member of this team to deliver health care.
4- To acquire clinical skills competencies and be able to detect gaps in health care system.

The community in addition through its active involvement in the solution of its problems (identification, prioritization, posing feasible solution options, selecting appropriate intervention and planning, implementation, monitoring and evaluation of intervention) contributes to its own development. Awareness as well as leadership capabilities in health and health related-matters are promoted with possibilities for Community Empowerment, self-reliance and sustainable development.

1- Training at Primary Health Care Centers (PHCC)

Students attended the PHCC two days a week in phases one and two. There were 24 Primary Health Care Centers and another 10 Family Health Care Centers. Training at these centers paralleled the phase of training the medical students were encountering. It expanded and triangled the Knowledge, Skills and Attitude relevant to each educational phase but at the same time spiraling continuously throughout the training years to complement the curriculum.

In my first year, we were 3-4 students in the PHCC. The work started 8:30 am where we sit with the field tutor and go over the objectives of the block and the objectives of the day. We discussed some of the learning objectives that emerged from patients encountered in the previous week. Patients started coming at 9:00 am and till 12:00 am. The field training or the primary health care students’ visits were linked to the skills laboratory training sessions at FOMSCU (the skills lab was the only skills lab in all health sciences universities in Egypt and the region as a whole). We trained on peers and mannequins. The skill lab training complemented the learning blocks; it was focused on communication skills, ethics, history taking, obtaining vital signs and basic general examination: anthropometric measures and centile charting, eye exam and using Snellen’s charts for visual acuity, application of the tuning fork for Rinnee and Weber tests, detection of body changes in pregnancy (estimating gestational age by fundus height, pitting edema, breast exam), geriatric body changes.
(arcussenilis), etc. The clinical Pathology and Parasitology lab training also provided basic and simple laboratory testing utilizing the actual resources that were available at the PHCC: hemoglobin (reading the hematocrit column height on a centrifuged sample capillary tube), protein and glucose in urine using the test-tubes, the pipettes, Bunzen burners and the Benedict solution. Also, stool analysis for diagnosis of parasites as Schistosomiasis.

I used to wait impatiently for the day of PHCC to wear my white coat and feel proud as I introduce myself as a first year medical student to the patients. It was the real life where I can practice my communication skills, history taking, and general examination among other skills I learnt at the skills lab. At the same time I was helping the patients and escorting them through the medical check-up process. The tutors were subject matter experts - unlike the class tutors in the PBL sessions who were of either basic or clinical science specialty. The field tutor supervised the medical students during their encounter and examination of the patient. Afterwards, the student escorted the patient to the pharmacy for medication dispense. If further care was required, then those patients would be referred to the hospital after the students set their appointments and meet them at the hospitals. Throughout my undergraduate training we did not have a university hospital (which was establishes a few years later) and all tertiary care training and patient care occurred in the MOH General Hospitals, where our faculty worked collaboratively with the MOH Hospital’s specialists and consultants.

The second half of the day started around 1:00 pm when almost all the patients had departed after being helped by the students to take their medicine with further guidance to how to use it. We then presented the patients encounters following the steps of Problem Solving: definition of the problem, clarification of vague presentations, analysis of the symptoms and signs, setting and prioritizing the learning objectives and interventions. Case review assignments from the previous week were also presented. These weekly problem solving skills were the basis of producing competent physicians capable of dealing with the real health needs of their community and verifying the mission of this school as a Community-Based and Socially accountable school. Feedback was mutual and shared between the students and the tutor in a non-intimidating environment.

When I started, the patients were already aware of the FOMSCU medical students from the prior years of having medical students at the PHCC. There was a preference among the patients to be seen by medical students albeit the longer encounter and waiting hours. The quality care they were given by the medical students and the experts’ service furnished by the faculty were favored by most patients.
2- Community Surveys and Projects

Surveys and projects were designed to study health problems in the community and open gates for referral and intervention. They also develop research skills and scholarly competencies among the medical students. My first year was an introduction to Research Methodology, surveys and sampling. My class project in the first year was in Sinai to survey the nutritional habits among the Bedouins.

We received training on questionnaire design and interviews by faculty from the Community Medicine Department. Multi-stage randomization was utilized for defining the sample tribes at St Catherine in Sinai. There was a medical convoy of faculty experts and nurses that joined to provide services and consultation to the Bedouins. It was a few days of data collection that necessitated travelling to St Catherine in Sinai. There was some resistance from parents not allowing their daughters to travel and stay away from home. Prof. Esmat Ezzat was adamant about the project and Sinai being part of our community. She accepted no excuses, whether cultural or religious and made it clear that this activity was an integral part of the curriculum and a prerequisite to graduate to year two (some female students had their brothers or fathers accompany them on the Sinai field trip). We travelled by the FOMSCU vans stayed at the Saint Catherine’s Monastery Environment Center of the Faculty of Science, Suez Canal University. We were divided into groups and assigned different tribes. The students travelled with a multi-specialty convoy of doctors and nurses who delivered medical care and medications to the Bedouins. Patients who needed tertiary care and further investigations were referred to Ismailia General Hospital.

The study revealed that the Bedouins were dependent on goat milk and dairy products from sheep and goats, they used canned food that they get across the borders and had very little agriculture. The class was also invited to a wedding in the desert and most of us walked up the Sinai Mountain and visited the sacred shrines.

The community project for years two and three were screening for common health care problems among children; vitamin deficiency, corneal ulcers, parasitic manifestations (we collected the stool samples and at the evening headed to central PHCC where we used the facility to analyze the samples with the help of laboratory technician that worked with us after hours). We also had to design and deliver a health education program at the end of the third year. I designed a workshop on the different methods of family planning and delivered it at El-Sheikh Zayed PHCC for more than one hundred attendees from the community. That was my first public presentation! Year four was the elective study year (see below).

Years five and six were designated to a large community epidemiology and intervention project in the Suez Canal area. My class studied the ‘Prevalence, Complications and Intervention of Type 2 Diabetes Mellitus in Adults’. The population in these areas was screened using the portable gluco-check devices. A thorough
history was taken and a physical examination was performed with emphasis on symptoms and signs of complications of diabetes mellitus; vision, blood pressure, diabetic foot, etc.

There were three project stages:

1) **Planning stage**: It focused on meetings, organization, formulation of students’ committees, sampling and marking the buildings for sample randomization with the guidance of faculty from the Community Medicine Department.

2) **Implementation stage**: We worked in a group of 2-3 students for the data collection.

3) **Data analysis and reporting**: Data tabulation, processing, statistical tests (I headed the statistical committee and I remember calculating the Chi square manually by a calculator and looking up the logs at the end of the statistics books). The Projects enforced teamwork, communication and social skills. It initiated and developed our research skills. We experienced alternating leadership and sharing managerial tasks amongst us. One important aspect that these projects entailed was patient advocacy. The newly diagnosed patients or those with complications were referred to the hospital and it was our responsibility to meet them and facilitate their medical care and follow-up appointments. The intervention programs were delivered at the family homes; they were tailored to their needs. The health education ranged from prevention focusing on lifestyles, exercise and healthy eating to diabetic diet programs, caloric calculation and foot care. Another huge public health project that was conducted by a following class at FOMSCU was the effect of installation of a new canal branching from the Nile River into Sinai on spreading of Bilharziasis among Bedouins.

3- **Electives Studies**:

Electives studies were a six-week study in the summer of year four. Students had the chance to form small study groups and come up with a research project (mini-project) that is relevant to community needs and is implemented in the community. I paired with another colleague and we chose to work on designing a children medical record system in one of the PHCC as a model to be disseminated. We had a mentor and went through all steps of research from design to implementation and reporting. There were continuous students’ incentives for distinguished work. That year, I was one of three students who were elected to attend a six-week course on child survival in the University of Boston. We were the only three students among more than 50 participants. Other students got the opportunities to attend international conferences or electives in the USA and Canada.

4- **Family Health Care Program**

The program included assigned families in the rural villages of the three main cities; Ismailia, Port-said and Suez. Those families were assigned for years two and three. A group of students (males and females) visited those families regularly for two years. They built long-term relationships and established trust with the family members. Communication was cornerstone in building the relationships that was based on understanding of their lifestyles and needs. Also being culture sensitive and respectful.

My group (three students; two males and I) encounter with our first assigned family was unique and unforgettable; as we approached the family house in this remote small village, the people were so happy and excited, they screamed in joy and were running around and got us empty soft drink bottles! It happened that there was a TV advertisement running at that time by a soft drink company that distributed gold coins to families who have three two-liters Schweppes bottles at their home. It was an awkward start and a rough situation to explain that we were unrelated to this company and that we were medical students from the FOMSCU visiting to deliver health care. Two years later on our good-bye visit the father of this family told us with tears in his eyes- that we were more precious than the gold coins!

We got to know all family members by names, screen them for possible health problems, help set hospital appointments if needed. We ensured that their children received timely immunization and provided health education for nutrition, body and dental hygiene and promoted school education. If there were financial difficulties, they were reported to the school for referral to the aid programs. Family visits continued with new medical students after we graduated to year four and the program expanded to include new families if some were stable and did not require the health visits. I enjoyed the warm welcome, the delicious food, and the children’s drawings that they saved to show us. I remember walking in farms and crossing water canals on ferry-like wooden boards and jumping at the back of trucks for an early ride back to Ismailia on the days we did not wait for the FOMSCU van to drive us back.
5- Occupational Health

The FOMSCU uniquely had an Occupational Medicine division of the Community Medicine Department. In the fourth year students had a six-week exposure to industrial medicine through rotations in factories, shipyards of the Suez Canal, governmental insurance and work-injury compensation clinics. It is another exposure to community health needs, which help the students appreciate the importance of preventive measures to prevent injuries inflicted through some hazardous occupations and the role of an Occupational Medicine physician in ensuring safety measures and acting abruptly on emergencies. I had my occupational medicine rotation at the Suez city in a cotton textile factory. I remember I had an encounter with a worker who was visiting the clinic for a chest X-ray because of an exacerbation of his lung disease; Byssinosis, the first and only time I ever got across this condition.

Community projects help to build student’s interpersonal skills through working in teams and practicing leadership in different community settings. The projects cover a wide range of health problems where students work with a variety of other professions. For example, under the theme of occupational health, they conduct projects with engineers and workers that assess the impact of an occupational health hazard in factories or farms. Other students work with teachers and social workers to assess learning disabilities of school children. In some other projects, students work with nutritionists to assess the nutritional state, knowledge and practices of pregnant women or other groups.

6- The Clinical Clerkships

The clinical clerkships took place at various specialty departments at tertiary care hospitals of the Suez Canal cities. Throughout my undergraduate training my class entirely utilized the MOH hospitals. The University Hospital operated after my graduation. It has cut-edge technology and includes all clinics and in-patient tertiary care specialties. I rotated in Ismailia, Port Said and Suez for the clerkships (sub-intern) training. We had tutors and subject area experts rotate with us and worked with both our faculty and the MOH specialists and consultants. Clinical cases were tackled in a Problem-Based approach.

7- Intersectoral Community Partnership

Community Partnership and outreach service was the name used to establish the concept of accountability towards the community to the medical students’ years before the WHO defined the term Social Accountability ten years later in 1995. The Tal-El-Kebir (TEK) community partnership was comprehensive demonstration of the applicability of Social Accountability. The call for help ignited from the people of TEK district; a rural under-developed and underserved area, which is located about 40 Km to the west of the Faculty. An inter-sectoral relationship was developed that incorporated the FOMSCU (faculty and students), other Suez Canal University (SCU) schools as Veterinary Medicine, Agriculture, and Education, the people from the TEK community who were the stakeholders from different sectors including local authorities, WHO and American University in Cairo for supporting resources and donations. The initiative was based on Community Empowerment that was spelled in the training of the local community health workers, addressing safe water challenges; literacy problems and parasitic infestations among other locally defined needs by the community. It also, expanded and mobilized available Inter-professional resources from the university through meta-fanning on the concept of accountability towards the community. Working with the community was not a funded project, rather it was manpower development, re-allocation of resources and utilization of small donations and support to build up and sustain development in underserved areas of the community in a cost-effective manner.

Students’ Assessment in CBE

There was weekly formative assessment at the PHCC. Summative evaluations took place at the end of the learning block. Patient encounter evaluations at the PHCC, hospital clerkships and occupational health program were based on a performance checklist that assessed knowledge, skills and attitude. Family Healthcare Program visits were evaluated through the periodic progress reports. Projects and electives included a presentation, defense and a report evaluation.
Postgraduate Education and CBE

I pursued my professional career in Pediatrics. My first year of residency in Pediatrics was at El-Shohada PHCC. I spent a year of primary care Pediatrics. The transition was smooth and I was confident with my practice. We adopted the World Health Organization program on the Integrated Management of Childhood Illness (IMCI). My second and third years were at a tertiary care facility: the MOH General Hospital (The university hospital started to operate towards the end of my residency).

Stepping into CBE as a Faculty Member

I was appointed as an Assistant Lecturer (Instructor) of Pediatrics at the FOMSCU after I completed my residency training and had my Masters in Pediatrics. I was based in the University Hospital but served as well as a subject matter expert in the community tutoring medical students in their field training. I worked two 6-week blocks per year. I must admit that being a student in a CBE school for 6 years was not enough by all means to qualify as faculty in this school. It was like two different faces for the same coin, two different experiences, although complementary to each other.

Threats to Sustainability of CBE

The FOMSCU is a unique Community-Based Education medical school in Egypt and the region. It has been decades of rich experience for the FOMSCU. The FOMSCU had gone through periods of ‘fame and famine’ with different leaderships and visions of the schools’ direction. The University hospital and the family care centers are major service ports to the community and the projects are still an integral part. However, the students’ involvement in the community is not as strong compared to my training years. In the last period there were escalating political, social and economical constraints that impacted the magnitude of integration with the community. There are also gaps in post-graduate training that contributed to the fragility of relationship with the community.

I graduated as one of the top students of my class and was appointed as faculty in the university. Junior faculty was offered scholarships to study abroad in prestigious universities and post-graduate programs for career development. All the offered scholarships were sub-speciality opportunities, none for primary care. Distinguished graduates were re-routed into the sub-specialization practice world. They gained local, regional and sometimes international recognition as experts in tertiary care. The specialization and sub-specialization careers were prestigiously and financially rewarded. The job opportunities in Egypt and the Gulf region opened the doors to sub-specialization and tertiary care, securing salaries, careers and offering Continuous Professional Development. Also, offering competitive life styles and family education. An exception to the favored specialization track is the Family Medicine. The FOMSCU founded the first Family Medicine Department in Egypt and the Middle East. The unique and distinguished graduates of this department had contributed significantly to quality health care delivery in the region.

Community services will remain to be the mission of the local universities and Ministry of Health. Expansion of quality and sustained community services has to be tackled at the level of national policy-makers with coordinated and integrated intersectoral governmental initiatives. The Ministry of health should collaborate with other national bodies; Ministries of Education, Agriculture, Industry, Transportation and other investment projects to create a quality assured and attractive living milieu that attracts health-care workers. They should ensure an environment that furnish decently-paid health care opportunities together with schooling, primary, higher and graduate education, opportunities for Continuous Professional Development even through distance learning, housing, communication, transportation and entertainment.

Today the developed world is moving towards primary care and community education. The Affordable Care Act (ACA) or Obama care is the most significant government expansion of the healthcare system in the United States in ~ 50 years. It aims at increasing the rate of health insurance coverage, streamline the delivery of healthcare and improve its outcome. The ACA authorized a Teaching Health Center Program (THC), to promote training physicians in Community-Based primary care settings. To date, 22 THC residency programs training 140 residents are up and running, an initiative made by FOMSCU for undergraduate training more than 35 years ago!

Acknowledgement

To late Professor Esmat Ezzat and late Professor Zohair Nooman, the Founding Deans of the FOMSCU, who made history and inspired generations to come. To Professor Wagdy Talaat, the Founding Chairman of the Medical Education Department at FOMSCU and first of its kind in the Arab Region, for carrying the torch of innovation in Medical Education in the Middle East.
References:


Chapter 6: A Dream Come True: Community Based Education at the Christian Medical College (CMC), Vellore, India

Contributors:

1. Dr. Anna B. Pulimood
2. Dr. Kuryan George
3. Dr. Alfred Job Daniel
Bio-sketch

Anna Pulimood, M.D., Ph.D.

Dr. Anna Pulimood graduated from the Christian Medical College, Vellore, India in 1987. She completed her specialization in Pathology from CMC Vellore in 1995 and joined the Welcome Trust Research Laboratory in the Department of Gastrointestinal Sciences at CMC where she trained in G.I. pathology and Electron Microscopy. Between 1998 and 2001 she worked at the University of Newcastle upon Tyne as a research associate in the Departments of Surgery and Pathology. She completed her PhD on the Pathology of IBD in 2010. Since 2001 she has worked in the Departments of G.I. Sciences and Department of Pathology at CMC with clinical, research and teaching responsibilities. Between 2006 and 2010 she was appointed Deputy Director in charge of Gifts and Grants and helped in the administration of large institutional grants from USAID. In 2010 she was made Vice Principal in charge of the Undergraduate curriculum and is responsible for Curriculum Planning, the e-learning unit, the elective student program and is advisor to the institutional libraries. She is a member of the Medical Education Unit at CMC and initiated the setting up of institutional committees to train faculty and develop curricula in Ethics and Communication skills for medical students. She has also introduced workshops in Leadership and Management into the undergraduate curriculum in CMC. She helped start a Solid Waste recycling project for the Hospital and College with the help of a local NGO and Women’s Self-Help groups in 2005 and continues to help the project as a member of their advisory committee.

Chapter 6: A Dream Come True: Community Based Education at the Christian Medical College (CMC), Vellore, India

The Christian Medical College (CMC) at Vellore was started by Dr. Ida Scudder in response to a tremendous need for health professionals in India in the late 19th century. Her dream was to train and empower women to provide health care for the neglected sections of society. This vision of Dr. Scudder echoes in the present mission statement of CMC to develop, through education and training, compassionate, professionally excellent, ethically sound leaders of health teams with a special concern for the poor, the disadvantaged and marginalized. It was also clear to Dr. Scudder from the start that the roots of health lay not in the hospital, but in the town or village community where people lived. She addressed the health needs of the people around her both from the base hospital and by the outreach programs. There were visits to women cloistered in Zenanas (The part of a house in Asian countries such as India and Pakistan reserved for the women of the household) in the town of Vellore and twice weekly trips to the villages, to the north and then to the south of Vellore, to conduct road-side clinics. Patients waited for the team to arrive to receive basic care, hundreds of patients who would otherwise have never seen a doctor.

When the Medical College was started in 1942, Dr. Ida Scudder felt it was important for the young students to participate in the roadside clinics. In the clinical years, students were sent in small groups of 2-4 to attend these clinics. These visits continued till they were stopped in the early 70s and were replaced by a more intensive program. CMC was probably the first institute to have such a community program for medical students in India, to see patients in their own villages and expose them to the real health needs of the community. It was clear that medical education in the eyes of Dr. Scudder and successive generations of staff in CMC had to have its base in the community to be truly relevant.

Development of the Community Health Department and Training at CMC

In the early 1950s, Dr. K.G. Koshi, who had trained in Public Health and Tropical Medicine and Hygiene at the School of Public Health and Hygiene, Liverpool, and Dr. Leroy Allen, a Public Health specialist who had worked in Burma, reorganized the Department of Hygiene at CMC as the Department of Preventive and Social Medicine. Their aim was to establish a comprehensive health service integrated with rural field training centers to provide Promotive, Preventive and Curative Care. The institute felt it was important to have a Rural Health Centre (RHC) which would support the village programs, and so a centre was set up in Bagayam, at one end of the college campus. The Rockefeller Foundation funded the development of a field area in the Kaniyambadi Block of villages around this centre for the training of medical and nursing students and interns. Five large villages around were identified for providing primary health care, namely – Edayanachathu, Pennathur, Munjurpattu, Kaniyambadi and Allivaram. By October 1956 health centers were established in several of these villages. In 1957 a Rural Health Centre with 12 beds was built at the site of the original clinic in Bagayam.
to serve as a referral centre for patients from the surrounding villages. Dr. K.G. Koshi with his team of doctors, nurses, social workers, statisticians and health educators worked on building up an integrated program of health service and teaching that linked with the community. Emphasis was given to nutrition, common communicable diseases, maternal and child health and health education.

In the mid sixties, the name of the department was changed from Preventive and Social Medicine to Community Health - the only institution in India to have taken on such a name. The reason for this was that the focus of the department was holistic and encompassed all levels of prevention—primary, secondary and tertiary, in addition to rehabilitation and family health. The area covered by the Community Health Department was expanded under the guidance of Dr. V. Benjamin, Dr. Sojibai Samson, Dr. Sundar Rao - a biostatistician, Mr. Palocaren, a social worker and many others. The Department worked with governmental agencies to implement immunization schemes, sanitary measures and other national programs. Quoting the then Director, Dr. John Webb: “Within the framework of orthodox medical education, our emphasis on preventive and social medicine, later rightly renamed community health, has been far greater and more effective than almost any other medical college in India”.

Over the next few decades, the Department of Community Health, around which all these programs developed, grew along with the base hospital. Together they were called the Community Health and Development Centre (CHAD). The hospital expanded to its present capacity of 130 beds. The secondary care it provided to patients referred from surrounding villages was an integral part of the training in Community Medicine in CMC. Medical students, interns and postgraduate students become deeply aware of the link between the demographic, socioeconomic and environmental aspects of communities and their health problems. Preventive, promotive and curative services were closely interwoven in this setup to make training as comprehensive and relevant to the community as possible.

A rural health centre had also been established in 1948 by Dr. Robert Cochrane in Kavanur, about 40 km away from Vellore, because of the high prevalence of leprosy in that area. Field training for Public Health and community work for nurses was started in Kavanur by a Public Health Nurse, Miss K. Norris. In 1977 Dr. Daleep Mukarji, a medical graduate of CMC, took over the Rural Health Centre in Kavanur and developed a Rural Unit for Health and Social Affairs (RUHSA). Dr. Mukarji saw the importance of Community Development in the promotion of health, and set up a multi-disciplinary, rural health and socio-economic development program in association with the local community and government. It was an extension of CMC’s service to the community as well as a centre for the training of students in community welfare. Interns were sent to RUHSA as part of their community health posting and worked in the secondary hospital. They also went out on visits to the community as part of health teams. Over the years, RUHSA expanded its training programs to include undergraduate and postgraduate trainees in Medical Sociology, Health Management and Health Administration and is a centre of field training for students from various courses across the country.

In 1983, an Urban Health Centre was set up to cater to the health needs of the urban poor in the city of Vellore. Several strategies were used to keep the costs of health care in this centre low, and so it was named ‘The Low Cost Effective Care Unit’. Dr. Sarojini Pancharatnam and then Dr. Sara Bhattacharji, also a graduate of CMC, were instrumental in developing this centre into a secondary level health unit managed predominantly by family physicians. The LCECU also developed Community outreach programs in the surrounding slums that included Life Skills training for youth and home visits by health workers.

The CHAD hospital, RUHSA and LCECU together serve as secondary level health for practical training in family medicine as well as provide bases for the community based teaching programs for medical, allied health and postgraduate students.

Early years of Community Based Medical Education in CMC

Following the mandate of the Medical Council of India that all medical students needed to be exposed to the community and its health needs, CMC was the first institute to implement a structured program to this effect. The Family Health Advisory Service program (FHAS) - the first of its kind in India- was developed by Dr. K.G. Koshi and Dr. Leroy Allen with structured village visits for medical students to gain practical knowledge about health problems in the community. The batch of 1953 was the first batch to participate in this program. The FHAS was planned for students in their first and second clinical years; one afternoon each week was set apart for the teaching of P&SM. The students worked in pairs - one boy and one girl (this was easy because there were 25 boys and 25 girls in each batch).
Each group was allotted two families, one family with a pregnant woman or an infant and the other, where a member had a chronic disease such as tuberculosis, leprosy, epilepsy or some forms of disability. This program helped the young students understand how the disease affected the family or how the environment in which they lived contributed to the disease. The problems of a large family, overcrowding and its role in disease transmission, the influence of poverty in causing malnutrition and the consequence of poor environment were made easy to understand. The role of the agent causing disease, host and environmental factors contributing to disease development as well as preventive measures were emphasized. If the family had an acute health problem, or if chronic problems needed special care, the students would take the patients to the Rural Health Centre first and then, if required, to the main teaching hospital. This helped to bond the students with the family and they functioned like a family physician.

The FHAS program however had some limitations as the years went by. The first was the “burn out” syndrome of the community. A fresh batch of students visited the same village every three years and the same family was often allotted to different batches. The family got tired of answering the same standard questions that the students needed to ask in order to complete their log books. A second problem was that the village visit was between 2.00 and 4.00 pm. This was the time that the tired farmers, would be resting after a hard day’s work and the students would disturb them. The third limitation was the lack of opportunity to see the village life in its entirety. Most village activities took place in the mornings and late evenings when the students were not present. With the pressure of regular examinations in other subjects such as pharmacology, microbiology and pathology as well as clinical subjects, there was a temptation to absent themselves from the FHAS program.
Community Medicine in Internship

The first batch to have internship in the rural health centre at Bagayam was the batch of 1954. They were also sent to Kavanur which at that time was a leprosy centre. It was primarily for nursing education but needed the support of the doctors. The interns organized antenatal clinics, immunization clinics, did growth monitoring for children under fives and took care of patients with chronic diseases such as leprosy and tuberculosis. In many colleges, the students had never touched or treated a patient affected by leprosy, but this was not the case in CMC, Vellore. There was a separate ward in the rural hospital where leprosy patients were admitted for treatment of reactions or a non healing ulcer and the intern had to take care of them like any other patient. With committed faculty to guide them and with periodic visits of specialists, the young graduate learnt to manage common problems, how to organize community programs etc. In 1967 three mission hospitals were also added for internship- The Karigiri leprosy hospital, the Scudder Memorial Hospital in Ranipet and the CSI hospital in Nagari. The clinical program further improved when a full time pediatrician and obstetrician joined the department in 1976.

The feedback from the graduates was that the three months internship in community health was extremely useful to understand the limitations faced when working in small hospitals.

The new phase in Community Based Education at CMC: before and after the Re-orientation of Medical Education (ROME)

In the early 1970s there was an impetus to introduce some changes into the FHAS. The Government of India was concerned that graduating doctors were not able to function effectively as primary care physicians, nor as health managers of primary health centers. They invited the heads of institutions to improve the teaching of Preventive and Social Medicine. Dr. Fenn, the Principal and the Vice principals, Dr. Jacob Abraham and Dr. T.S. Koshi on return from such a meeting asked Dr. Abraham Joseph, a young faculty member of the Department of Community Health, to look into the possibility of introducing changes to the community health program. Some changes were introduced for the batch of 1973 and further changes for the batch of 1974, but these changes did not address all the issues mentioned above. In consultation with Dr. V. Benjamin, the Head of Community Medicine, with his rich experience of community work, an innovative residential Community Orientation Program (COP) was planned. This was a major change from the traditional teaching, as it introduced the concept of block postings and a living-in experience. The block posting meant that the students would be posted exclusively to community health for several weeks with all other subjects removed from their schedules. The most challenging task was to get permission from the teachers of the Basic Science Departments of Anatomy, Physiology and Biochemistry to permit three weeks of their teaching to be given for
this new program. The heads of these departments justifiably felt that it would be very difficult or impossible to complete their subjects if three weeks were taken off. Dr. Fenn, the then Principal was convinced that this was a worthwhile experiment and encouraged the basic science faculty to try it for a year or two. Having overcome the first hurdle, the next was to ensure the program was conducted well and was a useful and effective learning process.

The learning objectives of the program were clearly stated, the methodology planned in great detail and a suitable community selected. The continuation of this program depended on a good learning experience and good feedback from the students. If it became a failure the program would be stopped. The whole team met on several occasions along with some of the clinical teachers who had similar views and were interested in being involved in the program. It was felt necessary to involve the basic science teachers and have the students exposed to these subjects during the COP. Each year, with the help of the Basic Science faculty, simple studies were carried out, such as association between height and foot length or span of the palm for anatomy, hemoglobin level in boys and girls of different ages for physiology and diabetes in adults for biochemistry. The next challenging task was to organize the logistics to ensure that the community would accept the students to live in the village for three weeks and that the students would accept this residential program which was not part of the curriculum of the MCI.

Since the Community Health Department was already conducting primary care programs in the community and the leaders of all the villages appreciated the work being done, they were happy to have the students live in the village. They thought it would benefit the community. The head of the village offered an unused building as a class room and a part of his agricultural land to construct a temporary hall for the students to camp in. He also permitted the use of his well. Temporary sanitary latrines were constructed. This was a novel structure in a village which usually used the open land. It was difficult to arrange the logistics for girls to stay in the village overnight. They stayed in the college hostel and left early in the morning to reach the village by 6.00 am every day before the morning session started. They left only at 7.30 pm after dinner. This enabled the girls also to have a full day’s program in the village over night. They stayed in the college hostel and left early in the morning to reach the village by 6.00 am every day before the morning session started. They left only at 7.30 pm after dinner. This enabled the girls also to have a full day’s program in the village. They only missed the overnight stay in the village which the boys enjoyed. The program was a combination of house to house surveys, conducting simple studies such as assessment of nutritional status of children, conducting a clinic for the sick, organizing games for the children, giving health education through street plays and folk media. This program emphasized the concept of learning by doing. In addition to the main objectives of COP, students also learnt Biostatistics, Sociology, Behavioral Science and Environment Science, subjects which until then were not the most popular among medical students and the real value of which was not fully appreciated at that time.

Fortunately the program was a big success. Learning by doing was an effective learning tool. Student feedback affirmed this as well. At the same time that CMC was introducing changes into its community based programs in order to address deficiencies in the medical education system, similar changes were being discussed across different countries. The Twenty-eighth Annual Report of the South East Asia Regional Director of the WHO in 1976 stated that: “Notwithstanding the attainment of high standards of medical education, a large majority of doctors are not trained and equipped to meet the needs of the community in the matter of preventive, promotive and curative health care services, particularly for the rural areas; ... the training continues to be hospital-based, thus making the trainee doctor dependent on sophisticated aids and diagnostic services and giving him very little exposure to rural conditions”. It therefore emphasized that “doctors produced by medical institutions should be as close to the community as possible and be trained to be able to work in real life situations obtained in rural communities”.

The idea of Re-orientation of Medical Education (ROME) program was introduced in India by the government in 1977; a few years after CMC had introduced the Community Orientation Program. It aimed at involving medical colleges directly in the health care delivery system by accepting total responsibility for promotive, preventive and curative health care of at least 3 Community Development Blocks in the first instance, ultimately extending to the whole district. Each college was asked to adopt three Primary Health Centers (PHC) and post the students along with the clinical teachers to the PHC to see common medical problem of patients attending a PHC and to teach them to manage these problems with the facilities available there. In order to enable the students to live in the PHC, the central government provided 1.7 million Rupees to each hospital to build a hostel for the students and living quarters for a junior faculty member. Several medical colleges in India such as notably Christian Medical College, Ludhiana, St. John’s Medical College, Bengaluru, All India Institute of Medical Sciences, New Delhi, Benaras Hindu University and the Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry, developed programs for Community Based Education using this model.

CMC had already adopted three blocks well before the ROME program was implemented - Kaniambadi Block, initially under the Rural Hospital which was later named the CHAD Program; K.V.Kuppam (under RUHSA) and Anaicut (a joint health project). Since CMC did not have an intensive program in Anaicut, this PHC was chosen for the ROME program and the 1st and 2nd clinical students were taken to the Anaicut PHC weekly along with the staff of Medicine, Pediatrics and Obs. & Gyn.

The response to the ROME program was not too good. The feedback from staff and students was similar in government and private colleges. The clinical problems seen were similar to those seen in the teaching hospitals, especially in the government hospitals. The negative issues mentioned were that the staff of the PHC were not happy to have faculty come to the PHC; that the PHC staff would not be available and would not keep any patients for teaching purposes and that even the basic laboratory facilities were not available at the PHCs. Logistics was another factor – students from colleges in cities took over 2 hours of driving to reach the PHC allotted to them and
there was very little time for teaching. The central government even provided three large mobile clinics with generators, facilities for examination, and surgical equipment to carry out minor procedures. Very few institutions used this vehicle for the purpose for which it was given and they subsequently came to be called the “White Elephants” of the ROME program.

The current Vellore model of Community Based Training Programs

Since the introduction of the first Community Orientation Program in the first year of the MBBS course in the 1970s, a phased plan has evolved for comprehensive community oriented training through the entire MBBS course. The training now takes place in four phases: separate postings during the first, second and third years of medical school and during internship. Each phase has specific objectives, and is designed to build on the experience gained in the previous phases.

Phase I - Community Orientation Program (COP) – 1st MBBS

This program introduces students in the first year of their medical course to life in the Indian village, to the attitudes of people living there and the demographic, socioeconomic and environmental aspects of health. It also caters to 1st year students of Physiotherapy, Occupational Therapy, Biostatistics and Chaplaincy along with the medical students. It lasts for 3 weeks and is preceded by preparatory classes in Sociology and Statistics. The students either live in the village or arrive early morning and stay till late in the evening to provide as close to a live-in experience as possible. Social research methods like focus groups and in-depth interviews are used for information gathering. In addition to detailed surveys, various guest lectures, simulation games and reflection sessions enable the learners to tie up loose ends. Students learn the importance of different members of health teams. They also plan and execute a health education program together. The data gathered is presented to and discussed with faculty from the Department of Community Medicine at the end of the program.

The detailed objectives are as follows:
1. To bring an awareness of the:
   a) Social and economic status of the rural community
   b) Demographic structure of the community
   c) Environmental status of the community
   d) Influence of social, economic and environmental factors on health and diseases
   e) Existing health practices and beliefs about disease, its causes and prevention.
   f) Role of Government and voluntary organization and their programs in improving the welfare of the rural community
   g) Role of various members of a health team
   h) Principles of health education.

2. To provide the student with skills in:
   A) Making a Community Diagnosis by:
      i) interviewing individuals and families
      ii) carrying out a field survey
      iii) using appropriate sampling techniques
      iv) analysis of data
      v) interpretation of data
   B) Organizing a community program by:
      i) identifying leaders and enlisting their co-operation
      ii) enlisting community participation especially by working through leaders, youth and women group.
   C) Carrying out health education for individuals and groups using appropriate health education methods such as flash cards, flip charts, skits and songs.
   D) Identifying the role of, and working with other members of the health team in organizing community programs.

3. To inculcate an attitude of concern and compassion for the individual and the community.

Phase II – Community Health Program I

This program lasting 2 weeks in the II year is primarily focused on epidemiology, health administration and planning. It includes classroom exercises, lectures and field exercises. During this posting, the students conduct more extensive cross-sectional morbidity and mortality surveys to calculate various health indices. They study the government health services available in the public sector: from the Primary Health Centers to the Tahsil and District level government hospitals and collect information on the cost of treatment, the distance traveled to obtain medical care and the utilization of the health services. The relationship of the type of illness, duration of illness and distance traveled to the health service is studied. At the end of this posting the students plan a health program for a given defined problem in the community.
The specific objectives of the CHP -1 are:

A. To make the students aware of the:
   i) Principles of epidemiology
   ii) Principles of health planning
   iii) Principles of health administration
   iv) National health programs with special emphasis on the organization of Primary Health Care
   v) Common health problems of a community
   vi) Utilization pattern of health services
   vii) Role of the various members of the health team

B. To provide them with skills in:
   i) Formulating a questionnaire
   ii) Carrying out community surveys – cross sectional morbidity and mortality surveys
   iii) Analyzing and interpreting data
   iv) Estimating vital statistics such as birth rate, death rate, infant mortality rate
   v) Carrying out observation and time-motion studies and interpreting the data
   vi) Health Planning
   vii) Use of various audio-visual aids – overhead projector, slide projector, movie projector etc.

Phase III- Community Health program II

This program during the III year lasts for 2 weeks and provides the medical students with a learning experience in carrying out epidemiological studies, evaluating national programs in the field of health and development and in organizing health education programs in the community. It provides the students with an opportunity to apply the knowledge and skills acquired during their previous 2 postings. They learn to make a community diagnosis on a given problem using a survey or existing data, and then plan, implement and evaluate a program related to that problem. During this program the pace and schedule of the work is entirely dictated to by the students, with the staff serving as resource persons.

Specific objectives of CHP II are:

To enable the student to

I. a. Describe the various epidemiological study designs and their relative merits
    b. Write a proposal for a community based study
    c. Formulate a questionnaire for obtaining valid and reliable information and
    d. Calculate the required sample size.
    e. Select a study population using approved sampling methods
    f. Collect the data
    g. Analyze the results using basic statistical methods
    h. Interpret the results
   i. Prepare a report and present the findings using relevant audio visual aids

II. List the various members in the health team and describe their roles

III. Work as a member in a team involved in an intersectoral approach in the field of health and development

IV. Carry out a health education program the community and assess the effect of the program on the knowledge or behavior of the community

Phase IV –Internship

All medical graduates in India are required to spend two months of their internship in the Department of Community Health to prepare a doctor and equip them with the basic knowledge of community health, primary care and secondary care. In CMC, this intensive learning phase focuses on developing skills in managing patients in a secondary level health centre, as well as organizing preventive services for vulnerable groups, conducting surveys, health education and family planning. The interns help in maternal and child health clinics make village visits as part of health teams and supervise the work of part-time community health workers, health aids and nurses at these mobile clinics. They make presentations on the management of common health problems such as low birth weight babies, snake bites and water supply systems. They visit the home of at least one patient to study in depth the impact of socioeconomic and community factors on health. They also work in pairs to conduct an epidemiological study and present their results to the department. During this posting they learn to understand the role of government health centers and how to utilize their assistance in health programs.

The training of the interns aims to impart the following with regard to Community Health Practice:

a. Ability to organize preventive services for vulnerable groups in the population e.g. mothers and children.

b. Ability to conduct surveys and use its findings as a means towards arriving at a community diagnosis.
c. Ability to understand and work with other members of the health team.
d. Knowledge of the basic principles of health education and ability to use health education techniques.
e. Ability to promote family planning.
f. Ability to function as a general physician (or medical officer) in a health center, a hospital or National Health Program.
g. Ability to identify the various factors, social, political and economic, which influence the health of a community; and gain knowledge of ways by which this could be improved by working with other disciplines e.g. agriculture, animal husbandry, cottage industries etc.
h. Appreciation of the need to know government and private agencies in the community and acquiring knowledge of how to utilize their assistance.

In addition to all the practical knowledge and understanding that students gain about community health during these postings, they also acquire an attitude of concern and caring for the community that reflects in career choices and attitudes of the trainees.

Other Aspects of Community Oriented Training in CMC

CMC believes that in order to meet its goal of training service-oriented medical graduates to meet the health needs of the country, it is vital to select the right candidates for training. All applicants to the medical college qualifying in a written Step I examination, have to undergo a 3 day-long Step II interview process to evaluate their leadership skills, ability to work in teams, their performance in extracurricular activities and their interest in the needs of the community around them. This process has consistently ensured the selection of candidates best suited for training in CMC for the past many decades.

The Medical College is located in a semi-urban campus where all faculty and students reside. The students live in close proximity with many whom they consider role models and the academic and social mentoring provided to students in the campus contributes to their nurture.

Secondary Hospital Program

Even though CMC had very intensive clinical and Community Based Teaching Program, a study carried out in 1986 among final years, interns and graduates who had completed the course and were working in mission hospitals showed that they were not adequately prepared for the challenges of a small hospital. In order to overcome these limitations several changes were introduced in 1991. These included the formal structured posting of medical students to medium sized mission hospitals where there was at least one staff with a postgraduate degree in any one of the four basic subjects. This took place in the 1st and 2nd clinical years. These selected hospitals, usually located in remote rural parts of India, were also the hospitals where the students would work after graduation for their service obligation. This program when it was first introduced was known as the Peripheral Hospital Program. Later in 2002, this was renamed as the Secondary Hospital Program. In 2003, Dr. Anand Zachariah restructured the Secondary Hospital Program (SHP). A workshop on medical education techniques including teaching-learning methods, assessment and detailed objectives of the program was conducted for the staff of the Secondary Hospitals. The posting was evaluated by assessment of the students during their visit by the faculty of the Secondary Hospitals, by logbooks maintained during the visit and a debriefing session by faculty from CMC on their return. Over the next few years, the Secondary Hospital Program evolved into a 3-phase program in the 1st, 2nd and 3rd years of the MBBS course.

Students spend one week in their first year and two weeks each in their second and third years in secondary hospitals. Faculty from CMC accompany them for a part of their posting. The time spent in these hospitals sensitizes the students to the important medical problems of the populations around these hospitals. They also make community visits to learn about the lifestyle of the rural people of that region and have an exposure to different community programs run by the hospital. In their second visit the students do a short project to help them understand about the social determinants of health. The following quote by a student best explains the program… “...The SHP throws light on people with needs, provides a scope to venture, builds challenges - in short, plays a trailer of the 'real' life that we are far from...” In summary, the Secondary Hospital Program supplements the Community Health Programs organized in CMC and exposes students to a variety of challenges in health care delivery in different parts of the country and different approaches to dealing with them.

Analysis of the success and limitations of Community Based Education in Vellore

A question often asked at conferences and workshops is, what has made it possible for CMC to organize effective Community Based Programs. The answers to this could be summarized as follows:

1. The vision and mission of the CMC hospital.
2. The initiatives were taken by the staff because of their own interest and not because it was mandated by the Medical Council of India or government.
3. CMC was willing to introduce innovative programs e.g. introduction of block postings for COP and sending students to mission hospitals.
4. CMC believed that MCI guidelines were the minimum requirements and there was freedom to experiment on various teaching methods.
5. Careful planning of each activity and preparing the staff for the program.
6. The institute had its own field practice area which is critical for CBE. Public health cannot be taught in a vacuum just as much as pathology cannot be taught without having a laboratory. For Community Health Department, the community and the village functioned as the “laboratory”.

7. “Burn out” of the community was avoided by using different villages each year and going back to the same community only once in 10 years.

8. The community offered excellent cooperation since the department of P&SM was providing health services to them even when students were not present.

9. The willingness of the staff to be in the community with the students the whole day. The staff followed the principle that – “The students would not be asked to do anything that the staff are not willing to do”.

10. The network of small member hospitals which could be used for education. For the government it is similar to using a 100 bedded hospital, taluk (tehsil) or district hospital.

11. The strong support of the administration, the involvement of various departments and cooperation of several others to introduce innovation, provide funds and time for the program to make it effective. The approval of the block postings is a good example.

In recognition of the innovative programs introduced by the Community Health Department to equip medical students and young graduates to work in rural and remote areas, the WHO, in 2002 conferred on the department, the status of a “WHO Collaborating Center for Community Based Health Professions Education”. In recognition of the Community Oriented/Based Curriculum, CMC was also the first Indian institute to become a full member of the NETWORK – Towards Unity for health and also Chair the organization for a term. But here in CMC, how do we assess the success of Community Oriented Medical Education?

One measure of our success would be that doctors who have trained in this setup have gone out as agents of transformation in different parts of India and abroad. Among our graduates and postgraduates who have done pioneering work in communities outside Vellore are Dr. S. Raj and Maybelle Arole who started a comprehensive Rural Health Project in 1970 that was later introduced in 178 countries across the world; Dr. S. Ravi D’Souza and A.V. Ramani who worked in grassroots Community Health Programs in rural Orissa and Chattisgarh before moving to more advisory roles in the State Health Department and UNICEF. Dr. Rueben Samuel who worked as the WHO liaison for the state of Odisha Health and Social Sector, and coordinator of the UNDP, establishing multisdisease surveillance systems, piloting initiatives for Community Based rehabilitation of the disabled and reducing the risk of HIV among migrants; Dr. Johnny Ommen in Bisamcuttack, Odisha working with tribal communities in 48 villages – helping them undertake their own interventions in health, education and development including a ‘People’s movement against Malaria’ that trains and advises other centers and districts in Odisha on malaria eradication programs; Dr. S. Roopa and Narayan Devadasan who started a Community Health Program in Gudalur, Tamil Nadu; Dr. Nandakumar Menon who started a hospital for the same population, and countless others who have lived up to the ideals set by CMC. The seeds sown during their community based training here have resulted in innovative and path-breaking work in places they chose to work in.

Another measure of the impact of the Community Based Medical course at CMC could be the fact that 60% of our graduates continue to work in small and medium sized towns in India on a long-term basis, unlike many of the other premier medical institutes of the country where a large percentage of all graduates migrate to the West. Community Orientation is also interwoven into many of the successful research programs conducted by CMC graduates. Examples of this include a neurosurgeon doing community based studies on cysticercosis, a Gastroenterologist identifying better Oral Rehydration solutions to be used in the community or a Microbiologist doing Molecular Epidemiological studies on viruses in Community cohorts.

**What are the limitations of the current approaches?**

The Community Oriented/Based Programs are largely confined to the Community Health Department and their project areas. There is inadequate integration with the teaching activities in the pre-clinical, para-clinical and clinical areas and consequently the chasm between Community Health and Hospital Based Medicine has not been adequately bridged. Students are therefore more attracted to challenges of Hospital Based Medicine. They do not see their clinical teachers practicing in the community, nor can they easily identify how the community approaches are applied in the hospital. Students may perceive that there is one kind of medicine for poor rural communities and another type of medicine in the hospital for people who can afford the treatment. These dichotomies need to be bridged for the training program to have more impact. It also needs to constantly adapt to the student needs and the health issues of the country. Some of the possible directions for development of this program are:

1. Strengthening of linkages between tertiary care and community.
2. Involvement of clinicians in planning and execution of Community Based Health Programs.
3. Teaching of clinical medicine by medical college hospital based teachers in the community.
4. Continuing involvement and responsibility of students for the health of the communities.
5. Increasing quantum of undergraduate clinical training in the primary and secondary training.
6) Increasing collaboration with programs like Secondary Hospital Program, Clinical Epidemiology teaching programs, Family Medicine etc.

Sustainability of Community Based Education Programs in CMC Vellore

A question that comes up often is whether an effective Community-Based Program is sustainable. Important factors that have contributed to the sustainability of our programs for almost 40 years are:

1. The commitment of the institution to Community Based Education. This is reflected in the curriculum and the resources provided for Community Based Education Activities. The commitment of the institution is further reflected by the participation of the faculty in community based learning programs and by the continuing training given to its faculty and the efforts to upgrade their knowledge and skills.

2. Infrastructure: The infrastructure includes communities which have an extremely strong link with The Christian Medical College (CMC) provides primary and secondary health care to two community development blocks (population of 250,000), urban slums (80,000 population) and a tribal area (30,000).

3. Benefit to the community: If the community based program is to be successful and sustainable, there should be benefits for the community as well. The institution goes beyond medical care and addresses issues of overall development such as environment, housing, water and empowerment of the disadvantaged and marginalized.

4. Community Exhaustion: Does the community get tired of students visiting their homes and asking them the same questions year after year? From 1975, all the villages of Kaniyambadi block (83 villages) are being used and the larger villages are used for the “Live-in” experience of two weeks. Every 10 years a new batch of students return to the same village and the community welcomes them.

5. Providing reasonable living Conditions for the students: To make the program attractive to the students, the living conditions must be satisfactory. It may be necessary to give them “live-in” experience at the community level but facilities should not be so poor that it becomes a deterrent.

6. Benefit to students and the faculty: Students should see Community Based Education as an opportunity to improve their awareness, skills and attitude and should be an enjoyable learning activity. The faculty should also benefit from the Community Based Activities. They should not see it as a teaching exercise alone but also as a means to promote Community Based Research and Service. There is ample opportunity to do health systems research to study risk factors and behavioural issues which they normally are not able to do in a teaching hospital.

In summary, the Christian Medical College Vellore was started in response to a great need for health professionals in India that was recognized by the founder, Dr. Ida Scudder. In keeping with this vision, the college has held the needs of the community central to its educational process and developed innovative Community Based Educational Programs to ensure social relevance of the training process. The outcome of these programs can be measured by the contributions made by CMC graduates and postgraduates to meeting the health needs of the country and by the wide acceptance of these programs as models to be used in other colleges.

Acknowledgement:

We gratefully acknowledge the contributions made by Dr. Abraham Joseph, former Head of the Department of Community Medicine, CMC, regarding the history of the Department and the early days of the Community Orientation Program.
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Chapter 7: Putting a vision into practice: A Case of Aga Khan University, Karachi, Pakistan

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Bio-sketch
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Joined AKU in 1987 as a community coordinator with emphasis on CHS work in the low income areas of Karachi. A year later became a faculty member. Initial four years intensely involved in the Community Based undergraduate Medical Education and the establishment of the PHC programs in the urban squatter settlements. Joined the Thatta Health System Research Team, with the lead in the village development component, and also involvement in the training of female staff and management training of medical doctors in charge. This involvement led to the involvement in the Family Health Project with Sindh Health Department. This was followed by coordinating of a school nutrition program in seven districts of Sindh. Other major community based projects included: Participatory Poverty Assessment in 12 districts of Sindh; Tawana Project on girls’ malnutrition in 29 districts of Pakistan; equity analysis by communities, benchmarks of fairness in health care, and women’s empowerment project which was part of a multi country study using the approach of participatory action research.

Besides teaching in different graduate courses of CHS, and sometimes

In the School of Nursing Master’s Program, direct two graduate courses: (a) Health Society and Culture (b) Rights, Ethics, and Equity in Health Care.

Teaching in the continuing education programs of CHS include sessions on equity and health, gender and health, bioethics, to name some. Had developed a three weeks course: Community Based Social Development. It has been offered three times in Kenya; once in Tajikistan, and seven times in Pakistan. Was also involved in the planning and conducting of a short course on Gender and Research.

Bioethics teaching was introduced by CHS in 1989, and since then I have been involved in bioethics teaching. Have been member of Ethics Review Committee; Bioethics Group; and Hospital Ethics Committee. Was also involved in the first two years of the Masters in Bioethics Program, and offered a course in the program.

Education :

Was a PhD Candidate –Department of Religious Studies Faculty of Social Sciences, McMaster University, Canada. (1979) (Completed the course work; fulfilled the language requirements; cleared the PhD Comprehensive Examinations; and wrote the thesis which was reviewed and cleared by the two supervisors. Left for home to take a short break, but did not return to Canada)

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Chapter 7: Putting a vision into practice: A Case of Aga Khan University, Karachi, Pakistan

“Acknowledgement”

It was exciting to become a mini historian and write about Community Health Sciences (CHS) experience of delivering the Community Based Medical Education curriculum, but it was no easy task. How is one to write about CHS when many diverse experiences together made CHS the pioneering department? CHS was no one homogenous entity. It was made up of a diverse group of faculty – initially small in number but constantly growing. The responsibility of writing was immense, and so were the limitations of this exercise. Ideally, everybody associated with CHS should have written and a multi-voiced narrative could have represented the early history of CHS. This, of course, could only be a dream (albeit, a bit wild), yet over seventeen persons associated with the early period of CHS were invited to share their experiences, and only two responded, and after some nudges and pushes three more eventually contributed. Those who contributed are the co-authors so I shall not thank them here. Those who contributed by commenting on the paper I shall now acknowledge.

Dr. Camer Vellani, thank you for sharing your memories of those early days, and the report of the great conference: Role of Hospitals in Primary Health Care. What you gave in writing was also very valuable and gave me a glimpse into the exciting times when visions and plans circulated in abundance.

To thank Dr. Jack Bryant, I would first share some of his comments:

‘…I am studying it section by section. I find it very well written, and wonderfully reminding of the work we did together on the program…’

‘…I have read through it twice and have been captured by various areas of importance, and intrigued by the ways in which the original ideas have given way to the needs for components of the CBME material to be given over to newly developed other components of the university, the hospital and the overall responses to the needs of the population and communities’.

These were very encouraging comments and gave me confidence that I was not completely off the track.

Dr. Masood Kadir, Dr. Sarah Saleem, Dr. Shehla Zaidiand & Dr. Rozina Karamaliani, I am grateful for your written input in the paper. My special thanks to some colleagues within CHS – Dr. Fauzia Rabbani, despite your crammed schedule as the chair of CHS, your comments were very useful, and also thank you for calling a meeting of some CHS faculty that carried memories of the early days of CHS. Thank you Dr. Narjis Rizvi for making very clear suggestions on the organization of the paper. Dr. ImtiazJehan for your comments on the first abstract that I circulated, and your continued interest in the progress of the paper. I would also like to thank Dr. Ghazala Rafique and Sohail Bawani for listening to my repeated updates on the paper. It was fun to share my excitements of writing this paper.

Last but not the least, I am most obligated to CHS, the department that became a world in itself and provided immense opportunities to learn individually and collectively. Through the many eminent international and national faculty it fostered a spirit of learning that has left an indelible stamp of how Community Based Medical Education is viable and most effective in fostering sensitivities towards communities. There is really no alternative to understanding communities by interacting with them. Thus, my final thanks are to the communities that helped me learn about the most respectful approach of making them partners in learning.

Disclaimer:

Views presented in this paper are the authors’ perceptions of the evolution of Community Based Education in CHS and the publishers or other staff and faculty in the Department of Community Health Sciences have the right to disagree with either any factual evidence presented and or conclusions drawn.

Abstract

This chapter has three parts. Part 1, which is also the longest, outlines the curriculum of Community Health Sciences, a Department of Aga Khan University, Karachi, which pioneered the Community Based Medical Education in Pakistan. This section describes the centrality of urban poor communities as the hub of learning for undergraduate medical students, and also the base for development of faculty to become leaders in Community Based Medical Education and public health research. It summarizes the learning cycle of the curriculum, and its educational activities in the pre-clinical and clinical years. Also discussed is the role of Community Health Nursing, and how some central concepts of Primary Health Care were operationalized in the field sites. This section ends with a query about interpretation of changes in CHS approach to Community Based Medical Education – how are they to be interpreted. Part 2, describes the genesis of CHS, highlighting the vision, and the plans and action to put the vision into practice. Part 3, as a concluding section discusses how a vision is to be safeguarded. It presents the major shifts in the role of urban poor field sites in educating the undergraduate medical students and community health faculty.

The writing of this chapter is closer to the writing of a biographical study rather than relying primarily on secondary data in the form of reports and published articles. Experiences in the formative years of the making of the Community Based Medical Curriculum for the undergraduate students are the primary source of this documentation a significant part of the institution’s history. The story of this curriculum making is not restricted to one person’s experience, as a number of voices have contributed to the account in the chapter. Documents that capture the making of the vision were also reviewed to reconstruct the vision and plans. Published articles,
which were not many, on CHS initiatives and outcomes were also reviewed and quoted. All these documents have been listed in the reference section.

**PART 1**

*Community Based Medical Education, New pedagogy, old world*

“I would like to turn to the ethics of the roles of universities. What is the mission of the university? What values guide it? Do such values shape the ways in which universities related to the marginalized? Are they guided by ethical principles, such as equity, justice, and rights? How do these principles fit into the traditional functions? Is their education community based? Is research involved in defining the vulnerable? Does the service involve Community Empowerment?” John H Bryant. Chairman Community Health Sciences, 1985-1993.

*Establishing Community Based Medical Education*

Community Based Approach to Medical Education emanated from the vision of the 1978 Declaration of Primary Health Care, and was specifically crafted after the 1983 Conference on the Role of Hospitals in Primary Health Care (Alma Ata, Kazakhstan). The conference was jointly organized by WHO and the Aga Khan Foundation. It was attended by then the Director General of WHO, who was also the architect of the historical 1978 Declaration of Primary Health Care, as the way for Health for All.

The conference was followed by the planning for establishing Community Health Sciences (CHS) as a department of the undergraduate medical college of Aga Khan University, Karachi. This pioneering task was completed with the help of two international universities – Harvard and McGill. A team from McGill University visited Karachi in 1983 to study priority health issues and wrote a report (The Spitzer Report: Community Health Sciences and Service; 1983) that conceptualized the practical implementation of what had been proposed in the 1981 conference in Karachi on the “Role of Hospitals in Primary Health Care”. (More of this in Part 2 of this chapter). CHS was allocated 20% time of the overall Medical Education curriculum, and students throughout their five years had a community as the basis of their education. The Harvard Medical School had developed a teaching manual or guide to cover essential public health topics. However, there was no set or standard textbook/s used. CHS was thus left to navigate in the unchartered waters to the best of its abilities. The international and national experience that came together for this challenging task was well endowed to chalk out a clear pathway for Community Based Medical Education. They were able to introduce to the students the knowledge and skills required to identify and manage community health needs, taking guidance from the principles of PHC and equity as identified in the Alma Ata Declaration.

The CHS model of Community Based Medical Education (CBME) was designed to ensure that learning takes place in settings external to the college campus. Consequently, urban poor field sites became the identifying feature of CHS curriculum, and every new class of undergraduate students was attached to a field site – a squatter settlement in Karachi. Students learnt through interactions with women and men in the communities; by conducting health and demographic surveys; sharing survey findings with the communities; and examining first-hand the PHC prototypes that the department had developed. In the first 6 years every class had its own field site, and after this practice was discontinued, they visited different sites retained by CHS and which had a variety of interventions involving different community groups. Unlike the first six years which provided students to learn clinical skills in their own field sites, students now were no longer limited to CHS sites and they went to other primary care setting, MCH clinics, and to rural health facilities. Students in these sites could carry out diverse tasks appropriate to the level of their training. Twice, they availed the opportunity to conduct baseline surveys in the remote mountain areas of Pakistan.
first place, the poor lived in the squatter settlements. Thus, it was not enough to only comprehend the link between poverty, poor living conditions, and health, but also to learn why and how poverty is produced and reproduced. The clinical years had the students apply their clinical skills at the community level under the supervision of CHS faculty and other clinical faculty. The final year had the students undertake research which included research questions around Primary Health Care as a system, and on issues like domestic violence and Community Participation.

CHS’ journey of Community Based Medical Education started with one of the largest squatter settlements of Asia; followed by a lower middle class people living in apartments. Next to come were two sites, one was an old village that was once on the outskirts of Karachi, with a dominant indigenous population, and was later engulfed by a high income locality of the city. The other site was a peri-urban area close to the sea coast, and which had a mix of ethnic groups as well as the three dominant religions of Pakistan. These sites were followed by one that was close to the medical college, but squashed between a bustling road in front, a vegetable market at the back, a graveyard on another side of the settlement which straddled a number of sewage drains. An island near the harbour was another location for CHS, and an area with up country migrants became yet another place where CHS established its PHC prototype model. These were six exciting years, as the small Enthusiastic Department developed a preceptor program and the young faculty recruited was given a condensed training course to lead groups of medical students to their learning sites. By the sixth year, CHS was interacting with the major ethnic groups of Pakistan – Sindhi, Urdu speaking, Baluch, Punjabi, Pushtun, Seriaki speaking; gujrati speaking; and also with the major religions of Pakistan – Muslims, both zikri and namazi; Christians, and Hindus.

The first year of CHS’ venture in Community Based Medical Education was significant as it was setting precedence, but also because it partnered with an innovative Community Based Sanitation Program. This initiative was headed by a leading expert of Community Based Social Development. After some initial meetings of CHS faculty with the local partner, first year medical students, in Term 1, conducted a health and demographic survey in the area, and thereby established a pattern which CHS followed for many years. Third year in the life of CHS another initiative was added to the CHS approach to Community Based Medical Education. After the survey, a Community Based Primary Health Care model was introduced in the field site. This
model included training of community women as Community Health Workers (CHW) whose were assigned about a hundred households which they visited once a month. A comprehensive information system was developed that could track not only rates of infant death and nutritional status of children under five, but also in and out-migration of the population. It could highlight the residual mortality, and raise questions for planning and testing new interventions and strategies. In the 6th year of its Community Based Medical Education initiative, a major alteration took place in CHS’ approach. Having learnt what could be described as a modest PHC model which had CHS in ‘control’, CHS experimented with advancing the role of community in PHC. Thus, from a CHS led model, CHS moved to the making of a Community Led Model.

CHS experience of Community Based and Community Oriented Medical Education poses perhaps the most seminal question to medical education. Namely, what is the relevance of Community Based Education that requires understanding communities, for students being trained in clinical competencies (something that all medical schools strive for)? A comprehensive answer to this question could make Community Based Medical Education an imperative. CHS succeed in demonstrating the value of Community Based Medical Education, but did not develop a communication strategy for advocating its approach, and neither did it undertake systematic studies to validate its approach.

**Overall Purpose of CHS Curriculum**

The goal of the MBBS curriculum is to produce competent general physicians equipped with a sound foundation of basic biological, biomedical, clinical and social sciences, able to serve both individuals and populations, in rural and urban areas, and work with limited financial and human resources.

The purpose of Community Based and Community Oriented Medical Education (CBME/COME) is to provide medical students with an opportunity to get to know and understand the community, the social and economic environment of the community and assess the community’s health care needs. They need to learn and practice skills and competencies not easily taught in tertiary hospitals. In addition, the curriculum needs to be innovative to engage the community and to meet their health requirements. The major challenge to CBME is of human resources needed to facilitate student learning, and the finances needed to address the health and medical issues seen in the community. Students also need to understand how they differ substantially from those seen in patients in hospital settings.

Medical Students with clinical preceptors at the Primary Health Care Clinics

The undergraduate medical curriculum at the AKUMC was designed to prepare competent general physicians able to serve the people of Pakistan; become self-directed learners capable of advancing their professional development through graduate education and training, critical reasoning and research. The seminal question was what curricular contents and strategies, and human resources, would yield the desired results, and what standards would need to be maintained?

The five years curriculum of Undergraduate Medical Education (UGME) included the first two years of preclinical education, and three years of clinical work (mostly focusing on maternal and child health, and Family Medicine). This period also included a strong research component. Most of the sciences related to the basic community health are covered in the first two years i.e. Epidemiology, Biostatistics, Survey Methods, Demography, PHC, Bioethics, and Health Systems. Understanding communities and their living conditions were integrated in the curriculum through actual interactions of students with poor communities of CHS field sites. Prevention and control of diseases, reproductive health, preventive and social paediatrics and primary medical care were covered in the clinical years.
“Just as clinical ethics is best taught at the bedside, so ethics in relation to the care of populations would best be taught in settings where those populations live and interact with health care teams”.

Medical education in its conventional setting revolves around patients; hence hospitals become the learning base. The CHS’ education model, in terms of its structure, is analogous to the clinical model that has patient as the centre of learning but differs substantially as its curriculum revolved around the community. Need-assessment of the community is comparable to history taking and clinical assessment of a patient, and leads to problem identification or diagnosis. This is followed by a plan of action, and its implementation. Implementation is monitored to determine the outcomes of implementation and ascertain whether further mediation or modification is required, based on evidence. The primary focus is observation of the community, and interaction with its constituents; classroom teaching basically covers the knowledge, skills and attitudes relevant to reaching the desired teaching goals. (See Figure 1)

Community at the centre of learning

Understanding community became a central feature of CHS curriculum. Various experiments by CHS for enhancing students understanding of the community were made, and perhaps the one most exciting was the assignment of 5 families to a small group of students. Students were required to comprehend the health determinants, and how communities (individually and collectively) address factors that adversely affect them, and also identify practices that are good for their health. In other words, during their training amidst communities, students learnt about social and economic determinants of illness and health, about health services in the community and
methods of health promotion, about team work, and about frequency and types of problems encountered in the community outside a hospital setting -- in the real-world of the communities that they were witnessing.

In the left photo: Medical Students learning health promotion activities at the health center & in the right photo: Nursing Students interacting with a teacher and children in an elementary school

The third year of CHS' initiative of Community Based Medical Education was a turning point, as in the first two years students were only involved in conducting a baseline survey. An issue of fairness was raised by the faculty. “Is it fair to use communities only for teaching students how to conduct a survey?” they asked. This query led to the decision that CHS faculty should have an on-going relationship with the communities that students enter for their learning. This decision also became a significant source of learning for the CHS faculty as they became involved in establishing modest systems of Primary Health Care, and constantly struggled to put the theory of “Community Participation” into practice. Thus the PHC prototypes emerged to become a fountain of learning for the faculty as well as the students.

The next turning point of Community Based Teaching and Learning came when CHS made a significant shift in its approach to developing a Community Based PHC prototype. Recognizing the need to first test out the efficacy of a PHC prototype, in terms of what training the community health workers were to get, and how the three tier system of Community Health Worker (CHW), Lady Health Visitors (LHVs), and Community Health Doctor (CHD) as doctor and nurse would function, CHS took the lead in establishing the system. Within two years, a curriculum for CHW training was tested and established, a format for registering all the households was established and put to use. Later on a fairly refined information system was developed which enabled analysis of trends in immunization coverage, child mortality and morbidity, and also in and out migration of population. Once this system was in place, CHS began to grapple with the notion of “Community Participation”. The challenge was to put the theory of Community Participation into practice. This concern led to a major shift which was labelled as from “CHS Led to Community Led” approach. This experiment took place in the sixth year of CHS’ life. The site was an island near Karachi. A meeting was held with the local organization of the fishermen who inhabited the island. At the meeting, one of the members of the Fishermen’s Welfare Association said: our children were ill before they were born. This statement was highly acclaimed by the then Chair of CHS, who stressed that this statement is indicative of a deeper understanding of the social determinants of health. It was often quoted to vindicate indigenous understanding of the link between poverty and health. This statement also substantiated the cryptic statement used to introduce Community Health to the first year medical students in their very first CHS lecture. The lecture would start with the puzzle:

“....I am ill because I am poor, or I am poor because I am ill”

The Community Led model helped deepen CHS faculty’s understanding of “Community Participation”, as the community provided the physical space for PHC activities, and also provided its own boat to ferry the CHS teams to and from the island. The Fishermen’s Association connected the CHS team with the students’ group of the island, and who had drifted away from the fishing occupation of their forefathers (a sign of modernity in Pakistan? some CHS faculty debated). The Fishermen Association also mobilized women to join the team of health volunteers that CHS offered to train, and older women were also appointed by the Fishermen’s Association to give legitimacy of the new work that the young women of the island were poised to enter. The Association also took responsibility for safety of the young CHS nurses (all women) assigned to work on the island. During this phase, the pyramid of PHC prototype was turned around to indicate that it is the community that should be in front, and different cadres of health workers should be supporting the community through different activities introduced for health promotion.

The concerns for communities and their health debated by the faculty were also reflected in the interactions with the medical students. While conducting the baseline survey on the island, the students accommodated the information that the health volunteers thought would be useful for them (for example, whether all adults, including women, had the national identification card). Students were also assigned families who they were expected to understand over their five years of Medical Education. (This experiment, however, was abandoned). The relationship between the health volunteers and the medical students was unique to this phase, and is well reflected in the football match that the two groups played. Some students were also deeply concerned about the well being of the community on the island: “what would happen to them after we leave?” a student had asked in a worried tone.
The inner dynamics of Community Based Medical Education initiated by CHS contributed to the faculty’s understanding of various issues of PHC and perhaps the paramount being the notion of Community Participation. This task was not easy as genuine challenges emerged from the field. A puzzled faculty, on returning one evening from a meeting with the community, reported: “as I stressed that they think and propose solutions for the water problem they were facing, a frustrated community member said:

_How can I think when my grandfather was not permitted to think; and my father was not permitted to think_"

There were six inimitable years in the first eight years of CHS’ life, when Community Based teaching of undergraduate medical students and PHC prototype development became the centre of CHS life. The teaching was not based on knowledge acquired from books; instead the documented knowledge was tested with the actual experiences of the field. Though pedagogy as a subject was not discussed, experiential learning was the implicit way of learning that was put into practice. It was assumed that actual experiences of interactions within community settings would help students understand the link between poverty and health; to understand their behaviour and vicissitudes of life, instead of just knowing them through surveys. For many years when students entered the CHS field sites they could interact with CHWs, visit homes with them, and could see how a simple PHC system could work. Six years after the commencement of CHS’ Community Based Education model, CHS withdrew from its field sites, and initiated a new approach to urban health. It no longer had CHWs (an external review had questioned the sustainability of the approach), and once a teaching orientation programme was supplemented with other related in-house learning courses and assignments (for example, communication skills; participatory approaches). With these in-house learning the faculty were assigned to different field sites as Community Health Doctors (CHDs) who teamed up with Community Health Nurses (CHNs, another evolving cadre), and after a year or so in this position, the preceptor would become a Field Director and experienced the making of management skills – managing a three tier team of health workers (See Figure 4), and required to use information generated by a well developed Management-Information-System for monitoring progress in the field and planning new interventions.

CHS faculty went abroad for Master’s degrees in Public Health at prestigious universities in the USA and UK (e.g. Harvard, McGill, London School of Hygiene and Tropical Medicine, funded by the AKF, USAID, to name some sources). After their Master’s degree, several faculty members went on to acquire PhD’s from UK, USA, Sweden and Australia. There has been attrition in faculty numbers over the years but it is heartening to note that all who trained successfully in Public Health have stayed in the field either in Pakistan (in the main), in the region (Middle East) and a few are working abroad.

AKUMC (Aga Khan University Medical Center) students from the class of 1993, 1994, 1995 and 1996 joined CHS as its first cadre of Research Officers, a program particularly designed to recruit and groom talented youths into Public Health research oriented careers. The Research Officer Program was later replaced by the Community Medicine Residency Program and the Masters programs. The Community Medicine Residency Program of CHS began to attract young doctors interested in Public Health who were expected to replace the preceptors and emerged as an important human resource for Community Based Medical Education. Over time, CHS managed to greatly influence the curriculum of Community Medicine within the College of Physicians and Surgeon Pakistan (CPSP). The CHS residents were required to acquire fellowships of the CPSP in Community Medicine.

The field based experience with which the CHS faculty went for their Masters in Public Health was quite extraordinary. None of the universities accessed were involved in Community Based Medical Education and the knowledge and skills they imparted did not vindicate the field based experience of knowing and implementing mentoring students in community health.

Pakistan still is, and has been short of qualified faculty particularly in Basic and Community Health Sciences. Initially CHS had to recruit faculty that the Department saw as having potential in Public Health. They were given a short intense course of training (the “Preceptor Orientation Programme” or POP) to develop a potential cadre of “Preceptors” who were useful field instructors. Every year the newly recruited faculty received training in sciences relevant to Community Health in POP before they started interacting with the students. This early initiative of educating faculty for Community Based Education was itself community based. The Preceptor Orientation Program was supplemented with other related in-house learning courses and assignments (for example, communication skills; participatory approaches). With these in-house learning the faculty were assigned to different field sites as Community Health Doctors (CHDs) who teamed up with Community Health Nurses (CHNs, another evolving cadre), and after a year or so in this position, the preceptor would become a Field Director and experienced the making of management skills – managing a three tier team of health workers (See Figure 4), and required to use information generated by a well developed Management-Information-System for monitoring progress in the field and planning new interventions.

CHS curriculum required adequate number of faculty to accompany the students to the field sites. In the first two years there were 50 students to a class, and this was followed by enrolment of 100 students per class. The faculty: student ratio for field work and tutorials was around 1:25. Most of the faculty were medical doctors with little or no systematic introduction to either primary health care or experience of...
Primary Health Care, and facilitating medical students to learn through communities. While higher education equipped them with the basics of Public Health, it seems to have alienated many returnees from communities — as if communities were no longer relevant except for conducting studies. The few who retained their interest in community based work soon became a minority. Moreover, some changes in the attitude to field sites had also come to stay. A greater interest in urban health research replaced the focus on students and faculty learning from field related experiences. The new faculty that interacted with students was no longer required to be part of a field site; and also did not have the community based experience of planning and managing PHC prototypes. This shift in faculty development in CHS created lacunae in Community Based Medical Education — how could a faculty member not trained in Community Based Medical Education teach medical students to learn about communities and their health conditions, and needs through community based learning mechanisms?

Besides the Community Medicine Residency Program, CHS soon developed two graduate programs. These three programs aimed to produce Public Health Professionals for Pakistan which is a dire need of the health sector in Pakistan. The faculty that taught in these programs included those from within CHS and had benefited from the Community Based Learning. However, it would not be incorrect to say that learning in these programs did not require Community Based Learning, and the new faculty recruited for teaching at the graduate level did not need any community based experience. This gap in Community Based Learning and Teaching began to change the flavour of Community Based Medical Education for both the students and the faculty. Communities as a base for learning had lost the central position which it had in the first six years of CHS’ life.

The idea of a Community Health Doctor (CHD) lost its value as the position of a Field Director was passed over to the nursing cadre that did not have a strong backing within CHS, and was also not linked to the School of Nursing of AKU. (Whether this was also fall out of changes in the school of nursing is something that could be pursued as a separate exercise). In the new field sites, the field staff, including Community Health Nurses, merely followed instructions provided by the Director of the Urban Health Program. With the fundamental changes within CHS there was a diminishing of the value of community based work, and Community Based Medical Education also lost its dynamism.

The Residency Program of CHS, which started in 1997, was expected to shoulder the responsibilities, among other tasks, of teaching in the CHS curriculum of the AKU under graduate medical education program.

The primary goal of the Community Medicine Residency Training Programme in CHS is "to educate caring and skilled physicians who are well prepared to enter graduate and speciality training programmes. They provide highly competent and compassionate, population based health care while demonstrating the highest level of professionalism and sensitivity to the diverse personal and cultural contexts in which medical care is delivered".

The centrality of Community Based Education was not stated in this program.

Clinical Years of Community Based Education

The Spitzer Report had recommended that academically CHS be a Division within the AKUMC (Aga Khan University Medical College, Karachi) and Faculty of Health Sciences, with three departments: a Department of Community Medicine, a Department of Family Medicine and Primary Care, and a Department of Epidemiology and Biostatistics along with an interdepartmental Community Extension Program which would interact and overlap with the School of Nursing. This divisional structure with three departments did not materialize and there were instead programs of Community Medicine, Family Medicine and a Masters in Epidemiology and Biostatistics. Instead of a Community Extension Program undergraduate clinical teaching was conducted at field program shared with the Department of Child Health and Pediatrics. Clinical Primary Care or teaching in Family Medicine is within the purview of Family Medicine. In 2003, Family Medicine separated from the Department of CHS and is currently an independent department under its own chairperson. What this meant for teaching clinical competencies as part of Community Based Medical Education is an issue that needs careful deconstruction if strong arguments are to be developed for supporting Community Based Medical Education over the five years of Medical Education.

The pre-clinical years of CHS curriculum focused on understanding the social determinants of health, equity issues in health, and the PHC components that could reduce infant and child mortality, and promote women’s health, especially in the reproductive period of their lives. It sensitized the students to the living conditions of the urban poor (rural sites were seldom available to the students because of the time needed to travel to the sites). Sometimes the Participatory Reflection and Analysis tools (PRA tools) that grew out of the participatory rural appraisal assessments were also introduced to the students, though they were never fully integrated into the curriculum.

In the clinical years undergraduate students had two major learning areas during CHS based clerkship rotations. One was the PHC Clerkship in year 5 and the other was a month long research rotation in year 4. The PHC Clerkship under CHS was a joint Primary Care (Family Medicine), Obs.& Gyn. and Paediatric rotation, while the other was (and is) a generic example of a short thematic research project for a group of students. The clinical rotation has now been relocated as rotations under Paediatrics and Family Medicine.

Initially clinical learning was an integral part of the CHS Community Based Education Curriculum. For the first two decades primary care clinical learning was part of the CHS. Services in primary clinical care i.e. Family Medicine were provided at the AKU
Hospital’s Community Health Centre (CHC), and at clinics conducted at urban squatter settlement field programs. The CHC is a subsidized clinical service and students are assigned clinic hours under supervision of a tutor. In years four and five during the CHS clerkship rotations there was a component of clinical teaching at the urban squatter settlement field clinics. Here students clerked patients and were taught to draw management plans for clinical problems under supervision of clinical tutors. Senior students had their own patient follow ups. As these were community based clinics in certain cases students also conducted home visits. In 2003 Family Medicine was established as separate department and it took over the primary clinical care activities and teaching at Community Health Centre of hospital as well as field based clinics.

In the first two decades in the fourth year students conducted a small research project as a group activity and learnt the basic parameters of research in Health Sciences. Projects by and large were on areas of public health importance. In the fifth year the students did a preliminary health project evaluation study in groups. The students go through a process of sensitization to an analysis of a problem of public health importance. These may take the form of discovery or general description of a problem including its epidemiology, a review of literature and the impact of the problem on human populations.

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CHS from its inception to date is linked to field sites. The role of field sites in the learning of undergraduate medical students changed over the years. When every class of students was assigned a field site, and CHS was also responsible for clinical phase of the students, learning methods and learning outcomes were different. When CHS adopted field sites to develop an Urban Health Program (UHP) learning activities changed. UHP has had several population based health and development projects which UGME could have benefitted from, but this would have been akin to learning from any other health and development program in the city. The charm and challenges of engagement with the same communities over many years had faded away. Community Medicine Residents (CMRs) have continued to train in UHP and so have several other AKUSON, elective and Master students. From 2003, When Family Medicine took over the responsibilities of clinical education, and CHS phased out from some of the urban sites where these clinics were present, a new site for the students were selected by the joint efforts of CHS and Family Medicine (FM) Department. But since FM and CHS had no catchment population these were just clinics where students along with FM faculty would go and practice or learn their skills. There were no home visits or follow-ups for the patients who would not turn up for follow-up visits. This was a major loss as clinical care became delinked from Community Health approach that CHS had developed.

Medical students with a preceptor listening to a community person; children’s casual presence during such interactions also helped students learn about life of urban poor families in the largest metropolis of Pakistan

The importance of Community Based Learning for even clinical skills can be detected in a specific example. CHS’s field of Azam Basti was the springboard of FALAH student welfare organization of the AKUMC. Azam Basti was the largest urban field site and hosted three monthly PHC rotations of final year medical students. The Azam Basti Center brought students in contact with patients from the surrounding low income locality, exposed them to low cost therapy and a PHC response network connecting the clinics with the households. For many students this was the first realistic exposure to the illness, poverty and social environment as faced by the majority of the Pakistan. In fall of 1993 a group of students from Class of 1994 undergoing the PHC rotation at the Azam Basti field site, in response to the needs to low income patients started a drug bank to improve access to therapy for key health problems. The drugs were collected, managed and dispensed to the patients by the AKUMC students. Within three months the drug bank had expanded to the AKUH where treatment support was provided to patients screened by the PBSD. The drug bank drew an overwhelming response with support coming in from students, their families and supporters, and patients referred across AKU by medical faculty and staff. FALAH was registered in 1994 as non-profit entity followed by an AKU wide launch by President Shams Kassim Lakha. It expanded to cater to three units: registered blood donors unit; drug bank for AKU and Azam Basti; and ambulatory services for patients at AKUH without access to ventilators. FALAH matured as an
organization over the years and still exists however its history is linked to the critical exposure provide by Azam Basti field site.

**Community Health Nursing – an integral part of Community Based PHC Development.**

“The nursing profession is not looked on favorably by Muslim families. In one rural area there were only three nurses for 1 million people. Community Health and Public Health care have been lacking in the nursing curriculum. Therefore, preparing recruits for the Community Health Nursing (CHN) posts in the Community Health Sciences Department (CHSD) and for faculty of the School of Nursing has involved a sequence of continuing education: in-service and on-the-job training in the CHSD and courses in the new BScN program”.  

The above quotation captures the heart of the CHS initiative of 1987, to demonstrate the need for the role of nursing in Primary Health Care. CHS pioneered the development of Community Health Nursing in CHS as well as supported Faculty Development for School of Nursing Community Based Nursing Education. They were envisaged to be an integral part of the Community Based PHC model that was also the heart of the CHS Community Based Medical Education initiative.

“Community health nurses join the department (sic CHS) after 3 years of diploma nursing and 1 year of midwifery training. As field team members, each works in service, teaching, and management. After 2 years, the nurse enters the 2-year Bachelor of Science in nursing program. She then works for 2 years refining skills in management, teaching, or field supervision, after which she may apply for master’s studies”.  

CHS is a department under medical college so took responsibility for Community Based Medical Education under their wings. The School of Nursing (SON) is independent entity under the university umbrella and not one of the departments of medical college. Therefore, CHS never considered to link with SON or develop Community Based Nursing Education as their mandate.

In CHS, the CHNs were part of the PHC model as staff providing services to the clients, and support to medical students and residents while the vision was to place them in a leadership position in partnership with Community Health Doctors (CHD), which later happened at some PHC sites. Together they oversaw and mentored the hierarchy of LHV and CHW (See Figures 4 and 5) Within CHS, CHNs underwent special training in participatory approaches. After their learning through Community Based work in CHS, CHNs went for Post RN BScN, master’s and doctoral studies. Like the preceptors who went for Masters of Public Health (MPH), the CHNs also returned to CHS for involvement with Community Based PHC programs. Few also took joint appointments with CHS and School of Nursing, but were not given the opportunity to get involved in Community Based work of CHS. This could be attributed to the traditional doctor-nurse power dynamics or image of nursing. Furthermore, changes within CHS led to a shift in leadership of Community Based PHC programs, and CHNs were made the Field Directors of the field programs, but with neither formal connections with the school of nursing nor being mainstreamed in CHS. They were placed without clear identity, recognition, required academic preparation, leadership training, and role definition and above all with certain boundaries or limits. All of this limited the so called “scope of practice” for CHNs as field directors. In addition, weak professional leadership for PHC programs and non-availability of effective models for collective professional action was also observed.

The role of CHNs in CHS began to wither away with the change of focus and leadership at CHS. With this change, the envisaged partnership between SON and CHS also drifted away from a joint interest in field based work, while joint appointments for graduate level teaching and research continued. What CHS initiated for the development of CHN cadre within Nursing was continued by the School of Nursing at AKUCHNs, with their academic preparation and experiences from CHS and SON contributed to the development of Community Based Nursing Education curricula not only for AKU-SON but for Pakistan and got it approved as national curriculum by Pakistan Nursing Council.

**CHS Dream – Team of competent health care providers and community members as partners in health care**

While all institutions change with time, it is also relevant to ask whether changes in the place of CHNs in CHS was beneficial to Community Based Medical Education that CHS had pioneered. What could have been CHS’ gain if CHNs had become full time CHS faculty? These are questions that need to be explored by both CHS and School of Nursing where the cadre of CHN has been developed and sustained.
Community Participation, Equity, and Building Health Systems

There was considerable discussion on the meaning of participation and how it could be achieved. Significant contribution to understanding this notion came from faculty that came with the experience of community based work. Prominent among them were those with experience from Bangladesh (Gonoshastho Kendra); district health system development of a poor district in Kenya, and vast experience from India under the aegis of Voluntary Health Services India. These discussions led to the introduction of participatory methodologies that could facilitate the mobilization of communities; and how other stakeholders could be engaged. Visitors to CHS in the early years also helped CHS faculty have their understanding of concepts central to building PHC systems. Prominent among them were Susan Rifkin, and Halfdan Mahler. (The Director General WHO, and who pioneered the PHC movement)

The stretching of conceptual understanding of Community Participation was strengthened by the practices introduced in the CHS field sites. CHS faculty could see the differences in relationship with CHWs when they are paid by CHS, as opposed to health volunteers who even provided the space to CHS for their students and training. Who is in control – CHS or Community; what is more desirable – Community Empowerment, or CHS domination; how to continue learning about Community Mobilization; how to dramatically reduce malnutrition – these were some of the very lively issues that formed the CHS discourse.

CHS grew over the years, and went beyond the urban field sites. By 1992, CHS was working in four districts of Sindh, and was also deeply engaged with the Government Health Department of Sindh, the province where AKU was physically located. By this time CHS had also taken the medical students to the Northern Areas to conduct baseline surveys for the PHC model that was being developed by Aga Khan Health Services, Pakistan. Extensive use of participatory tools for Community Mobilization were tested and used for addressing malnutrition in children, and for community mobilization. While CHS learnt rapidly through its innovative learning initiatives through a district level health systems research, and developing Partnership with Government Departments of Health and Education, and working in partnership with local Non Governmental Organizations (NGOs) and communities, it unfortunately did not learn to bring its learning into public domains. Reports were produced, but not turned into papers and book chapters. This dilemma was acknowledged, but never effectively treated.

Integrating equity as a concept to guide community based actions was a constant challenge. Introduced early in the program, it somehow remained nested in its interpretation as ‘to people according to their needs’. Thus, identifying high risk children and mothers was considered as adequate understanding of equity. How inequities can be highlighted by focusing on differences in health outcomes on the children and mothers was considered as adequate understanding of equity. How

CHS’s understanding of health systems grew steadily from looking at PHC systems that CHS had learnt to develop and implement, to looking at a district health system. This was an important step forward as health systems had not become central to the health discourse in Pakistan. While CHS experience of working on issues of health systems increased, turning this experience into an experience for Community Based Medical Education did not materialize.

Some Turning Points in CHS Approach

The pioneering work of CHS had at least three landmarks that are significant on at least two counts. One, the pedagogy for undergraduate medical students was guided by the assumption that learning about community health and its conditions is best learnt by coming face to face with various groups within a community – groups like children, women, minority groups, elderly, disabled, addicts, to name some; and to interact with them. This basis of knowing cannot be replaced by books and videos as the mediators of learning. Two, an institution learns best (in this case CHS as a department) when its faculty and staff actually engages in building PHC programs and grapple with the challenges posed to Public Health Professions by the lived realities of disadvantaged communities.

There were three major shifts within the first ten years of CHS life. The first shift came in the third year of the undergraduate curriculum (or programme); when field sites were no longer to be used by students to merely learn how to conduct health surveys. Instead, CHS faculty took the responsibility of establishing PHC prototypes for the given populations that varied in terms of ethnicity and religion. Students could thus learn what it takes to establish PHC prototypes. This shift provided CHS invaluable learning on training CHWs, building a robust Management Information System (MIS); and data analysis for raising questions for strengthening PHC prototypes. For example, analysis showed that there was residual mortality, and there was a need to show how this could be reduced. The second shift came when CHS decided to experiment with a “Community Led” approach to PHC development, and compared it with the “CHS Led” approach with which CHS had initiated its learning journey. This shift also represented CHS’s enhanced learning of Community Participation, a central concept in PHC. The third shift came in the form of incorporation of a rural field site which was also the first health systems approach of CHS. This was the Thatta Health Systems Research Project. Here PHC was just one component of the larger system. Students’ visit to the rural field sites introduced them to government health care system and its various components. Students’ learning in the rural areas was somewhat limited because of the cost and logistics of travelling to the rural sites. However, because of the relationships developed with government officials, senior government officials were invited to educate the medical students). During one such session, the Director General Health said, holding up his hand, and pointing to his fingers the relationship
between us and AKU is like that of the nail and finger, thereby conveying the strong relationship with the government health department.

Six years from the inception of CHS and its Community Based Education of undergraduate medical students; CHS faced the critical challenge of continuing with the CHS practice of a new field site for every new class of undergraduate medical students. Whether CHS should exit from the old sites before entry into new sites was often under discussion. Ultimately, decision was taken to develop an exit strategy and formally pull out of the old sites. Once this was done, CHS developed a proposal for a new approach to its engagement with field work, which was to focus on developing an Urban Health Program which could demonstrate the difference in outcome of two approaches to Community Based Health Care. The two approaches being the Health Care Approach and the Community Development Approach. Different sites were designated the different approaches. Students continued to use the field sites for their learning about community health, but lost the learning from looking at how a modest PHC functioned and the role of CHWs in promoting health promotion and disease prevention. This loss resulted as the new sites did not build on the earlier experience of building a PHC model, through it did try to develop health volunteers who got absorbed in the research projects introduced by other departments of AKU.

The Slippage

A number of CHS initiatives imperceptibly slipped away from CHS jurisdiction. Clinical teaching of undergraduate medical students, CHS community based curriculum, while maintaining a focus on understanding communities and the determinants of health as created within their physical and social environment, also included clinical training of the medical students. Students under supervision of CHS faculty learnt medical skills at community based facilities. In this period, CHS faculty also conducted clinics at the Hospital. Over the years, the discipline of Family Medicine within CHS started to grow and became a separate department. The community based clinical work then shifted from CHS to Family Medicine. As Family Medicine continued to grow it also entered new field sites and thus the medical students were not limited to the field sites of CHS. The issue that CHS needed to think through was whether the takeover by Family Medicine compromised some learning that students were more likely to get from the CHS field sites, as here were the communities CHS had interacted with before. Or, whether students having experienced Community Based Learning had acquired some important learning which they could carry to clinical work in any community. This interesting question, however, was never analyzed enough to be written and brought into the public domain for all those involved in Community Based Teaching of Medical Education.

Communication skills, bioethics, and gender. CHS pioneered two elements within CHS curriculum that were later integrated in the main AKU curriculum of AKU Medical Education. The two were: Communication skills, and bioethics. Both became the longitudinal themes and had coordinators assigned to them, but both were not housed in CHS. While communication theme was coordinated by a faculty from Family Medicine, Bioethics theme became the responsibility of the Bioethics Group of AKU. How is this shift to be interpreted? While it is to be seen as strength of the overall curriculum of AKU, can CHS be alleged to have ‘sacrificed’ its central focus on community? Difference between CHS and other departments of the medical college is more than obvious – it is the age old difference between the clinical approach to health, and a community/public health approach that CHS embodied. This difference is also recognized in the PHC Declaration of 1978, that health is about ‘wellbeing’, and that it is not simply an ‘absence of disease and infirmity’. CHS perhaps assumed that communication skills and ethical sensitivities needed in patient care are the same as needed in community based interactions; hence it made no difference whether CHS taught these subjects or any other department. Furthermore, CHS was first to introduce the role of gender in health and health care. This initiative too slipped away from CHS as other units in AKU, for example Working Group for Women, provide the required input for understanding gender.

Community Health Nursing. The idea of CHN was developed by CHS, and became incorporated in the School of Nursing of AKU. School of Nursing took it forward to have it included as a subject in the national nursing curriculum. CHS abandoned its concern with this cadre of health professionals, though CHS was in a position to continue be a resource to medical and nursing education.

CHS needs to ponder whether this slipping out of CHS realm what it had spawned is CHS’ strength or a loss.

Challenges to Community Based Medical Education

The Department of Community Health Sciences faced several challenges in the development and the implementation of a curriculum that embodied the understanding of Community Based Medical Education. This, in a manner of speaking, became ‘work in progress’, as deliberations within CHS generated new ideas which were tested in the field. There were financial issues – how much of CHS educational work would need grant funding and how much university funding would be available. How was faculty to be found, and later developed, that could integrate understanding of communities into the curriculum, was another concern. Students’ attitude and resistance to going into communities was also to be addressed, just as the faculty needed to know how to engage with communities and other local stakeholders of health care.

Financial issues

Substantial costs are clearly involved in implementing CBME. Costs include: developing a curriculum, faculty recruitment and training, transport, office and accommodation costs for field work, as well as salaries for faculty and field staff. The
Lack of Faculty

Health professionals in Pakistan, at the time of the commencement of AKU’s undergraduate medical education, were primarily clinicians and not formally trained in Public Health and did not have epidemiological skills. They were not well conversant with social health issues or health systems issues. This shortage of qualified faculty was initially addressed by first recruiting faculty that demonstrated interest in public health, after which they were given a short intense course so that they could work as “preceptors” of undergraduate medical students. They were placed in CHS field sites to work as Community Health Doctors, get involved in training Community Health Workers, and after a year they would become Field Directors and managed a field site. Having had about three years of field experience, the preceptors could access a scholarship program to proceed for a Master in Public Health in the US or Canada. Over time the discipline of Community Medicine at the College of Physician and Surgeon (CPSP), Pakistan was strengthened with substantial assistance from CHS faculty.

Students’ attitude – initial resistance

CHS was met with considerable resistance from students. They were perplexed as it did not make sense to them, ‘why should we study Community Medicine’, they would ask. ‘It should be optional’, they would suggest. Had not AKU, the institution that took this courageous step, stayed firm in its conviction, the student pressure may have led to some changes. ‘Would you ask your Anatomy professor to make anatomy optional’, a group of students were asked when they chose to question a faculty on the necessity of CHS. The question puzzled them, ‘just as there is a decision to teach Anatomy, so there is a decision that CHS too be is to be an integral part of the undergraduate medical studies’, elaborated the teacher. The students left, but perhaps not really convinced. This resistance can be seen as a challenge to CHS faculty to penetrate the preconceived notions of being a doctor – a clinician working amidst state of the art equipment. Students probably come to AKU with their preconceived notion of what it means to be a doctor; and clinical specialities are attractive and lucrative options. Training in a tertiary care hospital and spending 80% of their time in this environment, 20% of CHS time is obviously not competing on a level playing field. Despite this, CHS does succeed in sensitizing the students to the social determinants of health and how they are linked with the larger development paradigm that a country pursues.

The students at AKU tend to be from the higher economic segment of Pakistani society, and somewhat elitist in their attitudes towards the economically deprived “have-nots” who live in situations far removed from the rich and prosperous conditions and environments of many medical students at the AKU. However, as they were ‘good’ learners they did absorb the importance of understanding the link between poverty and poor health. Their sensitivity to communities was captured in the comments of a mother who differentiated between the AKU graduate and graduate of another medical college in Pakistan

“…my sons and daughter in laws are doctors, and have gone to different medical colleges in Pakistan. The major difference between them is their sensitivity to the communities. AKU graduates have this sensitivity”.12

Students’ relationship with communities is also reflected in the following anecdotes related by some faculty involved in the clinical years of the medical education.13

“…..i once saw a student clutching something in his hand, and on seeing me tried to hide it. I asked him to show what he was hiding and it turned out to be some soap. He said, ‘we informed them of the importance of hand washing and that too with soap and they said we don’t have any soap. … I thought perhaps we should give them some soap’.

Students in the clinical years knew the community where the clinical rotations were organized. If a patient did not come to the clinic, they would either walk over to her house or send somebody to bring to the clinic.

Some Reflections from AKU Alumni

A large number of AKUMC graduates pursuing clinical residencies in the USA opted for MPH degree in addition to clinical rotations to remain connected with population based health issues in their respective area specialties.

Well it was eye-opening in the sense that we learned how conventional hospital medicine may have the glamour but it lies far downstream in the overall scheme of health, while the best place to make an impact is far upstream, through measures related to prevention, promotion, lifestyle, environment, economy, etc. Also eye-opening in giving us a glimpse of the power that lies in doing research at the population level. And the introduction to biostatistics – that was invaluable. I would also add the field experience of doing surveys in Orangi as an eye-opener – the exposure, sense of
community, and adaptation required for teamwork, all extremely useful learning points. We used to make fun of CHS during student days but looking back I am really glad it was a part of my medical education.

I remember the heat of the day, with the sun beating down upon us, our spirits usually high boarding the bus to visit sites like Azam Basti, Baba Island.

A lot was different then....a sense of safety in the community, enthusiastic preceptors, students learning the basic epidemiology (which was quite new to us at that time), doing demographic surveys and trying to work in groups figuring out issues like program sustainability etc. The groups eating the local food always ended up being the highlight of those field trips.

More so though our abilities to do creative thinking, problem solving, and seeing patients cost-effectively, the environmental issues all served as lessons that could not have been taught anywhere else other than on the field.

A lot is the same now ....the poverty, the ignorance, the unawareness, the diseases.

Now 20 years later roles are reversed and I go as the facilitator mainly clinical at times for community education and can still see the value of community learning for a medical student may be if not on a large scale but person one at a time.
CHS Learning Cycle

Problem

Evaluate

Diagnosis

Monitor

Prioritize

Intervene

Community

Three Tiered Model of PHC Prototype
Developed in CHS in the 3rd year of CHS life

Figure 3

Figure 4

Figure 5

CHD – Community Health Doctor
CHSN – Community Health Nurse
LHV – Lady Health Visitor
CHW – Community Health Worker

Figure 6

Figure 7
Fruits of Community Health Sciences

Community Health Sciences
1983 – to date

- Community Health Nursing track, that has now become part of Nursing Curriculum in Pakistan
- Al Falah Society, working for the patient welfare, and managed by students, formed by AKU medical class as its response to its engagement with the community in CHS field site.
- Community Medicine Residency a recognized Residency in Pakistan
- CHS faculty is now to be found in key positions in various international agencies within Pakistan, in the region and internationally. They are to be found amongst donors, teaching and research faculty; and in the NGO world
- Two Master programs developed: a) Epidemiology & Biostats. (b) Health Policy and Management
- Community Based Medical Education has become self-sufficient as AKU has committed financial support to two field sites of CHS

Part 2 -- Genesis of CHS

CHS was born out of a vision that was far ahead of what was being offered, at that time, in medical education in Pakistan. The vision was rooted in an acute awareness of the poor health outcomes and conditions that prevailed in the empirical world of the underprivileged and vulnerable. The visionary chancellor of Aga Khan University (AKU) was driven by his responsibility towards the underserved populations of the developing world.

The Chancellor was not new to the health needs of vulnerable populations. He was cognizant of the health services programs of Aga Khan Health Services, Pakistan. He was not only concerned about improvements in health services of his community, but to address the health needs on a larger scale and on more scientific grounds. He envisioned a science working within a sense of humanism.14 The urge to develop health as a public good is palpable in the early documents that embody the thinking and determination to make a difference.

Over one million out-patients visited Aga Khan Health institutions last year. Hundreds of children were immunized in the remotest parts of the globe… School health program are working well…. Even then we know, only too well, that our efforts are but a minute fraction of the major task which…. will require massive work at all levels and by all types of medical institutions, health technicians and administrators. (His Highness the Aga Khan. Chancellor of Aga Khan University)15

When and how did it occur to the Chancellor that an undergraduate medical college will make a difference and that too in a country like Pakistan? This question may not be easy to answer. but suffice it to say it emanated from a concern for the wellbeing of vulnerable people. In 1980 while planning for operations of the first significant private institution for medical education. His Highness charged the commissioning team to define the support of the new venture for the established Community-Based Aga Khan Health Service.

The Chancellor of Aga Khan University, said at the inaugural session of the historical conference in 1981 (The Role of Hospital in Primary Health Care)

... As the Imam of a Muslim Community spread over twenty countries, I have of necessity become something of a student of health care. To me, basic health, education and housing are crucial stepping stones in the process of personal self relaxation and growth.16

Herein is to be found the importance of leadership which can bring paradigmatic changes when driven by a concern for the right to wellbeing that is deeply compromised by external conditions. While leadership is undeniably important, the ethos of the times also has a role to play. Interesting to note that the 1981 conference was barely three years after the historic meeting in Alma Ata which gave the world the meaning of Primary Health Care (PHC) and defined health as a “state of physical, mental, and social well being, and not merely the absence of disease and infirmity”.17 Thus, it was
no surprise that present at the Karachi conference were: Halfdan Mahler, then the Director General of WHO, and one who initiated the PHC movement. Conceptually the meaning of PHC had been articulated, but Mahler was acutely conscious of the challenges faced in the operationalization of the idea. The relationship between PHC and hospitals had to be understood and advocated. He laid out the dilemma clearly:

“There are those who believe that hospitals and PHC are incompatible subjects, arguing that every dollar spent on a hospital is one less for PHC. This school of thought would have us enhance the position of primary health care the direct expense of hospitals. There are still others who see hospitals as the repository of the best that medical care has to offer and, as such, see it as a waste of time and energy for hospitals to deal with other facets of health care. They would keep PHC separate, and not allow it to interfere with the life of a hospital”.

Halfdan Mahler then went beyond the discourse that made the relationship between hospital and PHC contentious, and said at the same conference:

“This conference was concerned because we felt that time was ripe to dispel the above notions. Hospitals cannot be isolated from PHC – which is the key to achieving health for all by the year 2000”.

CHS was thus born out of intense deliberations involving people from universities in North America. Prominent among them were Harvard and McGill. Also important to note is the role of WHO as it partnered Aga Khan Foundation in organizing a conference on the role of hospitals in Primary Health Care. Thus Primary Health Care, as enunciated in the 1978 Declaration at Alma Ata was a driving conceptual force in the making and shaping of CHS.

Advice was sought from WHO in view of the definition of Primary Health Care (PHC) at its conference in Alma Ata in 1978. Several developments of medical education and PHC service in Bangkok, Kuala Lumpur, and Manila were identified and visited. Since the relationship of the PHC practice and education was not defined WHO, the Canadian International Development Agency (CIDA) and Aga Khan Foundation (AKF) funded an international conference in Karachi, November 1981, on the Role of Hospitals in Primary Health Care.

The conference recommendations included government and community representation with health services and hospitals to plan and coordinate multidisciplinary activities directed to improvement of health of the population. To this end hospitals should have a department of community health that links clinical services with the community in a defined catchment area. Functions of the department should include support and promotion of primary health care programs, education and training of hospital health workers in order to encourage a ‘health perspective’, and training to improve management of primary health services, and conduct health systems research, in addition to resources and other functions.

The broad perspective of the recommendations was directed to government. His Highness the Aga Khan responded with intent to establish a Department of Community Medicine in both the medical school and the university hospital, with request to the Dean to include primary care in the curriculum so that proper recognition is given to this subject. He appreciated discussion of the responsibilities of university teaching hospitals in the communities where they are located as well as problems of financing, referral systems, and a proper balance in preventive and curative services. He referred to Carl Taylor’s paper on health services research and acknowledged that this was a neglected area “within our system”. He asked AKF to keep in touch with WHO and encouraged Aga Khan Health Services to identify those areas of evaluation and applied research which need thought and work as part of its operations.

Advice on the curriculum for Community Health Sciences was obtained first from Harvard Medical School and then from Walter Spitzer from McGill University. The classroom and field components of the CHS curriculum were developed with the support of the Harvard and McGill Universities. The Harvard Medical School had developed a teaching manual or guide to cover essential public health topics for the first two years of the CHS curriculum. However, there was no set or standard textbook that was followed as CHS endeavoured to instruct students to acquire the knowledge and skills needed to identify and manage priority community health needs keeping in mind the principles of PHC and equity identified in the Alma Ata Declaration.

McGill University provided a model of community based experience and education. A team from McGill University visited Karachi in 1983 to study priority health issues and wrote a report (The Spitzer Report: Community Health Sciences and Service; 1983) that conceptualized the practical implementation of what had been proposed in the 1981 conference in Karachi on the “Role of Hospitals in Primary Health Care”. The Aga Khan University Hospital had been planned as a state of the art tertiary care facility and the Spitzer Report proposed a structure to operationalize an educational program for medical students that broadly embraced primary care, identified the relationship between the AKU Hospital, the Department of Community Health Sciences and the “Community”, and identified links (formal or informal) with the public sector as well as other existing institutions especially the Aga Khan Health Services. The Report proposed a “Community Module” as the cornerstone of pedagogic strategy with an “Extramural Campus” with a target population of about 2 million. Specific and practical modules were developed for identified locations that included urban, peri-urban, and rural field sites.

In March 1983 the Aga Khan University received its Charter. The Board decided to start the Medical College in temporary premises in the spacious building of the College of Physicians and Surgeons Pakistan (CPSP) anticipating that after the initial 2 years students will be prepared for clinical experience, the hospital was commissioned in September 1985. Work on the curriculum began with commitment of 20% of time over 5 years to Community Health Sciences.

Students were recruited, classes began in September of that year in the lecture
rooms of the College of Physicians and Surgeons (CPSP), while the community experience was provided in collaboration with the Orangi Pilot Project (OPP). Dr. Pierre Tousignant from the Community Health Sciences (CHS) faculty at McGill was recruited as the interim Chair of the CHS Department at the Medical College, an international search for the Chairman of CHS identified Dr. John H. Bryant (a renowned Professor from Columbia University)24 [JB was Professor of Public Health and Director of the School of Public Health at Columbia University from 1971 to 1978; joined CHS in 1985]. He was well known to WHO as a proponent of Primary Health Care (PHC), ethicist and teacher with international experience.

Community Based Medical Education eventually began in 1985, about two years after the conference on role of hospitals in primary health care. A small group of faculty took the lead in this pioneering work.25 Contact was established with Dr. Akhter Hameed Khan who had established a Community Development Project in Orangi town, a population of over one million low-income inhabitants, and was keen to establish a primary health care service.

Alongside community based work in Orangi, students visited and learnt about leprosy at the Marie Adelaide Leprosy Centre (MAC), operated by a Catholic mission that was successful, working with government, in identifying and treating persons with leprosy successfully throughout the country and eliminating spread of infection thereby.

When the Chancellor of Aga Khan University decided to establish a medical college in Pakistan, he turned to the leading thinkers of health, and including amongst them was Halfdan Mahler who was the director General of the World Health Organization (WHO), and was the pioneer of the Primary Health Care movement. Community Participation, a key concept in the Primary Health Care Declaration, was also flagged in the conference, and the Chancellor in his closing remarks mentioned it.

“...before I address a number of the special recommendation ... I do wish to make a few comments on those areas which were of particular interest to me... the first relates to the issue of Community Participation...... How does one bring about this involvement? The answer to this does not lie in a sophisticated organizational structure and strategies that we as managers so often discuss at these ethereal levels but upon a few hardy shoulders ... with the skills and commitment to make change at all levels. ... Secondly, I have been much impressed by your discussion of the responsibilities of a university teaching hospital in the communities where they are located".26

It is more than evident that hospital was to play a critical role. Like any conventional medical college, it would be linked to a hospital, but within it would be the Department of Community Health Sciences, which was to demonstrate the radical thinking that was to be foundational spirit of the department, and thereby of the Aga Khan University. Whether it would succeed was echoed by Halfdan Mahler, and quoted in the article of Carl Taylor.

Hospital could become one of the main flag bearers of this movement, but only if they change their ways. (Halfdan Mahler)27

**Part 3 – Safeguarding the Vision in Practice**

CHS experience in Community Based Medical Education and Faculty Development for this approach has brought forth a near phenomenal range of outcomes. Eight outcomes, or fruits of CHS, can be easily counted. Community Based Medical Education and pedagogy; Community Health Nursing, which has now become part of Pakistan nursing curriculum; Community Medicine Residency that is now part of the official residency programs of Pakistan; two Master programs – Epidemiology and Biostatistics; and Health Policy, and management; institutionalisation of Community Based Medical Education at AKU, as AKU has committed finances to support CHS presence in two communities in Karachi; development of Bioethics at AKU, where it is now an integral part of the institution; Al FALAH society that continues to work for the welfare of patients at AKU; CHS faculty as well established public health professionals at national, regional and international levels. (See Figure 8) This impressive outcome is likely to grow as more new avenues are found and expand.

CHS is also now poised to deepen its learning of Community Based Medical/Health Education as it re-strategizes its Urban Health Project, and integrates “Social Accountability” as a learning theme. Recognition of CHS’ fruits of its endeavours does not mean there are no challenges to be faced.

Challenges to retaining a community based approach to medical education, like challenges to the sustenance of any innovative work, have a rude habit of raising their heads frequently. They can come from the external environment or from within an institution. A critical lens can be placed on the changes that have been experienced in Community Based Medical Education at Aga Khan University’s school of medical educations, for changes did take place.

**CHS experience can be divided into three periods:**

1. **Period A**, when every new class of undergraduate medical students was assigned a field site. These sites to be the base of students’ learning spread over five years – the two years of preclinical work, and remaining three clinical years. How communities were to continue being the learning sites over five years, and especially for the last three years was an exciting challenge that CHS faculty grappled with. At one point, an innovative approach was taken whereby small groups of students were assigned five families, to which they would be attached for the entire duration of their medical education. Conceptually it seemed viable and exciting, but was discontinued after a year and with no analysis recorded for this change in approach.

2. **Period B**, when CHS selected six field sites different from the original set of sites to which students were assigned. Students visited these sites as their curriculum required, but soon the dilemma of saturating the sites with yearly
visits by students conducting interactions that were the same for the community groups even if students were different.

3. **Period C**, when CHS made an exit from four field sites, and only two were retained. The dilemma of saturation of field sites became more intense, and resulted in students visiting the field offices and received briefing from field teams instead of directly interacting with the community groups. However, for some initial visits sites other than CHS field sites were visited, which also included visit to a camp of people internally displaced by the floods in Sindh (province where AKU is located). This period also carries within it a rise in violence in Karachi and the issue of security of students added to the dilemma of continuing Community Based Medical Education.

A fourth period is about to commence. CHS will move to a new field site in which AKU Hospital will be involved. It seems the role of hospital in PHC, the theme of the 1983 conference has returned, but with a difference. While the hospital is undertaking a great responsibly, CHS is to spearhead the PHC component, which is more than community based activities for health promotion and disease prevention, as from that perspective the many riling issues of health systems are to be encountered – issues like barriers to health care; inequities in health care, even as it stands to foster a greater sense of Social Accountability. It argues for the imperative of Community Based Medical Education despite the economic, political and social challenges that hound the world today. It raises issues pertaining to the role and responsibilities of donors and developed countries.

Community Based Education has been institutionalised in the undergraduate medical education of Aga Khan University, Karachi campus, as the university provides financial support to community based activities that enable the learning of students – both in their pre-clinical and clinical years. Within CHS Department, undergraduate medical education objective states:

To sensitize undergraduate medical students with Community Health Sciences related disciplines and to make them aware of determinants of health and disease including socio-cultural, political and environmental determinants and also to equip with the strategies to deal with these determinants on population basis.

The programme overview specifically used the phrase “Community Oriented Curriculum”, though it does not provide a definition of “Community Oriented”. Nevertheless, the written position of CHS provides considerable space for interpreting “Community Oriented” and CHS’ presence in community compliments this opportunity. However, this also creates possibility of weakening and strengthening the understanding of “Community Oriented” unless CHS were to specifically postulate this understanding which could minimise deviation from the idea.

The Medical College, established in 1983, enrolls students in a five-year program leading to a Bachelor of Medicine and Bachelor of Surgery (MBBS) degree. The College’s curricular objectives include the development of clinical competence in community settings and hospitals, along with health promotion and disease prevention.

The best of visions can encounter many hurdles. These can be in the form of shifting priorities, changes in leadership with different leaning. CHS, having established its credentials for community based medical education, needed human resources that could continue to face the challenges of such education while developing research skills and entering the world of publication. As pressure of research grew and faculty development plans unfolded, those who returned from sojourns abroad saw their interest shift from community based understanding to more sophisticated knowledge production that is also needed in public health. Thus, maintaining communities central to learning and systems development was not easy. Over the years the struggle has continued.

Countries, like Pakistan, are still struggling to become a modern state that is committed to upholding the rights of the poor and marginalized especially women and minorities. Pakistan also needs human resources that value work for the vulnerable as they cherish growth in their quality of life. With resource limitations within the country and priorities that do not favour the poor, donors have a great moral challenge. How are they to support that which is an imperative for the well being of the poor? Departments like CHS can be strengthened, and must be strengthened to become a resource for the country and the region. For this end creative thinking becomes a must – a thinking that can side step the conventions that dominate, the way the founding fathers of AKU envisioned a new way of learning for medical students.

AKU as an institution is founded on a Vision which can be accessed as and when needed by those working within the institution and those responsible for aligning the work of the institution with the Vision. Even as the link between the Vision and practice may appear to weaken, it can always be resurrected by virtue of the fact that the Vision is there and accessible. If engagement with the Vision becomes a requirement within AKU its understanding and spirit could maintain a discourse that influences the working of the institution. In other words, democratization of the institution would do justice to the Vision, and this is possible.

The brief history of CHS already holds lessons that are to be emulated in coming times for retrieving community’s position to the centre of learning, and to make Community Based/Oriented Medical Education a self-sustaining, self-generated reality. More than the role of a hospital in primary health care, perhaps now is the time to explore the role of institutions and their governance in primary health care and how Community Based Medical Education can translate this understanding into practice. It is important to note that institutions are not what can be seen in their
physical forms. They also include the way of thinking and decision making which can be restricted to a certain tier of leadership and not inclusive of the larger body of faculty. Thus a certain ways of thinking may acquire a hegemonic form, just as certain power relations acquire hegemonic forms and become part of the very air one breathes. This was recognized in 1983, when the Chancellor of Aga Khan University said in his closing address at the 1983 conference on Role of Hospitals in Primary Health Care.

The answer... does not lie in a sophisticated organisational structure and strategies that we as managers so often discuss as these ethereal levels but upon a few hardy souls ... with the skills and commitment to make a change at all levels.

The “Hardy Souls”, it appears would be the leadership that can make the difference. Ultimately, it is about leadership that steer the ship on the vast ocean of learning and knowledge that can benefit those who are the worst off because of their gender, or class, or social status. CHS has its feet on the ground, and a rich experience of optimising learning from the field. There is no reason why CHS cannot bring forth innovative ways of taking forward community based undergraduate medical education, as well as fostering faculty development that too is community based. It had done it before, it can do it again.

References:
2. www.who.int/publications/almaata_declaration_en.pdf
3. Nearly 40 % of Karachi’s population lives in what are known as ‘katchi abadis’ (literally translated: impermanent settlements). Legally, many such residents are given a permanent status and lease documents are issued to the residents.
4. Dr. Akhtar Hameed Khan had pioneered rural development in Pakistan, and brought this expertise to Orangi for addressing sanitation and housing issues of the area. See http://www.oppinstitutions.org/; and http://en.wikipedia.org/wiki/Orangi_Pilot_Project
6. Personal communication.
10. Ruth Harner a nurse specializing in nursing education, and with over thirty years of filed based experience in India was instrumental in bringing a systematic learning of the participatory approaches in community based experience. She also introduced Paolo Freire to CHS faculty.
12. Personal communication
13. Personal communication when I requested them to share their experience of clinical teaching when the community based education in CHS was at its peak.
It is important to note that the probably the euphoria of the Alma Ata Conference that led to the Declaration of PHC, in 1978, was alive, and the vision of Health for All by the year 2000 was considered an achievable goal. He was also conscious of the possible hegemony of hospitals, for he also said at the conference: Hospitals could become one of the main flag-bearers of this movement, but only if they change their ways. ‘Perhaps CHS department could examine the ‘ways’ of AKU Hospital. Is it a flag bearer of PHC? As this would be an internal debate of AKU, it need not be raised within the main body of this paper.

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Frank "Cheves" Smythe, was the first Dean of the medical college.

Dr. John H. Bryant was Professor of Public Health and Director of the School of Public Health at Columbia University from 1971 to 1978; joined CHS in 1985.

Dr. Fozia Qureshi, formerly at the National Institute of Child Health at JPMC, led this first team of CHS into the first field site of community based medical education in Pakistan.

Ibid.

Quoted in Carl Taylor, Health services research – hospital can be help primary health care.


19. It is important to note that the probably the euphoria of the Alma Ata Conference that led to the Declaration of PHC, in 1978, was alive, and the vision of Health for All by the year 2000 was considered an achievable goal. He was also conscious of the possible hegemony of hospitals, for he also said at the conference: Hospitals could become one of the main flag-bearers of this movement, but only if they change their ways. ‘Perhaps CHS department could examine the ‘ways’ of AKU Hospital. Is it a flag bearer of PHC? As this would be an internal debate of AKU, it need not be raised within the main body of this paper.

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26. Ibid.

27. Quoted in Carl Taylor, Health services research – hospital can be help primary health care.


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8. AKU Prospectus. 2002

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Chapter 8: Experiences in developing and implementing a Community-Based Education strategy - a case study from South Africa

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Bio-sketch

Prof. Marietjie de Villiers MB, ChB, MFamMed, FCFP(SA), PhD

Prof. de Villiers completed her MB, ChB degree at Stellenbosch University in 1980. After internship she worked in general practice for 10 years first in Kuils River and later in Mfuleni in the Western Cape. In 1993 she joined the Department of Family Medicine and Primary Care at Stellenbosch University Faculty of Medicine with the specific task of setting up the first pilot Community-Based Education (CBE) project for the faculty. She instituted the first CBE rotation for medical students at the faculty and co-developed a mixed mode Master’s program in Family Medicine using the Blackboard learning management system.

In 2001 she was appointed as the head of the School for Primary and Public Health Sciences and in this capacity was responsible for the development of a policy for CBE for the faculty. In 2004 she was appointed as Deputy Dean: Education at the Faculty of Health Sciences, mainstreaming CBE in faculty processes and finalizing faculty’s CBE policy and approved by Faculty Board in 2007.

Prof. de Villiers holds a Master’s degree in Family Medicine, Fellowship of the College of Family Physicians of South Africa and a PhD on the maintenance of competence of rural doctors. She has extensive experience in medical and Health Professions Education. As chairperson of the Continuing Professional Development (CPD) Committee of the Health Professional Council of South Africa she was responsible for the reconfiguration and implementation of the Council’s national CPD system.
Chapter 8: Experiences in developing and implementing a Community-Based Education strategy - a case study from South Africa

INTRODUCTION

Stellenbosch University is a medium-sized research-intensive university based in the picturesque town of Stellenbosch, situated in the wine-producing region of the Western Cape Province near Cape Town, South Africa. The University provides tertiary education to approximately 30000 undergraduate and postgraduate students.

Then the Faculty of Medicine first opened its doors in 1956 at Karl Bremer Hospital and later moved to the custom-built academic campus and tertiary Tygerberg Hospital situated 35 kilometres from Stellenbosch. This 1310 bed-hospital currently offers secondary and tertiary services to a large section of the population of Cape Town. Today the Faculty of Medicine and Health Sciences (FMHS) provides training for approximately 4000 students across five undergraduate programmes (Medicine, Physiotherapy, Occupational Therapy, Human Nutrition, and Speech-Language and Hearing Therapy). Postgraduate programmes offered include doctoral Program in all health-related disciplines and master’s programmes in all the medical and surgical specialties as well as nursing.

Students from Stellenbosch University (South Africa) learn in rural communities. These Community-Based educational programs are responsive to the health care needs of the society it serves.
An imperative for the modern-day Health Sciences Faculty is to ensure that its programs are responsive to the health care needs of the society it serves. In this chapter we aim to share our experiences in developing and implementing a Community-Based Education (CBE) strategy for our medical undergraduate (pre-service) course. In so doing we hope to offer guidance and inspiration to those who are following a similar path. We start off by telling the story of how CBE was conceived and established at the FMHS. We continue by describing practical examples of innovations in rural training including the short rural clinical rotations integrating clinical and population-based health approaches, the establishment of a Rural Clinical School (RCS), and the process undertaken to establish a strong Interprofessional Education (IPE) focus in our undergraduate programmes. The latter includes defining and cultivating graduate attributes to strengthen social responsibility in our graduates and to confirm the FMHS’s commitment to being socially accountable. We conclude by reflecting on how our understanding of CBE has evolved over time and share lessons learnt in the process.

Our story

In keeping with the trends at the time, the six-year medical curriculum at the newly established Faculty of Medicine focused on building strong speciality areas and good clinical training. Over the next four decades Stellenbosch medical graduates were trained exclusively in the tertiary hospital. In 1973, when the lead author of this chapter entered the programme as an undergraduate student, the first year of her MB, ChB (medical) studies was spent at the main campus in Stellenbosch, studying Mathematics, Chemistry, Physics and Biology at the University’s Faculty of Science. In the second and third year, the pre-clinical sciences were introduced and it was only from the fourth to the sixth years that students embarked on clinical training. Lectures were scheduled at 8:00, 12:00 and 16:00, with clinical rotations taking place at the nearby tertiary hospital throughout the remainder of the day. Today the landscape looks quite different. The FMHS now facilitates clinical training for medical students at 62 sites away from the tertiary academic hospital complex including 13 district hospitals and 20 community health centres. The way in which this change occurred is described in the section that follows.

In the beginning

The first move towards considering alternative ways of clinical training took shape when a division of Family Medicine and Primary Care was established in the Department of Internal Medicine in 1984. Although initially not recognized and valued by peers in the FMHS, the division grew steadily, establishing a postgraduate training programme and advocating for space for Family Medicine in the undergraduate medical curriculum. A fully-fledged Department of Family Medicine was established in 1989 and in 1993 13 hour-long lectures were placed in the fifth year of the Program. In 1992, an agreement was reached with the Health Department of the Western Cape Province, (which is the provincial health service provider and, together with the University, the joint employer of the majority of academic staff), to create a pilot site for initiating Community-Based Education at the Bishop Lavis Community Health Centre, about five kilometres from the tertiary academic hospital. To enhance Community Participation at this site, a Community Health Committee was established and a community needs analysis conducted. During the mid-1990s an awareness of the importance of rural training also took shape, which became an important impetus for establishing the FMHS’s current extensive rural training initiatives.

First Community-Based Education (CBE) rotations

The comprehensive primary health care approach formed the basis of the new democratic South Africa’s health care policy. We initiated CBE as we saw it as an important strategy to train our students appropriately for delivering primary health care services. Intensive efforts to obtain time for clinical Community-Based Training in Family Medicine followed, resulting in a two-week community-based rotation for final-year students in 1998. This was facilitated by an agreement between the health service provider and the University to shift teaching posts from the tertiary hospital to community health centres and surrounding district hospitals. An evaluation of this first CBE experience concluded as follows: “The findings of this study support what has been reported in the international literature – that Community-Based Training in Family Medicine is highly valued by students and has distinct advantages in providing medical students with the necessary training for the rendering of primary health care services. To reform or change medical curricula is, however, not as simple as merely to prove the value of a certain innovative approach. It needs to take into account that reform means a substantial shift from the known successes of a biomedical approach to training, to the emerging systems view of life incorporated in a new approach to Medical Education”.


Community-based training in Family Medicine is highly valued by students and has distinct advantages in providing medical students with the necessary training for the rendering of primary health care services.

At the same time the FMHS also embarked on a major curriculum review of the MB, ChB program. This proved serendipitous, as our early CBE experiences could inform decisions made in the planning of the new curriculum. To accommodate CBE rotations the curriculum had to be restructured with theory modules being presented in confined four-week long organ system based blocks, leaving dedicated time for four-weeks long clinical rotations, uninterrupted by theory input. This meant that students could go away from campus for clinical training for periods of up to five weeks in duration. The new curriculum, implemented in 1999, provided 11 weeks of time for clinical rotations from years three to six of the course for Family Medicine (in collaboration with Community Health and Rehabilitation) – a significant milestone.

The development of CBE as a strategic focus for the FMHS was further boosted by the appointment of a new dean in 2001, who strongly supported a Community-Oriented Approach to training and consequently appointed key leaders to drive this process. As a result the Ukwanda (isiXhosa word meaning ‘to grow’) Centre for Rural Health initiative was established in 2002 with the specific remit of extending and supporting CBE in rural areas. This initiative is described in more detail later in the chapter. In the section that follows, however, we chronicle the development of CBE at policy level.

Policy Development - The first phase

In 2001 the Faculties of Medicine and Dentistry at Stellenbosch University were restructured into five Schools within a new Faculty of Health Sciences. At this point, the new School of Public and Primary Health Sciences was tasked with leading a process of developing a faculty-wide strategy for CBE. The first phase of this process extended from 2001 to 2004. A so-called “Business Case for CBE” was developed by a task team led by the head of the School. An important output of the task team was a database to map the status of CBE at the time and the future needs for CBE in all undergraduate Program in the FMHS (at this stage the allied health sciences (listed previously) were also engaged in CBE). The database included a situation analysis of training sites used, other facilities available, and the human resource implications for CBE at these sites. This database later developed into a comprehensive instrument currently still in use to quantify CBE in the health sciences faculties of all four universities in the Western Cape Province.

A concept paper outlining the rationale for and implication of CBE for the FMHS was developed during this time. This paper drew on the literature of the time and created a common understanding of CBE for the FMHS. Our understanding of CBE was shaped by the following paragraph from this paper: “The educational implications
of Community-Based Education depend on what one understands by the concept. Magzoub and Schmidt (2000) state that CBE is not a unitary concept but rather a complex set of actions to improve life of a community. Borrowing from the WHO and other sources, Richards (2001), citing Hamad (2000) states that CBE occurs when learning occurs in the community. If one sees the “Community Base” simply as a training ground for learners, this holds one set of implications. If one sees oneself entering partnerships with Community-Based facilities and their communities, this holds a more extensive set of implications”. 6

Another important step was the establishment of a standing committee on CBE, approved by the Faculty Board in 2004. The composition of the Committee was multidisciplinary and interprofessional.

Policy Development – The second phase

The CBE Committee initiated a second wave of momentum for CBE in the FMHS. The Committee’s work was strengthened by a strategic decision by FMHS management that 50% of clinical training should be Community-Based by 2007, of which 10% should be rural. We wanted to make a significant contribution to the health needs of rural and underserved communities as well as the significant shortage of health care personnel in rural areas. 4

The CBE Committee met 6 times per year and produced the following outputs:

• A code of conduct for students and staff involved in CBE
• Safety guidelines for CBE
• A repository of route maps to CBE facilities
• A policy on transport of students to CBE facilities
• A comprehensive database of CBE activities
• Various collaborations between disciplines and the health authorities
• A framework strategy for CBE in the faculty

Policy Development – The third phase

The third phase of developing a strategy for CBE in the FMHS started in 2006 when as part of a further restructuring, the Schools were phased out and two Deputy Dean portfolios - for Education as well as Community Service and Interaction - were created. At this time a Centre for Health Professions Education (CHPE) was also established at the FMHS. The CHPE took a leading role in developing the IPE portfolio and graduate attributes for the FMHS, as well as the development of and research on the rural training initiatives. This innovation is described in more detail later in the chapter.

The CBE Committee was incorporated into the FMHS’ Undergraduate Education Committee and became a standing item on the agenda for the committee’s meetings. In February 2006 a new strategic project “Optimizing Community-Oriented Teaching and Learning” was established under the leadership of the new Deputy Dean: Education. A formal project plan was developed, which was updated after each meeting as objectives were achieved. An important output was a report in October 2006 on recommendations for IPE in the faculty, which paved the way for the formation of an IPE portfolio7. During this period (2005) the first service-learning capacity building programme for the University was presented, which developed into the current short course for Service-Learning and Community Engagement.

Two workshops which had a major influence in providing direction for the FMHS’ CBE strategy and collaboration between various role players were held in 2007. The February workshop provided the basis for a document called “Guidelines on Community-Oriented Education (COE) for the FHS” further supplemented by a “Recommendations for COE” document in August 2007. The second workshop in October of that year interrogated these documents and unpacked implementation strategies. Finally, a document entitled “Recommendations on Community-Oriented Education (COE), Faculty of Health Sciences, Stellenbosch University”, was approved by the Faculty Board in early 2008 and thus became official policy. The following aspects were addressed in the document:

• Alignment of Program
• Curricula
• Community Partnerships
• Co-ordination, IPE facilitators and clinical supervisors
• Consolidation of sites
• Logistics
• Monitoring and evaluation

Policy Implementation

In 2008 the recommendations contained in the policy document were implemented, most notably the appointment of an IPE co-ordinator for the Faculty in the CHPE. This person was to take the lead in implementing and co-ordinating the CBE strategy. Table 1 provides a summary of timelines in the Development our CBE strategy.
Table 1 Timelines in the Development our CBE strategy

<table>
<thead>
<tr>
<th>Timelines in developing a CBE strategy</th>
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</thead>
<tbody>
<tr>
<td>1984 – Family Medicine introduced in the FMHS</td>
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<tr>
<td>1989 – Family Medicine becomes independent department</td>
</tr>
<tr>
<td>1992 – Agreement with health services to extend training beyond tertiary hospital</td>
</tr>
<tr>
<td>1998 – First CBE two-week rotation in Family Medicine</td>
</tr>
<tr>
<td>2002 – Eleven weeks’ CBE rotations from year three to six introduced</td>
</tr>
<tr>
<td>2002 – Ukwanda Centre for Rural Health established</td>
</tr>
<tr>
<td>2004 – CBE Standing Committee formed</td>
</tr>
<tr>
<td>2005 – First official Service-Learning Training initiated</td>
</tr>
<tr>
<td>2006 – CBE Committee mainstreamed into Faculty Undergraduate Education Committee</td>
</tr>
<tr>
<td>2006 – Centre for Health Professions Education established</td>
</tr>
<tr>
<td>2007 – Guidelines and Recommendations on Community-Oriented Education produced</td>
</tr>
<tr>
<td>2008 – Faculty Board approves Guidelines and Recommendations</td>
</tr>
<tr>
<td>2008 – Post for IPE coordinator created, incumbent appointed</td>
</tr>
<tr>
<td>2011 – First year-long rotations at Rural Clinical School</td>
</tr>
</tbody>
</table>

Today the IPE co-ordinator, all the undergraduate programme co-ordinators and student representatives serve on the FMHS’ Undergraduate Programme Committee which continues to be responsible for implementation and review of the CBE strategy. Our motivation and definition of CBE is summarised in the policy document as follows:

“The Faculty of Medicine and Health Sciences has been working towards aligning its curricula with the health needs of the community and thus attempting to address the impact of poverty on the health of individuals and communities. Our teaching and learning philosophy embraces the Primary Health Care and Community-Oriented Education approach, in order to produce graduates who will be able to meet community needs at the community and other appropriate levels of care. Our faculty’s undergraduate programmes focus strongly on an integrated and interprofessional approach to health sciences and health care”.

Today

Annually the Faculty now enrols approximately 235 first-year medical students. Figure 1 maps the six years of the MB, ChB curriculum as it currently stands highlighting the clinical exposure that commences in the third year. The clinical rotations are classified as “early” (third year), “middle” (fourth year and the first semester of the fifth year) and “late” (final 18 months of the Program). The Family Medicine/Community Health/Rehabilitation rotation occurs in the early (four weeks of rotation time), middle (two weeks of rotation time, exclusively used for rural exposure) and late (five weeks of rotation time) clinical rotations. We are currently negotiating for an additional two weeks of rotation time in the middle clinical rotations (to be used for additional rural exposure). Table 2 provides further details on the current duration of rotation time (in weeks) for all disciplines in the clinical rotations.
Community-Based Education in practice

In the remainder of this chapter we describe practical examples of strategic innovations that offer insight into CBE at the FMHS today. These include short rural clinical rotations integrating clinical and population-based health approaches; a year-long clinical rotation at the Ukwanda Rural Clinical School; and IPE activities that developed from our CBE work.

Rural training integrating Clinical and Population-Based Health Approaches

The Division of Family Medicine and Primary Care started a rural rotation for students in their middle phase in 2002. The Division took the opportunity to ensure that all medical students would have at least a two-week taste of rural health care. Today 10 rural sites are utilized for the rural rotation. These rural sites are situated within a radius of 200 kilometres from the teaching hospital (Figure 2). Two additional

Table 2: Clinical rotations

<table>
<thead>
<tr>
<th></th>
<th>Early(weeks)</th>
<th>Middle(weeks)</th>
<th>Late(weeks)</th>
<th>TOTAL(weeks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Medicine</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Paediatrics and Child Health</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Obstetrics and Gynaecology</td>
<td>4</td>
<td>4</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Surgery (General)</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Family Medicine / Community Health / Rehabilitation</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>4</td>
<td>7</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Orthopaedic Surgery</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaesthesiology</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Otorhinolaryngology</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urology</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermatology</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forensic Medicine</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Imaging and Radiation</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20 32 53 105
sites at remote rural district hospitals in the Eastern Cape approximately 1000 kilometres from Cape Town are also utilized. There are usually 12 students on a rural rotation with each site being allocated two to three students. The Ukwanda Centre for Rural Health provides logistical support for these rotations.

A typical rural site is a health sub-district serving a population of 30000 – 90000 people. The health facilities usually consist of a hospital with 30 – 80 beds, as well as fixed and mobile clinics. A typical hospital offers the following services: 24-hour emergency unit, an obstetric unit, an operating theatre, X-ray and ultrasound unit, and inpatient services. The hospital would have three to ten medical officers and no resident specialists. The sub-district offers the services of dieticians, physiotherapists, occupational therapists, and speech-language and hearing therapists. Specialists from the regional hospital visit the district hospital on a regular basis. The fixed and mobile clinics are run by clinical nurse practitioners and the fixed clinics are generally visited once a week by a medical officer.

The rural rotation is jointly presented by the Divisions of Family Medicine and Primary Care, Community Health and the Centre for Rehabilitation Studies in the Department of Interdisciplinary Health Sciences. This approach was adopted as part of a strategic curriculum decision to stimulate the integration of clinical and population-based health approaches in training and ultimately in the graduates.

The module coordinator for this rotation is a lecturer in the Division of Family Medicine and Primary Care who is based at the rural regional hospital at Worcester about 100 kilometres from the Tygerberg teaching hospital. Tutors at the rural sites are generally family physicians. In the absence of family physicians, however, resident medical officers provide the training. The University accredits these tutors as extraordinary lecturers.

The aim of the rural rotation is to expose students to the generalist nature of rural practice, allowing them to enhance their skills in clinical judgement, and their diagnostic, therapeutic and procedural skills, as taught by a team of expert rural health workers. In addition, the exposure seeks to develop self-reliance and an understanding of the health challenges facing people and health workers in these areas.

During the rotation the students are exposed to a wide variety of health services in the rural area. In the hospital these include attending ward rounds, working in the emergency and obstetric units and assisting in theatre. Students are required to work in the emergency unit especially over the weekend, accompany the doctors to the fixed clinics and spend one day at the mobile clinic. Students are introduced to Community-Based Services and community care workers accompany them on home visits. The assessment for this rotation adopts an Interprofessional approach and is described later in this chapter under the IPE section.

The rural rotation is evaluated through the use of a log book of activities which students are asked to complete. Students rate each activity for perceived educational value and enjoyment. The results show that well-functioning rural health care centres provide excellent opportunities for students to develop the most relevant practical skills required of generalist doctors working in resource-limited settings.

Students participated in a series of workshops planning the curriculum reforms of the Ukwanda Rural Clinical School.

During the last 18 months of their studies (late clinical rotation), medical students become known as student interns as they undergo full-time clinical exposure in the
major clinical disciplines (Figure 1 and Table 2). Approximately a third of student interns do the 5-weeks Family Medicine/Community Health/Rehabilitation rotation at a rural site.

In 2009 an open source, web-based course management system (Moodle) was customised for students and tutors. Internet access is provided at each site to facilitate online discussion forums where students can interact with fellow students at other sites as well as with the module chairperson. Students are required to contribute and participate in three discussion forums aligned to their assignments, which include a patient study/home visit, an ethical study and a community project.

Long term rural exposure - The Ukwanda Rural Clinical School

A significant milestone in our story was the establishment of the Ukwanda Rural Clinical School (RCS) in the Cape Winelands and Overberg districts surrounding Worcester. The idea of providing for a long term rural exposure grew as a result of the positive experiences recorded during the short term exposures. After many years of negotiation with role players across the entire spectrum of stakeholders, including the local community, health care professionals in the hospitals and clinics, as well as provincial health representatives, and after securing considerable funding from both internal and external sources, the first cohort of final year (6th year) medical students commenced their year-long stay at the RCS in 2011. Being a first in South Africa, this event represented a significant leap of faith on the part of the University and specifically the FHMS leadership.

Planning for the RCS was complex and had to take place on a number of levels which included infrastructure development, Community Engagement, Curriculum Reform, and buy-in from students and faculty. The buildings were officially opened in October 2012 coinciding with the 10th birthday of the Ukwanda Centre for Rural Health. The facilities comprise an auditorium, lecture rooms, offices, a computer laboratory, catering facilities, and a student residence suitable for both short and long-term stays. Strategically placed alongside the regional hospital representing the hub of the entire Ukwanda rural platform, the facility has become part of the Worcester landscape and has been embraced by its community.

Planning for the teaching and learning activities, specifically the students’ clinical training proved equally challenging, but provided opportunities for ground-breaking curriculum reforms. A series of curriculum planning workshops were attended by sub-specialists from the tertiary hospital, local specialists from the regional hospital and family physicians from the surrounding district hospitals. These workshops provided a space for clinicians from the respective disciplines to work together to formulate a list of common clinical presentations (cardinal features of illness). The list was populated by including the most critical and relevant causes of these presentations for the South African context. Equally important were the discussions relating to assessment. It was ultimately decided that local family physicians as well as specialists and sub-specialists from the tertiary hospital would be used as examiners for end-of-rotation clinical examinations, conducted at the regional hospital. A new addition to the students’ assessment package has been the introduction of patient portfolios which contribute to the end-of-rotation mark and are assessed by means of a structured interview. Importantly, these patient portfolios provide an opportunity for student progress and in-course learning to be monitored. The final certification examinations for all students, however, are currently still conducted at the tertiary hospital, but where possible, family physicians from the affiliated rural district hospitals and specialists from Worcester Hospital are also called on to serve as examiners.

Students first undergo a 12-week rotation comprising Anaesthetics, Ophthalmology, Urology and Ear, Nose and Throat at the tertiary hospital during the second half of their fifth year. When they start at the RCS at the beginning of their sixth year, students can select to follow one of two options. At the regional (secondary level of care) Worcester hospital, they follow clinical rotations through a number of specialist departments (Internal Medicine, Psychiatry, Obstetrics and Gynaecology, Paediatrics, Family Medicine, Surgery and Orthopaedics) working in small groups (2-3) with the relevant consultants (Table 3). One afternoon a week the students work in a health care centre in the local community, participating in service-learning activities. Students experience continuity of care with patients, go on home visits to patients and perform a Community Health Project in the community.

In the second model, known as the Longitudinal Integrated Model (LIM), students learn by encountering undifferentiated care with the curriculum “walking through...”
the door”. Students spend the entire year in a district hospital under the mentorship of a family physician supported by regular visits by specialists from the regional hospital. Three district hospitals in a radius of 50 – 100 kilometres from the regional hospital are used. A maximum of three students is placed at each of the district hospitals. In the LIM students will typically encounter the majority of the year’s prescribed competencies, but will do so across multiple disciplines simultaneously. In the first year of implementation, six students were placed at the regional hospital while two followed the Longitudinal Integrated Model. This initial cohort of eight was followed by 21 students in 2012 (with four students following the LIM) and 22 students in 2013 (with seven students on the LIM).

Once a week, all the students meet for an “academic day” at the regional hospital. This comprises tutorials conducted by the specialist clinicians from the regional hospital (Table 4).

### Table 3: Regional Worcester Hospital option

<table>
<thead>
<tr>
<th>Specialisation</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ear, Nose&amp; Throat(ENT)</td>
<td>3 weeks</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>7 weeks</td>
</tr>
<tr>
<td>Obstetrics and Gynaecology</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Surgery</td>
<td>5 weeks</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>3 weeks</td>
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<tr>
<td>Urology</td>
<td>3 weeks</td>
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<tr>
<td>Anaesthetics</td>
<td>3 weeks</td>
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<tr>
<td>Orthopaedics</td>
<td>5 weeks</td>
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<tr>
<td>Internal Medicine</td>
<td>7 weeks</td>
</tr>
<tr>
<td>Paediatrics</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Family Medicine and</td>
<td></td>
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<tr>
<td>primary care,</td>
<td></td>
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<tr>
<td>community health &amp;</td>
<td></td>
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<tr>
<td>rehabilitation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 weeks</td>
</tr>
<tr>
<td>SU FHS, Tygerberge</td>
<td>10 weeks</td>
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<tr>
<td></td>
<td>14 weeks</td>
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<tr>
<td></td>
<td>12 weeks</td>
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<tr>
<td></td>
<td>15 weeks</td>
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</tbody>
</table>

### Table 4: LIM programme

<table>
<thead>
<tr>
<th>Day</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friday</td>
<td>In-service learning</td>
</tr>
<tr>
<td>Thursday</td>
<td>In-service learning</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Academic day</td>
</tr>
<tr>
<td>Tuesday</td>
<td>In-service learning</td>
</tr>
<tr>
<td>Monday</td>
<td>In-service learning</td>
</tr>
</tbody>
</table>

An important activity that coincided with the implementation of the RCS was the commencement of a five-year long evaluative research project that would seek to investigate the extent to which the RCS provided a transformative learning experience. This study is supported by the Stellenbosch University Rural Medical Education Partnership Initiative (SURMEPI), one of 13 MEPI PEPFAR-NIH funded medical education projects in Africa. SURMEPI has a special remit to generate workable and effective medical education models within an African context and a resource-constrained medical education environment. The first two years of the research project highlighted the extent to which the year-long rural exposure represents a generative and enabling learning environment that specifically fosters enhanced clinical skills. Also noteworthy has been the extent to which the clinicians at the regional hospital have adopted the identity of clinician educator. Most critically, however, the students continue to report on the experience as being transformative in shifting their thinking and their practice when dealing with communities and the public health realities that they encounter.

The university has built up relationships with the local community over many years through the platform of CBE with students rotating for periods of 2-5 weeks in the rural areas. Negotiations with local community leaders and health care providers were ongoing during this period and it laid the basis for a relationship of trust for the final negotiations for establishing the RCS. During the year before the initiation of the RCS meetings were held with the local authorities as well as representatives from the local business community. Protracted negotiations with the local authority and the provincial works department were necessary to acquire the land for the RCS building. The University Department of Social Anthropology did a community assessment in Worcester in the community where students take part in a service learning clinic. This assessment was shared with the community during a community report back meeting and the community input lead to the establishment of a community health forum. Students are actively participating in this forum. Every year new students are introduced to representatives of the community at the beginning of the academic year.

How does CBE influence the communities within which it functions? The establishment of the RCS has made an indelible mark on the Worcester landscape – both literally and figuratively. Today, the modern, satellite campus buildings stand proudly alongside the hospital complex. Already, community based activities such as school outreaches have been hosted at the campus. From responses obtained from health care workers in the community clinics during the first phase of the evaluation of the RCS, it was evident that the community had accepted the “young doctor” as part of the health care system in the area. Equally evident from the interviews with key stakeholders such as hospital administrators, was the fact that the RCS was seen as a joint endeavour between the community and the university, and that there was a shared vision for providing meaningful training opportunities for future health care practitioners who will ultimately contribute to enhancing the Public Health System.

As mentioned earlier in the chapter, however, the establishment of the RCS was the culmination of many years of negotiation with the health care sector and with the local communities. These negotiations were built on relationships that had been nurtured over many years and sought to ensure that community expectations were addressed. Managing and maintaining these relationships remains complex and ongoing. Innovation, by its very nature, suggests entering unchartered waters. Inevitably
challenges have arisen that were unexpected and therefore unplanned for. This now requires that the university and its representatives on the rural platform remain sensitive to community needs and aspirations. Although it is too soon to effectively assess the impact of the RCS on the community and the quality of health care in the area, such assessment, that will include interviews with clinic patients and community members, is planned as part of the five-year evaluative research project currently underway.

Table 5 lists key factors that enabled success in developing the RCS.

<table>
<thead>
<tr>
<th>Table 5: Key success factors</th>
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</thead>
<tbody>
<tr>
<td>Factors that enabled success:</td>
</tr>
<tr>
<td>• A visionary faculty management who drove the process.</td>
</tr>
<tr>
<td>• The cooperation of the local service provider (Department of Health).</td>
</tr>
<tr>
<td>• Tertiary specialists who are prepared to trust rural training.</td>
</tr>
<tr>
<td>• A local champion familiar with the local conditions and service providers.</td>
</tr>
<tr>
<td>• Committed rural doctors who take pride in teaching “their” students.</td>
</tr>
<tr>
<td>• Students who are prepared to brave the unknown.</td>
</tr>
</tbody>
</table>

Interprofessional Education (IPE) Strategy

In 2010, the IPE strategy referred to earlier, was revisited when an Interprofessional Working Group was established consisting of representatives from all the undergraduate programmes in the FMHS. The new strategy took into consideration the recommendations of four ground-breaking publications\textsuperscript{13,14,15,16} describing the pivotal role that IPE can play in equipping students as agents of change to effectively address the health needs of individuals and populations in the 21\textsuperscript{st} century.

The Faculty Board consequently accepted a strategy aimed at integrating IPE into all undergraduate curricula. The point of departure was not to present IPE as a loose-standing curriculum or activity, but as an integral part of a patient- and community-centred approach to be adopted by lecturers, students and graduates. The aim was thus to cultivate Social Accountability through transformative learning and an interdependence between various professions and service providers\textsuperscript{13} by modelling Interprofessional and Transprofessional Collaboration and Practice.

To develop and establish this culture of Interprofessional and Transprofessional Education, the IPE working group focussed on three areas (See Figure 3):
1. Developing, implementing and assessing graduate attributes (core competencies), based on the CanMEDS\textsuperscript{17} roles.
2. Accepting the framework of the WHO’s International Classification of Functioning, Disability and Health (ICF)\textsuperscript{18} as a language common to all professions and disciplines in approaching the assessment and management of a patient, community and health system.
3. Cultivating interdependence between the education component (FMHS) and the health systems (Provincial Health Department and Community-Based Organisations). In this context, developing consensus-based trust relationships, while building capacity among staff and service providers to model Interprofessional practice, are crucial.
It was decided to initially implement this strategy in our CBE Program where the traditional disciplinary silos were perceived to be less entrenched than in the tertiary environment and where learning activities were being experienced as more flexible and therefore open to creative innovation.

One of the first activities that the IPE working group embarked on in 2010 was a process to develop a set of graduate attributes that could represent the FMHS ideal graduate. In May 2012, a set of key and enabling competencies based on the CanMEDS model (Figure 4) were accepted by the Faculty Board. Integrating the graduate attributes into the various curricula, starting with the community-based Program, is on-going and a manager has been appointed to facilitate this process.

The process of integration has included a number of key activities:

- Faculty representatives participated in an initiative by the Medical and Dental Professions Board of the Health Professions Council of South Africa to develop a national core competency framework for doctors, dentists and clinical associates, adopted from and based on the CanMEDS framework. This provided further impetus to the FMHS initiative.
- Community-Based Interprofessional Service-Learning Activities in CBE were promoted and encouraged. This form of experiential learning lends itself not only to sound academic learning, but also to meaningful and relevant Interprofessional Service, reflection, personal development and the cultivation of active citizenship.
- Research projects were initiated to determine to what extent Interprofessional and Service-Learning Activities contribute to transformative learning and the development of these core competencies.

The IPE Working Group identified various stumbling blocks in their mission for all clinical staff, service providers and students to practice Interprofessional, Patient-Centred Care. They realised that between the different health professions they lacked a common language. What an occupational therapist understands with the term “contextual and individual factors influencing health” differs from a family physician’s or orthopaedics surgeon’s perspective.
The importance of introducing a common framework that could be used by all relevant disciplines and professions and could facilitate making IPE part of the FMHS’ culture was acknowledged. In response to a recommendation by the IPE working Group, the Faculty Board accepted the introduction of the framework of the WHO’s International Classification of Functioning, Disability and Health (ICF) as common language among all disciplines and as an approach to assess and manage patients, communities and health systems (Figure 5).

As part of their clinical exposure in Family Medicine, Community Health and Rehabilitation on the Ukwanda Rural Clinical Platform (Table 1) students are now required to compile a portfolio of patients including a management plan using the ICF framework. At the end of a rotation each student presents one patient using the framework to an Interprofessional panel of local health professionals. The effect that using the ICF approach has had on students’ clinical reasoning and their holistic bio-psycho-social-spiritual approach to patient care has resulted in numerous further developments.

This process was enabled by the appointment of IPE facilitators at each rural placement site. These facilitators not only guide students in the Interprofessional bio-psycho-social-spiritual approach in caring for a patient and a community, but they are also responsible to engage with the local community at grassroots level. In doing so they determine needs with the community and help to facilitate a process whereby students can assist in addressing these health needs as well as reaching their learning outcomes. These facilitators also build trust with local health professionals and seek opportunities to assist with capacity building, e.g. by conducting ICF short courses. It often happens that a project develops around an identified community need, with other university departments (e.g. social work, sociology, law) and other institutions, partnering with the FMHS.

In 2011, an IPE pilot project was initiated at a CBE site on the rural platform at the coastal town of Hermanus about 150 kilometres from Cape Town. Here, while final year Occupational Therapy and Human Nutrition students completed a Community Health Rotation, fourth and fifth-year medical students were busy with a “Health and Disease in a Rural Community” rotation as part of their Family Medicine, Community Health and Rehabilitation block. These students lived together in a university house and participated in an Interprofessional Service-Learning early childhood development project, where the ICF was used as framework to plan and implement a parenting and early childhood development curriculum.

Applications of ICF Framework

<table>
<thead>
<tr>
<th>At individual level</th>
<th>At institutional level</th>
<th>At social level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body functions and structures (Impairment)</td>
<td>Activities (Limitation)</td>
<td>Participation (Restriction)</td>
</tr>
<tr>
<td>Environmental factors</td>
<td>CONTEXTUAL FACTORS</td>
<td>Personal factors</td>
</tr>
</tbody>
</table>

Figure 5: The WHO’s International Classification of Functioning, Disability and Health (ICF) framework
Collaborative projects are currently being developed with two other universities in South Africa to further investigate using the ICF framework as IPE strategy. This collaborative initiative was selected as one of four projects globally to join the Institute of Medicine’s (Washington DC) Global Forum on Innovation in Health Professions Education. The Functioning and Disability Reference Group of the WHO Family of International Classifications (WHO-FIC) has also requested the FMHS to assist with writing the ICF User Guide. The IPE team at the FMHS is also participating in the on-going activities of the Education and Implementation Committee of WHO-FIC.

Conclusion: Our evolving concept of CBE

The development of CBE in the FMHS has been enriched and shaped by international, national and institutional developments. On the global front the seminal commissioned report on health professions for the 21st century, published in the Lancet in 2010, has served as a barometer against which the various strategies that we have adopted to provide transformative learning opportunities can be measured. In addition, the article prompted a renewed urgency in the FMHS to equip students as agents of change to assist in the struggle towards health equity in South Africa through Patient-Centred and Community-Based Care.

In South Africa, the National Committee for Higher Education has placed a focus on Service-Learning as a form of CBE reiterating the importance of reciprocity for learning in, from and with the community, as well as rendering a relevant, meaningful and mutually agreed upon service that meets community needs and as well as the specified learning outcomes. The focus that this pedagogy places on reflection, personal growth and social responsibility has fuelled endeavours to promote Service-Learning as a preferred form of CBE.

At institutional level, Stellenbosch University defined its rationale for Community Interaction as one of its core functions seeking to nurture and manage partnerships with communities. The premise upon which these relationships are built is one of mutually beneficial cooperation which sees both parties actively involved in knowledge creation, teaching, and learning from one another. Drawing on the work of Ernest Boyer, the University has also adopted the “Scholarship of Engagement” as a model to becoming an engaged institution.

Ultimately, what started as an effort to include CBE in the curriculum has resulted in the transformation of curricula, both in approach and in purpose, as we endeavour to train students to be socially responsible and able to work in Interprofessional teams in communities. For the FMHS CBE no longer revolves around developing training sites away from the tertiary hospital. Today our CBE endeavours to:

1. Facilitating learning in, With, and from the community with a focus on reciprocity, sustainability and social accountability;
2. Rendering relevant, meaningful and mutually agreed upon service with the community addressing community needs and the learning outcomes of students;
3. Fostering personal growth and the cultivation of relevant competencies in our students; and
4. Promoting active citizenship and social responsibility.

This is achieved through, amongst others (1) training students in rural areas, (2) developing IPE, (3) promoting service-learning as pedagogy, (4) developing and cultivating graduate attributes, (5) integrating e-learning in curricula, and (5) building the capacity of faculty to serve as facilitators of learning in this new era.
Table 6: Lessons Learnt From Our Story

- Developing and implementing a CBE strategy is a long and arduous process, often spanning many years.
- It requires a team of many dedicated role players throughout the faculty acting as change agents and champions, doing the ground work in developing and implementing the strategy.
- The team and champions should have tenacity and never give up.
- Family Medicine can be used as a catalyst for initiating and implementing CBE.
- An Interprofessional approach is crucial in the implementation of a CBE strategy, as well as maintaining it.
- Strong support and leadership from the dean and top management is required, over many years.
- Close collaboration with the health service providers is a pre-requisite.
- CBE decision-making should be mainstreamed into faculty structures and processes.
- Records of planning and processes should be kept.
- Development of a CBE strategy can be used to reform curricula to be socially responsive and implement an Interprofessional approach.
- Relationship building between people and disciplines that have not worked together previously needs to get constant attention.

Acknowledgements

The extensive process of developing our CBE strategy over many years has inevitably involved a large number of dedicated people who cannot all be thanked by name. To these champions we extend a sincere thank you for your support, assistance and guidance. Two visionary leaders nevertheless need to be mentioned by name: Prof. Wynand van der Merwe, who, when appointed as Dean in 2001, wholeheartedly and enthusiastically supported the CBE process. We also recognize Prof. Pierre de Villiers, the FMHS’ first professor and head of Family Medicine, for his vision and tenacity in developing CBE. Prof. Vanessa Burch from the University of Cape Town provided valuable guidance and input in our curriculum reform processes for the RCS. We acknowledge the Department of Higher Education and Training for the Clinical Training Grant, which we used to a large extent to develop the RCS infrastructure, and Stellenbosch University for additional funding. Finally, we gratefully acknowledge funding received from the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR), through HRSA, and via the Stellenbosch University Rural Medical Education Partnership Initiative (SURMEPI).

References:


Glossary of Terms

Accountability
Responsibility for the decisions and capability to explain to others or the public all undertaken activities to carry out what was obliged to do; to ensure reaching or making progress towards planned objectives or targets.

Accreditation
A voluntary process of evaluation and review based on published standards and following a prescribed process, performed by a non-governmental agency of peers.

Assessment
An ongoing process of gathering and interpreting information about a learner's knowledge, skills, and/or attitude.

Basic Science Years
A term that usually refers to the initial two years of a medical school's program. However, in some schools, this may entail more or less than two years. With the introduction of new learning methodologies such as Problem-Based Learning (PBL) and early exposure to patients, basic science learning has become more integrated with clinical instruction and the division between basic science years and clinical years has eroded.

Clerkships
A rotation around the clinical settings of the medical school. Some clerkships are obligatory (e.g., Internal Medicine, Pediatrics, Surgery), while others are elective or selective. In the United States, medical students do clerkships in their third and fourth year while in Europe, this typically occurs in the fourth through sixth year of medical school.

Clinical
Refers to the practice of medicine in which physicians assess patients (in person or virtually) or populations in order to diagnose, treat, and prevent disease using their expert judgment. It also refers to physicians who contribute to the care of patients by providing clinical decision support and information systems, laboratory, imaging, or related studies.

Clinical Competence
The mastery of relevant knowledge and the acquisition of a range of relevant skills at a satisfactory level including interpersonal, clinical and technical components at a certain point of education, such as at graduation. In the case of clinical training, which is primarily based on an apprenticeship model, teachers define what the student is expected to do and then test their ability to do it. However, in actuality, most clinical actions are concerned with problems for which there are no clear answers and no single solution. In such situations, an experienced doctor searches his or her mind and sifts through a wide range of options and in some cases the solution will be something he or she has never arrived at before. Therefore, competence itself is only of value as a prerequisite for performance in a real clinical setting and does not always correlate highly with performance in practice.

Community
A group of individuals living together in some form of social organization with cohesion in planning and operation and/or manifesting some unifying trait or common interest. In health care organization, it refers to the most local level of the health system. The form of services provided to a locality will vary according to each country's political, economic, social, cultural and epidemiological patterns.

Community Diagnosis
Appraisal of the health status of a community in general or limited to specific health conditions, determinants or subgroups.

Community Medicine
The specialty that deals with the health and disease of a population or of a specified community. The goal is to identify health problems and needs, to identify means by which these needs may be met, and to evaluate the extent to which health services do so. Community medicine is concerned with specified populations rather than individuals.

Community-Based Education (CBE), or Community-Based Learning (CBL)
A form of instruction where trainees learn professional competencies in a community setting focusing on population groups and also individuals and their everyday problems. The amount of time students spend in the community and organizational settings may vary. Instruction may take place at a general practice, family planning clinic, community health center or a rural hospital. During their training in the community, students learn about social and economic aspects of illness, about health services in the community and methods of health promotion, about working in teams, and about frequency and types of problems encountered outside a hospital setting.

Competencies
Specific knowledge, skills, and attitudes. These include patient care, medical knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, and Systems-Based Practice.

Curriculum
An educational plan that spells out which goals and objectives should be achieved, which topics should be covered and which methods are to be used for learning, teaching and evaluation.
Determinant

Any factor, event, characteristic, or other definable entity that brings about change in a health condition or other defined characteristic. For example, determinants may include social, economic, environmental and biological or genetic factors.

Discipline-Based Approach

Teaching of the individual classical medical disciplines such as anatomy, biochemistry, pathology, surgery or community medicine as separate educational building blocks. It is expected that this approach lays the foundation for contact with patients which tends to occur later, after completion of the basic science course. In this approach, it is left to the student to put together the knowledge gained in each discipline to make a meaning from all these disciplines and form an overall picture of medicine.

Educational or Instructional Objectives

Statements that describe what learners should be able to master. A major aim is the acquisition of facts, concepts and principles. Developing instructional objectives involves learning the fundamentals and vocabulary of each discipline and developing a logical progression of concepts in each discipline. Resources and materials are more effectively deployed when instructional objectives are explicit. It is important to assure that objectives are measurable and that they delineate a specific level of competence. One can and should distinguish between knowledge, skill and attitude objectives.

Effectiveness

A measure of the extent to which a specific intervention, procedure, regimen, or service, when deployed in the field in routine circumstances, does what it is intended to do for a specified population. In the health field, it is a measure of output from those health services that contribute towards reducing the dimension of a problem or improving an unsatisfactory situation.

Efficacy

The ability to produce the necessary or desired result.

Efficiency

An ability to perform well or achieve a result without wasted energy, resources, effort, time or money. Efficiency can be measured in physical terms (technical efficiency) or terms of cost (economic efficiency). Greater efficiency is achieved where the same amount and standard of services are produced for a lower cost, if a more useful activity is substituted for a less useful one at the same cost or if needless activities are eliminated.

Elective Program

An educational program where students are given the opportunity to select subjects or projects of their own choice, not covered by obligatory medical courses. This enables students to pursue individual aspirations, provides students with increased responsibility to further their own learning, and facilitates career choice by providing an opportunity to explore various areas of interest.

Equity

A state of being fair or equal; equity in health implies the ideal that everyone should have a fair opportunity to attain his or her full health potential. More pragmatically, it implies that no one should be disadvantaged by being prevented from achieving this potential. The term inequity refers to differences in health, which are not only unnecessary and avoidable but, in addition, are considered unfair and unjust.

Evaluation

A process that attempts to systematically and objectively determine the relevance, effectiveness, and impact of activities in light of their objectives. Evaluation can be related to structure, process, or outcome. One can distinguish these various types: Formative individual evaluation provides feedback to an individual (usually a learner) in order to improve that individual’s performance. This type of evaluation identifies areas for improvement and provides specific suggestions for improvement serving as an educational tool. Summative individual evaluation measures whether specific objectives were accomplished by an individual in order to place a value on the performance of that individual. It may certify competency or lack of competency in performance in a particular area.

Formative program evaluation provides information in order to improve a program’s performance. It usually takes the form of surveys of learners to obtain feedback about and suggestions for improving a curriculum. Quantitative information such as ratings of various aspects of the curriculum can help identify areas that need revision. Qualitative information, such as responses to open-ended questions about program strengths and weaknesses, as well as suggestions for change, provide feedback in areas that may not have been anticipated and provide ideas for improvement. Information can also be obtained from faculty or other observers, such as nurses and patients.

Summative program evaluation measures the success of a curriculum in achieving learner objectives for all targeted learners, its success in achieving its process objectives, and/or its success in engaging, motivating, and pleasing its learners and faculty. In addition to quantitative data, summative program evaluation may include qualitative information about unintended barriers or unanticipated effects encountered in program implementation.
Formative evaluations generally require the least amount of rigor, whereas summative individual and summative program evaluation for external use (e.g., certification of competence) requires the greatest amount of rigor. When a high degree of methodological rigor is required, the measurement instrument must be appropriate in terms of content, reliability, validity, and practicality.

Faculty

Any individuals who have received a formal assignment to teach resident/fellow physicians. At some sites appointment to the medical staff of the hospital constitutes appointment to the faculty.

Faculty Development

Because faculty members may be experts in their subject but may not have received special training in educating others, faculty development programs exist to enable these teachers to acquire the necessary professional knowledge, skills, attitudes and tools. It is an essential component for obtaining high reliability and validity of applied assessment on a day-to-day basis. It also enhances ongoing formative evaluation so that students are given feedback to help them improve continuously. Faculty development activities can be organized as series of special workshops, readings, or individualized feedback sessions. Since teaching is considered a very important aspect of a physician’s work, such educational programs are often viewed as a form of Continuing Medical Education.

Flexner Report

The report researched, written and published by Abraham Flexner (1866-1959) in 1910 for the Carnegie Foundation and entitled “Medical Education in the United States and Canada” is known today as the Flexner Report. It triggered much-needed reforms in the standards, organization, and curriculum of North American medical schools. At the time of the Flexner Report, many medical schools were proprietary schools operated more for profit than for education. Flexner proposed that medical schools operate instead in the German tradition of combining strong biomedical sciences with hands-on clinical training. The report caused many medical schools to close down. It remains one of the most important publications on medical education in the 20th century.

Abraham Flexner was not a doctor, but a secondary school teacher and principal for 19 years in Louisville, Kentucky. He did graduate work at Harvard University and the University of Berlin and joined the research staff of the Carnegie Foundation for the Advancement of Teaching. In 1930, Flexner founded the Institute for Advanced Study at Princeton University and served as its first director. Albert Einstein joined the Institute in 1933. Flexner was one of the great educators of the 20th century. Modern medical education and medicine in North America owes a large debt to him.

Goal

A general aim, object or end-effect which one strives to achieve.

Health

In accordance with the Constitution of the World Health Organization (1948), health is “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. Health is defined here as a positive concept, emphasizing social and personal resources as well as physical capabilities.

Health Care

Services provided to individuals or communities by a health care system or by professionals to promote, maintain, monitor, or restore health. Health care contains a broad spectrum of services and activities delivered by a team of health personnel. This contrasts with medical care, which concentrates on diagnostic and therapeutic actions performed by or under the supervision of an individual physician.

Health Promotion

The process of enabling individuals to increase control over and improve their health. It involves the population as a whole in the context of their everyday lives, rather than focusing on people at risk for specific diseases, and is directed toward action on the determinants or causes of health.

Health Services

Services performed by health care professionals or by others under their direction for the purpose of promoting, maintaining, or restoring health. In addition to personal health care, health services include health protection, health promotion, and disease prevention.

Health System

A complex of interrelated elements that contribute to health in homes, educational institutions, workplaces, public places, and communities. A health system is usually organized at multiple levels, starting at the most local level, also known as community or primary health care level, and proceeding through the intermediate (district, regional or provincial) to the central level, providing progressively more complex and more specialized care and support.

Integrated Teaching

A method of teaching that interrelates or unifies subjects frequently taught in separate academic courses or departments. In integrated teaching, subjects are presented together as a meaningful whole. Integration may be vertical or horizontal. Horizontal integration functions between parallel disciplines such as anatomy, histology, biochemistry or medicine, surgery and pharmacology. Vertical integration functions between disciplines traditionally taught in different phases of curriculum; it
can occur throughout the curriculum with medical and basic sciences beginning together in the early years.

**Internship**

A first postgraduate training year in which graduates practice medicine under supervision. In some countries this is a requirement for licensure. In many countries and for many specialties such as internal medicine, pediatrics and surgery, this is the first year of residency. However, as there are some specialties that are too narrow to provide a broad medical practice experience, those residents may have to attend a transitional year in one of the above specialties or a rotating internship.

**Interprofessional Collaboration/ Collaborative Practice/ Team-based/ Teamwork/ Competencies and Health/ Patient Care**

- "When multiple health workers from different professional backgrounds work together with patients, families, and communities to deliver the highest quality of care".
- "When multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings".
- "The levels of cooperation, coordination and collaboration characterizing the relationships between professions in delivering patient-centered care".
- "Care delivered by intentionally created, usually relatively small work groups in health care, who are recognized by others as well as by themselves as having a collective identity and shared responsibility for a patient or group of patients, e.g., rapid response team, palliative care team, primary care team, operating room team".
- "Integrated enactment of knowledge, skills, and values/attitudes that define the domains of work of a particular health profession applied in specific care contexts".

**Interprofessional Education (IPE)**

"When students from two or more professions learn about, from and with each other to enable effective collaboration and improve health outcomes".

**Knowledge**

The acquisition or awareness of facts, data, information, ideas or principles to which one has access through formal or individual study, research, observation, experience or intuition.

**Learner-Centered Education**

A method of teaching in which the students’ needs have priority. Learners are responsible for identifying knowledge gaps, actively participating in filling them, and keeping track of their learning gains. Teachers are expected to facilitate this process instead of supplying “spoon-fed” information. This approach increases the students’ motivation to learn and prepares them for self-learning and continuous education.

Learner-Centered Education is the opposite of **Teacher–Centered Education**.

**Lecture**

An instruction or verbal discourse by a speaker before a large group of students. This teaching method has historically been quite prominent in education because it is an economic way to communicate information to large groups. However, increasing knowledge about the group’s difficulties in maintaining concentration and absorbing extensive information while in a passive listening mode has brought the value of lectures under criticism. Audiovisual presentations, demonstration of patients and intermittent discussions can help activate learners.

**Life-Long Learning**

Continuous training over the course of a professional career. Because medical science changes so rapidly, it is vital that its practitioners are committed to and engage in life-long learning.

**Lifestyle**

A general manner of living based on the interplay between living conditions in the broad sense and individual patterns of behavior as determined by socio-cultural factors and personal characteristics. The range of behavior patterns open to individuals may be limited or extended by social environmental factors. For this reason, lifestyles are usually considered in the context of both collective and individual experiences and general conditions of life. A change of lifestyle may include such activities as stopping cigarette smoking, changing the pattern of nutrition or engaging in regular physical exercise.

**Medical Education**

The process of teaching, learning and training of students with an ongoing integration of knowledge, experience, skills, qualities, responsibility and values which qualify an individual to practice medicine. It is divided into undergraduate, postgraduate and Continuing Medical Education (CME), but increasingly there is a focus on the “lifelong” nature of medical education.

**Undergraduate education or basic medical education** refers to the period beginning when a student enters medical school and ends with the final examination for basic medical qualification. This period of education comprises a pre-clinical and a clinical period. It can result in granting a license to practice, which may be provisional and subject to conditions as to supervision; or permitting the start of postgraduate education. In the United States, however, undergraduate education refers to pre-medical college education, which results in a Bachelor’s degree and is the training most students receive before entering medical school.

**Postgraduate education, graduate medical education or specialty training** is used to designate the more or less continuous period of post-basic training which, when it occurs, normally directly follows undergraduate training and is designed to lead to
Medical Educator

A professional who focuses on the educational process necessary to transform students into physicians. Some medical educators are physicians, but an increasing number have backgrounds in education, behavioral or other health sciences.

Modified Essay Question (MEQ)

A measurement instrument which allows for assessment of clinical reasoning skills, understanding and knowledge of clinical and basic science and application of basic science to clinical problems. MEQ’s constitute a series of questions which must be answered in the sequence asked, with no review and no possibility of correcting previous answers. Questions must be answered within the allocated time which may vary from 40 to 90 minutes. In general, a brief patient clinical scenario (presentation) is followed by a few questions exploring diagnostic hypotheses and mechanisms underlying the clinical presentation. Subsequent questions may focus on applied basic science, interpretation of diagnostic information, management issues, disease complications, ethical issues or prognosis, for example. The initial scenario is either repeated or reformulated as the reporting process progresses, and as further information is provided, the assessed area narrows. Thus the medical problem is progressively defined with questions being directed to increasingly specific areas. A well-written MEQ assesses the approach of students to a problem, their reasoning skills and understanding of concepts, rather than recall of factual knowledge.

Multiple Choice Questions (MCQ)

An assessment tool that requires examinees to identify the one correct answer to a question. It consists of a stem that directly or indirectly poses a question and a set of distracters from which the answer is selected. In its simplest form, it comprises a stem statement followed by related statements which an examinee marks as either true or false. Another type asks examinees to select a correct or best answer from a number of options. In the ‘extended matching’ type test, a short vignette about a patient is presented and the examinee is asked to select the best response from approximately 15-20 choices. Such extended matching questions, a relatively new form of MCQ, reduce the potential for guessing to marginal terms. The test reliability is achieved by formulating a large number of well-constructed questions; this requires considerable skill. The great strength of the multiple-choice format is its ease and reliability of scoring. Checking answers is mechanical and requires neither interpretation nor special knowledge. Most commonly administered multiple-choice exams are scored by machine and provide statistical information about the exam, such as item difficulty and item-test correlations. For these reasons, multiple-choice questions are popular among instructors offering the advantage of allowing different kinds of questions, at various levels of difficulty. The computerized version of MCQ can cover a large area of knowledge in a short space of time. And poor questions which fail to discriminate between candidates of different ability can be easily identified. Using a greater number of questions is beneficial, as a larger set of questions provides better coverage of course material, and students’ test scores are more reliable. The correct answers are pre-specified and hence marking in some respects is objective. A large number of examinees can be tested with relatively few resources. The major disadvantage to multiple-choice questions is that they are time-consuming to construct. However, once constructed, multiple-choice questions can be used again, in either original or modified form. Since these tests primarily measure knowledge only, they are now often being replaced with more Performance-Based Assessment methods.

Multiprofessional Education(MPE)

“Sometimes called shared learning or common learning – is where one or more students or professionals learn alongside one another. The learning may be around acquisition of a clinical skill or knowledge, learners may occupy the same physical space and use the same learning materials, but the difference between MPE and IPL is that MPE does not have an overt agenda and activities are not aimed at sharing practice and improving patient/client care, although this might happen serendipitously”.

Objective

In medical education, it is what the learner will be able to know or do after taking part in educational activities. Objectives should result from assessment of the needs of the patient or population.

Objective Structured Clinical Examination (OSCE)

A method introduced in 1972 as a more standardized way of assessing clinical competencies. It provides a standardized means to assess physical examination and history-taking skills, communication skills with patients and family members, breadth and depth of knowledge, ability to summarize and document findings, and ability to make a differential diagnosis or plan treatment. The examiners carefully plan the tested areas and objectives of the test are identified and recorded. The clinical competency to be tested is broken down into its various components such as taking a history, auscultation of the heart, interpretation of an ECG, or making a conclusion on a basis of findings. Candidates rotate through a series of “stations”, usually 12-20, and in a specified time perform a standardized task.

The format of individual OSCE varies significantly. Clinical models and standardized patients or simulated patients can be used to allow large numbers of students to be tested on the same clinical problem without causing fatigue or stress to real patients. Direct or indirect observations as well as checklists and rating scales measure the performance against predetermined standards resulting in a more objective examination than with traditional methods. This provides a more valid and more reliable examination permitting the move away from testing factual knowledge to
Organ-Based Teaching

Exam (MSE). The previously used term for this assessment method was Multiple Station Exercises/with other forms of assessment, such as the clerking of cases in the wards. The tested on the ability to look at a patient as a whole being. Still, OSCE may be combined knowledge and skills are tested in compartmentalized fashion and he/she is not feedback on personal strengths and weaknesses. However, in the OSCE, the student's can gain insights into the elements making up clinical competencies as well as effort can be reduced if a bank of objective test items and checklists is maintained.

Use of OSCE for formative assessment has great potential and value as the learners can gain insights into the elements making up clinical competencies as well as feedback on personal strengths and weaknesses. However, in the OSCE, the student’s knowledge and skills are tested in compartmentalized fashion and he/she is not tested on the ability to look at a patient as a whole being. Still, OSCE may be combined with other forms of assessment, such as the clerking of cases in the wards. The previously used term for this assessment method was Multiple Station Exercises/Exam (MSE).

Organ-Based Teaching

In this approach, medical competence is gained by focusing on one organ system at a time. It is an approach that integrates different disciplines (subjects) such as biochemistry, physiology and anatomy, and has ultimately led to the more common problem-based approach, which is currently more commonly used.

Outcome

All possible demonstrable results that stem from casual factors or activities. In medical education, outcome refers to a new skill, knowledge or stimulus to improve the quality of patient care. Setting outcomes can be very useful for developing a framework of various results expected from various educational activities. Outcomes may be related to the educational process (Process Outcomes), to the product of undergraduate medical education (Learning Outcomes), or to the professional role of the physician (Performance Outcomes).

Outcome-Based Education

This approach emphasizes educational outcomes rather than the educational process and focuses on the product of medical education such as what kind of doctors will be produced, and with what professional knowledge, skills, abilities, values and attitudes. Educational outcomes must be clearly specified as they determine the curriculum content, the teaching methods, the courses offered, the assessment process and the educational environment. The scope and definition of competence and the levels of its attainment is defined in terms of student development within the natural progression in medical school. Consequently, the assessment system will ensure that the expected variation of levels of attainment is defined and assessed.

An example of such a framework is the 12-outcomes paradigm of Dundee - a model presented in the form of three-circles which describes the following:

What the doctor is able to do: clinical skills; practical procedures; patient investigations; patient management; health promotion; disease prevention and communication.

How the doctor approaches his practice: appropriate understanding of basic, social and clinical sciences and underlying principles; with appropriate attitudes and ethical understanding and legal responsibilities and with the appropriate decision-making skills and clinical reasoning and judgment.

The doctor as a professional: understanding of the doctor’s role within the health system and the understanding of personal development.

In addition, some medical schools have already incorporated advanced levels of progression in the early phases of their curriculum such as problem-based learning programs, early clinical exposure, and self-directed learning programs.

Output

In the health field, this indicates the immediate result of professional or institutional health care activities, usually expressed as units of service such as patient hospital days, outpatient visits or laboratory tests performed.

Primary Health Care

The World Health Organization defines primary health care as the principal vehicle for the delivery of health care at the most local level of a country’s health system. It is essential health care made accessible at a cost the country and community can afford with methods that are practical, scientifically sound and socially acceptable. Everyone in the community should have access to it, and everyone should be involved in it. Beside an appropriate treatment of common diseases and injuries, provision of essential drugs, maternal and child health, and prevention and control locally endemic diseases and immunization, it should also include at least education of the community on prevalent health problems and methods of preventing them, promotion of proper nutrition, safe water and sanitation.

Problem-Based Learning (PBL)

In this approach, students learn in small groups supported by a tutor. They initially explore a predetermined problem. The problem contains triggers designed to evoke objectives or concepts which are used to set the agenda for individual or group investigation and learning after the initial session. Subsequent group meetings permit students to monitor their achievements and to set further learning goals as required. The tutor’s role is to offer support for learning and to help reach the expected outcomes. PBL enables students to develop the ability to translate knowledge into practice at an early stage, encourages individual participation in learning and also allows the development of teamwork skills. Students in PBL courses have been found to place more emphasis on “meaning” (understanding) than “reproduction” (memorization). Students must engage in a significant amount of self-directed
learning; lectures are kept to a minimum. PBL originated at McMaster University in Canada, and then at Maastricht University, and is now widely adopted in medical schools in many countries. Each school makes its own adjustments to the basic model. It does require a heavy investment in resources (library books, IT, tutorial rooms) as well as requiring education and training for tutors.

Professionalism

Adherence to a set of values comprising both a formally agreed-upon code of conduct and the informal expectations of colleagues, clients and society. The key values include acting in a patient’s interest, responsiveness to the health needs of society, maintaining the highest standards of excellence in the practice of medicine and in the generation and dissemination of knowledge. In addition to medical knowledge and skills, medical professionals should present psychosocial and humanistic qualities such as caring, empathy, humility and compassion, as well as social responsibility and sensitivity to people’s culture and beliefs. All these qualities are expected of members of highly trained professions.

Public Health

Organized efforts of society to protect, promote, and restore people’s health. It is the combination of science, skills, and beliefs that is directed to the maintenance and improvement of the health of all the people through collective or social actions. The programs, services and institutions involved emphasize the prevention of disease and the health needs of the population as a whole. Public health activities change with variations in technology and social values but the goals remain the same: to reduce the amount of disease, premature death, and disease-produced discomfort and disability in the population. Public health is thus a social institution, a discipline, and a practice.

Quality Assurance

A system of procedures, checks, audits, and corrective actions to ensure that all research, testing, monitoring, sampling, analysis, and other technical and reporting activities are of the highest achievable quality. Quality assurance serves to benefit the quality of care.

Quality of Care

A level of performance or accomplishment that characterizes health care. Ultimately, measures of the quality of care always depend upon clinical outcomes or value judgments, but there are ingredients and determinants of quality that can be measured objectively, such as structure, process or procedures, and outcomes.

Quality of Life

The degree to which individuals perceive themselves as able to function physically, emotionally and socially. In a general sense, it is that which makes life worth living. In more “quantitative” sense it refers to a person’s time remaining alive, free of impairment, disability, or handicap.

Reflective Learning Process

An important model of learning that is based on the principle of gaining from the learner’s own experience; this is significantly different from the traditional model of undergraduate medical education. It has very clear links with the model of self-directed learning based on a portfolio http://www.iime.org/ which gives evidence of activity, reflection and the outcomes of learning. Students use their knowledge, skills and attitudes to solve problems in the workplace. However, many problems are ambiguous and create surprises. Recognition of these surprises causes the student to review problems and create alternative hypotheses, which is termed "reflection in action". This leads to a search for more information, seeking help from colleagues or experts, reading texts or searching on-line to solve the problem. In order to turn the new information into new learning, a further step is required, which takes place after the problem has been solved: Reflecting on action involves looking back critically over the initial ‘surprise’ and the resolution of the problem. The process of reviewing and evaluating information leads to learning and this in turn adds to expertise. The process of learning itself tends to generate new questions and motivates the professional to undertake further inquiry, which results in the learning process being determined more by the learner than by the person who designed the activity. This process of reflection provides a stimulus for learning and helps learners to derive maximum benefit from their own experiences.

Self-Assessment

The process of evaluating one’s own deficiencies, achievements, behavior or professional performance and competencies. Self-assessment is an important part of self-directed and lifelong learning because it creates a need for improvement while it justifies confidence in one’s competence.

Self-Directed Learning

A form of education that involves the individual learner’s initiative to identify and act on his or her learning needs (with or without assistance), taking increased responsibility for his or her own learning.

Simulated Patient (SP)

Simulated patients are healthy persons who have been trained to reliably reproduce the history and/or physical findings of typical clinical cases. Sometimes actors are used to accomplish this goal but more often, health care providers are used. Use of an SP is designed to assess students’ clinical skills while making the examination as objective as possible. Note that teaching an SP to simulate a new clinical problem takes eight to ten hours.

Skill

The ability to perform a task well, usually gained by training or experience; a
systematic and coordinated pattern of mental and/or physical activity.

**Small Group learning**

A very popular form of instruction since it permits the working through of learning material, not just in terms of knowledge but also in terms of attitudes. Within a small group, participants are more likely to exchange opinions and feelings. Usually such sessions are structured with the help of specific exercises such as patient interviews or discussion topics.

**Social Accountability of Medical Schools**

“Social Accountability” for medical schools was defined by the World Health Organization in 1995 as “the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve”.

**Standard**

Refers to a model, example or rule for the measure of quantity, weight, extent, value, or quality, established by authority, custom or general consent. It is also defined as a criterion, gauge or yardstick by which judgments or decisions may be made. A meaningful standard should offer a realistic prospect of determining whether or not one actually meets it.

Standards may be mandatory (required by law), voluntary (established by private and professional organizations and available for use), or de facto (generally accepted by custom or convention, such as standards of dress, manners, or behavior).

**Standardized Patient (SP)**

Individuals who have been trained to reliably reproduce the history and/or physical findings of typical clinical cases. They can be real patients who have been “standardized” or they can be simulated patients, i.e. persons who are not sick but take on a patient’s history and role. Sometimes health care providers or actors are used to accomplish this goal. This tool is designed to make examination and assessment of a student’s clinical skills as objective as possible. To teach a standardized patient to simulate a new clinical problem takes eight to ten hours.

**Subject-Based Teaching**

A method of teaching in which each subject area of curriculum is addressed separately. In the past, this model had been very prominent in basic science education. Now, however, it is gradually being replaced with a problem-based learning (PBL) where knowledge and skills unfold as elements in cases that illustrate real life situations.

**Teacher-Centered Education**

An educational system in which the teacher dictates what is being taught and how it is to be learned. The teacher is the central or key figure and activities such as the formal lecture and the formal laboratory are emphasized. Individual students have little control over what they learn, the order in which they learn and the methods they must use. In this approach, learning is rather more passive than active. It is the opposite of the learner-Centered Approach.

**Uniprofessional Learning/ Education**

“In which students learn together as a single group, e.g. nurses, doctors, dentists, midwives, allied health professionals or social workers, and do not learn with or alongside other professional groups. While the uni-professional context is an important arena in which learners develop knowledge, skills and behaviors relating to their own and other professional groups, it does not achieve the additional outcomes of Interprofessional Education.

**Value**

A term referring to what people believe in, or what they consider important about the way they live. Values influence behavior and culture as persons, groups and communities. Values therefore are an important determinant of individual and community health. They are, however, difficult to measure objectively.
References:

1. http://www.iime.org/glossary.htm#physician  
   (Last accessed on September 8th, 2013)

   (Last accessed on October 8th, 2013)


