Innovations in HEALTH PROFESSIONS EDUCATION in the Western Pacific Region

World Health Organization
Western Pacific Region
Innovations in Health Professions Education in the Western Pacific Region
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Innovations in Health Professions Education in the Western Pacific Region is a product of contributions from many individuals. This publication was written and revised by Dr Giselle M. Manalo and Dr Eden C. Mendoza. The draft was reviewed by the WHO Western Pacific Regional Office, Human Resources for Health Team. Technical contributions were also received from Rodel Nodora.
Background

A literature review of more than 200 articles from online databases and printed publications provided relevant material on the following themes:

- transforming health professions education;
- human resources for health shortages;
- retention and recruitment strategies;
- innovative educational approaches and programmes;
- rural health workforce programmes; and
- social accountability and responsibility of medical, nursing, midwifery and other allied health schools.

The call for innovative and transformative health professions education has been raised repeatedly for nearly three decades. However, since the International Conference on Primary Health Care in Alma-Ata in 1978, and the evolution of the global “Health for All” strategy, experts have recognized that such an achievement is no easy task. Numerous complex problems related to human resources for health systems have to be addressed.

In a recent article in *The Lancet*, Frenk et al called for urgent action to transform health professions education through a health systems approach, addressing ever widening gaps and alarming inequities between and within countries in the 21st century. (1) It is hoped that this seminal article will catalyse a rapid response among academic institutions, leaders and health partners around the world, and that its conceptual framework and recommendations will be used as a working guide where relevant.

In 1979, the World Health Organization (WHO), in collaboration with 19 medical institutions, formed the Network of Community-oriented Educational Institutions for Health Sciences, which aimed “to strengthen member institutions in achieving community orientation and problem based learning, and to assist institutions in countries that have made a political decision to introduce innovations in training of health personnel with the ultimate goal of improving health care particularly in underserved areas”. (2)
Now called The Network: Towards Unity for Health (TUFH), this global organization consists of more than 220 medical schools and other institutions for health professions education and health services. TUFH and its members continuously work toward making health services and health professions education more relevant and attuned to the health needs of communities. (1)

Since the 1970s, various organizations, institutions, foundations and governments have made sincere attempts to improve educational and training programmes in order to achieve the social target of Health for All and the Millennium Development Goals. (1, 3-6)

A majority of the literature reviewed focused on medical education, emphasizing the need for reforms, social responsibility of medical schools, educational innovations, recruitment and retention of physicians to rural and remote areas, effectiveness of financial incentives, dual or combined degree programmes, training of foreign medical students, perceptions of medical students and physicians on rural practice, continuing education and postgraduate training. (7-17)

Most of the literature focused on medical and nursing schools in Australia, North America (United States of America and Canada), the United Kingdom of Great Britain and Northern Ireland and other wealthy European countries. Adequate evidence has shown a dearth of robust publications on health professions education—medical, nursing, midwifery, public health, dentistry, physical therapy, pharmacy—in the developing world. (1, 4, 6, 18)

Articles on nursing and midwifery education addressed migration issues, nursing and midwifery curricula, career guidance, reforms in nursing and midwifery education, policy interventions to attract nurses to rural areas, and recruitment of foreign nurses from developing countries. (19-30)

There were a few articles on dental education and oral health reforms (31, 32), a few on integrating public health into curricula (11, 33-36) and several more on health professions education, social accountability, transformative education, health worker wages distribution, health workforce imbalances in low- and middle-income countries, training programmes, health workforce policies and international migration of health professionals. (30, 37-41)
Methodology

The working definition for “innovative health professions education” was any pedagogical method, learning activity, programme or reform implemented by an academic institution, government, foundation, organization or other health institute to improve an existing programme or to develop new curriculum in a way that is creatively resourceful, forward-looking and ground-breaking.

The following online databases were used: Medline, Google Scholar, Elsevier, University of Sydney online library, PubMed, HRH Global Resource Centre and Science Direct. Other resources included websites (e.g. health workforce education, WHO, health professions schools and organizations), published bibliographies of related topics, references provided by colleagues and printed publications. For online searches, the following terms were used: community-based curriculum for midwives; education and training; retention of health care workers in developing countries; migration of health care workers; health professions education; innovative curriculum; social responsibility or accountability in medical schools; social relevance in curricula; innovations in health professions; and accreditation, quality assurance and standards and curricula relevance. More than 1 270 000 articles resulted from this search. However, this list was narrowed down to approximately 200 relevant articles. Publication year was limited to 1980s onwards. SWOT analysis was done on 32 articles characterized by innovative methods in health professions education around the world. The results of the SWOT analysis, in addition to concepts from other articles, became the bases for recommendations.
Innovations in health professions education

Problem-based learning and community-oriented approaches

Barrows and Tamblyn defined problem-based learning (PBL) as “learning that results from the process of working toward the understanding or resolution of a problem”. This process involves not only the acquisition of knowledge associated with the problem, but also the application of problem solving alongside learning and clinical reasoning skills. (2)

Community-oriented approaches to medical education vary enormously in scope and magnitude—the degree of involvement of a community, how far-reaching its role is in the medical curriculum, and whether students are merely exposed to or deeply immersed in work within the targeted communities. In a community-based model, students are placed in communities from a predominantly large hospital setting. The degree to which a curriculum involves community members determines the depth of community orientation. Further, some medical and health professions schools consider themselves responsible for outcomes of their programmes in which communities play vital roles. (18)

Although degrees of variation can be seen with each school’s community-oriented curriculum or depth of PBL integration, all programmes have shown similar findings regarding quality of students, deeper understanding of health care services, strong linkages with community and human resources for health development systems. (2)

As Richards et al articulated so eloquently, “… community-oriented schools are not isolated from the real world but part of it. Ideas move freely in both directions between the community-oriented schools and the society they serve. Those schools that are most highly community-oriented are not just in the community, but of the community.” (2)

The community-based nursing education (CBNE) model, which is being adopted in several nursing schools, is an innovative, expanded approach to nursing education that utilizes various teaching strategies and settings, veering away from traditional hospital-based only clinical teaching. The success of this model relies heavily on an ongoing, sustainable and productive partnership between nursing schools and the community. This approach not only encourages nursing students to learn and develop partnership skills with stakeholders in their communities, but also hones resourcefulness, communication, leadership and creativity skills in solving community health problems. (22, 24)
Though small in numbers, community-based dental, physical therapy, speech therapy, occupational therapy and pharmacy programmes have also emerged over the past decades.

Historically, PBL in medical education began at McMaster University in Hamilton, Canada in 1974 in response to what Schilling noted as “limitations of existing programmes” (2). Over time, this educational approach evolved and spread throughout the world—North America, the Netherlands, Australia, England, Africa, South America, Asia and the Middle East. Other health professions like nursing, occupational therapy and midwifery have also adopted PBL and discovered it to be a sound learning approach. (3, 23, 42)

In problem-based education, problems are the basis for the curriculum, but each educational programme has its own tailored PBL approach. Students not only learn to integrate concepts, think critically, manage their time efficiently, work in small teams and develop their communication and listening skills, but also acquire skills and attitudes that will enable them to deal with real-life situations in hospitals, clinics and the larger community.

Due to the abundance of evidence-based literature on the positive outcomes of PBL, a United Kingdom-based midwifery school decided to develop a PBL-based curriculum (23), which has been praised for the following:

- innovative approach inspires students and motivates them to learn;
- students acquire a deeper understanding of concepts, a firm command of subjects and retention of learning well after the course;
- PBL graduates are rated highly by clinical supervisors;
- students acquire excellent independent learning, interpersonal and fieldwork skills; and
- academic staff and tutors are highly motivated and excited to use a PBL approach.

In a German study comparing competencies of medical graduates who were taught with a traditional/conventional method versus PBL, results showed no significant difference regarding independent learning/working and practical medical skills. Comparing competencies required at work and taught in medical school, PBL fared better for skills in interdisciplinary thinking, independent learning/working, psychosocial competence, teamwork and problem solving. In fact, PBL German graduates demonstrated competencies that were highly required as physicians. It should be noted, however, that research and business competencies were stronger among graduates of traditional schools, with the PBL-based curriculum needing improvement in these areas. (43)

In another study that aimed to determine the effectiveness of PBL for groups of socially and culturally diverse medical students, University of KwaZulu-Natal medical students found their group learning experiences to be positive; they enjoyed collaborative learning in a diverse setting and overcame cultural barriers. (44)
Due to these innovations in community-oriented and PBL education, most schools reported improvements in the quality of care in their respective communities. Increases in health personnel, primary health care policies and access to basic services were noted. (2, 8) However, comprehensive evaluations of these methods and their impacts on health outcomes have been inadequate.

It would be unwise to assume that designing and implementing a community-oriented curriculum is easy or that PBL is an undertaking that can be taken lightly. Many medical school educators and administrators who tried to implement such programmes reverted back to the traditional or hospital-based curricula when their attempts were met with resistance and even outright scorn. (45)

Innovative approaches to health professions education may present logistical problems, particularly in resource-limited settings. Commitment on the part of academic staff to go into the communities may prove labour intensive and time consuming.

Ideally, the best and most effective community-oriented approach involves a steady partnership involving the school, community and health system, with academics committed to teaching in the field. However, this is easier said than done.

**Recruitment and retention strategies**

Education interventions have been found to be the most effective strategies for enticing students to work in rural and remote areas. Rural or community-oriented education programmes have been successful in influencing graduates to practise in rural areas. (17, 37, 46)

In Afghanistan, community midwives graduate from recognized community midwife education programmes and are deployed to health centres. Although community midwives may be based in health facilities, they are responsible for serving outlying communities, a very important factor considering most women live in remote villages, often far from a health facility. (20)

Furthermore, Afghanistan’s political commitment and interagency support (from government and private sectors) have made a huge impact on implementing admission guidelines developed for the appropriate recruitment and deployment of midwives to rural areas and ensure sustainability of community midwifery educational programmes. Continuous support and supervision are carried out even after successful completion of the programme.

Multifaceted education programmes in the United States of America have shown a steady increase in the number of graduates being recruited to work in rural areas. (17, 39) In Australia, a bonding scheme for postgraduate students has indicated a rise in workers practising in rural places. (39)

One study on financial incentives in South Africa explained how an allowance had positively influenced health workers, namely nurses, to relocate to rural areas. (39-40)
In Australia, financial incentives and a personal support programme for rural general practitioners entice long-serving rural doctors to stay. (39)

In the Asia Pacific region, financial incentives have also been identified as important motivating factors for health workers to work in rural or remote places. Higher salaries make a huge difference as evidenced in countries like Cambodia, Fiji, Papua New Guinea, Samoa, Thailand, Tonga, and Vietnam, where low salaries cause health workers to migrate. However, in resource-poor countries, higher salaries or remuneration are improbable solutions when salary increases are strictly regulated and have a ceiling. (30) To complicate the situation, wages differ widely between and within health professions per country. There is an enormous salary gap between rich and poor countries. A lack of transparency coupled with a lack of wage comparability among occupations has prevented assessment of health workers’ salaries across countries for so many years. (41) Despite such constraints, some developing countries have managed resourcefully to institute salary alterations for high priority groups, e.g. hardship allowances for nurses in rural Fiji and payment reforms for health workers in rural Thailand. (30)

In the United States of America, effective interventions are scholarship schemes for medical students plus a programme providing rural clinical experiences to medical students. A continuing professional development programme is another successful intervention. (39)

However, in South Africa, a compulsory service showed a recruitment of less than 25% of physicians to rural places. Meanwhile, in Niger, a financial incentive has enticed about 44% of health workers, including doctors, pharmacists and dental surgeons, to work in rural or remote practice in a community setting will provide final-year students with essential skills and tools for effective communication, collaboration and teamwork, all of which are needed to operate successfully in the ever-changing health care context in order to provide better, effective and quality health care.

Service Learning in a Rural Community: An Inter-Professional Practice Example (51)

F Waggie, University of the Western Cape, Cape Town, South Africa

Context: In South Africa, the Higher Education Act of 1997 advocated for inter-professional programmes and for structured collaboration among higher education institutions, civil society and service providers through the promotion of partnerships. As health care becomes more collaborative and integrative, future health professionals will need to be equipped with a deeper understanding of inter-professional relationships and interactions. Inter-professional education is not an entirely new concept to health sciences students as they have been participating in inter-professional and community-based core courses since their first year of study. It is believed that inter-professional education and practice in a community setting will provide final-year students with essential skills and tools for effective communication, collaboration and team work, all of which are needed to operate successfully in the ever-changing health care context in order to provide better, effective and quality health care.

Methodology: An inter-professional service-learning module was designed and implemented in 2008 in a rural community. The course was designed within a service-learning paradigm that allowed students to experience learning and working with other health professions in a community setting and to develop an ethos of collaborative and inter-professional service. The course was rooted in the primary health care approach, with emphasis on providing a comprehensive inter-professional health care plan for individual clients and target groups.
areas. Another programme aimed to support physicians who set up practice in rural communities in Mali indicated that more than 100 young physicians have been recruited over a 10-year period. (39, 46)

Indicators used to measure retention included length of service, proportion of health workers staying in rural areas, survival rates, turnover rates and settlement rates. Length of service ranges from 15 months to 4 years in Mali. (46) A bonding scheme had a 20% retention rate in the United States, while a financial programme carried 86% retention in Australia.

In Japan, a rurally located medical school reported that 70% of graduates remained in their home prefectures for six years after completing their obligatory service. (38-39)

Impacts of these retention programmes were seen as improved performance of health workers and increased job satisfaction. Improvements in quality of care, fewer referrals and reduced waiting times were also reported. Notably, there were multiple effects on the continuum from attraction to recruitment, retention and ultimately health workforce/system performance.

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**Inter-professional collaboration workshops**

(teams in practice), Memorial University (52)

* D Sharpe

- One-day workshops were offered to postgraduate medical residents, medical faculty and staff, and nursing and allied health staff.
- Workshops focussed on effective participation in:
  - inter-professional health care teams
  - understanding and appreciating the roles of others
  - collaborative competencies.
- Twelve teams and 23 different professions participated from 2006 to 2009.

**Results:**

- Eighty-eight per cent agreed or strongly agreed that the workshop was a meaningful experience.
- Eighty-three per cent intended to change their practice and/or work.
- Attitudes shifted toward inter-professional teams after the workshop.

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**Implications for best practices, Memorial University (52)**

* D Sharpe

- Consider when to introduce inter-professional education curriculum.
- Blended learning helps overcome some logistical barriers, but needs to be well designed.
- Inter-professional education needs to be fully integrated into programmes to avoid perception of “add-on” content.
- Supportive (and prepared) faculty and staff are needed.
- Address issues (e.g. scheduling) that can impact student attitudes and motivation.
- Consider the relevance of case studies to all participant groups.
- Combinations of uni-professional and inter-professional groupings are useful in curriculum delivery.
- Expose students to a reasonable number of well-prepared and coordinated inter-professional education activities.
Another example of a retention strategy is the Chilean Rural Practitioner Programme, which provides financial incentives, educational incentives and management/environmental support. A very significant indirect financial incentive is the opportunity for a rural practitioner to specialize. The programme covers the costs of tuition and salary for the duration of 3 years (US$ 5000 per year). An additional incentive is an “installation and departure kit”, meaning the first and last months are paid for (double salary). Transport and moving expenses are also covered. (15)

Inter-professional learning and partnerships to improve educational programmes

Fragmentation within and between health professions, the continuous existence of silos, and the culture of tribalism and super specialization have hindered genuine integration of multiple disciplines and inter-professional collaboration and learning in health professions curricula. Consequently, this tunnel vision among health professionals has contributed considerably to the fragmentation of health systems and has markedly pointed out a growing lack of insight,

<table>
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<tr>
<th>DISTANCE EDUCATION</th>
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<tr>
<td><strong>The Ghana experience (55)</strong></td>
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<td>Joseph A Mensah, Edward Badu, Collins Osei</td>
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<td><strong>Situation:</strong> The health workforce in Ghana has been significantly depleted in recent years because of increased attrition rates. In addition, the effectiveness of the health workforce has been weakened because of a failure to invest in health systems, health professions education, and continuous professional development for health staff.</td>
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<td><strong>Strategy:</strong> “Distance education to help train health personnel in smaller towns, capitalizing on the strengths of place-committed local students. Distance learning can be an effective and economical strategy for reaching widely dispersed learners — such as members of the public health workforce.”</td>
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<td><strong>The India experience (11)</strong></td>
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<td>Anuska Kalita, Sarover Zaidi, Vandana Prasad, VR Raman</td>
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<td>“The Public Health Resource Network is an innovative distance-learning course in training, motivating, empowering and building a network of health personnel from government and civil society groups. Its aim is to build human resource capacity for strengthening decentralized health planning, especially at the district level, to improve accountability of health systems, elicit community participation for health, ensure equitable and accessible health facilities and to bring about convergence in programmes and services.”</td>
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The Public Health Resource Network is an attempt to reach out to motivated, though often isolated, health workers. It interacts with and works to empower health personnel within the government health system as well as civil society to meaningfully participate in and strengthen decentralized planning processes and outcomes. Structured as an innovative distance-learning course spread over 12 to 18 months of coursework and contact programmes, the Public Health Resource Network comprises 14 core modules and five optional courses. The technical content and contact programmes have been specifically developed to build perspectives and technical knowledge of participants and provide them with a variety of options that can be immediately put into practice within their work environments and everyday roles.
competency deficiencies among health professionals when it comes to working together, and a disconnect with the needs of a population. (1, 47)

Two articles on changing educational paradigms for allied health professionals recognized the inadequacy of education in terms of knowledge of the health care system and management/communication skills in the workplace. (3, 48)

Although there has been a growing consensus that inter-professional or multidisciplinary learning should be integrated in health curricula, reforms have been slow and efforts at best have been staggeringly weak. Efforts to integrate cultural competency, sensitivity and proficiency in health programmes have also been scarce.

An example of interdisciplinary collaboration in curricula development can be found in Bali, Indonesia, where social scientists and medical teachers established an integrated sociocultural curriculum for community medicine at the Faculty of Medicine, Udayana University. (49)

In a United Kingdom research study of midwifery schools, general findings initially revealed that midwifery students did not value shared learning with other disciplines. The delayed realization that inter-professional learning may enable students to apply seemingly unrelated knowledge to their own context was relevant. (23)

A multidisciplinary approach to health science teaching among nurses was reported in the Democratic Republic of the Congo. The Precede Proceed model of analysis improved understanding of the complex interplay of behavioural, social, health and educational determinants and developed salient competencies among health professionals. This project involved the Ministry of Health, local structures and institutions at the local, district and provincial levels. (50)

A community-identified need may also provide the impetus for lateral thinking when developing educational programmes. Due to the limited number of adequately educated Afghan women to be trained as health care workers, adult literacy programmes like Learning for Life run parallel with midwifery educational programmes. This health-focused, accelerated adult literacy and learning initiative teaches and prepares Afghan women, including older girls from rural areas, for subsequent training as community health workers and midwives. (20)

Many sub-Saharan medical schools have actively engaged in local and international partnerships. The University of Mali, in partnership with the French Government, has implemented programmes highlighting community health practice and public health training. For years, Makerere University has collaborated with foreign academic and non-profit organizations. Such links have contributed tremendously to their research capabilities and training programmes. (6) Another school, University of Malawi, engages in joint training programmes through the Southern Africa Human Capacity Development Coalition. (6-7, 53)

In the United States, a student-run rehabilitation medicine clinic offers services to underserved communities, thereby improving access to health care. Students learn about cost efficiency, patient advocacy and collaboration while developing management skills and delivering quality care. (48)
The critical role of public health education in inter-professional education has never been more evident. As we witness growing inequities and fractured health systems, public health graduates will be called upon to apply their skills. Over the years, despite efforts to strengthen links among schools of public health, government health agencies and nongovernmental organizations (NGOs), academic teaching models have continued to lack integration across disciplines. Teaching is still largely confined to classrooms, with theories gathered from literature rather than from needs generated in the field. Practitioners are rarely asked to contribute new theories. This may be partly due to the short, one-year time frame of Masters of Public Health (MPH) and Masters of International Public Health (MIPH) programmes and a very compact curriculum that leaves little time for field-related activities. (35)

Nevertheless, efforts to address the imbalance between theory and practical (field) experiences are growing. The University of Sydney’s MIPH has incorporated more practical-based activities in elective courses such as Humanitarian Emergencies and Project Management. A partnership with the Hoc Mai Foundation in Viet Nam has resulted in several MIPH scholarship recipients conducting their praxis elective in Viet Nam. Although students are assigned a supervisor, the project is predominantly self-directed and involves collaborating with Viet Nam’s Ministry of Health, local governments, NGOs and other stakeholders involved in the student’s chosen topic.

A few medical schools offer a dual MPH/Doctor of Medicine (MD) degree, aligning medical education with public health education to provide a more holistic and health systems-based education. By combining degrees, medical schools acknowledge that health professionals are indeed public health practitioners.

Attempts have been made to integrate public health in the medical curriculum though in varying degrees. Medical students continue to lack interest in public health and population health concepts, preferring the clinical aspects of medicine. In recent years, the integration of global health into the medical curriculum, with a focus on the developing world, has inspired keen interest among medical students from the Western world. (33, 54)
Challenges for health professions education

Over the past 50 years, health professions education has improved gradually through a series of educational advances.

These advances include:

• planning of educational programmes by objectives;
• problem-based learning;
• training in multi-professional teams;
• early immersion in community and first-line health care services;
• learner-centred approaches;
• faculty development;
• educational research; and
• informatics and use of the Internet.

However, evaluations of the impacts of these innovations have been minimal, particularly in low- to middle-income countries. Furthermore, in countries where health professions education has remained traditional, out-dated and resistant to curricular development, there has been an alarming mismatch of professional competencies to patient and population priorities. (1)

Such innovations have hardly diminished the health professional shortages worldwide.

Contributory factors to the human resource crisis include the following:

• quantitative lack of health care staff;
• inadequate proportions of specialties with respect to priority health care needs;
• chronic dearth of primary health care staff;
• migration of health professionals to more socially and financially attractive working environments;
• neglect of underserved rural areas, marginalized people and indigenous tribes;
• general deficit of effective action towards disease prevention and health promotion;
• poor mobilization of citizens to assume responsibility for protecting their own health;
• lack of incentives to work in partnership with the social sector for a more effective impact on the social determinants of health;
• drift towards the merchandising of services at the expense of professional ideals;
• weakening trust in health professionals by administration and the public; and
• demotivation of health care professionals. (9, 14, 56-58)

Professional brain drain has worsened the already inequitable distribution of human resources for health.

There is a pressing need to launch an initiative that embraces standards based on social accountability before institutions and countries become too firmly engaged in adopting accreditation approaches that do not optimally reflect obligations to society. (59)

**Issues on accreditation**

Standardization of accreditation and social accountability of health professions education continue to be key points of vigorous discussion across countries.

Dr Charles Boelen has articulated that the “promotion of global standards and accreditation in medical education is NOT synonymous with wanting to standardize medical education”. According to Dr Boelen, medical education addresses specific needs of individuals and populations in a given sociocultural context. Reforming medical education, medical practice and health care can only be country-specific. Further, accreditation mechanisms should be set with a view to measuring achievements in improving quality, equity, relevance and cost-effectiveness in health care status. (59)

Therefore, accreditation is a constantly evolving mechanism responding to each country’s needs.
Perceptions of health professionals on rural practice and service

Nurses in Kenya and South Africa indicated that better educational opportunities and rural allowances would be most effective in increasing the uptake of rural posts, while in Thailand, better health insurance coverage would have the greatest impact. (39)

In Australia, junior physicians and medical graduates cited the following reasons for choosing to practise in rural or remote areas:

- prior rural residence (strongest predictor of choice of a rural career);
- extended rural exposure during medical training;
- professional support at national, state and local levels;
- career pathway opportunities;
- contentedness of a practitioner’s spouse in rural communities;
- preparedness to adopt a rural lifestyle;
- educational opportunities for children; and
- proximity to extended family and social circle. (60-63)

In the United States, studies on rural physician retention revealed that hiring local recruits, exposing physicians to a rural community during medical training and rotations in rural hospitals, and providing professional support have improved retention rates in rural areas. (17, 39, 63)

A study in the Democratic Republic of the Congo indicated that nearly 98% of graduates of one rural medical school were employed in the province in which they trained. Rural graduates work in all sectors where doctors are needed. However, attention must be given to improving yield of graduates, providing advanced training and continuing professional development. With a majority of graduates working close to their medical school, faculty capacity has been increased by recruiting alumni. (39)

One study on rural health career pathways, using results of previous studies, analysed how some programmes had successfully retained medical and dental professionals in rural areas. The study introduced the concept of “rural pipeline”, which pertains to the following four stages of rural career pathways. (32, 64-68)
• **Making career choices** – In the first stage, secondary schools and health professionals promote medical health professions to high school students so that they are better informed of their career choices and more likely to consider a medical career. However, the domination of gendered and classed roles in the rural communities may affect gender roles and relations that may in turn influence career choices. These gender issues, when promoting career choices, should be kept in mind. (62)

• **Being attached to a place** – Studies have shown that attachment to a place predicts rural practice. Meaning, people who grow up in a rural community may have social bonds that keep them in the community despite other factors that would otherwise make them leave. Hence, attachment is a significant factor that increases the likelihood of recruitment and retention of health professionals in a rural community. Similar findings were found in community-based schools in Mindanao, Philippines, where most of the students were from the surrounding provinces. The provision of scholarships for medical and other health-related courses to students from rural areas can be an alternative scheme to attract and retain health professionals in that community.

• **Taking up rural practice** – Studies show that exposure to rural clinical settings can increase interest in rural practice. However, there are other issues to address when considering incorporating rural exposure into the curriculum:
  − professional isolation and limited access to educational opportunities;
  − shortage of employment opportunities for spouses of health professionals;
  − lack of anonymity in the rural setting; and
  − horizontal violence – a rift between colleagues.

• **Remaining in rural practice** – Factors to consider when trying to retain health professionals in rural practice include the following:
  − on-call and after-office-hours arrangements;
  − ability to tolerate uncertainty and adaptability;
  − contentment with rural life; and
  − lack of professional support and career options.

In many countries, rural students who have been educated in urban cities frequently do not return to their communities after completing their degrees. Several programmes in developing countries involve key community members in selecting candidates for community midwifery and nursing programmes, with the understanding that students will return to serve their respective communities upon graduation. Admission guidelines may also put weight on an applicant having significant ties to a community and having received consent from family members or a spouse to pursue such training or studies. In Afghanistan, evidence of such support is quite crucial. Female education in this part of the world is a very controversial issue. Unfortunately, in the southern and eastern areas dominated by the Pashtun, educating girls has caused outbreaks of violence such as attacks on schools. (20)
Key features of a transformative health professions education

Inter-professional or multi-professional approaches to learning have expanded in health professions education.

However, any singular innovative change in educational programmes will face multiple challenges and possibly strong resistance among staff, students and even community members, particularly if there is no understanding of the need for developmental change. Imagine the reaction if the change is more complex—a student-oriented, problem-based, community-oriented, inter-professional, socially responsible model that would warrant an immensely huge cultural and paradigm shift. It confronts entrenched values and attitudes about teaching/learning approaches. It also involves a “power” transition, especially when the curriculum becomes student-centred and involves self-directed learning and a great deal of autonomy. Educational systems in countries that have long seen the teacher as the unquestioned authoritative figure and students as silent learners struggle with these innovations. In fact, several schools in developing countries have attempted such innovations but have given up due to fiery resistance from academic staff and students.

Inter-professional education

“The goal of these efforts is to develop knowledge, skills, and attitudes that result in inter-professional team behaviours and competence. Ideally, inter-professional education is incorporated throughout the entire curriculum in a vertically and horizontally-integrated fashion.” (69)

Social accountability

“There is a pressing need to launch an initiative that embraces standards based on social accountability before institutions and countries become too firmly engaged in adopting accreditation approaches that do not optimally reflect obligations to society.” (70)
A baccalaureate–MD programme for students from medically underserved communities: 15-year outcomes (16)

William Thomson, Pamela Ferry, Jason King, Cindy Martinez Wedig and Graciela Villarreal

Strategies:

• Baylor College of Medicine (BCM) began partnering with educational institutions and school districts in southern Texas to prepare students academically to enter the medical profession.
• Recruitment strategies targeted students attending BCM-affiliated magnet health science high schools in the region and included direct media advertisements and special presentations to school boards and community groups.
• During the first 12 years of the programme, incentives of full tuition and fee support at both the undergraduate and medical school levels helped recruit the desired number of first-year students.
• Peer support, high-quality advisers and supportive faculty encouraged retention.

An enduring and culturally sensitive leadership is therefore essential throughout any transition and innovative process. This approach allows for early identification of challenges and subsequent initiation of effective measures to address them.

Integrating global health and medicine into the medical curriculum

“...certain aspects of the Global Health and Medical curriculum, such as cultural awareness, cross-cultural communication and basic medical anthropology, should be standard parts of every medical curriculum.” (54)

Integrating public health and medicine: first steps in a new curriculum

“Underpinning the curriculum innovation was the consensus reached around ‘graduate capabilities’ of which one of the eight directly related to public health: understanding the social and cultural aspects of health and disease. This capability is further sub-divided into Social Determinants of Health; Measuring Health Status; Health Care Systems; Improving Health through Social Approaches.” (33)

A Sociocultural approach to learning in the practice setting

“Communities of Practice can be defined, in part, as a process of social learning that occurs when people who have a common interest in a subject or area collaborate over an extended period of time, sharing ideas and strategies, determine solutions, and build innovations.” (71)
Promoting core synergism through multidisciplinary collaboration in training health professionals: the case of Moi University College of Health Sciences (74)

J Mogire, Eldoret

**Context:** Health care faces evolving cross-cutting demands aggravated by the emergence of challenging public health issues. For health professionals to attain optimum outcomes, coordinated collaboration efforts must be stepped up. Evidence has indicated that collaborative learning leads to increased collaboration in practice. Inter-professional education is a viable approach; however, numerous barriers to the implementation of inter-professional and multi-professional education remain.

**Design:** A brainchild of WHO’s Learning Together to Work Together initiative, Moi University adopted an innovative medical education approach in training health professions students, undergraduates and postgraduates. Inter-professional integration is a core component: all students at respective levels of study share core public health-related coursework – lectures, tutorials, research workgroups, common assignments, field placements and examinations. The objectives of the programme are: to establish inter-professional collaboration in health care delivery; to develop a continuum of comprehensive inter-professional education programmes based on local needs; to enhance inter-professional awareness, knowledge and skills of all health practitioners; and to prepare multidisciplinary leaders and managers for new health care delivery responsibilities.

**Main challenges:** The main challenges faced included: negative attitude towards inter-professional education approach; lack of insight into the roles and inter-professional working relationships complicated by lack of locally and universally accepted definition of and scope for inter-professional education; conventional structural segregation of trainees into courses, campuses, etc.; significant perceived status differences of different health professions cadres; insufficient resources for implementation of inter-professional education; and independent, isolative development of the different curricula, hence failing to maximize on the similarities and optimize differences.

**Preliminary lessons:** Data from the Kenyan Ministry of Health indicate higher core competence scores by Moi University graduates, many of whom were hired as top district medical officers of health in charge of administration and policy development. The programme emphasized systematic documentation, knowledge contributions and integration of academic and community programmes into management structures.

Transforming oral health education (31)

D DePaola and HC Slavkin

“In a study of oral health education reform, it was recommended to initiate and support a major effort to enhance cultural diversity in the oral health professions coupled with ‘service learning’ approaches to increase access to oral health care.”

The following critical steps were identified:

• resonate with the mission of the university and/or academic health centre;
• provide leadership and citizenship development;
• integrate effective and efficient management, staffing and clinical productivity;
• address the problems in the current system of dental education, including inability to train practitioners to care for all patients including the disadvantaged, and inability to nurture the critical mass of critical thinkers and problem-solvers for research and academia;
• train socially responsible practitioners;
• increase diversity in students, educators and practitioners;
• address the continuing focus on oral health and technical skills, contributing to the neglect of overall health and the social/behavioural focus needed to address disparities; and
• increase interdisciplinary perspective and practice.
Moreover, effective planning and implementation of innovative models require expertise in curricular development and a sharp knowledge of these innovative approaches. Most academic staff are neither trained nor skilled in these areas, and schools in low- to middle-income countries have scarce resources to outsource assistance. Nonetheless, faculty development is extremely critical so that staff acquire the necessary skills to ensure the effective implementation of such innovations. Improving their skills set will also give academic staff confidence so they do not feel “out of their depth” in the new curriculum. Hence, academic institutions have to plan well ahead, secure funding support, conduct feasibility studies and anticipate challenges involved when integrating innovations in health professions education.

In their article on community-based nursing education, Carter et al elucidates that “by engaging faculty, staff, and students throughout the revision change process, the resulting curriculum is owned, stimulating, and effective”. (72)

Figure 1: Framework for action in inter-professional education and collaborative practice. Geneva, WHO, 2010. (73)

Health worker education for tuberculosis control: the case of Indonesia (75)

Carmelia Basri, Karin Bergström, Wanda Walton, Asik Surya, Jan Voskens, Firdosi Metha

Strategies:

- Employed a systematic process to develop and implement two strategic action plans focusing on competence development based on specific job descriptions.
- Shifted the focus from training only to broader, long-term human resource development for comprehensive tuberculosis control.
- A structured plan for capacity-building, including standardized competency-based training modules and curricula, was developed in the first phase.
- Supported by an organizational system comprised of a training focal point, master trainers and regional training centres in which nationwide training of supervisors was implemented.
- Training was expanded to the health service delivery level in the second phase as well as broadened in the scope of activities beyond training to also include other aspects of human resource development.
The following general recommendations are put forward to improve health professions education:

(1) Health policy and priority health needs

- Because health policy has an influence on the spectrum of competencies that health care professionals need to possess, health professions education curricula should integrate policy concepts and issues. Partners such as policy-makers, health service managers, health professionals and the public should be recognized for their commitment and should be involved to some degree in teaching to add depth to an institution’s programme.

- As such, the mission and objectives of medical, nursing, midwifery, dental, pharmacy, physical therapy and other allied health professions education should be determined by priority health needs and health problems prevalent in the community. Curricular design needs to be planned and implemented with full awareness of the health system needs, including consistent integration of inter-professional education with the concurrent practice of cultural sensitivity and competence.

(2) Educational programme

- Educational approaches should be student-centred, with an emphasis on self-directed learning; community-oriented; and health system-oriented, with exposure to various components of a health system in the private and public sectors.

- Core curriculum should provide essential knowledge and skills and take into account culturally sensitive attitudes.

- Modular problem-based learning case scenarios—integrating issues of health inequity, maldistribution of health professionals and health workforce migration—should be developed to encourage students to brainstorm on possible solutions.

- Primary health care, as it encompasses health promotion, advocacy, project management and disease prevention, assessment of population needs, awareness of environmental and social determinants of health, should be a major focus. Emphasis should be given to major public health issues.
• Teaching and learning methods should promote student-centred, creative and competency-based learning, develop critical thinking, sharpen ethical research skills and problem-solving abilities, foster life-long learning practices, and nurture a “mentor environment” among teaching staff and students.

• Extended learning settings, including community primary care units and non-medical settings, e.g. advocacy or policy bodies, NGOs or local government agencies, should be used.

• Robust and well designed evaluations of curricula and programmes should be carried out with the help of regular student feedback, focus group discussions and monitoring systems.

• Admissions policy and student recruitment criteria should be reviewed; participation of community members should be considered.

• Health profession educational institutions should have policies for recruitment of quality teaching staff, faculty development (i.e. curricular/programme development, management and leadership skills) and research support.

• Health profession educational institutions should have a built-in curriculum evaluation mechanism to receive feedback from the stakeholders (community partners, intersectoral linkages, etc.)

(3) Governance and administration

• Health institutions should have sufficient autonomy to be able to direct resources to achieve the overall objectives of health professions education.

• Health institutions should have relevant accreditation requirements and expertise on crafting policies, e.g. return service, financial incentives or other strategic retention incentives.

• Sustainable funding support and political commitment are needed.

• Medical, midwifery, dental, pharmacy, nursing, public health, other allied health care professionals as well as non-health partners should come together to develop well-designed, effective, culturally sensitive cross-disciplinary curricula.

• Accurate and updated documentation of programmes and evaluations should be done so that “best practice” models and lessons can be shared.

(4) International partnerships and links should be developed to strengthen evidence-based, inter-professional collaboration and increase relevant collaborative research and outputs.

The use of information technology is essential for sharing knowledge across borders and learning from each other. The quality of research, however, needs to be improved, especially in low- to middle-income countries, in the areas of “best practice” educational programmes, curricula evaluation, tracking of health professionals, policies on human resources for health, and bilateral and multilateral agreements between source and recipient countries. Good-quality research is needed to ensure that lessons are learnt, health professions programmes are sustainable, global inequities are reduced and health access/outcomes are markedly improved. Research is possible if funding is specifically allotted to such endeavours.
Specific recommendations

(A) Instructional development: Developing community-based and problem-based learning educational programmes

- Train and develop core leading staff and follow up with recruitment of subsequent generations of leaders.
- Intensify efforts to increase research outputs.
- Strengthen links among educational programmes, communities and health care systems.
- Use the community and its health facilities maximally throughout the curriculum.
- Educational institutions should consistently practise in deed what they preach, i.e. a community-oriented educational institution should put theory into practice effectively.

Leaders from six innovative medical schools, all members of the Training for Health Equity Network (THEnet), have shared their respective school’s approach to medical education, aligned with their core mission of “recruiting students from and producing physicians for underserved communities”. These schools are Latin American Medical School (ELAM), Cuba; School of Medicine at Ateneo de Zamboanga University (AZU), the Philippines; National Training Program for Comprehensive Community Physicians (NTPCCP), Venezuela; School of Medicine and Dentistry, James Cook University (JCU), Australia; Northern Ontario School of Medicine (NOSM), Canada; and Flinders University School of Medicine (FUSM), Australia. (8)

These schools have strong community-based, self-directed and problem-based learning approaches with an unwavering philosophy that medical schools have a critical and symbiotic role in health system development. (8) Their medical curricula incorporate relevant public health topics, e.g. burden of disease, social determinants, gender and cultural issues, epidemiological trends, environmental issues, and health/poverty inequities, with emphasis on marginalized sectors of society and indigenous people living in remote areas. (8) These educational innovations may be used as “best practice” models.

(B) Recruitment and retention strategies: Motivating health professionals for rural practice and role modelling

There is no “one size fits all” solution. The reasons why health practitioners work or do not work in rural and remote areas are multifaceted, extremely complex and heavily influenced by dynamic socioeconomic and cultural factors. Consequently, although strategies may have essentially similar elements,
these interventions or mix of interventions are intrinsically variable among health professionals and among rural settings within countries.

- If rural rotations during a student’s education are predictors of rural practice and retention, then medical, nursing, midwifery and other health profession curriculum should be designed to provide students with concrete career pathways in rural or community medicine. Early and sustained exposure to a rural community (from first year until graduation), combined with mentoring by a community or rural health professional, will give the student a genuine picture of a career in community medicine.

Community medicine should be incorporated in the curriculum as early as the first year. Topics for this subject should be designed in such a way that students can analyse community situations, identify health needs, work in a culturally diverse community, implement, monitor and evaluate programmes efficiently, and critically analyse data presented to them through epidemiologic studies. These competencies should be developed from the first year to the fourth year, with more intensive education and training during the fourth year if they choose the community medicine career track.

Students who choose the hospital career track will be trained more appropriately in hospital settings and will not be required to continue their community service in their fourth year. However, an elective unit on community medicine may be offered if students wish to learn more about rural practice.

This type of health professions education, if implemented, would not only cater to the professional needs of students who choose to have a career in medicine, nursing, midwifery or other health professions, but also give them the option to choose a career in public health/community medicine or hospital medicine.

- Develop a curriculum for nurses and midwives, and set up birthing centres in rural areas instead of in hospitals.

This strategy would address the shortage of doctors or nurses for maternal and child care in far-flung and underserved communities. An example from the United States showed how these types of centres embrace several aspects of home delivery yet have the safety features of a hospital delivery when complications arise.

The curriculum should include business aspects of providing midwifery care, e.g. a pre-course workshop on “how to start a birth centre”, which would cover licensing, services, quality assurance, financial management and marketing of birth centres. After the workshop, students would be required to submit a birth centre proposal and business plan based on an assessment of the community in which they live or plan to practise.

- Most intervention strategies are biased toward physicians and developed, English-speaking countries. Attempts should be made to target other health professionals and public health practitioners, teams and programmes in developing countries. Programmes should incorporate strengthening human resources information and networks. A situational analysis of factors that influence choices of location of health workers in rural areas is prudent.
Though students may be exposed to rural areas during their training and/or community rotations, their intention to practise in a rural area will be influenced by a multitude of factors. However, this does not belittle the relevance of rural-based or community-oriented health professions education. Long-term, consistent and continuous exposure as well as frequent role modelling provides students with a more holistic picture of career pathways and opportunities.

With the global demand for rural health professionals, it is imperative to determine specific factors that affect a health professional’s decision to stay in or return to rural areas. (68)

(C) Institutional reforms: Changing mindsets

At the core of transforming health professions education is the need to transform the mindsets of leaders and teachers of health institutions. Reforms of this magnitude will be met with resistance, which may prove daunting. With a health systems and inter-professional approach, external partnerships with government and non-health professions are crucial.

Aligning competencies with health professions curricula and making accreditation criteria more socially accountable will require open minds and generous participation from various health professions accreditation bodies as well as school presidents, chancellors, heads, deans and other stakeholders. Most importantly, in underdeveloped academic systems in the poorest countries, such an undertaking may not be possible.

Nevertheless, professional education has to assure access to high-quality health services in communities emphasizing primary health care strategies and advocating for universal social health coverage.

Continuing education and professional development of health professionals through seminars, conferences and workshops should include health systems, policy and population health education.

Professional organizations and specialty bodies are encouraged to include primary health care in their respective practices. Why should a specialist not provide primary health care?

Training the next generation of health professions teachers and leaders is vital. To counter the challenges faced by resource-poor countries, health institutions should consider short-term placements of graduates from developed countries or even alumni who have left a developing country but wish to support institutions with depleted teaching staff. Tracking and actively networking with these graduates could prove very productive.

Cross-disciplinary partnerships between health professions and non-health sectors (e.g. education, law, business, vocational technical schools), as they work collaboratively on developmental and poverty alleviation projects, will have huge impacts on health. To illustrate, the Australian Youth Ambassadors for Development programme of the Australian Agency for International Development has been providing scholarships to Department of Education workers in the Philippines to pursue postgraduate education in Australia. As a result, returning participants...
have taken steps to improve education, reduce poverty, promote ecotourism and resolve conflict in Mindanao, Philippines. Such developmental projects bring about positive effects on people’s health.

Health is a human right. The concept of “Health for All” has to be integrated into every other profession’s programme. Health professionals need not stand alone in this fight.

- **Policy-level mutually beneficial negotiations (quid pro quo)**

  National policies and bilateral capacity-building agreements between recipient and source countries that target education of future health professionals for the local country should be developed. This calls for a meaningful dialogue and thoughtful consideration of mutually beneficial exchanges with the recognition of social responsibilities in an interdependent world. Migration flows need to be monitored. Source countries have to improve their staff recruitment and retention strategies. (58)

  As much as the developed world is in need of health professionals, the situation does not give them license to deplete unconscionably resource-poor countries of their human resources for health.

- **Tapping health professionals who have migrated**

  Migration of health professionals is a force that cannot be stopped. However, these people also recognize that a crippled health system will affect loved ones left behind. As they gain skills and expertise, these health professional emigrants may be outsourced or contracted once a mutually beneficial strategic plan is developed. Moreover, these health professionals may assist in developing innovative graduate education opportunities in the home country and actively contribute to research and development.

  By engaging individuals who have emigrated with opportunities that could help their country, we may be able to deal with the issues of retention and repatriation of health workers. (57)
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77 Rosa-Fernandez TOL. Integration of family and community medicine: the Cebu Institute of Medicine experience. 2009.


Towards an innovative medical curriculum: a guide to Philippine medical schools (76)

Fernando S Sanchez, Marita VT Reyes, Alfaretta Luisa T Reyes, Angelina T Tantengco,

“It is more difficult to change an existing curriculum than to formulate a new one. The greater the change, the more barriers there are, the more difficult it is.”

Context: Biomedical science and technology has grown and continues to grow exponentially. In view of the content-based nature of traditional medical education, its curricular content has correspondingly expanded as rapidly. Consequently, the traditional methods of teaching have become inadequate. Modern Western medicine has also lost its relevance to the health needs of developing societies.

Design: The principal method of teaching is problem-based learning (PBL). Students meet in a tutorial group several times a week to analyse, hypothesize and discuss trigger materials (presented sequentially) on a patient problem, until the students arrive at a diagnosis and formulate a plan of management. During the process, they must determine the next question (patient information required) or action in the clinical encounter and define topics for which the knowledge base is weak or inadequate. The latter serves as the basis for independent learning on the part of the student. Within the period allotted for the case, correlating lectures, audiovisual presentations, laboratory exercises, computer-assisted learning and/or ward/community visits are scheduled.

Integration of family and community medicine: the Cebu Institute of Medicine experience (77)

Thelma O La Rosa-Fernandez

Context: The Cebu Institute of Medicine advocates that physicians should extend the practice of medicine beyond caring for the patient and his or her family to answering the health needs of the community.

Design: Students are responsible for planning out their own health programmes as a group. All students spend 8 weeks in the community for their community medicine posting. They are provided with simple but comfortable accommodations. As the students stay in the community, they interact with and learn to understand the people. In addition, they learn how to deal with people’s cultural beliefs and traditions and how they could affect the delivery of health care. The Cebu Institute of Medicine, by
making family and community medicine a part of its undergraduate curriculum and incorporating family medicine residency training, established a partnership between the medical profession and the community.

Philippine medical schools with community-based curricula (42)

CS Dayrit, P Dizon Santos Ocampo, ER de la Cruz

Pamantasan ng Lungsod ng Maynila (1983)

The College of Medicine of the Pamantasan ng Lungsod ng Maynila opened in June 1983. First-year students admitted to the College are classified according to the two types of programmes offered: (1) scholarship, and (2) non-scholarship. Non-scholarship students pay a reasonable amount for tuition and other miscellaneous fees. On the other hand, scholarship students receive fee tuition, but they are required to enter into contract with the university and the city government to serve the city of Manila under the PLM Community Health Program for five years after graduation.

Mindanao State University, College of Medicine (1983)

The MSU College of Medicine in Marawi City opened in 1983. It was tasked to provide competent medical practitioners for the underserved and medically depressed areas of Mindanao, Sulu and Palawan (MINSUPALA) as well as to provide opportunities for Muslim students and other cultural minorities to become doctors of medicine and serve the areas from where they came. This programme was set up largely in response to the maldistribution of physicians in the country and the absence of physicians in parts of Mindanao. In 1991, Dr Angelo H Manalo was installed as Dean of the College. He was in the forefront of the activities that led to the opening of the College and was mainly responsible for its community-based curriculum, a first of its kind in the country. The curriculum was proven successful in later years as graduates of the College went on to serve in remote areas of Mindanao.

Bicol Christian College of Medicine (1980)

The Bicol Christian College of Medicine (BCCM), which was established in 1980 in Legaspi City by Dr Damceno J Ago, is a privately owned medical school and the only college of medicine in the Bicol Region (Region V).

In 1995, BCCM underwent major reforms, adopting teaching and learning strategies that were: (1) relevant to the health needs of the Bicol Region, (2) problem-based, (3) community-based, and (4) competency-based.

A primary health care curriculum in action: the lived experience of primary health care nurses in a school of nursing in the Philippines: a phenomenological study (26)

David Arthur, John Drury, Maria T Sy-Sinda, Ramonita Nakao, Arsenia Lopez, Grace Gloria, Rowena Turtal, Evelyn Luna

Teaching primary health care

This involves the structure of the curriculum and the practical mechanics of clinical placement. For example “the implementation is at the Purok level (a small community) and two students are assigned per Purok”.

External influences

“At the livelihood level it is common to involve intersectoral linkages such as the Department
of Agriculture or the Department of Social Welfare which might involve skills training for women for extra income or capital money with training to open a store. … We need to have committed front line health care workers of all levels to lobby, advocate changes in health care policies.”

Working reality

“One of the difficulties with implementing PHC is the indifference in individuals, so we need to have the approval of the formal leaders. … There are approximately 6 Puroks (40–50 households) in each Barangay and each Purok has a leader who will inform the college representative what is the priority. This formal entry into the community is important and a meeting is held with the important people who are the contact points … some have no or weak leadership structure and the activities have helped develop a leadership structure. It is also important to identify the informal leaders.”

Practising primary health care

“We used to have a medical and dental clinic held in the Community but we found this was encouraging dependence rather than independence so we now make referrals and encourage Community members to visit the Doctor or Government clinic in the city.”

DISTANCE LEARNING EDUCATION

Building capacity without disrupting health services: public health education for Africa through distance learning (34)

Lucy Alexander, Ehi Uche Igumbor, David Sanders

Through distance education, the School of Public Health of the University of the Western Cape, South Africa, has provided access to master’s level public health education for health professionals from more than 20 African countries while they remain in post.

“New strategies have to be found to not only bring training opportunities to health workers, but also to train them while in post, using their own work situation as the practical arena in which to implement the theoretical concepts mastered.”
The development of the community-based nurse-midwifery education programme: an innovation in distance learning (24)

Kathryn Osborne, Susan Stone and Eunice (Kitty) Ernst

The Community-based Nurse-midwifery Education Program (CNEP) of the Frontier School of Midwifery and Family Nursing (FSMFN) exemplifies nurse-midwifery education in the United States—identification of need, application of an innovative idea to meet that need, success that was dependent on collaboration with interagency support, novel use of resources, and above all, dedication and sacrifice on the part of the participating nurse-midwives.

The idea of CNEP grew out of a need to find solutions to three important challenges facing nurse-midwifery education programmes. First, there was a need to increase the numbers of nurses and midwives to meet increased demand by hospitals and physician practices as well as the growing number of women seeking an alternative to the hospital-based medical model of care. The birth centre as a clinical teaching site would help facilitate educational opportunities. Second, education needed to be taken to the student. Third, the curriculum needed to include instruction on health care policy, politics, and payment mechanisms, as well as the business of operating a birth centre or establishing a midwifery practice.

Acquisition of knowledge was measured by using graded learning assignments that were mailed to faculty and examinations that were proctored by a professional in the student’s home community. In addition to the content found in existing nurse-midwifery education programmes, an important addition to the CNEP curriculum was that students would study the business aspects of providing midwifery care using the birth centre as a model.

An integrated approach through health, education and community development for the developing countries: the Baqai model (78)

Muhammad Zakaullah Khan, Peter Baillie

Guiding principles for the Baqai model:

(1) Baqai Medical University is community-oriented and focused on problem solving. The community is consulted and involved from the initial stage of planning. This empowerment approach is essential to avoid issues of entitlement and encourage participation.

(2) Baqai Medical University is rural and grassroots. Local efforts are tailored to local conditions and based upon local needs. The local community must be actively and realistically involved. This commitment to and experience with grassroots-based approaches to health care has had major political implications in Pakistan.

(3) Health care, education and empowerment are remarkably interdependent when addressing the vicious cycles of poverty, overpopulation, ill health, early death and illiteracy, which are prevalent in developing countries. By combining all three, Baqai Medical University has been able to remain cost-effective and efficient. As a concrete example, the family clinics are jointly governed by the university and the community, ensuring that residents have a vested interest in their success.

(4) The resources of a university are essential to community empowerment. The cycle of poverty cannot be addressed without addressing access to education, potable water and sewerage. The intellectual resources of a university are key to ensuring a proper definition of problems, problem-solving techniques, reliable statistics and rational constructive forward planning.
Innovations in Health Professions Education in the Western Pacific Region

(5) Baqai Medical University has incorporated social obstetrics. Initially, the goal of the university was to reduce maternal mortality and deal with the myriad of problems faced by rural woman; at this time, we have virtually eliminated maternal mortality and halved perinatal mortality and infant death. However, social obstetrics has a far broader scope and directly addresses the interconnectedness of health, education and empowerment.

(6) Building a sense of community is a prerequisite for these activities. People who live in rural areas dominated by a lack of resources and abject poverty often experience personal and social isolation. Developing a sense of community is a prerequisite for community-building activities—from participatory planning processes through resource allocation and evaluation of efforts. In Gadap Town, a community hall has been built and is used for education and entertainment. Water, agricultural advice, seeds and two-acre plots are available for community use. Future plans include a fish farm and the establishment of cooperatives.

INNOVATIONS THROUGH PARTNERSHIP

Community-academic partnerships: a “community-first” model to teach public health (36)

JK Carney, R Hackett

“In developing the teaching model for this course, previous project designs were reversed. Instead of projects being driven by student interest, they were developed by community public health needs that were identified by the United Way of Chittenden County Volunteer Center (UWCCVC) and local health agencies. The rationale behind our community-first approach as a foundation was our belief that it was necessary to initially understand and address community public health needs in order to facilitate community engagement and sustain true partnerships.”

“By recruiting and referring individuals to volunteer their time, the volunteer center matches the needs of a non-profit organization with a volunteer workforce, either in groups or individually. The UWCCVC was chosen as the focal point of our new curricular efforts because of its documented history, success, and credibility in working to improve the lives of local community residents. It was the logical first contact to assist with locating health issues within the agencies they serve.”

“Teaching public health and improving community health are primary goals, but students also learn introductory public health research methods. Applications of such community-based research, emphasizing practical community solutions to health issues, will represent an area of future development. Community-academic partnerships emphasizing a “community-first” approach provide opportunities to teach public health, benefit health in local communities, and prepare medical students for clinical practice in the 21st century.”

Innovative medical education: sustainability through partnership with health programmes (53)

SK Pemba, S Kangethe

“Through experience, the [Faculty of Health Sciences] has realized that sustaining innovative education against declining resources requires creative research in resource mobilization and utilization. [It] has found that collaboration with institutions whose explicit and implicit objectives are similar to their own is an important strategy
for ensuring sustainability of innovative education. We believe that this experience could apply to other institutions in developing countries as well.”

“The framework for collaboration is based on four interrelated elements: i) institutions; ii) local primary health care programs; iii) students; and iv) community. The role of the institution is to identify local health programs that are suitable to serve as sites for student participation, to communicate with them, to establish objectives for student learning and to ensure that the students achieve these objectives. The role of the health program on the other hand is to provide resources for student learning, evaluation and programmatic activities, participate in teaching and serve as a liaison with the local community for whom the services are being provided. While the student’s role is to relate to program staff, participate in the implementation of activities and write reports, the community’s role is mainly to provide the learning environment, develop plans and actively participate in the implementation of the health programs. Up to this point, the collaboration has helped the faculty to identify common areas of interest with the programs and with the community. This has led to the development of common policies and strategies to address health problems.”

The frontline and the ivory tower: a case study of service and professional-driven curriculum (65)

Sue Lenthall, John Wakeman and Sabina Knight

“The Remote Health Practice program, comprising the Graduate Certificate, Graduate Diploma and Master of Remote Health Practice awards, is the first multidisciplinary postgraduate program to prepare health professionals for working in remote areas. Students are generally self-selecting, choosing to undertake fee-paying postgraduate studies. The program has a strong public health content as well as an extended clinical practice component. The content is multidisciplinary.”

“The program has strong primary health care approach, emphasising community participation, an intersectoral approach, disease prevention and promotion of health. The RHP program also has a strong focus on cultural safety and self-care.”

“This approach resulted in creative tensions between the university and professional groups and required a change in the traditional power balance in curriculum development. There was a decrease in university control and an increase in control by service and professional groups. That Council of Remote Area Nurses of Australia (CRANA) was the fund holder of the curriculum development funding was a key ingredient to the program’s ultimate success.”

STUDENTS’ PERSPECTIVES

Community-based education in Nigerian medical schools: students’ perspectives (79)

DE Heestand Skinner, CA Onoka, EN Ofoebgu

Students reported that the greatest gains were in knowledge of environment-related health risks, skills to identify health problems in the community and barriers to health care utilization by the community, and skills to work in a variety of community health care settings. Students indicated that they gained little knowledge about evaluation of health education efforts and the training of health workers in health education. They gained few skills related to implementing a health intervention in the community and analysing the results, developing realistic strategies to improve community access to health services, and managing a primary care unit.
The objectives on which students rated their knowledge or skill gains to be the greatest were those that featured the strengths of a community-based experience, such as identifying environment-related health risks, identifying health problems of the community, identifying barriers to health care utilization by the community, and working in a variety of community health care settings.

**Perceptions of problem-based learning (PBL) group effectiveness in a socially-culturally diverse medical student population (44)**

VS Singaram, DHJM Dolmans, N Lachman, CPM van der Vleuten

“This study investigated perceptions of the process and content of small group tutorials used in a PBL-oriented curriculum within a socio-culturally diverse medical student population. Students participating in this study came from a variety of cultural, school and educational backgrounds, spoke different first languages, and were of different ages. This study found that students’ perceptions were overall positive about the group effectiveness of the PBL tutorial in both constructs. In addition, the majority of the students felt that they shared information freely and benefited from the input of other members.

“This study supports previous findings that highlight the expanding role of the small group tutorial in diverse populations. It highlights some of the positive benefits of diversity. This study found that the small group tutorial learning format encourages students to overcome social and cultural barriers and become more tolerant with each other. This is most encouraging as it is important for students to learn to function effectively in a team, especially in multicultural societies. This finding suggests that small group work in PBL plays a role in developing medical professionalism in undergraduate medical students. It also sets the tone for developing team work skills which are essential for medical professionals who are expected to be effective role players in multidisciplinary health care teams.”
### Characteristics of the two programmes analysed

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<th>Characteristics</th>
<th>ELAM</th>
<th>MEAH</th>
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<tr>
<td><strong>Graduates</strong></td>
<td>542 Ecuadorian students (average 60 per year) 5000 total graduates by August 2007</td>
<td>60 masters students in two cohorts</td>
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<tr>
<td><strong>Programme duration</strong></td>
<td>6 years (not including pre-medicine)</td>
<td>2 years (including modular and thesis phase)</td>
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#### Pedagogy

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<thead>
<tr>
<th>Knowledge</th>
<th>Strong focus on community-based determinants of health</th>
<th>Understanding and integration of different types of knowledge, including integration of different disciplines (health, social sciences, environmental and ecological sciences); community specialized and strategic knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disease-prevention strategies, community knowledge building and coping with poor resources in rural areas</td>
<td>Includes understanding of different dimensions of scholarship, including integration, application and engagement.</td>
</tr>
<tr>
<td>Skills and techniques</td>
<td>Core clinical skills (including knowledge of practising alternative and green medicine)</td>
<td>Qualitative and quantitative research methods</td>
</tr>
<tr>
<td></td>
<td>Community health management and public engagement for health promotion</td>
<td>Problem solving (problem-based learning)</td>
</tr>
<tr>
<td>Attitudes and values</td>
<td>Approaching medicine as a public good rather than as a commodity</td>
<td>Collaboration and teamwork – especially through interdisciplinary group work for modules and in focus of research in defined communities of impact.</td>
</tr>
<tr>
<td></td>
<td>Ethical research and practice: respect, reciprocity, relevance, responsibility</td>
<td>Student evaluation designed to emphasize knowledge, skills and attitudes, including reflective journals on learning process.</td>
</tr>
</tbody>
</table>
Innovations in Health Professions Education in the Western Pacific Region

### Links with local-level capacity

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>ELAM</th>
<th>MEAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection process</td>
<td>Focus on marginalized population and service equity. Selecting students from underserved communities</td>
<td>High involvement in universities (14/30 students), government and NGOs (11/30) and communities (11/30), with five students who are indigenous leaders</td>
</tr>
<tr>
<td></td>
<td>Over 100 ethnic groups represented and &gt;50% women</td>
<td>Interdisciplinary scope, health disciplines (medicines, nursing, veterinary medicine), other professions (engineering, law, planning, disaster preparedness), sciences (chemistry, biology)</td>
</tr>
<tr>
<td></td>
<td>Hundreds of interviews conducted per country, in country of origin by Cuban Embassy except in the United States of America (where a faith-based organization administers interviews)</td>
<td>50% women</td>
</tr>
<tr>
<td></td>
<td>588 Ecuadorian ELAM trainees in 2005 represented 17 provinces, &gt;10 ethnic groups, &gt;50% women</td>
<td>First cohort selected from 150 applicants, 90 interviews conducted by Canadian and Ecuadorian team in university of application</td>
</tr>
<tr>
<td>Community orientation</td>
<td>Curriculum strongly focused on community-oriented primary care</td>
<td>Each teaching module includes community field experience</td>
</tr>
<tr>
<td></td>
<td>Some students complete sixth year working with Cuban medical brigades in home country</td>
<td>Thesis projects must define a community of impact and community involvement. These have already resulted in a range of community workshops, educational and planning activities</td>
</tr>
</tbody>
</table>

### Links with national-level capacity

| Partners in Ecuador              | One-year rural practice founded by Ecuadorian Ministry of Health | Three provincial universities (Bolivar, Cuenca and Machala) and one regional university (Universidad Andina Simon Bolivar) |
|                                  | Many alumni and support networks exist for graduates and current students | One national NGO (Centro Estudios y Asesoría en Salud/Health Research Advisory Centre) |
|                                  | No formal links with Cuban Embassy after graduation | Creation and support of an Ecuadorian informs national and international initiatives (including Canadian community of practice in ecosystem approaches to health) |

### Links with international-level capacity

| International funding           | Cuban Ministry of Health | Canadian International Development Agency (University Partnerships in Cooperation & Development) with in-kind support from University of British Columbia and partners |
| Partner countries               | Cuba                    | Canada, Cuba, Ecuador and Mexico |
| Countries of students           | 29 countries from Africa, North America and South America | Ecuador |

ELAM, Latin American Medical School; MEAH, Masters Programme in Ecosystem Approaches to Health; NGO, nongovernmental organization.
### Annex 3


#### YEAR ONE

<table>
<thead>
<tr>
<th>Step 1: Assessment Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Research Methods</td>
</tr>
<tr>
<td>2. Epidemiology</td>
</tr>
<tr>
<td>3. Cultural/Sociological Beliefs</td>
</tr>
<tr>
<td>4. Environment</td>
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<tr>
<td>5. Behavioural Principles</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2: Collection of Original Data Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Theory of the Problem</td>
</tr>
<tr>
<td>2. Research Methods</td>
</tr>
<tr>
<td>3. Ethics, Confidentiality, Informed Consent</td>
</tr>
<tr>
<td>4. Communication</td>
</tr>
<tr>
<td>5. Anthropology</td>
</tr>
<tr>
<td>6. Behaviour Change</td>
</tr>
<tr>
<td>7. Biostatistics</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Step 3: Analysis and Interpretation Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intervention Design</td>
</tr>
<tr>
<td>2. Biostatistics</td>
</tr>
<tr>
<td>3. Computer Analysis</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4: Examine the Theoretical Literature Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Behaviour and Community</td>
</tr>
<tr>
<td>2. Change Theory</td>
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<thead>
<tr>
<th>Step 5: Identifying Program Strategies and Theories Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intervention Design</td>
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<tr>
<td>2. Evaluation</td>
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</table>

#### YEAR TWO

<table>
<thead>
<tr>
<th>Step 1: Program Planning and Budgeting Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Planning</td>
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<td>2. Program Evaluation</td>
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<table>
<thead>
<tr>
<th>Step 2: Intervention Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Communication</td>
</tr>
<tr>
<td>2. Training</td>
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<tr>
<td>3. Health Policy</td>
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<tr>
<td>4. Intervention Frameworks</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Step 3: Evaluation Design Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Evaluation</td>
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<tr>
<td>2. Biostatistics</td>
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<tr>
<td>3. Research Methods</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4: Implementation of Evaluation Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Evaluation</td>
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<tr>
<td>2. Biostatistics</td>
</tr>
<tr>
<td>3. Research Methods</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 5: Collection and Analysis of Evaluation Data Modules:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Evaluation</td>
</tr>
<tr>
<td>2. Biostatistics</td>
</tr>
<tr>
<td>3. Research Methods</td>
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</tbody>
</table>
Annex 4


Figure 12: Recommendations for reforms and enabling actions

<table>
<thead>
<tr>
<th>Reforms</th>
<th>Enabling Actions</th>
<th>GOAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Instructional</strong></td>
<td>Mobilise leadership</td>
<td>Transformative and interdependent professional education for equity in health</td>
</tr>
<tr>
<td>* Competency-driven</td>
<td>* Enhance investments</td>
<td></td>
</tr>
<tr>
<td>* Interprofessional and transprofessional education</td>
<td>* Align accreditation</td>
<td></td>
</tr>
<tr>
<td>* IT-empowered</td>
<td>* Strengthen global learning</td>
<td></td>
</tr>
<tr>
<td>* Local–global</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Educational resources</td>
<td></td>
<td></td>
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<tr>
<td>* New professionalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Institutional</strong></td>
<td></td>
<td></td>
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<tr>
<td>* Joint planning</td>
<td></td>
<td></td>
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<tr>
<td>* Academic systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* Global networks</td>
<td></td>
<td></td>
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<tr>
<td>* Culture of critical inquiry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3: Levels of learning

<table>
<thead>
<tr>
<th>Levels of learning</th>
<th>Objectives</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informative</td>
<td>Information, skills</td>
<td>Experts</td>
</tr>
<tr>
<td>Formative</td>
<td>Socialization, values</td>
<td>Professionals</td>
</tr>
<tr>
<td>Transformative</td>
<td>Leadership attributes</td>
<td>Change agents</td>
</tr>
</tbody>
</table>
PANEL 9: PROPOSED REFORMS

Instructional reforms should encompass the entire range from admission to graduation, to generate a diverse student body with a competency-based curriculum that, through the creative use of information technology (IT), prepares students for the realities of teamwork, to develop flexible career paths that are based on the spirit and duty of a new professionalism.

1. Adoption of competency-based curricula that are responsive to rapidly changing needs rather than being dominated by static coursework. Competencies should be adapted to local contexts and be determined by national stakeholders, while harnessing global knowledge and experiences. Simultaneously, the present gaps should be filled in the range of competencies that are required to deal with 21st century challenges common to all countries—eg, the response to global health security threats or the management of increasingly complex health systems.

2. Promotion of interprofessional and transprofessional education that breaks down professional silos while enhancing collaborative and non-hierarchical relationships in effective teams. Alongside specific technical skills, interprofessional education should focus on cross-cutting generic competencies, such as analytical abilities (for effective use of both evidence and ethical deliberation in decision making), leadership and management capabilities (for efficient handling of scarce resources in conditions of uncertainty), and communication skills (for mobilisation of all stakeholders, including patients and populations).

3. Exploitation of the power of IT for learning through development of evidence, capacity for data collection and analysis, simulation and testing, distance learning, collaborative connectivity, and management of the increase in knowledge. Universities and similar institutions have to make the necessary adjustments to harness the new forms of transformative learning made possible by the IT revolution, moving beyond the traditional task of transmitting information to the more challenging role of developing the competencies to access, discriminate, analyse, and use knowledge. More than ever, these institutions have the duty of teaching students how to think creatively to master large flows of information in the search for solutions.

4. Adaptation locally but harnessing of resources globally in a way that confers capacity to flexibly address local challenges while using global knowledge, experience, and shared resources, including faculty, curriculum, didactic materials, and students linked internationally through exchange programmes.

5. Strengthening of educational resources, since faculty, syllabuses, didactic materials, and infrastructure are necessary instruments to achieve competencies. Many countries have severe deficits that require mobilising resources, both financial and didactic, including open access to journals and teaching materials. Faculty development needs special attention through increased investments in education of educators, stable and rewarding career paths, and constructive assessment linked to incentives for good performance.
6. Promote a new professionalism that uses competencies as the objective criterion for the classification of health professionals, transforming present conventional silos. A set of common attitudes, values, and behaviours should be developed as the foundation for preparation of a new generation of professionals to complement their learning of specialties of expertise with their roles as accountable change agents, competent managers of resources, and promoters of evidence-based policies. Institutional reforms should align national efforts through joint planning especially in the education and health sectors, engage all stakeholders in the reform process, extend academic learning sites into communities, develop global collaborative networks for mutual strengthening, and lead in promotion of the culture of critical inquiry and public reasoning.

7. Establishment of joint planning mechanisms in every country to engage key stakeholders, especially ministries of education and health, professional associations, and the academic community, to overcome fragmentation by assessment of national conditions, setting priorities, shaping policies, tracking change, and harmonising the supply of and demand for health professionals to meet the health needs of the population. In this planning process, special attention should be paid to sex and geography. As the proportion of women in the health workforce increases, equal opportunities need to be in place—eg, through more flexible working arrangements, career paths that accommodate temporary breaks, support to other social roles of women such as child care, and an active stance against any form of sex discrimination or subordination. With respect to geographical distribution, emphasis should be placed on recruitment of students from marginalised areas, offering financial and career incentives to providers serving these areas, and deploying the power of IT to ease professional isolation.

8. Expansion from academic centres to academic systems, extending the traditional discovery-care-education continuum in schools and hospitals into primary care settings and communities, strengthened through external collaboration as part of more responsive and dynamic professional education systems.

9. Linking together through networks, alliances, and consortia between educational institutions worldwide and across to allied actors, such as governments, civil society organisations, business, and media. In view of faculty shortages and other resource constraints, every developing country is unlikely to be able to train on its own the full complement of health professionals that is required. Therefore, regional and global consortia need to be established as a part of institutional design in the 21st century, taking advantage of information and communication technologies. The aim is to overcome the constraints of individual institutions and expand resources in knowledge, information, and solidarity for shared missions. These relations should be based on principles of non-exploitative and non-paternalistic equitable sharing of resources to generate mutual benefit and accountability.

10. Nurturing of a culture of critical inquiry as a central function of universities and other institutions of higher learning, which is crucial to mobilise scientific knowledge, ethical deliberation, and public reasoning and debate to generate enlightened social transformation.
PANEL 4: NETWORKING FOR EQUITY

“Until the great mass of the people shall be filled with the sense of responsibility for each other’s welfare, social justice can never be attained.” That is why networking between like-minded socially-committed individuals and groups have been key drivers for social equity through reform of professional education. Three socially driven initiatives are described here.

Social accountability and accreditation

How well do accreditation bodies—national, regional, and global—align, measure, and incentivise professional educational institutions to meet the social needs of society? This is the ambitious yet crucial agenda proposed by Boelen and Woollard, who have launched a set of interactive processes to achieve a global consensus on the role of accreditation in ensuring the social accountability of medical schools. This consensus is the basis of an action plan to engage the major national and international bodies in bringing it to life. They propose a model of interdependence between health education and health systems such that the conceptualisation, production, and usability of medical school graduates reflects the priority health needs of society. They argue that accreditation systems for medical schools should measure the competency of the graduates and research production in meeting those needs. Initiatives of organisations such as International Francophone Society of Medical Education and International Organisation of Deans of Francophone Medical Schools, along with some other examples, were recognised as encouraging efforts to reform the accreditation system to bring about an era of health professionals with social sensitivity and global connectivity to meet the health-care needs of the real world. They propose a global consensus process to advance the integration of social accountability into all systems to create a future for medical education based on an adaptive commitment to explore and address the evolving health needs brought about through educational, research, and service innovations worldwide.

THEnet

Launched in 2008, THEnet is a network of collaborating medical schools experimenting with instructional and institutional innovations to attract, retain, and enhance the productivity of health professionals serving disadvantaged populations often in remote rural areas. The schools’ training settings vary from remote aboriginal communities in Canada (Northern Ontario School of Medicine) to rural areas of Africa (Walter Sisulu University); and from the densely populated urban slums of Venezuela (Comprehensive Community Physician Training Programme) to the politically volatile areas of Mindanao in Philippines (Ateneo de Zamboanga University). The shared experiences are generating a systematic approach to successful staffing of previously deprived regions, and, contrary to popular perception of poor academic standards of rural or community-based institutions, students from THEnet schools have consistently scored higher than average in national examinations.
The Network: Towards Unity for Health (TUFH)

This network is an association of health professionals and academic organisations that are dedicated to creation of a global platform of equitable health care through community-based education, dynamic research, and dedicated rural service. TUFH has undertaken policy-based projects and case studies on issues of great importance, such as rural internship programmes (Brazil), promotion of healthy behaviours (Czech Republic), integrative participatory research (Kenya), family practice research in resource-poor settings (Greece), and international graduate programmes on pharmacy (Canada). In 2007, TUFH launched eEducation for health—an open-access electronic journal aimed at enhancing transnational exchange of knowledge and information. (114)

Figure 4: Key components of the educational system
Annex 5


**MEDICC Review**: What do you see as the key competencies doctors must acquire to meet health needs in the twenty-first century, and how are your schools trying to develop these?

**Richard Murray (JCU)**: “The James Cook University curriculum has a strong emphasis on general medicine, population health, and team care. The rise of chronic disease, ageing populations and cost constraints in health care systems requires doctors who have a population perspective. In practice, this means a greater focus on clinical governance, development of care protocols, appraisal of evidence in the local context, quality enhancement activities, and use of information and communication technology.

Medical graduates of the twenty-first century will increasingly assume the role of medical experts in a team setting. For individual patients, doctors will be principally responsible for the procedurally or cognitively more complex aspects of care rather than the routine aspects. This implies expanded and flexible clinical roles for other members of the health care team and greater responsibility for patients in managing their own care. We need multiprofessional care, not the ‘multiple professional’ care we see in the trend driven by excessive specialization. A resurgence of the generalist approach is required across all medical disciplines, with the boundaries of many disciplines being redrawn.”

**Fortunato Cristobal (AZU)**: “Competencies need to be developed that address the broader issues of population health. The traditional model is too biologically-oriented and is limited by its focus on individual health. This approach has become too expensive, leading to late intervention in the health care spectrum and, at worst, failure to solve health problems. Therefore, the social and biological models of health care must be given equal emphasis.”

**Pedro Díaz (NTPCCP)**: “Doctors need five fundamental competencies to address a society’s health needs: they must be able to provide high-quality care; promote individual and community health; develop effective preventive approaches; rehabilitate the patient to good health; and act as an agent of social transformation. Our integrated approach is based on primary health care principles, focusing on the needs of the individual, his/her family and community within their
sociocultural and economic context. Doctors need to be able to conduct a community diagnosis; design interventions; and understand the social, economic and spiritual impact of an intervention on all sectors of the community."

**Roger Strasser (NOSM):** “Given the complexity of life in the twenty-first century, people need doctors who are able to listen and respond to their health needs. The Northern Ontario School of Medicine aims to graduate doctors who have the skills and capabilities to pursue medical careers anywhere in Canada or the world, but who have a special affinity for, and comfort with, providing health care in the geographically, socially and culturally diverse communities of Northern Ontario.”

**Juan Carrizo (ELAM):** “The real question is, what kind of doctor is needed? A well-trained doctor, of course, but also a doctor who is grounded in the community, who treats the individuals and families that make up the community, and who is intimately familiar with the health profile of the local population. The backbone of our program is its emphasis on quality primary care coverage for 100 percent of the population. Our approach is based on an integrated program with many hours dedicated to epidemiology, hygiene and similar subjects, as well as psychology, social medicine, management and other social sciences. We think that students who receive this type of training are better prepared for their future as doctors; they have a better understanding of health and well-being, and are more motivated to help those around them.”

**Paul Worley (FUSM):** “I prefer to see the core competencies, on one hand, as the ‘head’ knowledge and skills required by all medical schools and, on the other hand, the ‘heart’ knowledge demonstrated by an attitude of service and a willingness to practice where and when the community needs you, not just where and when it is convenient. This ‘heart’ knowledge is what our students learn through experience in our rural and remote programs.”

**MEDICC Review:** What are three important approaches that distinguish your medical school from other more traditional Flexnerian programs in your region?

**Fortunato Cristobal (AZU):** “our curriculum integrates biological and social health care models; balances individual and population health; problem-based and community-oriented learning along with competency-based evaluations. From day one, students are exposed to patients and the community. Each student is placed in a community where they spend one month at the end of every semester until graduation, in addition to the entire 4th year community clerkship. During this community exposure time, students make health interventions, implement community health programs, and conduct interventional research using an intersectoral approach. Half of the third year is spent in the hospital for continuous clinical exposure. Half of the fifth year is again spent in a hospital setting, while the other half is spent rotating in various clinical settings, such as a community emergency health clinic, provincial hospital, or community health station.”

**Pedro Diaz (NTPCCP):** “first difference is that our medical school is not set apart from the community. We have no campuses per se. The typical learning environment is one of the poor communities from which the students are recruited; quite different from the campus- and hospital-centered Flexnerian model; second major difference is the type of faculty and their relationship to the curriculum and to the students. Our curriculum is an evolving process that integrates the basic socio-medical, clinical-epidemiological sciences with public health, horizontally and vertically, throughout the six-year program. In our model, all faculty members are both medical
practitioners and trained medical educators. Each professor teaches all subjects in an integrated fashion, using real cases from the community where he or she practices. Throughout the curriculum, the physician-teacher reinterprets basic sciences from clinical and public health perspectives. In a sense, the professor goes back to medical school with his/her students. NTPCCP students acquire clinical and public health competencies early, because they are exposed to real patients from the beginning of the program.”

Paul Worley (FUSM): “First, nearly half of our students undertake their major clinical clerkships in indigenous, rural or remote settings over a geographic region spanning 3,500 kilometers. Second, primary care is increasingly seen as the principal educational setting, with specialists providing ‘consultant’ educational input, similar to the ‘consultant’ clinical input they provide to patient care. Lastly, higher percentages of students of rural/remote origin are attracted to our course. As more medical care shifts to ambulatory and community settings, and as the science underpinning health is broadened to include social and population perspectives, the logical Flexnerian response for undergraduate-level medical education is to move increasingly away from tertiary centers.”

Juan Carrizo (ELAM): “First, as soon as students enter the program, they begin studying the health problems of a community at a ‘university polyclinic’. Second, we have replaced the teaching of sciences in isolation — anatomy one semester, microbiology the next — with a morpho-physiological pedagogical approach, which enables students to better analyze, problem-solve and integrate knowledge in a cumulative, comprehensive way. We design our courses so that everything is connected, making it easier to understand the patient as a whole, while being careful not to compromise the quality of the students’ scientific training. We have found that students absorb scientific knowledge better with this methodology and are better prepared to solve clinical health problems, pursue research and develop professionally.”

Roger Strasser (NOSM): “NOSM recruits students from Northern Ontario or similar Northern, rural, remote, Aboriginal, Francophone backgrounds. The school provides a learner-centred, clinically-driven undergraduate medical education program featuring Distributed Community-Engaged Learning, an instructional model that allows widely distributed human and instructional resources to be used independent of time and place in community partner locations across a large geographic region. Instead of traditional subjects, the four-year undergraduate program is organized around five themes: Northern and Rural Health; Personal and Professional Aspects of Medical Practice; Social and Population Health; Foundations of Medicine; and Clinical Skills in Healthcare.”

Richard Murray (JCU): “First, our training model incorporates strong themes related to rural and remote health, Indigenous Australian health, tropical medicine and, more broadly, the needs of underserved populations located in the Northern Territories. Second, our curriculum is comprehensive with a strong biomedical and social science base; provides substantial clinical experience across the six-year program, including at least 20 weeks spent in small rural towns or remote communities. We believe that confident, work-ready graduates are more comfortable choosing low-resource settings and isolated practice. Lastly, we are readdressing inequity in educational opportunities by targeting recruitment predominantly towards secondary school graduates, selected on the basis of rurally-weighted academic performance combined with an interview involving local community, health professionals, and academics. There is also a special selection process for Indigenous Australian students. This has given us a unique student demographic in Australia in terms of rural origin and socio-economic background.”
Rural polyclinics: a concept for health delivery to provincial areas utilizing private physician graduates of a community-oriented medical school

Angelo H Manalo, MD, Iligan City, Philippines

Background

- Mindanao State University (MSU) College of Medicine is a small community-oriented medical school located in Marawi City on the island of Mindanao in southern Philippines.
- Students are mostly government scholars committed to serve in Mindanao, Sulu or Palawan (MINSUPALA) for two years for every year of scholarships granted.
- Students spend time in the community acquiring skills as community organizers and mobilizers, utilizing the primary health care approach.
- Students come from low- and middle-income families in Mindanao.

Rural polyclinics: the concept

The concept is to set up teams of four or five community-oriented family physicians in areas where there are few practitioners and where there is no government facility. The catchment area, however, must be large enough to support the group.

The project will need the cooperation of the local government unit, the medical school and a lending institution that can provide soft loans to the groups, payable over a period of 15 to 20 years.

The local government unit could provide any or all of the following:

- a site for the facility and housing of the medical and auxiliary staff;
- honoraria for the training of health workers in the different catchment areas;
- subsidies for the care of indigent patients in the medical facility; and
- guarantee of the loan payments.
The medical school could provide:

• additional training that practitioners may require to upgrade their skills and knowledge; and
• undergraduate students to rotate through the facilities for additional learning as well as to provide additional human resources and services.

The group practice should provide the following:

• curative services in the rural polyclinics on a fee-for-service basis;
• community organization and development in catchment areas with honoraria from local governments;
• establishment of satellite primary health care centres with trained health workers for promotive and preventive care in strategic areas within a certain radius of the polyclinic, which will also serve as their referral arm;
• establishment of linkages with secondary and tertiary care centres to which they can transport and refer cases needing more specialized care; and
• payment of the loans when they become due.

**Why loans to private physicians?**

Since the polyclinic would belong to the physicians, they could develop and expand it as they wish with less red tape. There is no limit to what these clinics might eventually become. They could expand to become a district hospital with secondary health care facilities or even a tertiary care medical centre, depending on the dreams of the group and the capacity for development of the community. They could also remain as rural polyclinics but with a network of satellite primary health care centres in their catchment areas.

The physicians could also keep upgrading their skills by returning to the medical school for skills training in a specific competency for short periods of time. This would eliminate the need for prolonged and tedious residency training, during which the physicians would acquire knowledge and skills that may not be needed or may not be applicable in their place of practice.

Thus, skills and training are acquired as the need arises, with physicians returning straight away to the home polyclinic for immediate application at the end of the training period.

**Rural polyclinic: the facility**

The facility could initially provide enough space for doctors offices and examining rooms, a minor surgical operating room, a delivery room, two 5- to 10-bed wards (for male and female patients), a 2- or 3-bed isolation ward, space for a central supply room and pharmacy, kitchen and dining room, a utility room, and toilet and laundry facilities.

If possible, the area should be large enough to provide housing facilities for the medical and paramedical staff and their families. Dormitory or apartment facilities instead of individual houses might be cheaper and save on space.
The architectural design and materials used would depend on the funding and the needs of the group.

The funding should, of course, include the instruments and equipment needed to run the clinic.

**Rural polyclinic: the corporate structure**

The group practices might be established as partnerships, corporations or even cooperatives depending on the group. They may include members of the nursing and administrative staff as well as the hospital workers if they are so inclined. The primary structure will then be left to the initiating group with input from the local government unit and lending institution involved.

**Conclusion**

If privately run polyclinics could be established in “doctorless” areas, the government would not be as hard pressed to establish facilities in these places as they could just establish links with the private group.

The group, of course, must be composed of dedicated, committed physicians who are community-oriented and have the best interest of the people collectively at heart and not just the individual sick patient who comes under their immediate care.

By setting up rural polyclinics that use the primary health care approach, the redirection of medical schools toward a community-oriented curriculum would finally find justification and their community-oriented physician graduates would find a reason for their being.
Strategy to retain physicians in underserved areas through recruitment and selection processes: sample admission criteria of Mindanao State University College of Medicine scholarship program, Marawi City, Philippines

I. Number of scholarship slots

A. Full scholars

Privileges:
1. Free tuition and incidental fees
2. Stipend per month
3. Round-trip transportation (most economical means) from home address to MSU College of Medicine every academic year
4. Free lodging in university dormitories or its case equivalent per month

B. Partial scholars

Privileges:
1. Free tuition and incidental fees
2. Stipend per month
3. Round-trip transportation (most economical means) from home address to MSU College of Medicine every academic year
4. Free lodging in university dormitories or its case equivalent per month

C. Special cultural minority scholarship grants

Privileges – as prescribed by the university for such scholarship grants

II. Criteria for Selection of Scholars

A. National Medical Admission Test (NMAT): (45%)
B. Grade Point Average (GPA): (35%)
C. Interview: (20%)
Priorities:
1. Permanent Mindanao resident for at least four continuous years
2. Willingness and probability of serving in MINSUPALA after graduation
3. Concern for people’s welfare
4. Knowledge of their communities
5. Communication skills
6. Good moral character and values
7. Leadership qualities
8. Problem-solving abilities
9. Lower-income tax group
10. Cultural minority group

III. Procedures for selection of scholars

A. Scholarship Committee makes preliminary selection from a list of students admitted by the Admission Committee to the first year.

B. Scholarship candidates are interviewed.
   1. Interviews may be held at the same time as the Admissions Committee interview or separately depending on the number of applicants to the first-year class.

C. Candidates are ranked according to the criteria for selection of scholars.
   1. Cut-off point is 50% (total of NMAT, GPA and interview).
   2. Top 10 candidates will become full scholars.
   3. Next 10 candidates (or few if the 50% cut-off is not met) will become partial scholars.

D. Special cultural minority scholars
   1. Must have an NMAT score of 45% or whatever is determined as passing by the Department of Education, Culture and Sports.
   2. Must meet basic criteria set by Scholarship Committee.

E. Prior to enrolment, students must sign a scholarship agreement that is renewable every semester.

IV. Maintenance of scholarship

A. Full scholars
   - Scholar must have GPA not lower than 2.0 with no grade of 5.0 in any subject.

B. Partial scholars and Muslim scholars
   - Scholar must have a GPA not lower than 2.5 with no grade of 5.0 in any subject.
C. Others
   1. Grades for the purpose of scholarships will be evaluated at the end of the school year, provided that the student passes all of his or her subjects at the end of the first semester.
   2. Scholar must enrol in a full academic load as prescribed by the curriculum for a given semester.
   3. Scholar must finish medical course within prescribed period.

V. Obligation of scholars

A. Return of service
   1. Return service shall be rendered to the Philippines in the MINSUPALA region upon licensure as a physician for at least two years for every year of scholarship enjoyed, whether full, partial or as cultural minority grants.
   2. Such service can be rendered through the Department of Health, MSU, and any other appropriate government and nongovernmental agency.

B. Forfeiture of scholarship
   1. Student shall pay back to the University any and all amounts received during the period where scholarship privileges where enjoyed upon forfeiture of the scholarship except where such forfeiture is due to the failure to meet GPA requirements or non-availability of scholarship funds.

C. Failure to render return of service
   1. Failure to render return of service shall cause the student to reimburse MSU all expenses and amounts granted to him or her during the scholarship period.