Chapter 2.1.5

RURAL MEDICAL EDUCATION IN SABAH, MALAYSIA

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Introduction

Sabah is the third poorest state in Malaysia, with 16% of Sabah households having incomes below the poverty line. While rural health services in Sabah are provided through 11 health offices, 80 health clinics, 19 maternal and child health clinics and 190 rural clinics, the 687 doctors represent a doctor:population ratio of 1:4362. This is unfavourably high compared to 1:1200 in most other states in Peninsular Malaysia. The nurse:population ratio is 1:1458 which is also considered very high compared to 1:200 in many other states.

Sabah is blessed with a dedicated workforce that is willing to serve the community wherever they are, no matter how difficult it might be.

Health care delivery challenges in Sabah

The pattern of disease differs between urban and rural areas (1). In rural areas there are more injuries, hypertension, psychiatric morbidity and acute respiratory infections. In addition, maternal death is still quite common in Sabah, especially among foreigners. Most deaths are related to postpartum haemorrhage (25.9%) and antenatal care (44.6%)

Poor access to health services is an issue in remote rural populations in Sabah and around 23,7% of the population live more than 5km from health facilities. As remote health centres do not offer all services, however, inequities exist between rural and remote rural centres. By-passing primary health care to access specialist services in major hospitals and private facilities is quite common in many areas for reasons related to distance, waiting time, the lack of availability of specialised doctors and appropriateness of treatment.

University Malaysia Sabah (UMS) School of Medicine: Role model for rural medical education

Vision

The vision of the School of Medicine at the University Malaysia Sabah is to aspire to becoming a centre of excellence in learning and research in the field of medicine, both locally and internationally. The School strives to produce medical graduates of high quality, who possess ethical and moral values, as well as embrace a liberal, independent and global outlook. They must portray a readiness to offer professional service towards enhancing the quality of life anywhere (2).

Mission

The mission of the School of Medicine is to impart and inculcate medical education of high quality with an emphasis on universal values such as ethics, morality, care and concern as well as teamwork, at both undergraduate and postgraduate levels. These values will enable UMS medical graduates to act prudently in providing appropriate leadership to promote the health of the communities, thus empowering them to control their own health and well-being (2).

Doctors trained in UMS should know their rights and responsibilities, which are:
- to provide appropriate care for the patient;
- to practice medicine according to conscience and conviction; and
- to have access to good working conditions to provide the best care.

Medical training at UMS will follow the educational domain adopted by the Ministry of Higher Education (MOHE) which comprises the hard and soft skills required by medical students to become safe and competent medical doctors. In addition, however, the UMS School of Medicine has adopted an innovative expanded model, which is:
- student-oriented
- problem-based
- integrated
- community-oriented
- electives
- spiral and systematic
- modular / block
- organ-based
- volunteerism
- evidence-based
- relevant context

Providing health care in rural and remote areas

Rural and remote medicine is the body of scientific knowledge underpinning clinical practice and medical service delivery in rural and remote contexts (3). Its aim is to achieve the best possible outcomes in health care in rural areas. The skills set for rural and remote medicine includes the competencies required in both general practice and community health.

Rural medical practitioners need to be able to treat common communicable and non-communicable diseases in the community and have skills to prevent these diseases from occurring. They provide whole patient, focused, continuing care that is responsive to the community's needs and circumstances – and offer this wide range of services with limited remote access to specialist or allied health services and resources. As such, rural medical practitioners are often characterised as needing to be independent, self-reliant, multi-skilled, providing strong leadership and facilitating team building qualities (4, 5, 6).

Key features of the rural medical education

- **Ambulatory care:** Training should be provided in ambulatory care sites, which delivers high quality, comprehensive care that is effective, efficient, safe, timely, patient–centred and equitable.
- **Promoting high quality care:** The presence of medical programmes should never compromise the delivery of high-quality care. A single standard of a care must be provided for all patients regardless of their socio-economic status
- **Promoting quality of training and patient care:** The practice environment should be improved to attract and retain physicians. They should be reimbursed based on the time they commit to providing primary care services.
- **Physician[1] supply:** Physicians should be encouraged through providing them with better incentives and fringe benefits to practice in underserved rural communities and so that they can be involved in teaching and training medical students.

[1] A 'physician' here (as in North America) is another term for 'doctor' or general practitioner, while in countries like South Africa and Australia, a 'physician' is a specialist in internal medicine.

- **Research:** Investments in the rural medical research infrastructure to support biomedical and clinical research should be made so that it will attract researchers, collaborators and the biomedical industry
- **Community involvement:** Communities should support the programme and participate actively in the delivery of care either in the ambulatory centre or in the community itself.

Rural medical education should be conducted where it is most needed - such as in in Sabah and Sarawak, in Borneo.

Inter–Professional Education (IPE)

Rural health services have been affected by inadequacies in service delivery, inadequate resources, demand for more user-centered health care and changes in management practices. While one way to address these issues is to have a more unified health force at this level, doctors are the most difficult personnel to have working in teams. Inter–Professional Education (IPE) can be a way of developing a more congenial group of health care staff in the rural areas. Several medical schools in Australia have piloted this programme with significant results and success (7,8).

IPE is defined as 'members of more than one health and/or social care profession learning interactively together, for the explicit purpose of improving inter-professional collaboration and/or the health/well-being of patients/clients' (9).

Interactive learning requires active learner participation, and active exchange between learners from different professions such as doctors, nurses, dietician, social workers and pharmacist. The characteristics of effective IPE include shared objectives, mutual support, effective participation and an understanding of professional roles. The characteristic can be learned at every level of health professional education. Well working together inter-professional health care teams have shown to improve the quality of health care cost efficiencies.

The PUPUK Programme: A case study

As a leading institution in rural health in the region, the UMS has been adopting the holistic model of health and strongly supports the wellness paradigm in maintaining and protecting health for rural population in Sabah. Since its inception in 2003, the UMS School of Medicine has been adopting a curriculum that emphasised community development and empowerment of health.

One of the programmes that the School has introduced is called PUPUK (Program Perkongsian Universiti Keluarga), the UMS-Community Partnership in Wellness Programme (UCPWP). The acronym is significant since 'PUPUK' in Malay means 'fertilise' or 'nurture' which is reflective of the nature and outcome of the programme. PUPUK is a five-year community-based programme based on a smart partnership (win-win) between the university and the community. As the family is the most powerful influence on an individual's social development, PUPUK focuses on the health of the families of the indigenous population in Sabah, so that the programme can benefit the whole family and community (as opposed to individuals only). The programme has been accepted locally and internationally (10-14).

The objectives of this programme

At the end of the rural placement in the PUPUK programme, the students will be able to:

1. describe the structure of the family as the unit;
2. appreciate the family dynamics in facing life's events;
3. appreciate individuals' and families' perceptions and attitudes towards illness and wellness;
4. appreciate the interplay of bio-psycho-social and spiritual factors that influence health; and
5. strategise and formulate comprehensive intervention plans to meet the needs of the family.

Family fostering

Students are assigned to a 'foster family' for the period of the PUPUK medical study programme. The selection of the families is made by the village head with consent of the medical school and this is done on the following basis:

1. accessibility of the family's house;
2. safety of the students;
3. socio-economic background of the family;
4. assistance from outside agencies;
5. chronic medical or psychosocial problems.

(To be selected, a family must meet the first two criteria, plus at least one of the criteria in 3, 4, and 5.)

Evidence of impact

The programme produces reports as part of the medical students' training and assessment at the end of each year (annual report) and at the end of fifth year (programme report).

The effectiveness of the programme has not been evaluated yet, nor has the impact it may have had on the community been assessed. That being said, assessment and continuous feedback from students has shown that the programme is able to increase the knowledge and change the practices of some of the families in relation to health care and other aspects of life. In addition, the students felt that the programme was able to inculcate caring behaviours towards the families and the community. They also learned much about the influence of culture, religion, respect and sensitivity of the communities. So both the students and communities benefit from the partnership where students learn about community education and development, while the community members improve their health status and well-being.

RMEC: Centre of Excellence in Rural Health Promotion

The School of Medicine was given a permanent building, the Rural Medicine Education Centre (RMEC) in Sikuati, Kudat, to host and monitor the community health programme. Completed at the end 2008, it has been used to run health promotion activities in the area and is equipped with a family medicine specialist clinic. Priority is given to the families in the PUPUK programmes.

In Malaysia, there are still very few centres of excellence in health promotion, especially in rural areas. Through developing the Centre for Rural Health Promotion, the UMS aims to train medical practitioners in rural health in order to meet the health care needs in rural areas, especially in Sabah and Sarawak. The objectives of setting up this centre are to become:

- a centre of excellence in rural health research;
- a hub of organising seminars, workshops and conference on rural health research;
- a centre for teaching, educating and research for both undergraduate and postgraduate programmes;
- a platform to strengthen networking and research collaboration with other centres of excellence locally and international;
- a centre for referral in rural medicine in this region.

RMEC is currently being monitored through two main indicators:

- **Competitive impact** - the ability of research results to put institutions in a forefront in the competition.
- **Competitive strength** - the ability of the experts / researchers, their commitment, research projects available and ability to lead the projects.

RMEC meets the criteria for being a centre of excellence since it has the human resources with extensive knowledge and experience in various disciplines; is directly involved in generating, disseminating and using expertise to preserve the well-being of the population; has a strong leadership that supports team spirit and research environment or culture such as frequent communication on research, informal discussion on research issues, journal club, and writing workshops.

Efforts have been made to collaborate with universities in the Asia Pacific region through APACPH (Asia Pacific Consortium of Public Health) in the study of rural and island health (12). In 2009, following the post-APACPH conference on rural medicine in Kota Kinabalu, the APACPH selected the RMEC as a collaborative centre in island and rural health.

Conclusion

Medical schools should take responsibility to educate appropriately skilled doctors to meet the needs of population in their geographic region. The University Malaysia Sabah School of Medicine has taken a proactive step in producing doctors who are culturally sensitive to local population needs and has the skills to function effectively in any community-based education. The PUPUK programme implemented in the medical curriculum is one of the initiatives to attract more medical graduates and other health care professionals to practice in rural areas, especially in Sabah, while also providing the opportunity to develop and empower the community.

The future of rural health will depend on the commitment of stakeholders, especially the government and policy makers to understand the root of the problems and to support the reformation of medical education and community development.

References

1. Ministry of Health Malaysia*. The third national health and morbidity survey (NHMS III).* Ministry of Health Malaysia*,* 2006.
2. University Malaysia Sabah School of Medicine. http://www.ums.edu.my/spu.
3. Murdoch JC. Medical opportunity of special scale? The future of rural hospitals in New Zealand? *Journal of the New Zealand Medical Association* 2007; 120: 1259.
4. Humpreys JS. *Rural health and the health of rural communities*. Bendigo: La Trobe University Media Services; 1998.

5. Wonca Working Party on Rural Practice. *Policy on rural practice and rural health.* Traralgon: Monash University School of Rural Health; 2001.

6. Mungali, I. 2004. Rural general practice. http://www.nhsta.org.uk/documents/APCGT%202004.pdf (accessed 7 September 2010).

7. Walker JR, Bull R, Dalton I. *Inter-professional practice and education in rural health: Developing an evidence base approach*. Proceeding of 26th HERSDA conference, Christchurch, New Zealand. 2003. http://www.herdsa.org.au/wpcontent/uploads/conference/2003/…/HERDSA54.pdf (accessed 7 September 2010).

8. The Network. *Towards unity for health* 2006 June; 25(1) Newsletter. www.the-networktufh.org/publications_resources/newsletterdetail.asp (accessed 7 September 2010).

9. Centre for the Advancement of Inter-Professional Education (CAIPE) 2002.

10. Osman A. *Innovative health promotion programme oriented towards rural and remote communities: An experience in Sabah.* Proceeding of First International conference on Rural Medicine, Kota Kinabalu, Malaysia. 2007.

11. Osman A. *Community partnership in rural health.* Proceeding of seminar UMS-UNHAS, Kota Kinabalu, Malaysia. 2008.

12. Osman A*. Community partnership in rural health promotion.* Proceeding of 40th APACPH conference, Kuala Lumpur, Malaysia. 2008.

13. Osman A. *Island Medical School: Unique context, challenges and successes.* Proceeding of Rural Health World Conference, Heraklion, Crete, Greece. 2009.

14. Osman A. *Rural Health in Island.* Proceeding of International Symposium on Island Health, Naha, Okinawa, Japan. 2009.

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