STAKEHOLDERS' EXPECTATIONS OF RURAL COMMUNITY-BASED MEDICAL EDUCATION IN THAILAND

Praphun Somporn
Doctor of Medicine (Thailand), Dip Neurological Surgery (Thailand)

Flinders Rural Health South Australia (RHSA)
Faculty of Health Sciences
Flinders University
Adelaide, South Australia

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SUMMARY

Thai Rural Community-Based Medical Education (RCBME) is being developed under CPIRD (Collaborative Project to Increase production of Rural Doctors) in order to maximise medical students' interest in rural general practice, enhance early experiences in the rural community, and improve rural doctor retention rates. Although it is clearly evident that international RCBME outcomes and stakeholders' experiences are successful in multiple countries, there are not enough studies to make any judgement on whether all stakeholder views are consistent across programs, regions, or countries, and no international comparative studies have explored whether context matters.

To understand this new context for RCBME and answer the research questions– *"What should RCBME in the Thai context look like?"* and *"Does context matter?"*– this study aims to explore the understanding and expectations of Thai stakeholders who will participate the first RCBME program development in Songkhla Province, in the lower Southern Region of Thailand, and considers how these attitudes and expectations align with, or differ from, stakeholders' views in Western countries where RCBME programs are well established.

Worley's symbiosis model was used as a conceptual framework, demonstrating four fundamental relationships between stakeholders and sectors in clinical education. These can be described into clinical, institutional, personal, and social axes. The symbiosis model was also utilised to evaluate the international evidence in the literature that outlined stakeholders' perspectives regarding the success and value of RCBME programs.

A qualitative case study was conducted to explore in-depth the view of four stakeholder groups with a range of experiences in rural general practice.

Purposive sampling resulted in 21 participants including four CPIRD medical students, six clinical educators, five policy makers, and six rural stakeholders who were health professionals and community members. Individual semi-structured interviews were conducted and transcribed. Themes were analysed *within* and *across* Worley's symbiosis model.

The results can be categorised within the symbiosis model. Considering symbiosis in the clinical axis, Thai RCBME stakeholders expected the RCBME program to offer students authentic preparation for future roles as rural doctors. However, students were expected to be ready to participate actively in the apprenticeship relationships in the clinical environment and contribute to the legitimate work of their rural clinician preceptors. Through apprenticeship-style learning between students and rural health professionals, students were anticipated to develop their meaningful relationships with interprofessional clinical team members. Collaboration between urban and rural clinicians to deliver RCBME could enable each party to see the other side of clinical practice. Symbiosis in the institutional axis can be described that, through RCBME initiative and community placements, stakeholders from tertiary hospitals will meet the government expectations for transferring clinical learning to the rural areas. Stakeholders also expect RCBME to improve and sustain rural health service quality. In addition, stakeholders will in turn support rural health services to succeed with RCBME. In the personal axis, students were expected to develop their rural professional and personal identities, while rural clinician preceptors can be seen to shape student development through their role modelling and mentorship. However, stakeholders expressed concerns about students meeting their academic requirements and protecting the institution's reputation for successful outcomes with regard to academic results in National Examinations. Recognising the social axis, RCBME students were expected to understand rural patients and rural context during their training period. Potentially, graduates who establish relationships with rural communities will meet the government expectations to support rural health

service policy and increase rural doctor retention rates. Additionally, stakeholders expressed hopes that the implementation of RCBME in a rural location would assist in building capacity for rural communities.

Further synthesis of across-axis themes built on the results is presented to integrate stakeholder perspectives on what was critical to ensure the development of RCBME in Thailand. Three across-axis themes which emerged from the results demonstrate that context does matter. These themes include the dramatic shifts in Thai medical education paradigm, stakeholders envisioning ideal futures for themselves within Thai RCBME, and the urban – rural collaborations required to develop successful and sustainable RCBME in the Thai context. This study comprehensively describes Thai stakeholder views of RCBME and demonstrates that although some RCBME principles are universal, context does influence the expectations and capacity of stakeholders to contribute to RCBME. Further studies in regard to RCBME outcomes and stakeholder experiences in a new educational innovation in the Thai context should be conducted in order to confirm stakeholder expectations of the RCBME initiative described in this study.

DECLARATION

I certify that this thesis does not incorporate, without acknowledgment, any material previously submitted for a degree or diploma in any university, and that to the best of my knowledge and belief, it does not contain any material previously published or written by another person, except where due reference is made in the text.

Signed 

Date 6th June 2017

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THESIS MAP

This Masters of Clinical Education by research thesis provided an overview of Thai stakeholders' expectations of Rural Community-Based Medical Education (RCBME).

Chapter 1 described the background of this study, including the contexts of medical education and the medical workforce in Thailand; an exploration regarding the collaborative model of medical education; as well as the need to implement RCBME innovation in this new context. The research questions in this study were elucidated, and the importance of these research questions was outlined.

Chapter 2 provided a review of the current literature around RCBME to collect evidence-based information in terms of stakeholders' views of successful RCBME programs outside Thailand, as well as examining these findings using Worley's four fundamental axes of relationships as a conceptual framework for the study.

Chapter 3 described in detail the research paradigms in medical education and demonstrated the value of a constructivist perspective in this study. The qualitative research methodology and methods specific to this study were outlined utilising appropriate research rigour and ethical consideration.

Chapter 4 presented a number of thematic results from purposive participants that represented the broad range of Thai RCBME stakeholders. Major categories were coded along a symbiotic clinical education framework from which meaningful descriptions were extrapolated. Quotes in Thai language alongside English translations were presented to as evidences of the underlying descriptions.

The final chapter provided further synthesis of cross-categorical themes and discussions that built on the study results in order to integrate stakeholder perspectives on what was essential to ensure the development of RCBME in

Thailand. All themes were explored, discussed, and compared to the international evidence in literature, as well as considering the implications of RCBME in Thailand. Limitations in this study were described. Finally, the conclusions of this thesis were presented.

CHAPTER 1: BACKGROUND

1.1 Introduction

This chapter describes in detail the rural doctor shortages in Thailand. It explores the medical education interventions already adopted by the Thai government in partnership with regional hospitals and goes on to detail the plan to develop Rural Community-Based Medical Education (RCBME) and rural community placements in Thailand in order to stimulate medical students' interest in a career in rural general practice. The researcher then defines RCBME and justifies the importance of understanding the perceptions of relevant stakeholders in Thailand before commencing RCBME in the setting of Songkhla Province. Finally, this chapter demonstrates the importance of the research questions: *"What should RCBME in the Thai context look like?"* and "*Does context matter?"*

The importance of the context for change in clinical education in Thailand is central to this project because Thai RCBME constitutes a partnership of stakeholders in universities, health services, and rural communities. The first RCBME initiative in Thailand took place in Songkhla Province. This research provides a case study of this Thai context, the details of which are described below.

1.2 Context of the Study

The study is primarily based on the challenges faced by the Ministry of Public Health in Thailand, which is trying to solve the problems of doctor shortage and maldistribution as well as doctor retention in rural and remote regions. Thailand has a total area of approximately 513,115 km^2 and is the world's 51^{st} largest country. The capital city of Bangkok is located in the Central Region of Thailand. There are 76 geographically divided provinces within six regions namely, Northern, North Eastern, Eastern, Western, Central, and Southern. In 2014, the

population of Thailand was estimated to be 65,124,716. Importantly, Thailand's population is mostly concentrated in rural areas.

Songkhla Province is located in the lower Southern Region of Thailand. It has an area of 7,393.9 km^2 (ranked 26^{th} in Thailand). In 2014, the population of Songkhla Province was 1,401,303 (ranked 11^{th}). The density of population is 189.52/ km^2 (ranked 15^{th}). Songkhla is divided in to 16 districts. Hatyai District is the centre of Songkhla Province in terms of geographical location, economy, transportation, education, and medical services.

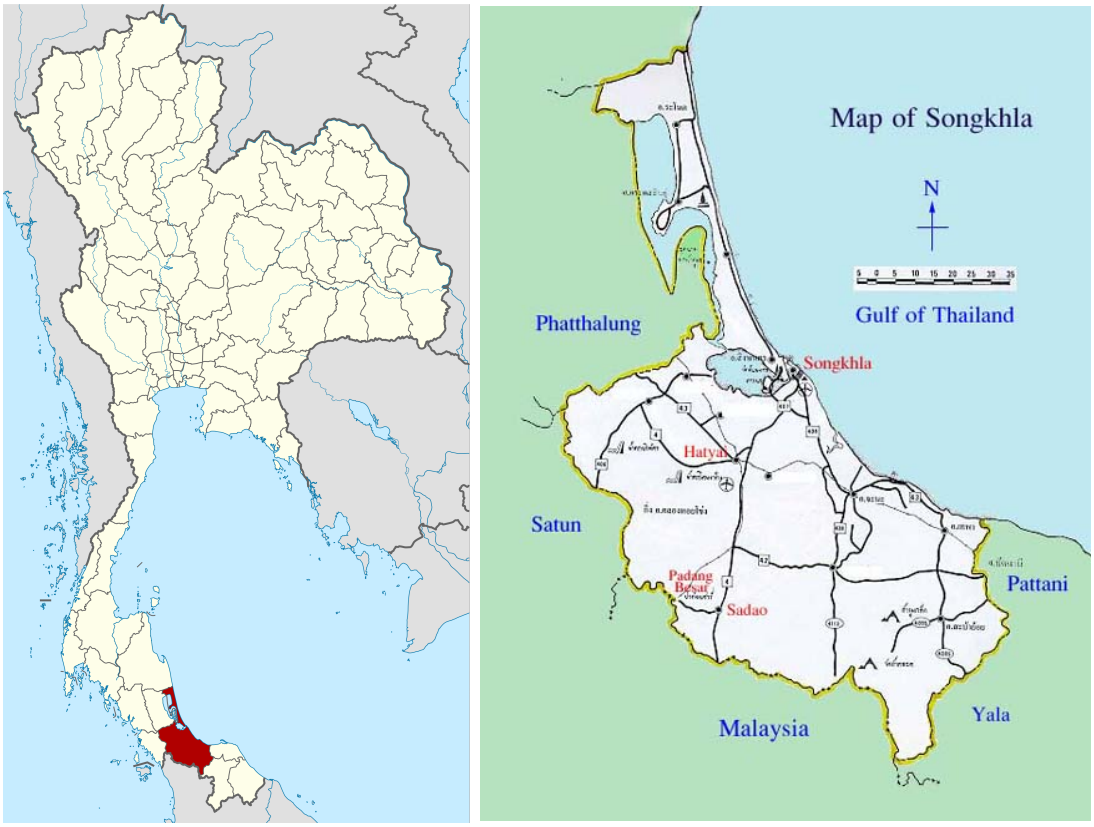


Figure 1.1: Geographical location of Songkhla Province in lower Southern Thailand and Hatyai District

Source: Bangkoksite.com

There is a broad range of medical education and healthcare services in Songkhla Province, including Prince of Songkla University (PSU) Hospital, which is located

in PSU, Hatyai District, Songkhla Province. PSU Hospital is governed by the Ministry of Education in terms of policy and funding support. This hospital's primary activity is academic teaching for both undergraduates and postgraduates, as well as the development of excellence in health care and research for people in the Southern Region. The current PSU medical degree is a six-year undergraduate entry program, using the same medical curriculum as used in all medical schools and medical education centres across Thailand. PSU Hospital is regarded as a top level, tertiary hospital with a full range of clinical specialties and facilities. PSU clinicians represent a broad range of specialists who manage patients transferred from all regional tertiary referral hospitals around the Southern Region presenting with advanced care needs. This hospital also contributes to a range of specialist postgraduate residency training programs.

In addition to the university hospitals, other hospital services are provided by the Ministry of Public Health and can be classified into three distinct levels:

- Tertiary hospital– regional hospitals with a full range of specialists and facilities, able to receive the patients referred from other lower-level hospitals. Both PSU Hospital and Hatyai Hospital are tertiary hospitals within the same province (Songkhla), but are managed under different portfolios (Ministry of Education and Ministry of Public Health respectively).

- Secondary hospital– provincial hospitals with a limited range of specialists and facilities as well as some degree of capability to treat patients referred by less resourced hospitals.

- Primary hospital– rural or remote hospitals in district areas with a limited number of general practitioners and facilities for caring for patients, as well as limited onsite access to specialists.

Hatyai Hospital is one of three tertiary hospitals in the lower Southern Region of Thailand. It is located in Songkhla Province and managed by the Ministry of Public Health in terms of policies and funding support. This tertiary hospital provides clinical services for patients within the province and also nearby provinces because there are no tertiary hospitals located in smaller provinces. There are a number of specialists treating patients with a wide range of diseases from common to complicated conditions. Hatyai Hospital also supports one provincial (secondary) and 15 rural (primary) hospitals in Songkhla Province in patient care. Hatyai Hospital not only aims to provide clinical service, it also has a mandate for academic responsibility under Ministry of Public Health's policy. A medical education centre has been established in the hospital and provides placements for clinical-year medical students from PSU for the Ministry of Public Health's 'Collaborative Project to Increase production of Rural Doctors' (CPIRD).

In addition to these public services, the private sector in Thailand provides health care services, which do not receive funding from the Ministry of Public Health. Private sector healthcare includes urban private hospitals, general practice, and private specialist clinics. The private sector does not have any responsibility for medical teaching. Furthermore, the private sector plays a significant role in providing health services in urban areas, and increasingly attracts doctors because of higher remuneration compared to public health services, increasing patient demand for rapid treatment, and the preference of doctors for urban living (Pagaiya, Kongkam & Sriratana, 2015).

In Songkhla Province, there are three urban-based private hospitals as well as many general practices and private specialist clinics. Pagaiya et al. (2015) reported that 45.9% of all doctors left the Ministry of Public Health service between 2000 and 2007 with most seeking employment in the private sector. The majority of doctors in private hospitals are full-time urban-based specialists, however specialists in the public sector are able to practice as part-time or consultant doctors in private hospitals, or in their own private clinics which are

located almost exclusively in urban and suburban areas.

1.3 Thai Rural Doctor Shortage and Maldistribution

After graduation, all medical graduates are required to do three years of general practice in rural and remote regions in Thailand. Despite this, there is a dearth of rural doctors. Internationally, rural practice is considered to be unpopular by many doctors owing to three main factors namely, lifestyle issues, medical practice issues, and workforce recruitment issues (Lee & Nichols, 2014). Lifestyle is a significant issue because physicians are concerned about residing in a community that has limited social activities. Rural areas in Thailand have limited cultural outlets, schools, and even shopping facilities. Medical practice issues include longer hours and more demanding on-call schedules compared to urban practice. Providing medical care can be more challenging without specialist help. Additionally, rural workforce recruitment opportunities are often missed because urban hospital competitors have residency programs that secure physicians before potential recruits are aware of rural opportunities. Larger facilities are often better suited to offer employment opportunities when compared to rural facilities, which lack fundamental resources.

Thailand has been facing the problem of doctor shortage for a long period of time. The report on public health resources (Bureau of Policies and Strategy, Permanent Secretary Offices, Ministry of Public Health, 2012) showed that the ratio of doctors to head of population meant that each Thai medical practitioner was responsible for 2,533 people (Bureau of Policies and Strategy, 2012), falling behind the national target of the Ministry of Public Health for doctor to population ratio of 1:1,800 in 2016, and 1:1,500 in 2020 (Suphanchaimat, Wisaijohn, Thammathacharee & Tangcharoensathien, 2013).

The issue of doctor maldistribution presents an additional problem. In the national capital of Bangkok, the ratio of doctors to population was reported to be one physician for 886 people, whereas the ratio in the lower Southern Region of

Thailand was one physician to 3,085 people. In the North Eastern Region, the ratio was one physician per 4,998 people, demonstrating a severe medical workforce shortage (Bureau of Policies and Strategy, 2012). It can be clearly seen that Thailand faces a problem of maldistribution resulting in significant doctor shortages in rural areas.

Currently, Thailand needs 25,013 more physicians if it wants to achieve a physician to population ratio of 1:1,500, as per the 2020 target, and it would need 32,893 additional physicians to further improve that ratio to 1:1,250 (Arora, 2015). If these figures are to be achieved in a period of ten years, Thailand must produce 2,501 or 3,289 medical doctors each year respectively.

1.4 Collaborative Project to Increase Production of Rural Doctors

In 1994, the Ministry of Public Health collaborated with the Ministry of Education to establish a project to increase the production of rural doctors. The Collaborative Project to Increase production of Rural Doctors (CPIRD) was initiated to address the lack of rural doctors, poor rural distribution, and the increasing 'brain drain' from public services to the private sector since the 1990s (Arora, 2015). CPIRD is not a medical school per se. Rather, it is an administrative office within the Ministry of Public Health established to facilitate collaboration between faculties of medicine in the Ministry of Education with service hospitals in the Ministry of Public Health. The goal of CPIRD project is *"to educate rural-origin students to become rural doctors and retain them in rural communities"* (Arora, 2015).

CPIRD medical students are recruited from rural areas. Pre-clinical programs are taught in 14 collaborating universities, and clinical placements are organised through 37 Medical Education Centres (MECs) nationwide. The MECs are located mostly in tertiary (regional) and some secondary (provincial) public hospitals. This collaborative network covers all healthcare regions across Thailand.

At present, Thailand has 21 faculties of medicine across the country. Seven of these rely on Ministry of Public Health service hospitals to provide their clinical placements and associated clinical teaching. Currently, 1,870 medical graduates are produced annually in the national track, which is the mainstream pathway organised directly by medical schools. Thai universities also collaborate with the Ministry of Public Health (CPIRD track) to produce an additional 1,116 graduates per annum (Arora, 2015). In total, Thailand produces 2,986 medical doctors per year from all medical schools either in universities or MECs. It is planned to increase this total to 3,121 per year. Within this, one third will be produced by CPIRD.

1.4.1 Features of the CPIRD Program

The CPIRD program has specific student selection criteria where students must have lived for more than five years in a rural area. In contrast, there is no such criteria for the national track, however, students in both tracks sit the same national entrance examination which determines entry to either program. In addition, applicants for the national track are interviewed by staff from the relevant medical faculty, while the CPIRD track applicants are interviewed by staff from both the medical school and medical education centre as the final step for admission. The details of the policy and curriculum frameworks for both tracks are outlined in Table 1.1.

Table 1.1: Policy and curriculum framework for national and CPIRD tracks

Medical programs	National track	CPIRD track
Policy maker	Government	
	Ministry of Education	Ministry of Public Health
Admission	National Entrance Examination	
	Urban/Rural backgrounds	Rural backgrounds
Curriculum	A six-year undergraduate medical curriculum (MD program)	
	Preclinical years at university	
	National License Examination Step I (after year 3)	
	Clinical years at university hospitals	Clinical years at Ministry of Public Health service hospitals with addition of rural clinical placements proposed
	National License Examination Step II (after year 5) & III (after year 6)	
Degree	Doctor of Medicine (MD)	
Obligation	Rural general practitioners (GPs) for three years	
	Based at any rural hospitals	Based at rural-origin hospitals

The first three years of the six-year medical curriculum are preclinical. CPIRD students learn alongside medical students from the national track within the faculty of medicine of collaborated universities. The preclinical curriculum focuses on medical sciences utilising problem-based learning across the various disciplines of medicine. In order to link the clinical practice training to the last three clinical years of a medical program, the third-year medical students from both tracks are offered a three-week block of clinical immersion, in which clinical knowledge is taught, as well as a five-week introduction to clinical medicine, which is the first time students receive hands-on experience with patients and their clinical issues. Subsequently the CPIRD students move to their own MEC for the final three clinical years of the course. In Songkhla Province, CPIRD students learn as well as practice with patients in Hatyai Tertiary Hospitals, while national track students learn and practice in the PSU Hospital. Currently, both the CPIRD

and national track programs organise their clinical placements in the same way. Traditional block rotations are used in the clinical years, incorporating fields such as paediatrics, obstetrics/gynaecology, surgery, orthopaedics, emergency medicine, psychiatry, ambulatory medicine, community medicine, and family medicine. In the final year, national track students generally have a single six-month rotation for clinical practice in an affiliated Ministry of Public Health tertiary hospital, whereas CPIRD students mostly practice in their regional tertiary hospital with only short rotations into the university hospital.

All students must pass a series of three comprehensive National License Examinations that cover all domains of the national competency-based medical education curriculum. Both national and CPIRD tracks graduate with the same degree of Doctor of Medicine. CPIRD graduates are obligated to work in general practice in rural hospitals within their home district for three years following graduation. National track graduates are also obligated to practice for three years in a rural hospital but may do this in any rural site in Thailand.

1.4.2 Outcomes of CPIRD

CPIRD has run many collaborative projects across Thailand over the past 20 years supporting the production of 5,927 doctors from 1999 to 2014. From only eight students graduating in the first cohort in 2000 from the first single MEC, the project's output increased to 904 graduates per annum in 2014. Results of CPIRD graduates to date are quite impressive with a graduation rate of 95.6%, comparable to the national track students who have an overall pass rate for the Thai National License Examinations of 99.6%. Additionally, 8.5% of CPIRD graduates have graduated with Honours. Currently, CPIRD graduates comprise 39% of all doctors entering rural hospitals each year, resulting in an overall increase in the number of doctors in rural areas (Arora, 2015).

The favourable effects of the CPIRD program might be explained by a number of political strategies implemented, such as establishment of medical schools and

facilities outside the capital and across regional areas, targeted rural-background student recruitment, and compulsory service requirements in rural and remote areas. It is suggested that these measures increase the likelihood of medical graduates to choose to work in rural areas and subsequent retention of doctors in the Ministry of Public Health service hospitals (Nithiapinyasakul, Arora & Chamnan, 2016).

CPIRD has partly addressed the problem of rural doctor shortage in Thailand through increased graduate numbers entering bonded rural general practice. Although the CPIRD project has successfully recruited more doctors to work in rural areas, the rural retention rate for CPIRD graduates is not as high or as sustained as anticipated, despite these doctors having rural backgrounds. This means that the goal of the CPIRD project "*to educate rural-origin students to become rural doctors and retain them in rural communities*" is not yet fully realised (Arora, 2015).

Pagaiya et al. (2015) examined rural doctor retention in Thailand over the 2000s. Entry data was collected from 7,157 doctors graduating into the Ministry of Public Health service between 2000 and 2007. There were 1,093 graduates from the CPIRD track and 6,064 who graduated through the national track. Doctors were considered as having been successfully retained in rural areas if they had worked for more than three years in the Ministry's services. The retention rate at rural hospitals was 29% for the CPIRD doctors compared to 18% for those from the national track. Furthermore, overall median retention time (the length of time in years until half the doctors had left the rural areas) was 3.7 years. The national track doctors had a significantly higher tendency to leave rural areas of 1.3 times higher than the CPIRD track doctors over the period between 2000 and 2011 (Pagaiya et al., 2015).

Unfortunately, retention periods have reduced over time. CPIRD graduates had a median retention time of 8.0 years for the 2002 cohort, which decreased to 3.9

years for the 2007 cohort. National track doctors had a high median retention time of 8.4 years for the 2000 cohort, but this dropped to 3.1 years for the 2007 cohort. As a consequence, CPIRD is now focused on pursuing opportunities to improve retention of rural doctors.

1.5 Medical Education's Contribution to Rural Doctor Retention

Internationally, factors that have been demonstrated to be associated with rural medical practice retention in the USA, Canada, and Australia include: rural background, rural schooling, having a rural partner, and, importantly, rural undergraduate and postgraduate training (Laven & Wilkinson, 2003; Lee & Nichols, 2014).

In Australia, medical education plays an important role in recruiting rural physicians. The location, mission, and curriculum of a medical school can influence the likelihood of graduates to choose rural practice (Worley et al., 2008; Sen Gupta, Murray, Hays, & Woolley, 2013). In a number of developed countries, the evidence is that decentralised medical schools, located in rural areas, with a rurally-focussed curriculum, and providing early and repeated exposure to rural learning experiences are most successful in graduating physicians who choose to practice in rural areas (Young, Kent, & Walters, 2011). Curran and Rourke (2004) described strategies that medical schools can adopt to contribute to efforts to recruit and retain physicians in rural communities including rural student recruitment, admission policies, rural oriented medical curriculum, rural practice learning experiences, faculty values and attitudes, and advanced procedural skills training. These are areas which medical schools have direct control of, and which have been shown to influence the likelihood of medical students entering rural primary care practice.

Hancock, Steinbach, Nesbitt, Adler, and Auerswald (2009) explained that rural exposure via education, recreation, or upbringing facilitates future rural practice

through four major pathways. In this study, located in the USA and Canada, desires for familiarity, sense of place, community involvement, and self-actualisation were the major motivations for initial and continuing small-town residence choice. Similarly, based on a multi-university Australian study, Walker, DeWitt, Pallant, and Cunningham (2012) reported that students from rural backgrounds were ten times more likely to prefer to work in rural areas when compared with other students. Students agreed that their rural clinical school experience increased their interest in rural training and practice, as well as their consideration for employment in rural practice.

Hancock et al. (2009) proposed that another rural practice predictor to retain rural doctors is exposure to rural medicine by providing opportunities for students to choose rural electives during medical school. This was found to have a greater influence on decisions to practice rural medicine for those students raised in urban areas.

Eley, Synnott, Baker, and Chater (2012) found that the primary drivers of, and influences on, early rural career decisions were: rural experience in the rural clinical school; personal and family reasons; and specialty training requirements. Specifically, rural experiences influenced students to pursue primary care specialties and consider rural practice (Barrett, Lipsky & Lutfiyya, 2008) with longitudinal rural programs increasing the proportion of medical students choosing a primary care career (Pfarrwaller et al., 2015).

Although Thai medical students have opportunities to learn community medicine and family medicine in their medical programs, all of these opportunities are short-term, ranging from one day to a maximum of ten weeks spent in rural communities. In contrast to the studies based mainly in Australia, New Zealand and North America, Thai medical education tends to be discipline-based learning with no real community engagement. From the examples of successful outcomes in rural training elsewhere, CPIRD authorities are aware of the above evidence

and seek to act as a change agent in Thai medical education. CPIRD aims to create authentic opportunities for students to experience Rural Community-Based Medical Education (RCBME) in Thailand in order to increase students' opportunities for exposure to rural general practice and engagement before graduation.

1.6 Rural Community-Based Medical Education

For the purposes of this thesis, RCBME is defined as:

> "A mainly clinical placement where learning activities take place within a rural community. Students, clinical teachers, members of the community and representatives of health and other sectors actively contribute to the educational process with the aim to produce community-oriented doctors who are able and willing to serve their community and deal effectively with health problems at primary and secondary care levels." (Worley, 2002a)

This is based on Worley's definition of RCBME (Worley, 2002a) with specific focus on the rural context.

1.7 Hatyai Medical Education Centre: The Site of Study

To fulfil the needs of CPIRD, Hatyai Medical Education Centre was established in 1998. Hatyai MEC is located within the Hatyai Hospital in Songkhla Province in collaboration with the PSU Faculty of Medicine. In 1999, the first 20 Hatyai CPIRD students were admitted to the PSU Faculty of Medicine for pre-clinical learning, then transferred to Hatyai MEC, Hatyai Hospital, for clinical practice placements in 2002. All students successfully graduated in 2005, and were deployed to rural hospitals in their own rural-origin sites (L. Haura, personal communication, October 15, 2015).

Hatyai MEC is now successful and well organised. With a capacity of 150 clinical educators with different specialties, and learning resources together with medical facilities in Hatyai Hospital, the CPIRD stream is running successfully. Between

2005 and 2015, 271 CPIRD students graduated from Hatyai MEC and were placed in rural hospitals in Songkhla and ten surrounding provinces as general practitioners (Hatyai Medical Education Centre, 2015).

Based on the international evidence-based information on strategies for rural doctor retention, as summarised above, CPIRD now plans to develop the medical curriculum for CPIRD students by introducing RCBME within the course. This is innovative in the Thai context. The introduction of rural community placements is intended to give CPIRD students opportunities to experience rural general practice as well as engage with their local communities prior to working there after graduation. The intention is to ensure that CPIRD students are able to practice and live in the rural communities, as suggested by Hancock et al. (2009), providing more rural exposure than for the previous cohort.

Hatyai MEC was selected by the Ministry of Public Health to be the first site to pilot RCBME in the lower Southern Region. The proposed new community-based medical course aims to promote appropriate community engagement and rural clinical placements to prepare graduates to become rural general practitioners who will stay in their communities. Revision of the Hatyai CPIRD medical curriculum commenced in 2015 and incorporates a RCBME program. The new RCBME model in Songkhla Province is a hybrid urban-rural community clinical placement across the six years of the medical course for CPIRD medical students. Community placements in rural areas vary depending on the academic year of CPIRD students. The first-year CPIRD students participate a four-week activity with the health professionals in the rural hospital within their home district, in order to introduce the role of each rural health professional and their interprofessional team. The CPIRD medical students are provided with a three-week block immersion for the second year, with the focus of this block being rural health determinants of community members. In addition, medical students are assigned a family in a rural district to regularly monitor the health issues of family members in years 2 and 3 of the course. This is the first time students

receive clinical experiences during the course. In the third year (the final pre-clinical year) students return to the rural area for a four-week community medicine placement, where students research the health problems in their rural district.

Plans have commenced for the clinical years of the medical course here rural general practice in Hatyai MEC affiliated rural hospitals will be included in the curriculum revision. The revised community-based curriculum will commence for fourth-year CPIRD students for the first time in 2019. When CPIRD students move to Hatyai MEC for the final three clinical years of the course, they will continue to experience clinical practice through multiple discipline-based hospital rotations. Additionally, CPIRD students will be scheduled with 12-week compulsory, general practice-based rotations in the rural hospitals, annually in each of the three clinical years. The rural-based rotations are proposed for students to experience general practice in the real workplace under the supervision of rural clinicians, and to engage with rural patients, health professionals, as well as local community members.

Although there is evidence regarding RCBME in the international contexts, these contexts are not the same as the Thai context. Therefore, Hatyai CPIRD would explore whether the RCBME concept is adaptable to the rural context in Thailand. This research provides a case study, based in the first Thai province to plan a RCBME program, using stakeholder consultation as a means of understanding the fit of RCBME to this context. As a theoretical framework, the case study will use the concept of Worley's symbiosis model (Worley, 2002a) that has emerged as central to successful implementation of RCBME elsewhere.

1.8 Summary

Since the 1990s, Thailand has recognised, and sought to remedy, the rural doctor shortage and maldistribution as well as encourage rural doctor retention. The Ministry of Public Health has sought to co-facilitate rural-origin medical

students to become rural general practitioners under the CPIRD project since 1994. This program accounts for one-third of the total publically funded medical student graduates in Thailand each year. CPIRD has been established as a partnership model to increase the numbers of doctors in Thailand. The country has already achieved this with relatively little investment by using existing resources.

Despite this collaborative model of doctor education, challenges still exist to overcome the rural doctor maldistribution as well as low rural doctor retention in rural areas. It can be argued that while CPIRD increases the number of graduates who are from rural backgrounds and mandates three years of rural general practice, retention beyond the mandatory three years postgraduate service is low.

Based on the evidence in literature, it is proposed that a RCBME program will foster stronger connection to rural practice and reduce attrition of trained doctors working in rural areas. CPIRD is seeking to develop Thai Rural Community-Based Medical Education (RCBME) in order to address the problem of rural doctor shortages.

In order to roll out such a significant educational program in Songkhla Province, the researcher and other members of CPIRD must engage local rural general practitioners, other health services, and community stakeholders to support and drive the RCBME program locally. This study explores the understanding and expectations of stakeholders in Songkhla Province who will be invited to engage in RCBME and considers how these attitudes and expectations align with, or differ from, the views of stakeholders in Western countries where RCBME programs are well established.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In Chapter 1, the Thai medical context and CPIRD medical education program were described, and the case for implementing a curriculum of Rural Community-Based Medical Education (RCBME) in the Thai context was outlined. In this chapter, the relevant literature regarding RCBME and rural community placements is reviewed to collect evidenced-based articles and meaningful information. The intent of this chapter is to answer the question *"What are stakeholders' views of successful RCBME programs in the international literature?"*

2.2 Conceptual Framework

The aim of this chapter is to present a narrative review of the medical education literature describing stakeholders' views of successful RCBME programs in the international context. This review of the literature uses 'symbiotic clinical education' as a conceptual framework to describe the quality and the model of relationships in RCBME (Prideaux, Worley, & Bligh, 2007). Symbiosis provides a system-level framework to conceptualise clinical education and the interrelationship between sectors and medical stakeholders. The symbiotic clinical education model was developed by Worley (2002a) around four fundamental relationships and, importantly, the student is located at the centre of these relationships:

- A clinicians–student–patients relationship;
- A university–student–health service relationship;
- A government–student–community relationship; and
- A personal principles–student–professional expectations relationship.

These relationships are schematically depicted as intersecting in a relationship

wheel with the medical student situated at the centre of all four axes. When relationships are mutually beneficial, meeting the needs of all parties, the medical student can experience an optimal learning environment (Figure 2.1). This symbiosis framework was used to organise the literature review findings, which described stakeholders' views of RCBME programs in the international context. These findings will be demonstrated below in each relationship defined by the symbiosis model.

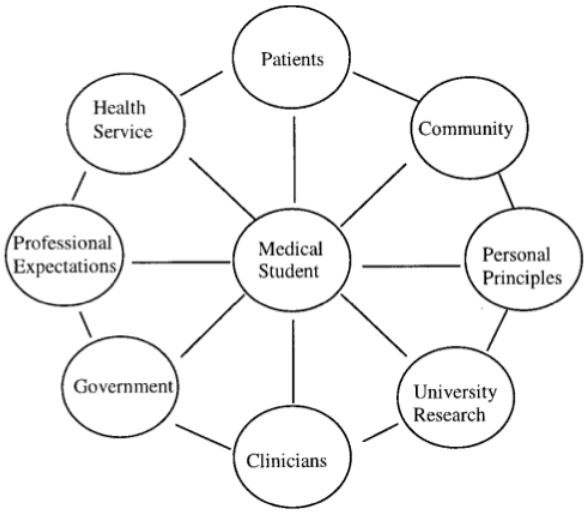


Figure 2.1: The relationship wheel: the four fundamental relationships in the symbiosis framework

Reproduced from "Relationships: A new way to analyse community-based medical education? (Part one)" by P. Worley, 2002, *Education for Health, 15*(2), p. 119

2.3 Literature Search

The literature was initially searched via Pubmed and Medline database using search terms of *"community-based medical education"* and *"rural health"* and *"undergraduate".* 252 articles were identified (56 articles from Pubmed and 196 articles from Medline). Prior to reading the abstracts, the inclusion and exclusion criteria were defined for this review. Inclusion criteria included: original research articles; placements involving medical students; clinical placement for programs in rural areas (hospital or clinic); a minimum duration of two weeks full-time

equivalent mainly in clinical practice; and general practice or primary care that provides continuity of patient population in same location. Abstracts were included where they involved compulsory medical school, elective programs and extra-curriculum placement programs. Exclusion criteria included: articles written before 1970; nonclinical placements or programs involving solely preclinical medical students; and articles not published in English or where no abstract was available.

The 252 abstracts were scanned, 23 duplicate articles were removed, and 190 articles were excluded at the abstract stage. The most common reasons for exclusion of articles at this stage were that the article was not judged to be original research, there was no abstract available, the article did not have a clinical placement component, or was a specialist-based program rather than involving general practice (Figure 2.2).

Thirty-nine articles meeting the inclusion criteria were continued to the full-text review. At the full-text stage, articles were excluded if they did not have data important to RCBME stakeholders. At this stage of the literature review, 26 articles were discarded and 13 articles were included in this literature review. The most common reasons for exclusion of articles were no full-text available, mainly non-clinical placements, no clinical placement program mentioned, and no data important to stakeholders. Additionally, the reference list in each retained article was scanned for other papers that met the study inclusion criteria. This harvested 27 additional articles which were then included, bringing the final number of included articles to 40, as summarised in Figure 2.2.

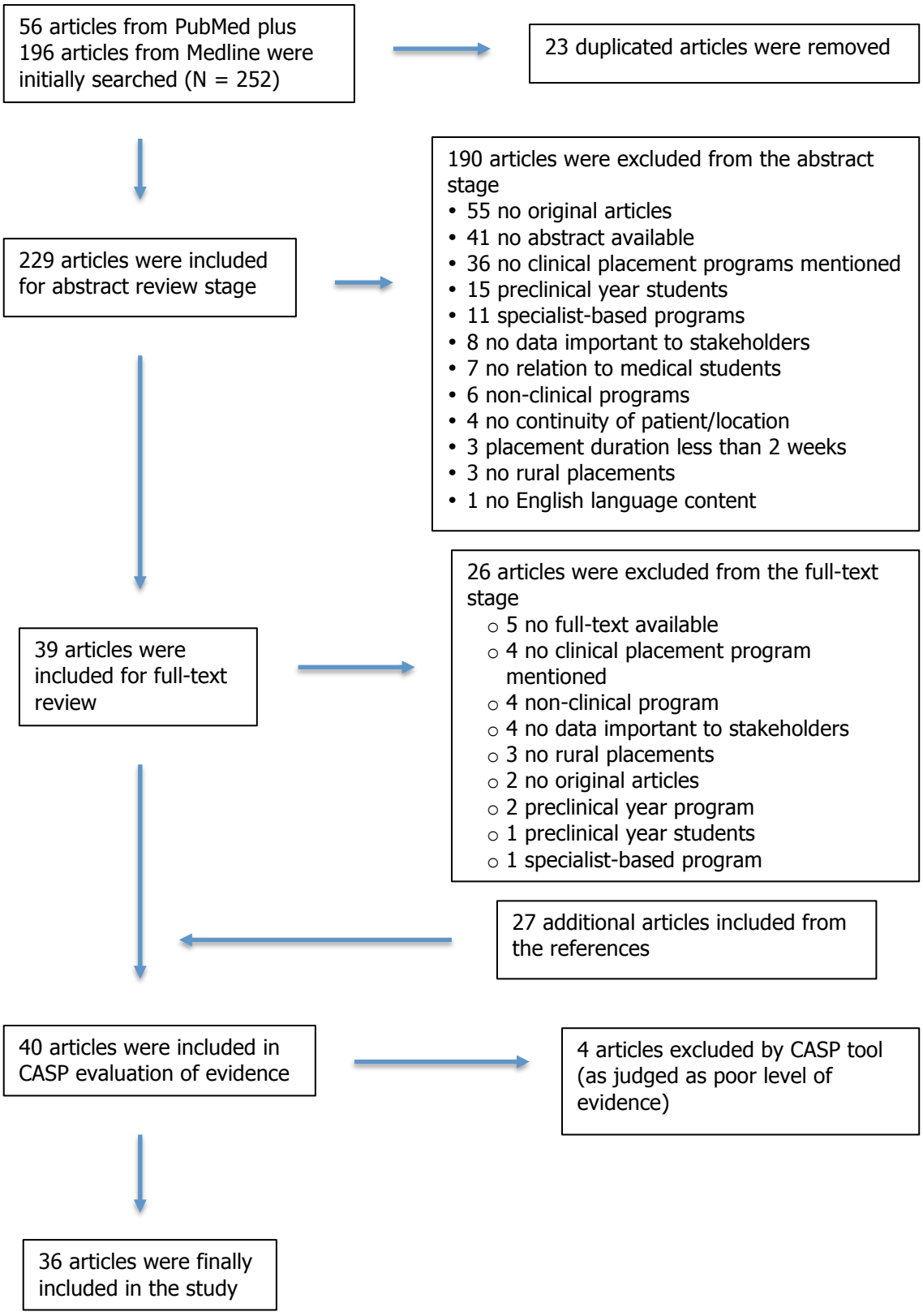


Figure 2.2: Chart of literature review process

These 40 articles were then appraised using the Critical Appraisal Skills Programme (CASP), a tool for the evaluation of randomised controlled studies, and qualitative and quantitative research studies. CASP is a robust tool developed by the Oxford Regional Health Authority from the educational methods of McMaster University of Canada (Public Health Resources Unit of England, 2006). It consists of eight critical appraisal tools designed to evaluate differing study methods. When the methodology was found to be valid and reliable, and the interpretation of results was appropriate, a more detailed appraisal was undertaken by the researcher using the remaining questions of the tool. A score was allocated for each positive answer recorded, giving a possible overall score of ten. Scores of eight to ten were considered to have high-level evidence, those from four to seven were medium-level evidence, and those with less than four were low-level evidence. All 40 articles were critically appraised and the results are included in Table 2.1 with classification of the level of evidence by the CASP tool. Four articles with low-level evidence were excluded from the study, resulting in a total of 36 articles finally included in the literature review of this thesis (Figure 2.2).

Table 2.1: Level of evidence of literature review articles by the first author and date

Articles with high-level evidence
Denz-Penhey (2004), Worley (2004a), Worley (2004b), Worley (2006), Critchley (2007), Denz-Penhey (2008), Halaas (2008), Mihalynuk (2008), Walters (2008), Wilson (2008), Stagg (2009), Couper (2010), Hudson (2010), Couper (2011), Walters (2011a), Young (2011), Hudson (2012), Konkin (2012), Daly (2013), Forster (2013), Hudson (2015), Shahi (2015), Smith (2015)
Articles with medium-level evidence
Pittman (1977), Verby (1988), Worley (1999), Worley (2000), Lang (2005), Florence (2007), Glasser (2008), Zink (2008), Eley (2009), Power (2010), Walters (2011b) Cristobal (2012), Takamura (2015)
Articles with low-level evidence
Walters (2003), Liaw (2005), Omotara (2006), Fogarty (2012)

2.4 Review Results

Of the 36 articles, the majority were from Australia (Couper & Worley, 2010; Couper, Worley, & Strasser, 2011; Critchley, DeWitt, Khan, & Liaw, 2007; Daly, Perkins, Kumar, Roberts, & Moore, 2013; Denz-Penhey, Murdoch, & Lockyer-Stevens, 2004; Denz-Penhey & Murdoch, 2008; Eley & Baker, 2009; Forster, Assareh, Watts, & McLachlan, 2013; Hudson, Weston, Farmer, Ivers, & Pearson, 2010; Hudson, Knight, & Weston, 2012; Hudson, Thomson, Weston, & Knight-Billington, 2015; Shahi, Walters, Ward, Woodman, & Prideaux, 2015; Smith, Jones, & Fink, 2015; Stagg, Greenhill, & Worley, 2009; Walters, Worley, Prideaux, & Lange, 2008; Walters, Prideaux, Worley, & Greenhill, 2011a; Walters et al., 2011b; Worley & Lines, 1999; Worley, Silagy, Prideaux, Newble, & Jones, 2000; Worley, Esterman, & Prideaux, 2004a; Worley, Prideaux, Strasser, March, & Worley, 2004b; Worley, Prideaux, Strasser, Magarey, & March, 2006; Young et al., 2011), and from the USA (Florence, Goodrow, Wachs, Grover, & Olive, 2007; Glasser, Hunsaker, Sweet, MacDowell, & Meurer, 2008; Halaas, Zink, Finstad, Bolin, & Center, 2008; Lang, Ferguson, Bennard, Zahorik, & Sliger, 2005; Pittman & Barr, 1977; Power, Harris, Swentko, Halaas, & Benson, 2010; Verby, 1988; Zink, Halaas, Finstad, & Brooks, 2008). Other countries represented include: Canada (Konkin & Suddards, 2012; Mihalynuk, Bates, Page, & Fraser, 2008); Scotland (Wilson & Cleland, 2008); Japan (Takamura, Ie, & Takemura, 2015); and the Philippines (Cristobal & Worley, 2012).

There were 20 RCBME programs described in the 36 articles representing a wide range of clinical placement durations from two half-day sessions per week for several years, and four-week to twelve-month attachments, with the majority being one-year-long longitudinal integrated programs. These RCBME programs were provided for clinical-year medical students, for which the penultimate year was most common (see Appendix 1). The symbiotic model was used to group the articles according to the stakeholder relationship axis to which the content related. Some articles contained data relevant to more than one axis.

2.4.1 Clinicians–Student–Patients Relationship

There were 17 articles that considered the success of RCBME programs from the perspective of a clinicians–student–patients relationship; six reported clinician stakeholder perspectives, 14 reported student perspectives, and five reported patient perspectives of RCBME. The details in each article which related to the clinical relationship were summarised in Appendix 2.

The main descriptors of RCBME success from clinicians/rural general practitioners (GPs) or preceptors/supervisors included that RCBME programs were a viable means for teaching students to recognise, appreciate, and employ authentic approaches to patient care. Rural doctors described a sense of mentorship and valued continuity of teaching (Walters et al., 2011a). One style of RCBME, known as a longitudinal integrated clerkship (LIC), was seen as a particularly constructive way for preceptors to teach, and for students to learn (Walters et al., 2011a; Worley et al., 2004b). Doctors involved in RCBME LICs described students contributing to their capacity to care for patients, making it time efficient to supervise students (Walters et al., 2008).

Rural clinicians who chose to supervise medical students described how they experienced professional pride in relation to their role as a preceptor (Walters et al., 2011a). They described seeing students as novice peers and potential future partners in rural general practice (Walters et al., 2011a) They were motivated in their roles as preceptors, and facilitated students to improve their clinical performance over time and achieve generalist competencies (Couper et al., 2011; Walters et al., 2011a). Supervision relationships developed over time and resulted in changes in the dynamics of the triangular relationship between clinician, patient, and student in general practice consultations (Walters et al., 2011a).

Student perspectives of RCBME included appreciation for continuity of learning and continuity of patient care. Rural experiences offered students a significant

amount of clinical learning when compared to those in urban training. Students moved from theoretical knowledge of disciplines to experiential knowledge as a result of their rural clinical learning (Denz-Penhey & Murdoch, 2008). RCBME provided students with numerous opportunities for learning, including improving knowledge and clinical skills, longitudinal exposure to common diseases, hands-on experiences, and decision making. These skills were exercised when students had an authentic role in rural general practice (Couper et al., 2011; Shahi et al., 2015; Smith et al., 2015; Worley et al., 2000; Worley et al., 2006).

RCBME students in longitudinal programs spent a significantly longer time carrying out direct patient care than block clerkship students in tertiary hospitals who were more likely to be observing care. This could have the paradoxical result that LIC students saw fewer patients than block clerkship students because they were taking greater responsibility for the patient and interacting with them for longer (Shahi et al., 2015). Rural experiences could support RCBME students' learning through exposure to common conditions as various patients *'walked through the door'* of general practice (Worley et al., 2006, p. 112). However, some students expressed concern that they did not see a wide diversity of patients, as they were dependent on the arbitrary nature of primary care attendances (Couper & Worley, 2010).

In RCBME, students felt valued due to the learner-centred environment in the community-based program. They were valued for their contribution to patient care through participatory learning (Worley et al., 2006; Zink et al., 2008). Continuity of learning and clinical care between the hospital and the clinic reportedly enabled students to follow patients between these contexts in a way that was not possible in urban practice (Takamura et al., 2015). Being able to follow the same patients over extended periods of time enabled students to be exposed to the entire longitudinal course of illness. Students had the opportunity to understand the journey of the illnesses of their patients, including stepwise progression and deterioration or, conversely, the improvement in a patient's

health that occurred over period of attachment (Mihalynuk et al., 2008). In addition, students in LICs had a continuity of the clinical setting enabling them to spend less time and energy having to frequently orientate themselves to new wards, staff, and protocols (Shahi et al., 2015; Worley et al., 2006).

The majority of patients perceived that it was acceptable to have students participate in their consultations in RCBME (Hudson et al., 2010; Pittman & Barr, 1977), and most were satisfied with the service they received when seeing a student as part of their consultation (Couper & Worley, 2010). Hudson's study describes students undertaking a longitudinal placement where patients described satisfaction with increased patient-student contact, which resulted from continuity of care (Hudson et al., 2010). Most patients reported that the length of time the students spent with them was sufficient to address their issues (Couper & Worley, 2010; Hudson et al., 2010). Students did not make patients feel uncomfortable and patients did not think students interfered with the doctor-patient relationship (Couper & Worley, 2010). Rather, patients perceived the clerkship environment as patient-centred and student-centred (Hudson et al., 2012). Patients also believed that during an extended placement, the patient-student-doctor relationship was important in facilitating active participation of students, allowing them to become a central clinical team members, value-adding and improving access to patient care (Hudson et al., 2012). Patients actively participated in students' clinical learning, spending time being involved in teaching with students, for example teaching them about their illnesses, and they felt that they played an important role in developing students' clinical skills (Hudson et al., 2010).

On the other hand, there were concerns regarding the clinician-student-patient relationships that were reported in the literature. Some clinicians who were responsible for students as academic preceptors complained of individual time pressure from their clinical workload when students were consulting for patients (Walters et al., 2011a). Some students in a low-resource environment perceived

that although the level of clinical supervision from faculty members was satisfactory, they disagreed that the supervision completely met their needs (Smith et al., 2015). Students who undertook clinical placements in the Solomon Islands felt less able to apply the evidence-based practice in the clinical resource-poor environment (Smith et al., 2015). In addition, a few patients expressed their reluctance to allow students to conduct consultations independently. However, after consultation, patients reported they would have accepted higher levels of involvement than actually occurred (Hudson et al., 2010).

2.4.2 University–Student–Health Service Relationship

There were 20 articles that considered the success of RCBME programs from the perspective of university–student–health service leader relationship: 11 reported clinician/preceptor stakeholder perspectives, six reported faculty member perspectives, and 17 reported student perspectives of RCBME programs. The details in each article relating to the institutional relationship were summarised in Appendix 3.

Rural health services often report being under pressure to provide a significant volume of medical services to the populations they serve, such as GP appointments and inpatient admissions. A number of articles describe how models of RCBME reduced the potential impact of student placements on the efficiency of stretched rural health services. The feasibility of longitudinal student placements in the general practice setting (including impact on number of patients seen) was demonstrated through use of a parallel consulting model whereby additional infrastructure capacity enabled the student to see a patient 'in parallel' prior to the GP joining the consultation, after completion of the GP's own consultation (Couper & Worley, 2010; Walters et al., 2008). While there was a higher time commitment at the beginning of longitudinal placements, this decreased as students became more skilled (Worley et al., 2000).

Long-term RCBME programs reportedly led to students feeling positively valued

and highly accepted by staff at their local hospitals (Smith et al., 2015; Worley et al., 2006; Young et al., 2011; Zink et al., 2008). In another study, in the Solomon Islands, the local hospital staff perceived that the RCBME program, which partnered with an Australian medical school of rural clinical attachment for medical students, helped improve the capability of the hospital (Smith et al., 2015).

More challenging to measure is the impact of RCBME on quality of health care service in rural areas. One study suggested that helpful collaborations between academic staff and local hospital clinicians involved in developing the program, in addition to being a cost-effective investment, was able to sustain the quality of the local hospital service in a poor rural area (Cristobal & Worley, 2012). This RCBME in the Philippines reported an association between improved quality of care and the formation of an innovative medical school in a low-resource developing world setting with student recruitment from the local region. This study found a significant reduction in rates of infant mortality, a major problem in the poor-resource region. The Solomon Islands RCBME reportedly also raised the quality of patient care (Smith et al., 2015). In relation to health outcomes in primary care, a small number of studies in low-resource areas have found improvements in medical screening and chronic disease management in individual patients (Cristobal & Worley, 2012; Smith et al., 2015).

Organisational partnerships between rural health services and universities were facilitated through personal relationships (Worley & Lines, 1999). Rural clinicians appreciated their relationships with the universities and with the students, taking great pride in being part of the academic endeavour to help train the future generation of doctors (Couper & Worley, 2010). Rural clinicians also valued continuity of relationships with students, sometimes providing mentorship over many years after student placements were completed (Young et al., 2011).

Some longitudinal placements in rural areas have recruited general practitioners

new to teaching (Denz-Penhey et al., 2004). Preceptors in year-long RCBME programs reported a need to develop teaching skills due to their greater responsibility for student developmental learning. The teaching role, which was supported by the university, gave new meaning to their practice (Couper & Worley, 2010) and provided professional enrichment and variety from routine consulting (Walters et al., 2011a).

Medical schools have engaged in RCBME with a view to providing students with exposure to these settings while deliberately seeking to mitigate risks of poor student results. As a consequence, there has been considerable focus on student academic performance in longitudinal RCBME programs such as Flinders University's Parallel Rural Community Curriculum (PRCC). There is consistent evidence from the PRCC program that the rural context is producing graduates of comparable academic and clinical standard to students in more traditional urban tertiary hospital placements (Worley & Lines, 1999; Worley et al., 2004a). International findings are consistent, with academic results of students in other longitudinal rural placements reported as not being inferior to students with traditional block rotations in tertiary hospitals (Glasser et al., 2008; Power et al., 2010; Verby, 1988; Wilson & Cleland, 2008; Worley & Lines, 1999; Worley et al., 2004a). However, one study from the USA reported that students participating in the Rural Physician Associate Program (RPAP) demonstrated non-superior performance on a small number of OSCE stations that assessed applied knowledge of specific content taught in the traditional clerkship curriculum (Power et al., 2010).

On the other hand, some rural clinician preceptors expressed concerns about extending their working hours to fit in time for teaching, and felt overall that LIC students initially took more time because of individualised mentoring and disruption to clinic hours (Walters et al., 2011a). However, these concerns decreased when students subsequently became more skilled (Worley et al., 2000). One study from Japan reported a supervisor's concern regarding a more

careful consideration of assessment for students undertaking long-term placement, compared to short-term placement students (Takamura et al., 2015), whereas in the USA, Verby (1988) described that there were initial problems affecting the quality of the clinical placement program, such as students' evaluation bias of faculty members and preceptors, cancellation of faculty members' visits to communities, and evaluations by preceptors not being delivered within expected timeframes. Even in the Flinders PRCC program, which has been successful in Australia, some concerns could be problematised, for instance, the process of rural site selection, program standardisation in each rural site, ensuring exposure to all specialist disciplines, communication, student and preceptor support, and dealing with students' personal issues (Couper & Worley, 2010). Others reported the geographical and academic isolation (Daly et al., 2013), as well as the curriculum content and delivery, might be potential challenges for placement programs in rural and remote settings (Denz-Penhey et al., 2004).

In the low-resource setting, some students also expressed concerns that they did not have sufficient opportunity to raise their issues and concerns in the post placement debriefing experiences (Smith et al., 2015). The resources provided did not meet the students' needs, specifically a lack of internet access for Skyping supervisors and educators, information, as well as resources and guidelines (Smith et al., 2015).

2.4.3 Government–Student–Community Relationship

There were 14 articles that considered the success of RCBME programs from the perspective of governments, students, and community stakeholders: four reported community stakeholder perspectives, four reported student perspectives, and seven reported government expectations of RCBME programs. The details in each article which related to the social relationship were summarised in Appendix 4.

Governments almost universally invest financially and politically in RCBME programs as a rural medical workforce strategy. As a result, considerable numbers of publications seek to connect RCBME with rural workforce outcomes (Couper & Worley, 2010; Cristobal & Worley, 2012; Critchley et al., 2007; Denz-Penhey & Murdoch, 2008; Florence et al., 2007; Forster et al., 2013; Glasser et al., 2008; Halaas et al., 2008; Lang et al., 2005; Stagg et al., 2009; Verby, 1988; Walters et al., 2011b; Wilson & Cleland, 2008; Worley et al., 2000; Worley et al., 2006; Young et al., 2011). RCBME programs are perceived to offer students valuable connections to the rural life (Denz-Penhey & Murdoch, 2008; Walters et al., 2011b), and greater interest in rural primary care (Florence et al., 2007), especially for students with rural backgrounds (Halaas et al., 2008; Stagg et al., 2009). RCBME graduates from Australia, the USA, and Canada have consistently indicated more interest in working in rural communities compared to their traditionally educated peers (Florence et al., 2007; Young et al., 2011). Outcome data demonstrates high percentages of graduates working in rural areas (Florence et al., 2007; Verby, 1988), suggesting that RCBME programs moderate students' career choices in favour of rural primary care (Cristobal & Worley, 2012; Halaas et al., 2008; Verby, 1988; Zink et al., 2008).

Local community members also consistently express a desire for medical students on RCBME placements to return to their community once they are qualified doctors (Couper & Worley, 2010; Hudson et al., 2010). Local community stakeholders perceived that students' RCBME experiences could positively influence student interest in rural careers (Couper & Worley, 2010; Cristobal & Worley, 2012; Forster et al., 2013; Walters et al., 2011b; Young et al., 2011). Students perceived that the rural rotation could encourage students' interest in, and understanding of, rural medicine (Eley & Baker, 2009). Local community members also recognised a more immediate gain from having medical students on RCBME placements. Many community members recognised that rural clinical placements positively influenced RCBME students'

understanding of rural community-based practice and the social makeup of the local community (Couper & Worley, 2010).

Community members often viewed students as smart, respectful young people who were valued by the community stakeholders for their contribution to the community beyond their contribution to medical services in their work-integrated learning. Their engagement in the community through sports, church activities, local service clubs, and other cultural activities was seen as making a significant contribution to the local community (Walters et al., 2011b). Even in short-term RCBME placements, local community members recognised that student participation with the local community contributed both to student experience and to local community capacity through factors such as renting accommodation, contributing to community health promotion activities, participating in recreational activities, and, more generally, as members of the community (Smith et al., 2015; Walters et al., 2011b; Young et al., 2011).

Students lived and worked in the context of their patients. They had the chance to see and experience the rural context of illness and health care (Couper & Worley, 2010), including having an opportunity to see patients outside of the medical context and achieving community rapport (Worley et al., 2006). During the rural placements, students could develop personal relationships with patients as well as a culture awareness of the local community, thus facilitating their understanding of people in rural areas and contributing to their own preparedness for rural practice (Couper & Worley, 2010).

2.4.4 Personal Principles–Student–Professional Expectations Relationship

There were 24 articles that considered the success of RCBME programs with regard to a personal principles–student–professional expectations relationship. All articles reported student perspectives, while six reported preceptor or faculty member perspectives. The details in each article which related to the personal

and professional relationship were summarised in Appendix 5.

RCBME programs typically reported low student to supervisor ratios, which allowed comfort and familiarity to quickly develop between students and their preceptors during their clinical placements (Zink et al., 2008). Through teaching and mentoring from clinician supervisors, students could develop a more collegial relationship with their supervisors compared with the more hierarchical relationship at the tertiary hospitals (Walters et al., 2011a; Worley et al., 2006). A sense of trust often developed between students and their preceptors (Walters et al., 2011a; Zink et al., 2008). Students reported that they felt great respect for their preceptors (Zink et al., 2008).

Mentoring relationships fostered an emerging professional identity grounded in ethical caring (Konkin & Suddards, 2012). Students were not just clinical observers in the rural clinical placement, but they legitimately and directly contributed to rural patient care (Couper & Worley, 2010). Students perceived that they could meaningfully engage with patients and took responsibility for their clinical care under supervision. In longer RCBME placements, students' level of responsibility grew steadily over time (Mihalynuk et al., 2008) and students saw their rural preceptors as role models in clinical practice (Worley et al., 2006). These preceptors supported the students to build their confidence and also pushed them to step outside of their comfort zones (Zink et al., 2008). Triangular interactions between students, clinicians, and patients evolved from students observing the clinician-patient relationship to the clinician advising on the student-patient relationship (Walters et al., 2011a).

Students felt a sense of ownership in the care of their patients, and described an increase in their responsibility for patient care (Shahi et al., 2015; Walters et al., 2011a). RCBME students described *'going to work'* each day, rather than going to study, thus reflecting a sense of vocation in their day-to-day learning activities (Worley et al., 2006, p. 114). Students' professional 'self' developed as they

progressed from the role of theoretical learner to that of clinical learner and then co-worker, as they acquired legitimate roles in rural practice (Daly et al., 2013; Walters et al., 2011a). Students undertook increasingly complex tasks as the doctor-student relationship matured and trust and respect developed (Walters et al., 2011a). This sense of vocation referred to students' clinical competencies and their responsibility for patients (Worley et al., 2006). Students were better able to seek opportunities for learning and engage securely in self-reflection with their supervisors (Denz-Penhey & Murdoch, 2008; Zink et al., 2008). This increased their confidence and trust in their own judgment (Denz-Penhey & Murdoch, 2008), while enhancing their sense of personal efficacy and their ability to deal with ambiguity (Worley et al., 2006). Students began to assume a more doctor-like role, with their preceptors framing this role as that of a legitimate team member (Worley et al., 2006).

Role modelling and mentorship by rural GP preceptors facilitated students to identify with rural practice as a career (Worley et al., 2006). Rural clinical placements positively influenced RCBME students' understanding of rural community-based practice and of the community (Takamura et al., 2015). Both professional and personal relationships grew between students and their teachers. Students watched their preceptors balance work and family obligations, as well as personal expectations (Zink et al., 2008). Students were individually mentored, guided and coached over a period of time, which provided them with opportunities for personal growth (Couper & Worley, 2010).

The longer students stayed in the same rural location, the deeper relationships they made, and the more likely they were to develop a rural personal identity (Takamura et al., 2015). Students lived in the same context as their patients and their teachers. They felt deeply connected to both patients and teachers, thus having the chance to witness and experience the influence of rural life on their preceptors' life and work, and on their patients' health care and illnesses (Couper & Worley, 2010). Students came to understand their preceptors' and their own

positions in the community beyond their clinical role (Couper & Worley, 2010; Worley et al., 2000).

These positive impacts on personal and professional identities were not guaranteed. The longitudinal type of experience, emphasising self-direction, did not suit all students with some students requiring more structure (Couper et al., 2011). Students accustomed to being directed could feel as if they were floundering in the RCBME environment and having only a single supervisor could become problematic if relationship issues arose (Worley et al., 2006). They could also feel overworked with little time for specific learning (Couper et al., 2011; Wilson & Cleland, 2008). Some students found it hard to set boundaries around their working day and to manage their time effectively (Denz-Penhey et al., 2004) and students in more remote locations could feel isolated (Couper et al., 2011). Students also reported some uncertainty about their role with patients. There could be a blurring of the lines between being a friend and a care provider, and feelings of pressure because patients viewed them as being fully responsible for clinical care (Worley et al., 2006).

2.4.5 Other Identified Stakeholders

There were three articles that considered the success of RCBME programs from perspectives of other identified stakeholders, including nursing and administrative staff members. The details in each article which related to other identified stakeholders were summarised in Appendix 6.

Nurses described how the RCBME program had made a big impact on the community, having improved the capacity of the hospital, and raised the quality of care of patients as well as the overall standards of nursing care (Smith et al., 2015). Depending on their role within the program, RCBME could offer opportunities for nurses to gain clinical learning, personal and professional development, and cultural awareness (Daly et al., 2013). Administrative staff members' perspectives included recognition of increased workloads related to

student administration, however, this was seen as acceptable when students were respectful and sought to engage with, and appreciate, the community (Takamura et al., 2015).

2.5 Summary

This chapter draws on 36 quality articles describing 20 RCBME programs from around the world to inform the reader of stakeholders' views of RCBME, as relevant to the research questions. These views were organised using Worley's symbiosis model. RCBME enabled students to engage in work-integrated-learning in a manner which was considered acceptable and feasible by the majority of clinician preceptors and patients. Universities have demonstrated that student academic results were not compromised by student participation in RCBME placements. Health services have been reassured that students have not dramatically reduced the efficiency of their services, and clinician morale can be improved through meaningful relationships with students. There is less clear evidence that partnerships with universities have improved the quality of patient care in health services. Governments have sought rural medical workforce outcomes from RCBME and community members have expressed this at a more individual level, encouraging students to return to their communities. Community members have also valued the immediate contribution medical students can make to the social capital of a rural town, particularly on longer placements. Finally, there is good evidence that RCBMEs contribute to the development of students' professional identity as a clinician, a general practitioner, and a rural doctor. Some evidence exists to demonstrate that mentorship also shapes students' personal and lifestyle expectations.

According to the literature review based on Worley's symbiosis framework, these findings demonstrate the experiences of stakeholders in RCBME programs in multiple countries internationally. The range of positive impacts in regard to successful RCBME programs in the literature would not only be expected to be

replicated in the Thai context, but also the number of concerns which were discovered from international stakeholders when considering whether the context matters. Unfortunately, there are insufficient studies to make firm judgement on whether all stakeholder views are consistent across programs, regions or countries, and no international comparative studies have explored the question of whether the context matters. Therefore, the research question of the thesis seeks to inform the planning of RCBME in this new Thai context in Songkhla Province. Relevant stakeholder groups, including medical students, clinical educators, clinicians and other health professionals, patients as well as local community members, involved in a Thai RCBME program must have a voice. To address this question and understand the Thai context, this study explores the Thai stakeholder views on the first RCBME initiative in Thailand. The next chapter will describe research methodology and design for this thesis study.

CHAPTER 3: RESEARCH DESIGN

3.1 Introduction

The previous chapter demonstrated the dearth of literature surrounding RCBME in the developing world, and sets the scene for this study to explore questions "*What should RCBME in the Thai context look like?"* and *"Does context matter*?"

Medical educators need to understand and conduct transparent and rigorous medical education research in order to make informed decisions based on the best evidence, rather than rely on their own hunches. Medical education research has contributed considerably to advances by adding reliable new knowledge to an existing body of educational knowledge, in order to produce best evidence to improve teaching and learning, and inform effective curriculum design and assessment (Tavakol & Sandars, 2014a).

In this chapter, a number of positivist and naturalistic paradigms are explored, then types of qualitative research are described, before the researcher describes the study research design and considers the research rigour and ethics of the study.

3.2 Definition of Research

Research is "investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws" (Merriam-Webster, 2013). The ultimate goal of research is to gain new knowledge that can then be added to a body of existing knowledge in order to develop new insights and create more useful knowledge to solve a problem.

In the terminology of research, a paradigm is a comprehensive belief system or a worldview that provides a general perspective or framework to guide an

understanding of the phenomenon under investigation.

3.3 Research Paradigms

Guba (1990) asserted that the paradigms adopted by educators respond to three questions: (1) what is the nature of reality? (ontology); (2) what is the nature of knowledge, its limitations and its relationship to the researcher? (epistemology); and (3) how should the researcher go about finding out knowledge? (methodology). In a research paradigm these themes would be congruent.

Medical education research is a careful or systematic study designed to answer fundamental questions raised by medical educators in order to make educational decisions that can be based on rigorous research-based findings rather than personal experiences (Tavakol & Sandars, 2014a). Two main paradigms that guide disciplined inquiry in medical education, the positivist paradigm and the naturalistic paradigm, are discussed below.

3.3.1 The Positivist Paradigm

The positivist paradigm was introduced by Descartes in 1637 (Tavakol & Sandars, 2014a). There is an objective reality that is directly observable and this can be measured using mathematical models that can predict future events. Descartes believed that the researcher must distance him/herself from the participant to avoid any distortion of the interpretation of the findings of the study. Positivists believe that objective collection of data and its analysis must be independent of the opinions of the researcher.

Within positivism, a hypothesis is derived from a theory and then empirically tested and replicated by a neutral researcher. Based on the result of a statistical hypothesis test, the researcher identifies the relationship between cause and effect within a value-free inquiry. There is an objective knowledge that is to be discovered and human beings cannot socially construct this knowledge (Tavakol & Sandars, 2014a). Although proponents of the positivist approach believe that

there is a fixed and objective reality that can be investigated, post-positivists argue that the absolute reality of knowledge can never be obtained but only estimated. Even so, for positivists, the assumptions of post-positivism mostly support quantitative inquiry approaches rather than qualitative inquiry approaches in which the researcher is the instrument of analysis.

3.3.2 The Naturalistic Paradigm

A different perspective to understanding the world is the naturalistic view, which is associated with constructivist qualitative inquiry approaches. According to the constructivist epistemology, knowledge is the result of a dialogical process between the self-understanding person and that which is encountered, whether it be a text, a work of art, or the meaningful expression of another person. For constructivist researchers, individuals do not passively receive knowledge, but they actively construct knowledge through engagement with each other and the social world of individuals, thus leading to the production of meaningful knowledge (Tavakol & Sandars, 2014a).

In Table 3.1, the ontological, epistemological and methodological assumptions of the positivist and constructivist approaches are summarised.

Table 3.1: Assumptions of the positivist and constructivist approaches

Type of assumption	Positivist (Quantitative)	Constructivist (Qualitative)
Ontology	• The reality is singular • Reality is constructed based on cause and effect inferences	• Multiple realities exist • Each study participant has a different view on the phenomenon being studied
Epistemology	• Knowledge is uncovered by detached scientific observations • The reality is independent of any opinions of the researcher • The research tries to minimise subjectivity and to maximise objectivity	• Knowledge is socially constructed through interaction of the researcher with research participants • The values of both the researcher and the research participants contribute to knowledge, and there is a lack of neutrality and objectivity
Methodology	• Deductive reasoning: statistical hypothesis testing ○ Objective and measurable ○ Validation of theories ○ Identifying associations between variables ○ Generalisation from samples to population ○ Rule-bound ○ Statistical analyses ○ Internal and external validity ○ Sample is large or random	• Inductive reasoning: theory or hypothesis construction ○ Subjective and non-measurable ○ Explores participants' experiences ○ Provides rich description of the phenomenon being investigated ○ Generates hypothesis or theory ○ Generalisation is less important ○ Context-bound ○ Sample size can be small (less important than sample selection)

Source: Adapted from "Quantitative and qualitative methods in medical education research: AMEE Guide No 90: Part I" by M Tavakol, and J. Sandars, 2014, *Medical Teacher, 36*(9), p. 747

3.4 Qualitative and Quantitative Research

Qualitative researchers use an inductive reasoning approach to generate knowledge whereas quantitative researchers use a deductive reasoning approach

(Tavakol & Sandars, 2014a). The process of the inductive approach begins with exploring the specific details of participants' experiences and inductively builds more general principles of the phenomenon being investigated. On the other hand, the process of the deductive approach begins with formulating a research hypothesis about the phenomenon of interest, usually to test the theory. The hypothesis is then tested using statistical procedures to support or refute this hypothesis. Both approaches are important for generating knowledge and the choice is based on the question being investigated. Moreover, qualitative and quantitative approaches are not contradictory, but they are complementary. In Table 3.2, the characteristics of qualitative and quantitative research are summarised.

The research question in this study explores the perspectives of participants regarding RCBME in the Thai context. In this regard, qualitative research design is most appropriate for this study. It can be anticipated that each participant may have different individual view on RCBME. The researcher can derive the research answers from participants deeply experienced in the specific context. The knowledge or information from the participants' experiences is socially constructed through interaction between the researcher and participants. Qualitative methods do not have independent and dependent variables, nor do they test a hypothesis or a treatment effect (Tavakol & Sandars, 2014b). There are no statistically measured variables to test. However, a qualitative study needs to be rigorous in describing and providing analysis of accumulated data across the lens of the participants in their own context.

Table 3.2: Characteristics of qualitative and quantitative research

Point of comparison	Qualitative research	Quantitative research
Focus of research	Quality (nature, essence)	Quantity (how much, how many)
Philosophical roots	Phenomenology, symbolic interactionism	Positivism, logical empiricism
Associated phrases	Fieldwork, ethnographic, naturalistic, grounded, constructivist	Experimental, empirical, statistical
Goal of investigation	Understanding, description, discovery, meaning, hypothesis generating	Prediction, control, description, confirmation, hypothesis testing
Design characteristics	Flexible, evolving, emergent	Predetermined, structured
Sample	Small, nonrandom, purposeful, theoretical	Large, random, representative
Data collection	Researcher as primary instrument, interviews, observations, documents	Inanimate instruments (scales, tests, surveys, questionnaires, computers)
Mode of analysis	Inductive (by researcher)	Deductive (by statistical methods)
Findings	Comprehensive, holistic, expansive, richly descriptive	Precise, numerical

Source: Merriam, S. B. (2014). What is qualitative research. In S. B. Merriam (Ed), *Qualitative research: A guide to design and implementation* (3rd ed) (p. 18). California, USA: A Wiley Imprint.

3.4.1 Types of Qualitative Research

There is a variety of qualitative research designs that capture the perspectives of participants. The five common types of qualitative research, as summarised below, are: narrative research, phenomenology, grounded theory, ethnography, and case study (Creswell, 2013; Merriam, 2014).

Narrative study– the most natural forms of sense-making are stories or narratives. Stories are how people make sense of experiences, how people communicate with others, and through which people understand the world. The key to this type of qualitative research is the use of stories as data and, more

specifically, first-person accounts of experiences told in story form having a beginning, middle, and end.

Phenomenology– a research methodology that focuses on experience and how experiencing something is transformed into consciousness. Phenomenologists are interested in lived experience. Phenomenology is a study of people's conscious experience of their life-world, that is, their everyday life and social action. There is an essence or essences to shared experience. These essences are the core meanings mutually understood through a phenomenon commonly experienced. The experiences of different people are analysed, and compared to identify the essences of the phenomenon. A phenomenological approach is well suited to studying affective, emotional, and often intense human experiences.

Grounded theory– a specific research methodology where the investigator is the primary instrument of data collection and analysis assumes an inductive stance and strives to derive meaning from the data. The end result of this type of qualitative study is a theory that emerges from, or is grounded in, the data. Grounded theory differs from other types of qualitative research in emphasising theory building.

Ethnography– a research methodology that focuses on human society and culture that refers to the beliefs, values, and attitudes which structure the behaviour patterns of a specific group of people. An ethnographic study must use the lens of culture to understand the phenomenon. The result of ethnographic inquiry is cultural description.

Case study– an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Case study methodology maintains deep connections to contextual core values and intentions, and is particularistic, descriptive and heuristic. This qualitative approach explores a real-life,

contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information and reports a case description and case analysis (Hyett, Kenny & Dickson-Swift, 2014).

The specific characteristics of five qualitative approaches are summarised in Table 3.3.

Table 3.3: Contrasting characteristics of five qualitative approaches

Characteristics	Narrative research	Phenomenology	Grounded theory	Ethnography	Case study
Focus	Exploring the life of an individual	Understanding the essence of the experience	Developing a theory grounded in data from the field	Describing and interpreting a culture-sharing group	Developing an in-depth description and analysis of a case or multiple cases
Type of problem best suited for design	Telling stories of individual experience	Describing the essence of a lived phenomenon	Grounding a theory in the views of participants	Describing and interpreting the shared patterns of culture of a group	Providing an in-depth understanding of a case or cases
Discipline background	Drawing from humanities including anthropology, literature, history, psychology, and sociology	Drawing from philosophy, psychology, and education	Drawing from sociology	Drawing from anthropology and sociology	Drawing from psychology, law, political science, and medicine
Unit of analysis	One or more individuals	Several individuals who have shared the experience	A process, an action, or an interaction involving many individuals	A group that shares the same culture	An event, a program, an activity, or more than one individual
Data collection forms	Primarily interviews and documents	Primarily interviews with individuals, although documents, observations, and art may also be considered	Primarily interviews with 20-60 individuals	Primarily observations and interviews, but perhaps collecting other sources during extended time in field	Multiple sources, such as interviews, observations, documents, and artifacts
Data analysis strategies	Analyzing data for stories, restorying stories, and developing themes, often using a chronology	Analyzing data for significant statements, meaning units, textual and structural description, and description of the essence	Analyzing data through open coding, axial coding, and selective coding	Analyzing data through description of the culture-sharing group and themes about the group	Analyzing data through description of the case and themes of the case as well as cross-case themes
Written report	A narrative about the stories of an individual life	Describing the essence of the experience	Generating a theory illustrated in a figure	Describing how a culture-sharing group works	A detailed analysis of one or more cases

Source: Adapted from Creswell, J. W. (2013). Five qualitative approaches to inquiry. In J. W. Cresswell (Ed), *Qualitative inquiry & research design: choosing among five approaches* (3rd ed) (pp. 104-105). California, USA: SAGE publication.

From the research questions in this study– "What should RCBME in the Thai context look like?" and "Does context matter?"– the primary research aim is to explore understanding or expectations of stakeholders about RCBME in the Thai context. Case study research is therefore well suited for this study. This study will focus on the developing of in-depth description of relevant stakeholders and analysis of a case (RCBME in the Thai context) in the analytical themes.

3.5 Research Method

3.5.1 The Case Study

As an example of a Thai provincial medical education system overseen by the Thai government and partners in the CPRID project, the case study was defined by the province of Songkhla, its health services, the community of patients, the history of medical education, and those involved in either university medical schools or medical education centres. In this case study, the interest was focused on those who will be involved in, or affected by, the development of the new RCBME program within the existing CPRID project.

This study was the first pilot project implementing a RCBME program in a Thai province. According to the conceptual framework (symbiotic clinical education), the relevant stakeholder groups were Hatyai CPIRD medical students and clinical educators, clinicians at tertiary and primary health services, other health care providers and health care administrators, as well as local community members who will be involved in a RCBME program in Songkhla Province.

3.5.2 Participant Selection

Selection of participants should be representative of all individuals in the target stakeholder groups. In this study, a purposive sampling procedure was used in order to choose a sample of the key groups in the case study involved in RCBME development to be participants representing the demographics amongst stakeholders in Songkhla Province.

Participants were selected by purposive sampling technique. The selection of individual of the groups was sought in order to select an information-rich data source from the key groups as determined by the symbiotic conceptual framework. The researcher handpicked individuals from the groups of interest who have particular experiences and were able to provide a detailed picture of the phenomena under study (Table 3.4).

3.5.3 Recruitment

Initially, all medical stakeholders who were involved in the Thai RCBME curriculum and rural placement program were identified. Following this, the stakeholders who were willing to participate were recruited by invitation via official letter, email, or direct phone call (Table 3.5).

CPIRD administrative staff emailed potential participants directly and included in the email the official invitation letter, the participant information sheet, and a copy of the consent form. Stakeholders willing to be involved in the research replied by direct email to the researcher. The researcher then contacted the stakeholders to offer further information and answer the questions before arranging a convenient time for the interviews.

Table 3.4: Participant selection classified by participant types

Group	Axis	Location	Role	Number	Label
Current CPIRD medical students	Clinical Personal	Hatyai Hospital, Songkhla Province	Students	4	S1, S2, S3, S4
Hatyai Medical Education Centre (MEC) staff	Clinical Personal Institutional	Hatyai Hospital, Songkhla Province	Clinical educators, and tertiary-based clinicians	6	C1, C2, C3, C4, C5, C6
Policy makers and Hatyai CPIRD authorities	Institutional Social	Hatyai Hospital, Songkhla Province, Prince of Songkla University (PSU)	Policy makers and authorities involved in RCBME curriculum	5	P1, P2, P3, P4, P5
Rural stakeholders	Clinical Personal Institutional Social	Rural hospital and community, Songkhla Province (where involved in RCBME curriculum)	Rural clinicians, nurses, and local community leaders directly engaged with a rural hospital and involved in RCBME curriculum	6	R1, R2, R3, R4, R5, R6

3.5.4 Informed Consent

The participant engagement and data collection process in this research project were conducted in Thai. The primary researcher undertook to have the information sheet, consent form, and semi-structured interview questions translated into Thai and checked by an associate Thai supervisor (Dr Lucksamee Haura) to ensure that they appropriately reflected the meaning in the Social and Behavioural Research Ethics Committee (SBREC) approved English-language documents (Appendix 7-12). All participants had the ability to give informed consent to participate in the research. Upon accepting the invitation to participate, they were given an information sheet and a consent form outlining the details of the research, its aims and future use. Participants were given time to read through this and ask any questions they might have, before signing the consent form.

Table 3.5: Basis for recruitment classified by participant types

ID code	Stakeholder groups	Basis for recruitment	Component of research
S1, S2, S3, S4	Current CPIRD medical students in Hatyai Hospital	Invitation via official letter or email	Interview
C1, C2, C3, C4, C5, C6	Hatyai MEC staff members (clinical educators)	Invitation via phone call with official letter or email	Interview
P1, P2, P3, P4, P5	Policy makers (CPIRD representative, Hatyai MEC authorities, and PSU MEC authorities)	Invitation via phone call with official letter or email	Interview
R1, R2, R3, R4, R5, R6	Rural stakeholders (local health professionals and local community members)	Invitation via official letter or email	Interview / Observation

3.5.5 Confidentiality and Anonymity

Consent was obtained from each individual participant in a confidential setting. Participants were offered the option to receive the consent form in person from the researcher, or have it emailed to them electronically. All appropriate steps were taken to ensure confidentiality. All audio recordings were stored in a secure location at the site of research, and all transcripts were viewed only by the

researchers and were stored in a secure computer database.

3.5.6 Semi-Structured Interviews and Data Collection

Prior to the formal semi-structured interviews with participants, the interview was piloted and interview techniques were guided by supervisors. Open-ended interview questions relating to the understanding or experience of the subject of interest were provided to explore in depth the understanding or experiences of stakeholders regarding RCBME in the Thai context (Appendix 13-14). Questions consistently used in the semi-structured interviews included:

a) What should RCBME in the Thai context look like?
b) What are stakeholders' concerns about the RCBME program?
c) What is needed to prepare for Thai RCBME program?
d) What are stakeholders' expectations in Thai RCBME program?

Participants were invited to take part in individual interviews. The expected time commitment for an individual interview was no more than 60 minutes. During this time, they were asked to describe their understanding or experiences of RCBME.

Most interviews were conducted at Hatyai Medical Education Centre as a convenient place for all Hatyai Medical Education Centre staff and medical students. The researcher arranged a meeting room for the privacy of the interviews and confidentiality of the participants. Similarly, PSU Medical Education Centre authorities' interviews were conducted at the Medical Education Centre office in PSU for the convenience of participants. Additionally, the researcher conducted interviews for local health professionals and local community leaders and members at rural hospitals in convenient places.

3.5.7 Data Recording and Transcription

All of interviews were audio recorded by the researcher. All participants had the opportunity to review the audio recording prior to transcription. All interviews

were transcribed in Thai, as the source language, by the researcher or a professional transcription company. Assistants involved in data transcription were asked to sign a confidentiality agreement. All transcribed data was carefully de-identified in order to ensure participants' anonymity and confidentiality. Once the data was transcribed, all participants were offered the opportunity to confirm that the transcript was an accurate record of their interview, and make any changes desired prior to data analysis.

3.5.8 Data Analysis and Translation into English

The data analysis phase of this research was somewhat complex as all transcriptions were in Thai, and the two primary research supervisors have no Thai language comprehension. The measures outlined below sought to ensure that the researcher was well supported by his supervisors as he learnt the technique of thematic analysis, while also being true to the participants' voices by analysing the data in Thai. Analysis of the Thai transcripts was judged to provide more authentic and nuanced understanding of Thai stakeholders' views.

Audiotaped interviews were transcribed by the primary researcher or an independent transcription service. Initially, five interviews were translated literally from Thai to English by the researcher for the purposes of enabling research supervisors to check that the researcher was systematic and meticulous in the thematic analysis technique. Reliability of these translations was audited by the associate Thai supervisor.

The analysis of the data in this study was then conducted in three stages:

Stage one – data coding according to the symbiotic model framework. The transcribed data was coded in Thai language by the primary researcher. Texts were categorised into four axes of symbiotic clinical education model including: symbiosis in the clinical axis; symbiosis in the institutional axis; symbiosis in the personal axis; and symbiosis in the social axis.

Stage two – thematic analysis *within* each symbiotic axis. Stage-one documents were translated from Thai to English language. The quotes in Thai and their English translation were categorised by the researcher and a preliminary code description developed in order to explain the meaning. The preliminary descriptions and the participants' quotes (in both Thai and their English translations) were presented to the research supervisors and refined through discussing and reflecting upon the meaning of the English documents, until consensus was reached regarding each category. Relevant descriptions and quotes were repeatedly and carefully considered. The reflexive process aimed to ensure trustworthiness of the code descriptions through consensus among the research team.

Stage three – thematic analysis *across* each symbiotic axis – all themes, descriptions, and quotes in the Results Chapter were analysed cross-categorically by the primary researcher to develop cross-category themes. The data was analysed independently by a different analyst (the associate supervisor, JA) using NVivo Version 10.0 (QSR International Pty Ltd, Doncaster, Vic., Australia) and the results compared. Six across-axis themes were initially identified (five themes from the primary researcher plus an additional theme from the associate supervisor) from the process of re-analysis. Further to this, all proposed themes in relation to the meaning and importance of each theme were then repeatedly discussed among the entire research team. From this process three across-axis themes were finally agreed to.

3.5.9 Data Storage

The principal supervisor (LW) is a staff member at Flinders Rural Health South Australia. The research data for this project was stored securely within a password protected folder on the Flinders Rural Health South Australia server, where it will remain for a period of five years following completion of the study. In line with the ethics approval, the principal researcher (Praphun Somporn),

who is not a staff member at Flinders University, also holds a de-identified copy on his data storage device in a password protected folder.

3.6 Research Rigour

According to Kitto, Chesters, and Grbich (2008), the quality of qualitative research can be described as research rigour which is classified as: (1) theoretical rigour, (2) procedural rigour, (3) representativeness, (4) interpretative rigour, (5) reflexivity and evaluative rigour, and (6) transferability. These criteria can strengthen research rigour when they are used in concordance with a broader understanding of qualitative research design, data collection and analysis.

Theoretical rigour– clarity of a research question reflected in the aims of the study. The theoretical framework relevant to the question is also essential for evaluating results and interpretation. This study had a clearly identified research question – what should RCBME in the Thai context look like? – reflected in the aims of the study and used the concept of symbiotic clinical education, originating in studies of RCBME, to explore understanding and expectation of relevant stakeholders about RCBME in the Thai context.

Procedural rigour– the technique of data collection has been clearly documented including case study, criteria for selection of participants, basis for recruitment, data collection, and the analytic technique.

Representativeness– a purposive sampling approach based on the theoretical framework was designed to provide a representative, information-rich data source. The researcher handpicked those individuals from the population of interest who have particular experiences and were able to provide a detailed picture of the phenomena under study were selected.

Interpretative rigour– respondent validation or member checking was used for

viewing and amending the transcripts. In addition, the researcher used reflexive process– a researcher triangulation by which multiple researchers (the primary researcher and supervisors in this research) were involved in the analytical process. This provided a means of agreement and supports the trustworthiness of documents.

Reflexivity and evaluative rigour– the ethical and political aspects of research were addressed. This study sought proper ethics approval covering confidentiality, informed consent, and steps to avoid possible adverse effects on the participants. As mentioned above, the research team engaged in a reflexive process bringing both insider and outsider perspectives to the analytic discussion.

Transferability– In clearly defining the case and its context, this case study of one Thai province engaged in the CPIRD program will be relevant to other Thai provinces providing a basis for transferability to other institutions in Thailand planning to develop a RCBME program.

Relevant to all categories of rigour in this study, the primary researcher acted as the research instrument to collect the data as well as extract the meaningful information for qualitative data analysis from the potential participants. The primary researcher was well trained in research techniques by the academic supervisors for qualitative data collection together with data analysis. Also, the primary researcher is a Hatyai MEC staff member and works for Hatyai Tertiary Hospital, providing knowledge and experience of this context. As a clinician in Songkhla Province, the primary researcher has professional connections with participants from the clinical network. However, the primary researcher has no personal relationships among potential participants and his position carries no power or authority in judgement or assessment of participants in this study.

3.7 Ethics Approval

This research posed very few risks to relevant participants, health care providers and institutes, and community members. Potential burdens for participants might include their time away from ordinary work, and transportation was an issue for local community members interviewed in the rural hospitals.

Time management– all efforts were taken by the researcher to ensure that the interviews were arranged at the most convenient time for participants and the researcher conducted individual interviews for a period of less than 60 minutes.

Transportation issue– if transportation was an issue for any of the local community participants, the interviews could be conducted in a more convenient place in the local area, with efforts made to ensure the privacy and confidentiality of participants.

This research was approved as a low-risk project by the Flinders University Social and Behavioural Research Ethics Committee (SBREC) under project number 7094 (Appendix 15). The researcher also submitted an ethics application form including a research proposal for ethics approval, reviewed by Hatyai Hospital Ethics Committee, at Hatyai Hospital, Songkhla Province, Thailand. The aforementioned documents had been reviewed and acknowledged by the Committee for Human Rights as research involving human subjects, based on the declaration of Helsinki. This study was ethically approved with protocol number 47/58 (Appendix 16). No conflict of interest or financial support was declared.

The study's ethics approval process addressed the four ethical principles that underpin the Australian National Statement on Ethical Conduct in Human Research: (1) research merit and integrity, (2) justice, (3) beneficence, and (4) respect.

Research merit and integrity- The curriculum for Rural Community-Based Medical

Education (RCBME) has been recognised world-wide and has been successful in Australia. A RCBME curriculum is to be implemented as the first pilot project of its kind in the Southern Region of Thailand. This rural community-based medical course for general practice aims to promote appropriate rural placement and community engagement in order to encourage students to become rural doctors after graduation to address the current problem of rural doctor shortage and maldistribution in Songkhla Province. The case study presented explores in-depth the understanding and expectations of stakeholders about this Thai RCBME program.

Justice - Rural Thailand has suffered from severe rural medical workforce shortages. The Thai government, universities and public hospitals have been collaborating to provide training for medical students who are bonded to work in rural practice for three years after graduation. This would be the first RCBME pilot project in the Southern Region of Thailand aimed to promote an appropriate rural placement and community engagement for medical students, in order to prepare students to become rural doctors in regions across Thailand. The project also involves many stakeholders, including medical students, health education researchers and service providers, rural general practitioners, local communities, and government. Because there was no official information regarding the perspective of Thai stakeholders on RCBME, the research would provide valuable information to enable the implementation of a context relevant RCBME program.

Beneficence- The research aimed to deeply understand the perceptions and experiences of RCBME by the relevant stakeholders. This is important in understanding how best to implement a RCBME program in this context to maximise benefit and minimise potential harms such as an impact on health service capacity. Moreover, the study outcome could exemplify RCMBE in the Thai context, providing guidance for other institutions' RCBME initiatives, and for further research in Thai RCBME.

Respect- The study was based on a respect for all relevant stakeholders' autonomy to give valuable information and for the culture of the local community. All participants would be informed of the details of research and could independently make a decision to participate in the study. The information gained from this study would be used carefully for further development of Thai medical education.

3.8 Summary

This chapter described in detail the research paradigms in medical education and demonstrated the value of a constructivist perspective in this study. It also has shown how the case study design chosen was appropriate for the research questions as well as describing the basis for research rigour. The ethical considerations of this study were presented. The next chapter will outline the results of the study.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter outlines the key findings of the research. Twenty-one participants were purposively chosen to represent the broad range of Thai RCBME stakeholders. The qualitative data was obtained from a number of interviews to explore participants' perspectives. Major categories coded included symbiosis in the clinical axis, symbiosis in the institutional axis, symbiosis in the personal axis, and symbiosis in the social axis, that together represented the perspectives of participants regarding Thai RCBME program development. This analysis identified no important finding that did not align with the symbiosis framework.

In each major category of symbiotic clinical education, subcategories were developed representing the themes that form the key findings of this research. To report the results, descriptions are provided to explain the meaning of each theme. Additionally, both Thai and English language quotes from the participants are provided to give evidence from the data that supports the legitimacy of themes described.

4.2 Participants

The 21 individual interviews were conducted and audiotaped by the principal researcher after consent forms had been signed by the participants in Thai language. From 21 participants, the participants can be classified by their roles including medical students (n=4), clinical educators (n=6), policy makers (n=5), and rural stakeholders (three rural GPs, one rural nurse, and two local community members; n=6). The participants were asked to provide some demographic data, namely their rural practice experience, and rural teaching or learning experience. The broad range of participants' rural experiences are shown in table 4.1 representing the diverse perspectives from these participants.

Table 4.1: Previous experience of participants classified by participant type

Role	n	Rural practice experience			Rural teaching or learning experience		
		Little	Some	More	Little	Some	More
Medical students	4	S1, S4	S2, S3	-	-	S1, S4	S2, S3
Clinical educators	6	C2, C5	C1, C3	C4, C6	C1, C3, C5	C2, C6	C4
Policy makers	5	P1, P2, P3	-	P4, P5	P1, P2	P3	P4, P5
Rural stakeholders	6	R5, R6	R3	R1, R2, R4	R5, R6	R3	R1, R2, R4
Total	21	9	5	7	7	6	8

4.3 Symbiosis in the Clinical Axis

The categories relating to the clinical axis of the proposed RCBME program included authentic preparation for future roles; meaningful relationships with members of interprofessional clinical teams; student readiness to contribute legitimately to rural practice; and city and rural clinicians seeing the other side of clinical practice.

4.3.1 Authentic Preparation for Future Roles

The participants described that they anticipated that the Thai RCBME program would be able to provide medical students with authentic learning in real-life situations of clinical practice in the rural hospital and rural community settings. This setting provides the real medical context in which graduates will practice (C1). It was therefore expected that students would be able to recognize how to work in the rural context (R1).

> *มีการให้นักเรียนไปสัมผัสกับสิ่งแวดล้อมในโรงพยาบาลชุมชน เป็นสิ่งแวดล้อมที่เขาเมื่อจบไปแล้วจะไปอยู่แบบนี้ (C1)*
>
> *In rural hospitals, students will be exposed to settings similar to those they will work in after their graduation. (C1)*

นักเรียนไม่เคยชินกับกรอบชุมชน เคยชินแต่กับ standard guideline ในโรงพยาบาลศูนย์ พอมาอยู่โรงพยาบาลชุมชนต้องปรับไปตามบริบทพื้นที่ ต้องใช้ทักษะที่แม่นยำมากกว่าใช้เทคโนโลยี ซึ่งเขาไม่เคยอยู่มาก่อน เขาก็อึดอัด แต่ถ้าเราให้เขามาอยู่ตั้งแต่เป็นนักเรียน ให้เขาได้เห็นบริบทว่ามันไม่ได้ยากหรือซับซ้อน มันจะทำให้เขากังวลน้อยลงเมื่อเขาเรียนจบ (R1)

Students are familiar with standard guidelines in the tertiary hospital, but they are not familiar with the rural context. They need to adapt their knowledge for their rural context and also they need to use their precise clinical skills more than technology in this context. All of these make them feel uncomfortable to stay in the rural community. However, if they can have early rural exposure and recognize the rural context is actually not a complicated setting, it will make them less anxious when they graduate and work there. (R1)

Participants described value in medical students seeing more common and practical medical conditions in rural sites (S2). They described these conditions as fit-for-purpose for medical students to develop competency as a generalist. Medical students in the rural sites were expected to be provided with information about rural health care services, which could not be provided in the tertiary hospital. Students could also be informed about the process of patient management from the primary hospital, and experience patient transfer to the tertiary hospital (S4).

เคสแถวนี้ [โรงพยาบาลชุมชน] ก็ common ด้วย ก็สอนแล้วก็เห็นจริง กลับกันถ้าอยู่ในโรงเรียนแพทย์มีสอนเคส common แต่ไม่มีเคส common เพราะที่นอนอยู่ก็มีแต่เคสยาก ๆ เลยกลายเป็นข้อเสียว่าสอนแล้วก็ผ่านลมไป มันไม่เคยเจอ (S2)

The rural hospital can provide more common cases that I can learn from. Although I can learn the theory of common conditions in the tertiary hospital, I cannot see these cases there. So, it is difficult to remember what I learn without seeing real cases. (S2)

[การเรียนในโรงพยาบาลชุมชน] ช่วยเติมเต็มกระบวนการดูแลรักษาผู้ป่วยตั้งแต่การดูแลเบื้องต้น และการส่งต่อ อยู่โรงพยาบาลศูนย์ไม่เห็นผู้ป่วยตั้งแต่แรก มันขาดไป (S4)

It [learning in the rural hospital] helps me to fulfil my learning in the process of patient care – initial management in the rural hospital including patient transfer to the tertiary hospital. I cannot get the process of initial care from the tertiary hospital. (S4)

The tertiary hospital was described as being less suited for medical students'

learning needs because there are more specialists and more complicated cases which were seen to be more suitable for residency training, than for medical students' learning needs (P3).

> *โรงพยาบาลศูนย์ไม่เหมาะแล้ว เพราะไม่ค่อยมี common case ให้เรียน staff ก็เป็น specialist เคสก็ complicated มากขึ้น น่าจะหาที่ที่เป็นบริบทจริงที่จะเห็น common case (P3)*
>
> *The tertiary hospital is not an appropriate learning place for students anymore because it rarely has common cases. Most clinical staff are specialists who care for patients with more complicated conditions. So, we should find an alternative learning setting that can provide common cases for student learning. (P3)*

Students can learn and engage in clinical practice with their rural GP preceptors through dealing with rural patients' common illnesses in practical ways within rural medical settings (S1, R3). Participants reported that dealing with patients in real-life situations in the rural setting could make students recognise for themselves what they need to know for rural general practice as well as equip them with their own generalist competency in the beginning of their career, compared to their learning theoretical knowledge alone (C1).

> *ถ้าเราไปอยู่กับเขา [แพทย์โรงพยาบาลชุมชน] จริงๆ อยู่ด้วยกันตลอด เราก็จะตามไปดูการ management คนไข้ ดูว่าพี่รับมือกับสถานการณ์อย่างนั้นอย่างไร (S1)*
>
> *If we attend with rural GPs, we can closely follow them to see their patients' management and also how they deal with their patients in the real situation. (S1)*
>
> *สมมุติว่าต้องใส่ยาคุมกำเนิดในคนไข้หลังคลอด เรากับน้องก็เรียนมาในตำราเดียวกันว่าทำอย่างไร แต่จริงๆ ก็จะบอกน้องว่าตอนที่ทำจริงๆมันจะมีปัญหาอะไรบ้าง สักพักเราก็จะมีวิธีของเรา แล้วเราก็บอกน้องแบบนี้ ซึ่งมันลดปัญหาที่เราเจอ อันนี้มันเป็น trick เล็กๆที่ผมอยากสอนน้อง ผมรู้สึกว่าผมเจอมาแล้ว และในประสบการณ์มันดีกว่าหนังสืออย่างไร (R3)*
>
> *Assuming that the patients need a contraceptive implantation after giving birth. We could study from the textbook and students could as well. I actually have my own practical skills that work very well in my clinical practice. I am very happy to teach them [the students] about what problems they might face when following the theoretical techniques and what tricks I have learnt from my experiences rather than from the textbook. (R3)*

ไปดูบริบทชุมชนว่าต้องการแพทย์แบบไหน มีเคสแบบไหน ทักษะด้านไหนที่นักเรียนต้องรู้ก่อนออกไปชุมชน (C1)

Students can go to the rural hospital to see the rural medical context, what type of doctors that the local community needs, what type of patients they have in the rural hospital, what sort of things that students need to know before working in the rural hospital. (C1)

Also the RCBME program is expected to give students opportunity for learning from practice including history taking, physical examination, or even doing specific clinical procedures (S3, R3).

การตรวจร่างกายเหมือน PV [per-vaginal examination] อย่างนี้จะให้มาทำหลายครั้งในโรงพยาบาลศูนย์ก็ไม่ได้ แต่ว่าถ้าเราไม่เคยทำ แล้วเราออกไปจะทำได้ยังงัย (S3)

Some physical examinations in the tertiary hospital, such as PV [per-vaginal examination], are performed by senior doctors to protect patient privacy. It means students do not have an adequate opportunity to learn for this. However, we need to be competent to do these things when we practice in the rural hospital in the future. (S3)

ที่โรงพยาบาลชุมชนทำให้ได้เรียนรู้เคส breech presentation ซึ่งไม่สามารถทำได้ด้วยตัวเอง จริงๆแล้วก็ได้ฝึกกับหุ่นมาหลายครั้งตอนอยู่โรงพยาบาลศูนย์ แต่ก็ไม่ได้ใส่ใจ เพราะไม่คิดว่าจะเจอเอง แต่พอเจอเคสจริงๆก็ได้เรียนรู้จากตอนนั้น แล้วก็จำวิธีการทำนั้นมาตลอด (R3)

I performed a breech presentation delivery in the rural hospital. I had never done one previously myself. Actually, I practiced many times with manikins when I studied in the tertiary hospital and I did not do seriously. After the rural hospital experience, I can memorize how to manage that [breech]. (R3)

The participants' perspective was that the more students engage or participate with their rural GP preceptors and patients, the more they gain meaningful clinical experience. Participants thought that the Thai RCBME program could potentially provide students with continuity of learning and continuity of clinical care (P4).

หลักสูตรใหม่เน้นการใช้ชุมชนเป็นฐาน หมายถึงเขา [นักเรียน] กำลังยึดเอาปัญหาที่เกิดขึ้นตรงนั้นมาเรียน ดังนั้นการที่จะเข้าใจปัญหาให้ถ่องแท้ มันต้องอยู่กับปัญหานั้นๆ ต้องมีความต่อเนื่อง ให้เขาได้เห็นผลลัพธ์ความต่อเนื่องมีประโยชน์มากในการดูแลผู้ป่วย เพราะปัญหาหนึ่งมันไม่ได้แก้ได้ด้วยครั้งเดียว (P4)

The new RCBME program focuses on students learning from their rural patients' problems. To understand these problems, students must continuously engage with those patients until they see the results. Continuity of patient care is very useful because some problems cannot be solved with only one episode of care. (P4)

Participants reported that they expect medical students will become familiar with the rural health service during their period of RCBME. They will come to understand the capability of the rural hospital, and also gain experience of the rural clinical practice strategy for rural patient management including initial treatment of patients, and patient transfer procedures (from the rural hospital to the tertiary hospital) (P2). Moreover, some participants expect that students will have a chance to accompany their patients to the tertiary hospital during patient transfers in order to complete their case management and fulfil their practice learning as well.

ได้เห็น health care system จริงๆ มันเชื่อมโยงกันอย่างไร ระบบรีเฟอร์จากโรงพยาบาลชุมชนไปที่ไหน มีการส่งต่ออย่างไร และมีโอกาสได้ถึงกระทั่งตามผู้ป่วยที่รีเฟอร์มาถึงโรงพยาบาลศูนย์ว่าเป็นอย่างไร (P2)

Students are able to understand rural health care system including the patient referral systems from the rural hospital. They may also have the opportunity to follow their patients during transfer to the tertiary hospital to complete the process of patient care. (P2)

4.3.2 Meaningful Relationships with Members of Interprofessional Clinical Teams

Medical students thought that the RCBME program could provide them the opportunity to follow their rural GP preceptors and closely participate in their work through joining their rural GP preceptors' colleagues and other health professionals in the rural hospital and community (S3). The non-rural participants mentioned that the relationship between students and their rural colleagues would broaden students' perspectives of professionalism (C2).

รู้สึกได้ใกล้ชิดความเป็นหมอที่เรากำลังจะจบไปมากขึ้น ได้เห็นแนวทางว่าเดี๋ยวพอเราจบไปเราก็มีหน้าที่อย่างนี้ การ refer ต่อเป็นอย่างไรก็ได้เห็นตัวอย่าง เกิดความคุ้นเคยได้เห็นภาพมากขึ้นในอนาคตของตัวเรา (S3)

I felt that I am getting close to become a rural doctor. I can understand the number of roles for rural doctors as well as recognise the referral system. It makes me familiar with my future responsibility from this reason. (S3)

แต่ละสาขาอาชีพจะมีทักษะของแต่ละคนไม่เหมือนกัน ดังนั้นการใช้ศักยภาพของแต่ละอาชีพจะช่วยให้นักเรียนมองกว้างขึ้น แล้วก็เปลี่ยนทัศนคติที่คิดว่าหมอเป็นศูนย์กลาง (C2)

Each of professionals has unique skills from their individual fields. So, this diversity will help students broaden their minds, and change their perspectives of doctors always being central to others in the health care team. (C2)

Participants expected that students would learn to value the expertise of other members of the health professional team, particularly rural nurses (S1).

เรามีโอกาสสร้างความสัมพันธ์กับพยาบาล เหมือนเวลาไปโรงพยาบาลชุมชน พยาบาลก็มีส่วนสำคัญเพราะเขาเก่งมาก ช่วยสอนอะไรเราเยอะ (S1)

We have the opportunity to make relationships with rural nurses when we are in the rural hospital. Rural nurses are very important professionals because they are very competent to do their work and are able to advise us so much. (S1)

Meaningful relationships with members of the interprofessional team, particularly nurses, were seen as founded on respect for their knowledge and doctors previous experience of learning from them in rural areas (S2). Students thought that this relationship could be highly valuable for RCBME (S2).

เหมือนตอนมาวนที่นี่ [โรงพยาบาลชุมชน] ตอนปี 4 นี่คือความรู้สูตินี่ศูนย์เลย เพราะไม่เคยวนกองสูติมาแล้วก็เรียน การอ่านกราฟ การจับ contraction จากพยาบาลทั้งหมดเลย แล้วพอกลับไปเรียนสูติก็สบายเลย เพราะว่าผ่านมาหมดแล้ว (S2)

When I rotated to the rural hospital in my fourth year, I had never had any experiences in obstetrics. After I learnt partograms and recordings of uterine contractions from the rural nurses, I came back to rotate in obstetrics in the tertiary hospital, and felt that I was really comfortable to learn because I had already got my experiences from my rural rotation. (S2)

ตัวผู้อำนวยการเองจะค่อนข้างสนิทกับแพทย์ที่อยู่ในนี้ [โรงพยาบาลชุมชน] และจะทำ conference ให้หมอในโรงพยาบาลได้หาความรู้ ได้อยู่พร้อมหน้าพร้อมตา ทานอาหารร่วมกัน คือทุกสัปดาห์จะมีแบบนี้ตลอด รู้สึกว่าความสัมพันธ์ของโรงพยาบาลชุมชนค่อนข้างแน่นแฟ้น คือสนิทกันหมดเลย (S2)

The relationships between the director and doctors here [the rural hospital] are very close. They always join the weekly conference to update their knowledge and have their lunch together. I felt that their relationships were really strong in the rural hospital. (S2)

On the flip side, one rural participant felt that rural nurses also update their knowledge from the medical students, who have recently learnt from the tertiary hospital program. (R4)

ส่วนหนึ่งเราอาจจะรู้มากขึ้น นักเรียนเขาเรียนมาจากโรงเรียนแพทย์ เขาอาจจะมีความรู้ที่มาเสริม เวลาเรามีกิจกรรมกับชาวบ้าน นักเรียนก็สามารถช่วยได้ บางทีเราอาจจะมีความรู้อยู่เดิมๆ แต่ถ้ามีนักเรียนที่ได้รับความรู้มาจากอาจารย์มาฝึกงานในชุมชน เขาก็จะได้แนะนำได้ตรงส่วนนี้ (R4)

We might learn more things from students because they come from the medical school. They can improve our work because our knowledge might not be up-to-date. Through the knowledge they learnt from their clinical educators, the students help us advise the local community members. (R4)

4.3.3 Student Readiness to Contribute Legitimately to Rural Practice

The local community members interviewed (R5, R6) voiced their concerns regarding medical students' expertise in clinical practice. Their perceptions were that medical students mostly do not have enough experience to take care of patients. They expressed a preference to see senior rural doctors because of their confidence in the greater experience of senior rural GPs (R5). Additionally, local community members described not being comfortable to take a longer time consulting to accommodate time with a medical student (R6).

ชาวบ้านโดยเฉพาะคนแก่ๆ เขาว่าถ้าเป็นนักเรียนจะมองว่าอายุยังน้อย ยังขาดประสบการณ์ หรือประสบการณ์ยังไม่ชัดเจน ไม่เหมือนกับหมอใหญ่ เขาจะรู้ทุกอย่าง (R5)

The local community members, especially the elderly, mentioned that medical students were young and inexperienced compared to the senior rural doctors who were more experienced in terms of clinical practice. (R5)

ส่วนมากเขา [คนในชุมชน] อยากจะพบหมอใหญ่เลย เหมือนว่าลูกหมอ [นักเรียน] ไม่ค่อยจะมีประสบการณ์เท่าไหร่ ประสบการณ์ยังน้อยอยู่ ไปโรงพยาบาลมันตรวจนาน เลยอยากตรวจกับหมอใหญ่ให้เสร็จเร็วๆ (R6)

Most of them [local community members] want to see the senior rural doctors rather than the medical students. They assume that the students are pretty inexperienced in clinical

practice and therefore, take a longer time in the hospital. That was a reason why they [community members] want to see the senior doctors - to save their time. (R6)

Because GPs in the rural hospitals often have high service workloads, participants from the student and policy maker groups reported concerns that time pressure could interfere with rural GPs' teaching or mentoring opportunities, curtailing medical students' learning opportunities (S2, P4).

กังวลว่าถ้ามาแล้วไม่เป็นอย่างที่คิดไว้ พี่เค้าเน้น service ไม่ค่อยสนใจเราเท่าไหร่ ถ้าอย่างนั้นก็คงจะผิดหวังพอสมควร (S2)

I am concerned about learning in rural general practice that it might not be the same as I think. If rural GPs mostly do their clinical work and really don't take care of us, then I will be really disappointed. (S2)

กังวลเยอะเรื่องแพทย์โรงพยาบาลชุมชนน่าจะมีปัญหาเรื่องการจัดการเวลาที่จะมาสอนกับงาน service ให้มันพอดีกัน เพราะงาน service ในโรงพยาบาลชุมชนมันเยอะ และอาจทำให้ดูแลนักเรียนได้ไม่ทั่วถึงและไม่ต่อเนื่อง (P4)

I have a major concern for rural GPs in terms of time management between their clinical service and academic commitments. This issue may affect their continuity of student supervision. (P4)

Participants described that Thai medical students are familiar with passive learning. Participants explained that active learning would be expected in the RCBME program. One rural doctor (R1) had active learning experience from their in-service family medicine residency training and found that the readiness of students for learning is a really important issue, thus, as one policy maker (P1) pointed out, students needed to prepare themselves for active learning in the rural setting.

ระหว่าง in-service training กับ CPIRD ดูเหมือนคล้ายกัน แต่ว่า in-service training จะเป็น adult learning จะรับผิดชอบเยอะกว่า เพราะทำงานด้วยและเรียนไปด้วย ส่วน CPIRD maturity ของแต่ละคนไม่เหมือนกัน เป็นประเด็นหนึ่งที่เราหวั่นใจ ถึงแม้ว่าแหล่งความรู้จะมีเยอะ แต่เขา [นักเรียน] mature พอที่จะเรียนแบบ adult learning แล้วหรือยัง (R1)

It may be comparable training between [family medicine] in-service training and CPIRD

student training. However, in-service training is likely to be more adult learning [pedagogy] with more learner responsibility than CPIRD training. Adult learning competency of CPIRD students is quite variable and this issue makes us worry. Although, there are many learning resources provided to CPIRD students, but we are not sure about their competency for adult learning. (R1)

สิ่งสำคัญคือเราต้องเตรียมนักเรียนให้ดี มีความสามารถที่จะเรียนรู้ด้วยตัวเองได้ ถ้าเรายังสอนนักเรียนโดยวิธีแบบเดิม นักเรียนก็ไม่สามารถปรับตัวได้ ต้องรอพึ่งครูตลอดเวลา (P1)

Importantly, we must prepare students very well to make sure that they are able to study themselves. If we still have taught them traditionally, they will not actively adapt themselves and they still have depended on their teachers. (P1)

The participants reported that the RCBME program developers should include learning preparation for medical students in terms of learning methods (S2).

เหมือนเลี้ยงปลาในบ่อ คือถ้าเกิดว่าปลาเนี่ยเกิดมาใหม่ๆ ก็ยังไม่รู้วิธีการกิน หรือไม่มีความสามารถที่จะว่ายน้ำตั้งแต่แรกเริ่ม แล้วพอถึงเวลาก็โยนลงไปในทะเลก็ตายหมด (S2)

Giving students knowledge is the same as feeding fishes in the pond. If fishes are too young to eat or swim themselves, they will certainly not survive when they are let in the sea. (S2)

In addition to active learning skills, it was recognised that students would need to be work-ready to contribute to the rural clinical environment with procedural skills that they are able to perform under their preceptors' supervision. Some participants suggested preparing students through clinical skills or simulation training in the tertiary hospital before they learned through hands-on practice with real patients (C5). One participant from the clinical educator group was particularly keen to see communication skills engendered in RCBME students in the future, in order to help students to work with patients (C5).

ควรให้นักเรียนฝึก simulation มาก่อน เพราะเขาจะได้เสมือนเจอของจริง หรือเจอผู้ป่วยจำลอง ได้เจอสถานการณ์เลียนแบบมาแล้ว (C5)

Students should practice with simulation that mimic real clinical practice and gain experience with simulated patients before hands-on with real patients. (C5)

ต้องสอน communication skill ให้นักเรียน ทุกวันนี้ยังมีปัญหาการ approach ผู้ป่วย การพูดคุยสื่อสารต่างๆ ยังมีปัญหาอยู่เลย อาจทำให้ผู้ป่วยและญาติไม่พอใจได้ (C5)

We must provide students with communication skills training. We still have students who have problems with their patient approach and communication skills. These difficulties can make the patients and their relatives unsatisfied. (C5)

The participants have expected that medical students will have more rural experiences from their early exposure in the RCBME program. Their maturity will gradually grow during their rural rotation period and facilitate the adoption of professional roles as doctors (S2, S3). It was expected that they would become more independent in their work over time (R3). Students would become confident to take care of their own patients and maintain good clinical standards. Their rural experiences will support them to develop contextually relevant clinical performance and to be responsive to patients and health professionals in the rural context in the future. Consequently, it was hoped the local community members will gradually accept them.

ประสบการณ์ในชุมชนจะสร้าง maturity (S2)

Rural experiences will make me more mature in learning. (S2)

การเรียนในชุมชนจะช่วยทำให้เราเติมเต็มความเป็นหมอมากขึ้น (S3)

Learning in the rural community helps us to experience the professionalism of doctors. (S3)

ถ้าเราได้เรียนรู้ในชุมชนได้จริง ทำงานในชุมชนได้จริง เราจะ smart กว่าคนอื่น และทำงานร่วมกับคนหลายๆ แบบได้ ที่สำคัญคือเราจะเข้าใจคนอื่นมากขึ้น เราจะฟังมากขึ้น (R3)

If we are able to learn and work in the rural community, we will practice smarter than others who are not learners in the rural community and we will be able to work with other professionals actually. Importantly, we will have more understanding of other people. We will listen better to other people. (R3)

4.3.4 City and Rural Clinicians Seeing the Other Side of Clinical Practice

Non-rural participants expressed concerns about rural GP's preceptor skills,

particularly their factual knowledge, clinical skills and teaching attitude. These concerns were not only in regard to the standard of clinical practice, but also in relation to rural GP clinical teaching expertise. Several non-rural participants felt that rural GPs need to update their factual knowledge or clinical practice guidelines and also improve their teaching skills before being students' preceptors (P2, C2).

> *คิดว่าความตั้งใจเขา [แพทย์โรงพยาบาลชุมชน] เต็มร้อยนะ แต่ว่าก็ต้องอาศัยทักษะในการสอน ซึ่งเราต้องพัฒนาให้เขา (P2)*
>
> *In my opinion, rural GPs are willing to be involved, but they need to have more teaching skills. We have to develop them. (P2)*
>
> *หากเราอยากให้นักเรียนได้รับความรู้ที่ถูกต้อง แพทย์ในโรงพยาบาลชุมชนต้องมีความรู้ที่ถูกต้องก่อน การเตรียมตรงนี้เป็นส่วนสำคัญมากกับหลักสูตร (C2)*
>
> *If we would like our students to have better knowledge, rural GPs must upgrade their knowledge first. Knowledge preparation of rural GPs is very important part to develop the RCBME program. (C2)*

A few participants recognised that not only medical students, but also specialists in the tertiary hospital could form professional relationships through the RCBME program (P2). The participants mentioned that specialists would be able to visit students in the rural hospital and facilitate learning activities for students and their rural GP preceptors. Specialists were expected to form an understanding of the rural context, that they previously may not have known, and that this would benefit both learning and health service aspects (P4, C2).

> *หลักสูตรน่าจะมีจุดแข็งในเรื่อง collaboration การทำงานร่วมกันจะทำให้เกิดความเข้าใจกัน โรงพยาบาลศูนย์และโรงพยาบาลชุมชนจะเข้าใจกันมากขึ้น (P2)*
>
> *The RCBME program actually has a strength in terms of collaboration. The understanding between the tertiary and rural clinicians will be developed and increased. (P2)*
>
> *แพทย์โรงพยาบาลศูนย์และโรงพยาบาลชุมชนน่าจะได้สื่อสารกันมากขึ้น เห็นภาพการทำงานในโรงพยาบาลชุมชนชัดเจนขึ้น (P4)*

Specialists and rural GPs are able to have more connection. Specialists also understand rural practice more clearly. (P4)

ระหว่างแพทย์โรงพยาบาลศูนย์และโรงพยาบาลชุมชนต้องจูนเข้าหากัน เราลงมาจากหอคอย และเขาก็ต้องขึ้นมาจากข้างล่างมาจูนให้ใกล้เคียงกัน (C2)

Specialists and rural GPs together have to adjust their attitudes. We come down from the tower and they come up from the ground in order to engage as close as possible. (C2)

One clinical educator was worried about the administration of the RCBME program. This clinical educator recognised that the RCBME program developers would need good communication skills to organise the program successfully. In particular, they would need to facilitate respectful and supportive connections between specialists and rural GPs (C2).

เป็นห่วงมากเรื่องการบริหารจัดการความร่วมมือ คนบริหารหลักสูตรต้องใช้ทักษะส่วนตัวค่อนข้างมากในการประสานงาน communication ที่ดีจะช่วยได้มาก แต่มันยากตรงนี้ (C2)

I worry about the administration and collaboration of this program. The program developers must use their personal skills to communicate with everyone. Communication is really helpful but it is very difficult. (C2)

4.4 Symbiosis in the Institutional Axis

Participants recognised the need for Thai RCBME to be of benefit to both the rural health services and the academic centres engaged in CPIRD. Important themes in this axis discussed by the participants included that RCBME academic centres would be able to meet government expectations for transferring clinical learning to rural areas, and for improving and sustaining rural hospital quality. They could support rural health services to ensure the success of the RCBME program, which in turn will improve rural health services.

4.4.1 Enabling Tertiary Hospitals to Meet Government Expectations by Transferring Clinical Learning to Rural Areas

Participants discussed the transferability of learning setting. Their experience was that Thai medical education was first established medical schools a considerable

time ago, and then, in the last two decades, it has moved from university hospitals to the setting of regional tertiary hospitals through the Ministry of Public Health's development of CPIRD. Participants recognised that currently Thai medical education is poised to make the next important step: to develop the rural hospitals as the rural learning sites (P5).

> *เป็นความท้าทาย เป็นการ step up ของความก้าวหน้าในการเรียนการสอน จากดั้งเดิมที่เป็น regional-based [มหาวิทยาลัย] มาในปัจจุบันที่เป็น provincial-based [โรงพยาบาลศูนย์] และต่อไปกำลังจะเป็น district-based [โรงพยาบาลชุมชน] (P5)*
>
> *This is a challenging step of educational progression primarily from regional-based setting [university] currently to provincial-based setting [tertiary hospital], and then straight forward to be district-based setting [rural hospital]. (P5)*

The non-rural participants reported that the RCBME program could formally develop new rural learning centres for medical students' learning. In some clinical educators' opinions, the clinical activities in tertiary hospitals currently do not match medical students' learning needs. The many specialists and many complicated cases are more practical for residency training, than for medical students' learning. In contrast, rural hospitals still have more common cases, which were seen to provide medical students with learning opportunities fit for their generalist competency (C1).

> *ปัจจุบันโรงเรียนแพทย์และโรงพยาบาลศูนย์ก้าวหน้าไปมาก มีการฝึกอบรมแพทย์เฉพาะทาง ทำให้เคสมีความซับซ้อนขึ้น นักเรียนซึ่งต้องการความรู้ที่เล็กน้อยกว่านั้น กลับมาอยู่ในสภาพแวดล้อมที่ลึกซึ้ง ก็อาจไม่ได้นำความรู้เหล่านั้นไปใช้ จึงน่าจะให้มีการไปสัมผัสบริบทในชุมชน ไปเรียนรู้ในสิ่งแวดล้อมที่นักเรียนจบออกไปแล้ว ต้องไปทำงานจริง (C1)*
>
> *The medical school and tertiary hospital have become increasingly advanced in terms of specialist services and residency training programs. More complicated cases are managed there. Students who will be graduated to be generalists, unfortunately have learning activities in the advanced tertiary setting, will not able to actually use the advanced knowledge in their general practice. Students should be provided with the right learning place that means the rural hospital in which they are able to have learning activities compatible with their future workplace. (C1)*

Participants expressed hope that when specialists in the tertiary hospital could work in cooperation with rural GPs in the rural hospital, then medical students could benefit from the complementary teaching. In RCBME, students might be able to integrate deep knowledge about specific medical disciplines from specialists with broad general medical knowledge from rural GPs (P5). More commonly, however, participants expressed opinions which privileged the knowledge of specialists, indicating that students could apply knowledge they learn from the tertiary hospital to practice in the rural hospital as well (R3).

> *Rural GPs มีส่วนในการสอนในแนวระนาบ ร่วมกับ specialists สอนในแนวลึก (P5)*
>
> *Rural GPs play a role in general teaching together with specialists playing a role in the teaching in specialty. (P5)*
>
> *ทำได้ค่อนข้าง smart ที่นี่ [โรงพยาบาลชุมชน] ในการนำความรู้ที่เรียนมาใช้ดูแลรักษาผู้ป่วยได้ เป็นการตอกย้ำความรู้ที่เรียนมาจากโรงพยาบาลศูนย์ (R3)*
>
> *I am competent here [rural hospital] to apply knowledge for patient management. This can confirm my knowledge I got from the tertiary hospital. (R3)*

Participants recognised that financial support was needed in order for CPIRD to transfer learning to rural areas. The participants mentioned that the government should consider constructing buildings and facilities not only for student learning, but also for student accommodation during rural rotation period (P1). Additionally, government investment in electronic devices and information technology systems for the rural hospitals would enable the provision of electronic learning resource for students. Moreover, learning media resources supplied by the Ministry CPIRD could be shared by the network as a supplementary learning resource and a contact channel for academic discussion or clinical consultation between the rural hospital and the tertiary hospital. (C5).

> *การ support คงเป็นเรื่องของ software สื่อการเรียนการสอน ระบบการสื่อสาร teleconference ต้อง facilitate ให้หมด และต้องทำให้ดี รวมทั้งเรื่องของ hardware เช่นตึก ครุภัณฑ์ เราก็ทำเรื่องขอจากส่วนกลาง เพื่อให้เกิด learning environment ที่ดี (P1)*

Support in terms of software, learning media, [information technology] networks, or even teleconference must be facilitated. This also includes hardware, for example, buildings or durable equipment that should be provided by the Ministry to create better learning environments. (P1)

เราต้องมีวิดีโอวิชาการให้นักเรียนเยอะๆ ถ้าเขาไม่มั่นใจอะไรก็ให้เขามาดู (C5)

We must provide students ample access to learning materials to enable them to review their knowledge when they are not confident. (C5)

4.4.2 Rural Hospital Quality Improvement and Sustainability

The participants stated that the academic activity from the RCBME program could enable specialists to collaborate with rural GPs to improve rural GPs' knowledge and assist their rural general practice in becoming more up to date. Medical students provide the link between academic knowledge from the tertiary hospital and the health service experience of the rural hospital (P4). This will be a great opportunity for the rural hospital to be able to utilise that knowledge to improve their routine health service (C2). When the rural health service improves, the rural patients have access to a better quality of care. Non-rural participants described closing the gap between urban and rural health service providers, providing a win-win situation for stakeholders in each health sector.

การเรียนการสอนของนักเรียนทำให้ชุมชนถูกเชื่อมโยงกับโรงพยาบาลมากขึ้น โดยมีนักเรียนเป็นตัวกลาง และการสื่อสารระหว่างแพทย์ก็จะมากขึ้น คุณภาพการรักษาผู้ป่วยในโรงพยาบาลก็จะดีขึ้นเมื่อมีการเรียนการสอนเข้าไป (P4)

Learning activities for medical students can connect the local community with the rural hospital. Students will be located in the centre position of this connection. The connection between clinical staff will be progressed. Also, the quality of patient care will be increased when academic activities are implemented in the health service. (P4)

ความคิดของเรา [specialists] จะถูกสอดแทรกเข้าไปในการพัฒนาคุณภาพของโรงพยาบาลชุมชน ศักยภาพของเขาต้องเพิ่มขึ้นแน่ (C2)

Our [specialists'] ideas will be incorporated into the development of rural health service quality. That means the potential of rural GPs will be increased. (C2)

Some participants from the clinical educator group thought that specialist involvement in rural hospitals was likely to lead to academic advances, which were expected to result in improved quality of rural health services. Consequently, local community members expected to benefit from improved health care. It was also proposed by one clinical educator that quality and safety improvements in rural hospitals would eventually lead to a reduced need to transfer patients to the tertiary hospitals resulting in more manageable workloads in the tertiary hospital (C3).

> *ถ้าโรงพยาบาลชุมชนเข้มแข็งหรือดูแลผู้ป่วยได้ดีขึ้น เขาก็จะส่งมาโรงพยาบาลศูนย์น้อยลง มันก็ถือเป็นการแบ่งเบาภาระของเรา และผลประโยชน์ก็จะได้กับผู้ป่วยที่อยู่ในชุมชนด้วย (C3)*
>
> *If the quality of patient care in rural hospitals can be improved, then patients transfer to the tertiary hospital will be decreased. This can help us reduce our [specialists] clinical workload. This will also benefit the local community members. (C3)*

Finally, a few participants proposed that improving the quality and safety of the rural hospitals might increase the attractiveness of these hospitals, improving retention of GPs and increasing the sustainability of these rural services (C1, P1, P2).

> *อาจเป็นความหลงผิดของกระทรวงสาธารณสุข ซึ่งไปพัฒนาเครือข่ายการส่งต่อผู้ป่วย โดยไม่เน้นการเพิ่มศักยภาพโรงพยาบาลชุมชน หากมีการเพิ่มศักยภาพโรงพยาบาลชุมชน ขยายโรงพยาบาล เพิ่มเตียง แจกทุนให้เรียนต่อ อาจมีแพทย์เฉพาะทางเรียนจบมาแล้วอยากกลับมาอยู่โรงพยาบาลชุมชนเพิ่มขึ้น เพราะสามารถทำงานได้ เขาก็จะอยู่ในโรงพยาบาลชุมชนได้ คุณภาพการรักษาและคุณภาพชีวิตผู้ป่วยก็เพิ่มมากขึ้นไปด้วย (C1)*
>
> *It might be a misunderstanding of the Ministry, which developed the patient transfer network without focusing on the improvement of rural hospitals. If the rural hospitals improve their patient care capabilities and facilities, or even provide the scholarships for residency training, it might encourage the specialists to return to rural practice. If they can work in their own specialties in the rural hospital, they will be able to stay longer and the quality of patient care will be increased. (C1)*
>
> *มันถึงเวลาแล้วที่เราจะต้องเข้าไปช่วยกันพัฒนาโรงพยาบาลชุมชน ถ้าโรงพยาบาลชุมชนเป็นที่ที่มีการจัดการเรียนการสอน มีบรรยากาศการเรียนการสอน มันอาจมีหมอส่วนหนึ่งที่ยินดีที่จะอยู่ที่นั่น จะได้*

เกิดความยั่งยืน ไม่เกิดการขาด (P1)

It is time to develop the capability of rural hospitals. If the rural hospitals are able to implement an adequate learning environment, it might induce doctors to stay in the rural community and make the rural health service more sustainable. (P1)

หวังว่าจะแก้ปัญหาการขาดแคลนแพทย์ เขา [นักเรียน] น่าจะอยู่ชุมชนได้ รู้จักชุมชนนั้น แล้วน่าจะอยู่ได้นานขึ้น หากอนาคตไปเรียนต่อก็มีโอกาสที่จะไปเรียนต่อสาขา Family Medicine แล้วกลับไปทำงานในโรงพยาบาลชุมชน (P2)

It [RCBME] will hopefully solve the problem of rural doctor shortage. They [students] are likely to stay in the rural community and stay longer when they are familiar with it. If they want to do a specialty training in the future, we hope that they will have the opportunity in Family Medicine training, and then come back to work in the rural hospital. (P2)

4.4.3 Supporting and Valuing Rural Health Services to Succeed at RCBME

Many participants, particularly students, expressed concerns about rural standards of clinical and educational practice in terms of readiness of the rural hospital and community to facilitate student learning and practice. Policy maker participants also expressed concerns that rural GPs have little experience in formal teaching and learning to build upon during RCBME program development (P2). Because of rural GPs' high service workloads, together with less academic experience, there were concerns that it will be difficult for rural GPs to meet tertiary hospital developed accreditation standards in their rural hospital (P4).

ต้องถามว่าบริบทชุมชนของเราพร้อม [เป็นสถานที่การเรียนการสอน] ขนาดนั้นไหม และชุมชนเองก็ไม่เคยมีประสบการณ์เรื่องการสอนที่เป็น formal มาก่อน (P2)

I question the readiness of the affiliated rural hospital and community. Moreover, the rural hospital doesn't have any experience of formal teaching. (P2)

ไม่แน่ใจเรื่องคุณภาพการเรียนการสอนในชุมชน เพราะภาระงานของ rural GPs เยอะมาก และโรงพยาบาลชุมชนก็ยังไม่ได้ถูกเตรียมในเรื่องการเรียนการสอน (P4)

I am not sure about the quality of teaching and learning in the rural hospital because rural GPs have their massive service workload. Another thing, the rural hospital still has not prepared to be a learning place. (P4)

Non-rural participants expressed concerns regarding rural GP teaching performance. The participants questioned whether rural GP preceptors' factual knowledge was up to date, and whether rural GP preceptors might be unhappy to facilitate student learning (S4, C6). Developing teaching or coaching skills of rural GP preceptors was seen as a challenge for RCBME program leaders. Importantly, lack of consistent standards among rural GPs in each affiliated rural hospital was considered a concern for developing a robust RCBME program, as this will affect equity of students' learning across sites compared to their learning opportunities in the tertiary hospital.

> *นักเรียนกลัวว่าไปโรงพยาบาลชุมชนแล้วจะไม่ได้อะไร (S4)*
>
> *Students expressed their concerns that they will not gain enough knowledge in the rural hospital. (S4)*
>
> *แพทย์ [แพทย์โรงพยาบาลชุมชน] บางคนทำงานแล้วก็ไม่ได้มีการค้นคว้าความรู้ต่อเนื่องไป บางคนก็อาศัยว่าทำงานไปเรื่อยๆ ก็ไม่ได้เรียนรู้หาความรู้ใหม่ๆเพิ่มเติม อาศัยความรู้เก่า ความรู้ก็อาจลดลงไปเรื่อยๆ ความมั่นใจในตัวเองอาจไม่พอ (C6)*
>
> *Some doctors [rural GPs] have not updated their knowledge since they began their clinical practice. They still practice with their old factual knowledge. As a result, their skills and confidence in clinical practice is decreased. (C6)*

In order to support the rural hospitals to ensure medical students' learning outcomes, policy maker participants proposed that visiting specialists could enhance the RCBME program (P3). Specialists reportedly would contribute to learning, not only for students, but also rural GPs. Clinical discussions or consultations among facilitators, preceptors, and learners is expected to broaden medical knowledge of student and rural clinician experiences (R2).

> *ถ้าเขา [นักเรียน] กลัวต่ำกว่ามาตรฐาน ก็มีอาจารย์จากเราที่จะเข้าไปเติมเต็มในสิ่งที่เขายังขาดอยู่ (P3)*
>
> *If they [students] are afraid of suboptimal standards of learning, specialist visits could minimise this deficit. (P3)*
>
> *มันจะดีมากเลย หากอาจารย์แพทย์จะมาสอน formal class ในโรงพยาบาลชุมชน (R2)*

It will be great if we have formal classes at rural hospital from specialists (R2)

Having specialists visit students at rural sites was seen as an important teaching method that most participants hoped would happen. There are some concerns from specialists about their capacity to visit because of their high service workload, and the long distances between sites (C2).

การให้ไปเยี่ยมนักเรียนในโรงพยาบาลชุมชนต้องเดินทางไกล ระยะทางที่ไกลอาจเป็นอุปสรรคในการที่เราจะไปเยี่ยมนักเรียน เพราะอยู่ในโรงพยาบาลศูนย์ก็มีภาระงานมากอยู่แล้ว (C2)

Visiting students in the rural sites is too far [for the specialist] to travel. This issue may be an obstacle for us because we always have massive clinical duties in the tertiary hospital. (C2)

Rural GP participants proposed that the clinical educators from tertiary hospitals, or even from the medical school, should help the rural GPs to develop academic activities in the rural hospital and community, and support improvement of academic performance of rural staff (R3). This would support their rural hospital to be certified and promoted as an affiliated rural hospital (R1).

อยากให้ศูนย์แพทยศาสตรศึกษา assign มาว่าเรื่องไหนที่อยากให้สอนน้อง [นักเรียน] แล้วเราก็จะได้เตรียมตัวได้ดี มีความมั่นใจในการสอนมากขึ้น (R3)

It would be great if the Medical Education Centre assigns us the learning topics for the students. So we can prepare ourselves and feel confident to teach the students. (R3)

อยากให้โรงพยาบาลศูนย์มาเป็นพี่เลี้ยงเรา มีอาจารย์ที่รับผิดชอบในการให้คำปรึกษาสำหรับโรงพยาบาลชุมชน อาจในช่วงเริ่มต้นก็ได้ ช่วยวางระบบ ทำอย่างไรให้การเรียนการสอนมันเป็นไปได้ตามเกณฑ์ที่อยากให้เป็น และสามารถปรับใช้ได้ในพื้นที่ (R1)

We hope clinical educators in the tertiary hospital can be our mentors. There should be someone who has the responsibility to advise us or help us start the program in the appropriate way, so and meet their requirements as well as being practical for our context. (R1)

Rural GPs expressed high interest in the RCBME program and strong commitment to deliver a good educational experience. However, they expressed a need to upgrade their knowledge and teaching skills (R1, R3). Specialist

clinicians and policy makers expressed considerable commitment to support rural hospitals by up-skilling GPs with knowledge and teaching skills, as well as contributing to local teaching programs in rural hospitals (P2, P5).

> *กังวลเรื่ององค์ความรู้เรื่องแพทยศาสตรศึกษาเราน้อยนะ ยิ่งแพทย์ที่ทำงานก็ไม่มีองค์ความรู้เรื่องแพทยศาสตรศึกษา เช่นการ coaching, mentoring, feedback (R1)*
>
> ***We still have concerns about the skills of medical education that are lacking, especially in the doctors working for the rural general practice. For example, techniques of coaching, mentoring and feedback. (R1)***
>
> *เราควรจะรู้อะไรให้สุดไว้ก่อนน่าจะดีกว่า เพราะเรากลัวกับเรื่องการเสียเปรียบ ซึ่งควรจะรู้เท่ากัน (R3)*
>
> ***It would be great if we could know everything because we worry about the inequity of learning opportunities. It should be the same as others. (R3)***
>
> *เขา [แพทย์โรงพยาบาลชุมชน] ต้องมีความเข้าใจในเรื่องระบบการเรียนการสอน ในการที่จะเป็น clinical teachers เราต้องเตรียมให้เขา (P2)*
>
> ***They [rural GPs] have to understand the fundamentals of teaching and learning. We must prepare them for being clinical teachers. (P2)***
>
> *ถ้าเรามอบการเรียนการสอนทั้งหมดให้แพทย์โรงพยาบาลชุมชนเลยคงไม่ได้ อาจารย์ต้องไปมีส่วนช่วย (P5)*
>
> ***It's not possible for rural GPs to take this full responsibility to manage learning activities without our help. (P5)***

Despite reservations about rural GPs' clinical teaching competency, there was also acknowledgement that rural GPs could bring contextually relevant expertise to the role of clinical teachers in the RCBME program. There was recognition that RCBME was more likely to succeed in rural health services if clinical educators and rural GPs could share understanding (P5, C2).

> *ควรแบ่งสัดส่วนการสอนให้พอเหมาะระหว่างโรงพยาบาลศูนย์และโรงพยาบาลชุมชน อย่าลืมว่าอาจารย์ส่วนมาก lifestyle คนเมือง ดูแลผู้ป่วยแบบ disease-oriented ไม่สามารถ integrate ความรู้ให้เข้ากับชุมชนได้ ในทางตรงข้าม learning curve ในการสอนของแพทย์โรงพยาบาลชุมชนก็ยังมีน้อยอีก (P5)*
>
> ***Teaching from tertiary and rural clinicians should be properly divided. Don't forget that specialists mostly have urban lifestyles and treat the patients in a disease-oriented style.***

Specialists also cannot assimilate their knowledge to the rural setting. On the other hand, rural GPs are on a learning curve to develop substantial teaching skills. (P5)

ถึงจะใช้เทคโนโลยีมาช่วยสอน มันก็อาจไม่ได้เหมือนกับที่เรา [แพทย์โรงพยาบาลศูนย์] ไปเอง เพราะเราจะไม่เห็นบริบทรอบๆ เราอาจจะเห็นแค่ผู้ป่วย เราอาจจะมองแต่ในบริบทของเราเอง และถ้าเรารู้จักเขา [แพทย์โรงพยาบาลชุมชน] มากพอ เราจะวิจารณ์ได้อย่างถูกต้องและเป็นธรรม ก็จะมีทัศนคติที่ดี ความคิดของเราบวกกับสถานการณ์ของเขาอาจจะทำให้นักเรียนได้คุณภาพที่ดีที่สุด (C2)

Although the technology helps us [specialists] for supervising students, it was different from visiting the rural hospitals. If we don't visit, we couldn't consider well the rural context. On the other hand, if we visit them [rural GPs], we can supervise them and provide feedback. This will help students to apply our ideas for working in the rural context and improve their practice and attitude. (C2)

Participants from the policy maker group expressed the need for RCBME to develop feedback mechanisms within the program. Regular teaching process monitoring as well as appropriate student evaluation were considered as important components. Preparation for student monitoring and evaluation by clinical educators and rural GPs was considered important to help students in terms of early intervention and management of students' problems (P3).

มีการติดตามนักเรียนเป็นระยะ ให้นักเรียนสื่อออกมาว่ารู้อะไร ทำอะไรได้บ้าง และไม่หลงลืมเรื่องทัศนคติ ถ้าหากเขายังไม่พร้อม เราจะได้ดูแลเขาใกล้ชิดมากขึ้น เหมือนลับมีดให้คมตลอด พร้อมใช้งานได้ (P3)

Students' learning performance should be regularly monitored. They should reflect on what they know, what they can do. We should even monitor their attitude towards learning. If they are not ready to undertake clinical practice, we will take care of them closely, like always shaving the knife sharply, and be always ready to use. (P3)

One policy maker noted that an important challenge for RCBME program development is that most specialists in the tertiary hospital have a mindset that learning in the medical school was the best choice and that the rural hospital is not an optimal learning environment (P2). Several participants described previous experiences in their own medical programs as medical students, which influenced their opinions.

Mindset ของอาจารย์โดยเฉพาะในโรงพยาบาลศูนย์กับโรงเรียนแพทย์ ซึ่งบางทียังไม่เชื่อสนิทใจว่า

หลักสูตรจะเป็นอย่างไร (P2)

It is about the mindset of clinical educators and specialists in the tertiary hospital as well as the medical school. They still do not believe that the RCBME program is going to happen. (P2)

From now on, Thai medical education will be moved forward to the rural hospital and community. The participants from the student group thought that the development of the new program will take time to be accepted (S4), whereas policy makers suggested that stakeholders will need clear information about the RCBME program (P4).

เรื่องตรงนี้มันต้องใช้เวลา คือไม่มีใครชอบการเปลี่ยนแปลง ยิ่งถูกผลักออกไปให้ห่างจากแหล่งที่ดีอยู่แล้ว ก็คงไม่มีใครอยากไป (S4)

This issue must take time. There is nobody who loves changes, especially changing from the better place. (S4)

ความใหม่ของหลักสูตรและความไม่ชัดเจนในรายละเอียด ทำให้น่าจะมีคำถามกันเยอะ (P4)

Because of unfamiliar and uncleared information regarding the RCBME program, it definitely causes people to raise questions. (P4)

The participants suggested that good preparation of clinical educators (both specialists and rural GPs) was essential to achieving a successful RCBME program. Policy makers, particularly, felt that information should be provided about the purpose of the RCBME program, roles of each group of staff, teaching methods, and student mentoring processes (P1). One student mentioned that authorities from the Medical Education Centre should select staff who are willing to be involved this program because these staff will have positive attitudes about the development of the rural program (S2). There was interest in RCBME program developers regularly reporting medical students' performance to stakeholders. The view was expressed that if the RCBME program has a positive result, it will be easy to convince other staff to become involved later (C1). The status of rural GP preceptors was expected to rise with selection, certification,

and training, so that GP preceptors were seen as formally qualified. Ongoing training in medical education techniques such as mentorship, feedback, and student assessment was expected to increase skill levels.

> *ครูต้องเปลี่ยนวิธีการสอนแล้ว ครูต้องเป็น facilitator ต้องใช้สื่อการสอน รวมถึงการไปเยี่ยมหรือ conference เพื่อกระตุ้นนักเรียน (P1)*

> *Clinical teachers have to change their teaching methods and also change to be facilitators. They have to use learning materials. It has to include visits or conferences to motivate their students. (P1)*

> *ถ้าตั้งใจจะเป็นอาจารย์จริงๆแบบนั้นสบาย เพราะเรื่องการถ่ายทอด ต่อให้เด็กไม่สนใจก็สามารถจะทำให้อยู่ในรูปในรอยได้ อยากจะให้มีอาจารย์ที่มาอยู่ข้างนอกแล้วก็มีความตั้งใจที่อยากจะสอน ถ้ามีคนอย่างนี้เยอะยังงัยก็ลุล่วงแน่นอน เพราะว่าอาจารย์มีผลค่อนข้างเยอะ แต่ว่าถ้าเป็นอาจารย์แค่ได้ไปเรียนรู้แล้วกลับมาเป็นอาจารย์ ไม่ได้อยากจะถ่ายทอดแบบนี้จะลำบากมาก เพราะว่าเด็กก็จะมาดูการ service อย่างเดียว ไม่ได้เรียนรู้ (S2)*

> *It would be great if clinician preceptors are willing to supervise students. Even those students with a poor performance, they can teach. If we have preceptors like this, students can succeed in their learning. In contrast, if clinicians focus solely on their clinical work rather than supervising students, students may miss out on the learning opportunities. (S2)*

> *ทำให้เกิดวัฒนธรรมองค์กรว่าต่อไปโรงพยาบาลชุมชนจะต้องมีนักเรียน คนที่ไม่เคยมายุ่งเกี่ยวกับการเรียนการสอนก็จะต้องเข้ามาโดยอัตโนมัติเอง เพียงแต่ในช่วงแรกที่เริ่มต้น แพทย์จากโรงพยาบาลศูนย์อาจต้องมาช่วยในเรื่องการเรียนการสอนไปก่อน แล้วค่อยๆผ่องถ่ายให้แพทย์โรงพยาบาลชุมชน (C1)*

> *Having students in the rural hospital should be recognised by rural staff as routine, until it becomes part of their culture. The rural staff who are not initially involved in the program will be gradually become involved. Specialists from the tertiary hospital also should help rural GPs to develop the learning activity at the rural hospitals and then proceed to gradually engage with rural GPs. (C1)*

Stakeholders described the need for government support in terms of policy and funding. The non-rural participants mostly felt that rural GPs should have opportunities for academic progression in their career, for example, the opportunity for promotion to an academic position in Medical Education Centre related to community-based medical education, or promotion with increased

responsibility in the RCBME program (P2, P5). Some participants from the clinical educator group suggested that rural GPs should have an incentive for their academic responsibility (C1).

เราต้องคุยว่าจะต้องมี motivation และ incentive ให้กับเขา [แพทย์โรงพยาบาลชุมชน] ได้อย่างไร เพราะถือเป็น burden ของเขา และ career path ของเขา เขามาทำตรงนี้แล้วได้อะไร มีโปรโมชั่นอะไรไหม (P2)

We have to talk about their [rural GPs'] motivation and incentive because it must be an attractive workload and career path to teach the students. We are looking for the sort of things they should have or promote. (P2)

เราปฏิเสธไม่ได้ว่าเด็ก [แพทย์] เหล่านี้อายุยังน้อย จบมาก็ต้องการความก้าวหน้า ต้องการเรียนรู้ ต้องการชีวิตความเป็นอยู่ที่ดี ต้องการมีชื่อเสียง ต้องการความสำเร็จ เขาอาจดิ้นรนถีบตัวเองเพื่อสิ่งที่เขาค้นหาเพื่อตอบโจทย์ตัวเขา สิ่งนี้อาจทำให้เขาอยู่ชุมชนได้ไม่นานก็ไป เราจะต้อง balance เรื่องนี้เพื่อให้เขาอยู่ในชุมชนได้นานขึ้น (P5)

We cannot deny that they [graduates] are so young. They want to have more progression, more training, a better life, a better reputation, and more success. They may fight for themselves to get their needs. All of these may be reasons why they don't stay longer in the rural community. We have to balance these issues to achieve more rural retention. (P5)

ภาระงานของแพทย์โรงพยาบาลชุมชนก็เพิ่มขึ้น ก็คงต้องมีค่าตอบแทน หากเพิ่มภาระงานโดยไม่มีค่าตอบแทน ดูเหมือนไม่เหมาะสม (C1)

The workload will increase for rural GPs, so an incentive must be add for them. It is unreasonable if they work more duties without extra income. (C1)

4.5 Symbiosis in the Personal Axis

Recognising that students develop both personally and professionally during their medical school training, this axis considers the impact of RCBME on this. Themes included students meeting academic requirements of National Examinations; students developing rural personal and professional identities; and shaping students' development through role modelling and mentorship.

4.5.1 Students Meeting Academic Requirements of National Examinations

The participants described concerns about learning opportunities for CPIRD medical students in the setting of rural hospital in terms of meeting their National Examination requirements. Because the RCBME program will be developed as an additional rotation, within the overall period in each academic year, the duration of major disciplines, therefore, will be less than the length of a previous rotation (S4). The policy maker participants also reported that their students felt the capacity to prepare for their examinations would be decreased in the rural setting (P2).

> *เนื้อหาวิชาจะลดลงหรือไม่ เพราะต้องแบ่งเวลาไปเรียนในโรงพยาบาลชุมชน (S4)*
>
> *I still have concerns that the content of major disciplines will decrease because of the time constraint for learning in the rural hospital. (S4)*
>
> *นักเรียนอาจจะกังวลว่าคุณภาพของเขาจะเป็นอย่างไร การเรียนการสอนจะดีหรือไม่ ในบริบทที่ยังห่างไกลแบบนี้ (P2)*
>
> *Students are concerned about their learning quality in the rural setting. They are not sure that learning in the rural setting is good enough. (P2)*

Students expressed concerns about their individual time pressure on their preparation for the National Examinations. They perceived that their colleagues who will rotate in the rural hospital before the period of National Examination would have less opportunity to prepare themselves compared to their peers who rotate in the tertiary hospital or medical school. They expected private time to study to be decreased during rural rotation because of the busier clinical placement roles when on placement with rural GPs in the rural hospital. Additionally, students described that in order to do well on their National Examination, they needed significant private time to be tutored by their colleagues and access to clinical educators in the urban setting (S1). Because the Thai Medical Council uses the National Examination for all medical students in the country, CPIRD students are described as being deeply anxious about their

National Examination scores (P5, R3).

ถ้ามันเป็นช่วงปลายปี 4 ก็ยังไม่กังวลมาก เหมือนช่วงปี 4 ก็ไม่ได้คิดอะไร เราเอาความรู้ก่อน แต่ช่วงปี5 ถ้าสมมุติว่าเป็นช่วงที่ใกล้สอบ National Examination เลย แล้วเพื่อนติวกัน มันต้องติวเป็นกลุ่มในศูนย์แพทย์ ก็จะกังวล (S1)

I don't worry about rotating in the rural hospital in my fourth year. I don't mind if I learn there. It is a time to gain the knowledge. However, if I rotate in the fifth year which is a preparation period for the National Examination, this can make me anxious about missing out on the opportunity for tutoring with my peers in the urban Medical Education Centre. (S1)

เด็ก [นักเรียน] ต้องสอบ National Examination เหมือนกันทั้งประเทศ เด็กก็ต้องมีความรู้สึกว่า การอยู่ชุมชนมันต่ำต้อย ไม่ได้มีความรู้เยอะเหมือนอยู่ในมหาวิทยาลัย เวลาสอบแข่งขันก็รู้สึกว่าไม่มีความ strength (P5)

All students in the country must do the same National Examination. They may feel that learning in the rural setting is inferior to learning in the university. They think that they will be disadvantaged when they do the examination. (P5)

National Examination เกือบ 90% มันก็เป็นการสอบความรู้ ซึ่งใครรู้มากกว่าก็เท่ากับว่าสอบผ่าน ตอนเป็นนักเรียนรู้สึกว่า National Examination มันคือชีวิต เพราะถ้าเราไม่มีใบประกอบโรคก็ไม่รู้จะทำอย่างไร รู้สึกว่ามันสำคัญ แคร์เรื่องนี้มาก จะรู้สึกว่าเห็นโรงเรียนแพทย์เขาติวเยอะๆ เรายังแอบหวั่นใจเลยว่าเราขาดอะไรไปหรือเปล่า (R3)

Nearly 90% of the National Examination is based on factual knowledge. The more content students know, the more chance to pass the examination. When I was a student, the National Examination was my whole life. I felt anxious that I did not have the opportunity for tutoring with my peers in the university and I felt this made me missed some knowledge. (R3)

Learning resources should be provided to medical students to support their knowledge of required content during their study in the rural hospital and community (S1). Because of the long distance between the Medical Education Centre and the rural hospitals, participants from the policy maker group felt that information technology will be needed to be provided electronic support such as online databases, electronic textbooks, or access to video conferencing for learning and consultation (P1, P3)

ถ้าจะไปอย่างนั้นต้องมีความรู้ไปก่อน หรือไม่ก็หนังสือ medicine หนังสืออะไรที่ load ไปก็ได้ ไปหาความรู้เพิ่มเติมในนั้น (S1)

We must have access to content knowledge, for example, textbooks or electronic books in Medicine to make sure that we have adequate sources of knowledge while on rural placement. (S1)

มันถึงเวลาแล้วที่ต้องเอาเทคโนโลยีมาสอนนักเรียน เพราะว่ามันเหมาะกับเด็กยุคนี้ด้วย (P1)

It's time to use technological devices to support teaching because it's currently suitable for students' lifestyles. (P1)

สมัยนี้มีอะไรก็เข้าไปถามใน internet หมด เป็น ubiquitous learning มันอยู่ที่เขาว่าพร้อมจะเรียนหรือยัง (P3)

It is manageable for students can learn by themselves, for example, searching the internet. More importantly, students are concerned about their readiness to learn. (P3)

4.5.2 Students Developing Rural Personal and Professional Identities

As outlined in the theme 'authentic learning for future roles', participants reported that RCBME students could learn about the capability of practice in the rural hospital, for example, rural GPs' performance, medical resources or facilities, and with its limitations (S4). This knowledge will give students a great opportunity to prepare themselves to be future rural GPs. More than simply becoming familiar with rural practice, rural GPs hoped that RCBME would help to shape the student's professional identity so they identified with rural practice as a career (R2).

หลักสูตรนี้น่าจะช่วยให้แพทย์ที่จบไปทำงานในโรงพยาบาลชุมชนง่ายขึ้น มีมุมมองหลากหลาย เป็นส่วนหนึ่งของโรงพยาบาลชุมชนมากขึ้น (S4)

The RCBME program will help the graduate doctors to work in the rural hospital more easily, have a variety of models of practice, and become part of their rural hospital more than the current system. (S4)

อยากให้น้อง [นักเรียน] เห็นตัวเองมีคุณค่าและมีความสุข แล้วก็ถ้าเกิดหมอทำงานอย่างมีความสุข คนที่ได้รับก็คือชุมชน คนทั่วไป แล้วก็คงจะได้รับการบริการที่ดี (R2)

I would like them [students] to value their happiness. If they are happy, their work will be

good in quality. And this will benefit the local community as well. (R2)

Moreover, from a personal perspective, it was anticipated that medical students would be exposed to rural life, for example, how their rural GP preceptors live in the rural community, and what things they can do in the rural community (R2). Policy maker participants expected that personal relationships between students and others in the community could, over time, gradually facilitate students to bond to the community and subsequently be happy to stay for longer in the rural community (P3).

มาอยู่ชุมชนอาจจะให้อะไรหลายอย่าง ให้เขา [นักเรียน] ได้เห็นว่าถ้าเขามาอยู่โรงพยาบาลชุมชน เขาจะต้องเจออะไรบ้าง ต้องทำงานร่วมกับใครบ้าง (R2)

Rural placements may give them [students] many experiences. They can learn from their practices, their colleagues and what they see during their stay in the rural environment. (R2)

คนในชุมชนสามารถมาเป็นครูของนักเรียน เกิดความภูมิใจ และนักเรียนก็ได้ซึมซับ ได้เรียนรู้ซึ่งกันและกัน มีความเคารพกัน มีเรื่องดีๆให้แก่กัน (P3)

The local community members can teach the students. They will be proud of their rural communities and will facilitate students to engage in rural life. The local members and students also will learn from and respect each other. There will be positive results. (P3)

In the rural participants' opinion, the RCBME program will be able to facilitate relationships between local community members, rural doctors, and students (R4). The relationships between these stakeholders will become closer and potentially will contribute to students wishing to participate in rural social activities and have a positive attitude toward rural life, staying for longer in the rural community (P4). It was thought by some policy makers that if students became familiar with local community members, they might become the part of the community and, in turn, could have a happy life as rural doctors working for the rural community (P1).

อยากให้นักเรียนได้เรียนรู้อย่างลึกซึ้งกับการทำงานในชุมชน และเข้าถึงวิถีชุมชนของชาวบ้านว่าเป็นอย่างไร และอยากให้เขารักชาวบ้าน รักชุมชน ทำงานในชุมชนบ้าง เพราะว่าจะได้เข้าถึงชาวบ้าน (R4)

I would like students to learn with the rural community and come to deeply understand rural life. I hope that they appreciate the rural community and local members. I hope they will work for the rural community because they will feel close to the local community. (R4)

เขา [นักเรียน] น่าจะต้องรักบ้านเกิด กลับไปอยู่ที่เดิม กลับไปอยู่ในพื้นที่ชนบท แล้วอยู่กับตรงนั้นนานๆ อาจจะเข้ามาเรียนบ้าง แต่ว่าสุดท้ายก็ยังใช้ชีวิตอยู่ที่นั่น และใช้ชีวิตแบบมีความสุข (P4)

If they [students] love their hometown they may want to come back there as rural general practitioners. They may stay longer. They might decide to study further, but we hope that they will be happy to live in the rural community. (P4)

เมื่อเขา [นักเรียน] มาทำงานในโรงพยาบาลชุมชน เขาน่าจะทำงานได้ดีขึ้น ไม่รู้สึกแปลกแยก ไม่รู้สึกว่าอยู่ไปวันๆ หนึ่ง ใช้ทุนให้ครบหรือลาออกก่อน (P1)

When they [students] come to work in the rural hospital, they might better adapt to their work. They might not feel lonely, separated or unwilling to stay longer. (P1)

In contrast to this view some participants felt that because the RCBME program will initially be implemented as a limited-time interval rotation, there will not be enough time for development of meaningful relationships between students and local community members (C1).

ไม่คิดว่าให้นักเรียนไปอยู่ในชุมชนแล้วจะเกิด bonding เพราะไปอยู่ชุมชนแค่ไม่นาน หรือจบไปแล้วอาจไม่ได้ไปอยู่ชุมชนที่เคยไป มันคงไม่เกิด bonding แต่ถ้าคิดว่าให้นักเรียนไปอยู่ชุมชนเพื่อเรียนรู้ว่าความรู้อะไรที่มัน relevant กับการอยู่ในชุมชน คิดว่าอันนี้สำคัญ (C1)

I don't agree that students who undertake rotations in a rural community will be able to create close ties because they don't have enough time to bond and they may not return to work in the same rural community. Rather, it is more important that they recognise what practices are relevant to rural communities. (C1)

4.5.3 Shaping Students' Development through Role Modelling and Mentorship

Participants anticipated that rural GPs will be assigned as medical students' preceptors during the students' placements in the rural hospital. The participants thought that rural GPs would mentor their students to make sure that their students are able to perform appropriate clinical practice with appropriate medical knowledge, competent clinical skills, and also a professional attitude.

Because of the close relationship between students and their preceptors in the non-hierarchical environment, students will be comfortable to learn and will have learning experiences, either formally or informally learning from their rural GP preceptors (S2).

> *ความเป็นพี่น้องเวลาที่สนิทกัน เวลาถ่ายทอดวิชาให้ก็จะเต็มใจที่จะให้ความรู้ คนที่เป็นน้องเองก็มีความตั้งใจที่อยากจะถาม พอถามพี่ก็มักจะได้คำตอบที่ดี ก็จะไม่เหมือนในโรงเรียนแพทย์ ถ้าเกิดอาจารย์ดุมาก พี่ดุมาก นักเรียนก็จะไม่ค่อยกล้าที่จะถาม [พออาจารย์ถามว่า] รู้แล้วใช่ไหม ก็จะตอบไป คือจริงๆอาจไม่รู้แต่ว่าไม่อยากให้โดนดุอีก แต่ถ้าเกิดอยู่ในสภาวะแบบนี้ [ความเป็นพี่น้อง] จะถามอะไรก็ถามได้เลย (S2)*
>
> *The relationships between rural preceptors and students can be closer compared to the hierarchical relationships in the medical school. The hierarchical relationships can mean students are not confident to ask clinical staff questions. More friendly relationships in the rural setting can help students and preceptors be comfortable to engage more easily in learning. (S2)*

Additionally, rural GP preceptors also will be comfortable to teach or mentor their students and informally transfer their rural experience to their students during the placement period (R1).

> *ส่วนหนึ่งเราก็เป็นผู้มีส่วนได้ส่วนเสียด้วยนะ ถ้าเราผลิตแพทย์ออกมาได้ไม่ดี ผู้ร่วมงานเราในอนาคตก็จะเป็นแพทย์ที่ไม่โอเค เราก็จะปรับทัศนคติยาก ดังนั้นช่วงที่เขาเป็นนักเรียนเป็นช่วงสุดท้ายที่เราจะปรับทัศนคติเขาได้ (R1)*
>
> *In fact, we are stakeholders in the rural community. If we don't train students well, they may not be good colleagues in the future and difficult to change their attitude. So this is a right time for us to improve their attitude being good doctors. (R1)*
>
> *โดยส่วนใหญ่แล้วเขา [แพทย์โรงพยาบาลชุมชนและนักเรียน] ก็จะรู้จักกันมาก่อน เช่นเป็นรุ่นพี่รุ่นน้อง CPIRD ก็จะคุ้นเคย ความเป็นพี่น้องก็จะทำให้เขาอยากดูแล อยากสอนมากขึ้น (R1)*
>
> *Most of them [rural GPs] are CPIRD alumni. So, they know the students and each other. This familiarity will motivate rural GPs to teach students and take care of them. (R1)*

Student participants stated that rural GP preceptors could be important role models for students (S1, S2). The early rural exposure and the close relationship between stakeholders could motivate students to behave like their preceptors and may positively influence a decision to practice in the rural community in the

future (P5, R1).

เขาทำงานในโรงพยาบาลชุมชนมาประมาณ 20 ปี ที่เขาอยู่ได้เพราะว่าเขารู้สึกว่าเขามีประโยชน์ในชุมชน สามารถพัฒนา ก็รู้สึกว่ามันเป็นประโยชน์ก็เลยอยู่ได้ เหมือนเป็นแรงบันดาลใจ เป็นทัศนคติที่ดีสำหรับเรา (S1)

One rural GP has worked for the rural hospital for 20 years because his work has been valuable and he has been able to develop his own rural community. That is the reason why he remains in the rural community. I personally have this motivation and his story actually gives me a strong interest [for rural general practice]. (S1)

หมอที่นี่เวลาดูคนไข้นั้นจะให้ความสำคัญ และดูเหมือนเป็นคนหนึ่งในครอบครัว (S2)

The rural doctors prioritise their patient care. They take care of their patients as they would their family members. (S2)

ถ้าเลือกแพทย์ที่อยู่ชุมชนอย่างมีความสุขมาเป็น role model นักเรียนจะได้ซึมซับสิ่งเหล่านั้น แล้วก็พัฒนาตรงนั้นขึ้น (P5)

If we choose doctors who are happy with rural life to be the students' role models, then students may absorb this manner and develop it themselves. (P5)

มีนักเรียนมาฝึกงาน Family Medicine ที่นี่แล้วก็ประทับใจงานที่นี่ ก็เลยขอมา elective ที่นี่อีก จนเป็นแพทย์ใช้ทุนก็สมัครเรียน in-service Family Medicine residency training ที่นี่ต่ออีก เพราะเขาอยากเรียนที่นี่เพื่อกลับไปพัฒนาโรงพยาบาลชุมชนของเขาในอนาคต (R1)

One student was very impressed with their Family Medicine rotation in the rural hospital. He decided to stay here further for his elective. Now this student has graduated and has decided to apply for an in-service Family Medicine residency training in the same rural hospital. He wants to develop his own rural hospital practice after residency training, so he can practice in a similar way. (R1)

Non-rural participants expected that motivated rural GP preceptors would be stimulated by their students to update their knowledge and further prepare themselves for teaching and mentoring of students (P4, C4).

การเรียนการสอนในโรงพยาบาลชุมชน พอมีนักเรียนก็จะทำให้เกิดการกระตุ้นแพทย์โรงพยาบาลชุมชนให้เกิดการเรียนรู้ต่อเนื่องขึ้นมา (P4)

Introducing learning activities in the rural hospital for students will help rural GPs to be

conscientious in their ongoing learning. (P4)

คิดว่าเป็นวิธีการที่ดีที่สุดที่ให้แพทย์โรงพยาบาลชุมชนเป็นครูสอนนักเรียน อย่างน้อยมันมีการแลกเปลี่ยนความรู้ เขาก็ต้องกระตือรือร้นที่จะต้องตอบคำถามนักเรียนให้ได้ เมื่อไหร่ที่เขาได้เป็นครู เขาก็จะเป็นคนที่เรียนรู้ (C4)

It is a very good idea to have rural GPs as student preceptors. At least, it will provide the opportunity for them to discuss their knowledge with their students. They will actively answer students' questions. When they are preceptors, they will be motivated to learn more. (C4)

One rural participant expressed the view that rural GP preceptors and students would be able to discuss or exchange their knowledge of different contexts (R2).

บางทีเราก็ได้ความรู้ใหม่ๆจากน้อง [นักเรียน] เยอะนะ เช่นอาจารย์จากโรงพยาบาลศูนย์ หรือโรงเรียนแพทย์เขาดูแลเคสนี้อย่างไร (R2)

Sometimes we get new knowledge from them [students]. For example, we can learn the clinical practice of specialists in the tertiary hospital or medical school from our discussions with them. (R2)

4.6 Symbiosis in the Social Axis

Participants hoped that medical students placed in the RCBME program will be able to understand the rural patients together with the rural context that they engaged with, and potentially the graduates will wish to stay in rural practice. Thus, the program will meet government expectations to support rural health service policy, increase rural doctor retention rates, and build rural community capacity.

4.6.1 Understanding Rural Patients

Rural participants said that students needed information on the rural context and how rural patient health care is different to the majority of cases in urban centres (R3). Participants hoped that students would recognise rural patients' perspectives and their experience of their illnesses (C1, P3, R1, R2).

อยากให้เข้าใจผู้ป่วยในชุมชนมันต่างจากโรงพยาบาลศูนย์ ความพร้อมในการมา หรือการที่เขามาหาเรา

หรือปัญหาที่เจอที่โรงพยาบาลชุมชนกับโรงพยาบาลศูนย์ มันคนละปัญหากัน (R3)

Students should understand the differences between patients in the rural community and those in the urban community, such as the opportunity for travelling to the hospital, and their range of medical problems. (R3)

นักเรียนได้เข้าใจการดูแลผู้ป่วยทั้งในแนวกว้างและแนวลึก แนวกว้างก็เข้าใจว่า ผู้ป่วยอาการเบาๆจะเป็นอย่างไร แนวลึกก็เข้าใจว่าเคสที่หนักเราจะจัดการอย่างไร และก็จะมองในลักษณะของการป้องกันโรคมากขึ้น (C1)

When students understand patient care (either generally or specifically), they can approach patients with simple conditions and treat by themselves. Also, with supervision, they can manage patients with more severe or complicated problems safely. Also, they can learn to recognise more opportunities for disease prevention. (C1)

เขาสามารถดูแลประชาชนตรงนั้น และทำให้ประชาชนป่วยน้อยลง ป้องกันมากกว่ารักษา (P3)

Students can take care of their rural patients and decrease the illness of their local community members. They will also think about prevention more than treatment of disease. (P3)

สิ่งที่เรียนรู้ได้ในชุมชน เน้นการเรียนรู้บริบทชุมชน เน้นการรักษาความเจ็บป่วย ไม่ใช่แค่รักษาโรค (R1)

Learning in the context of a rural community will focus on the patient experiences of illness, not only treatment of disease. (R1)

หลักสูตรช่วยให้นักเรียนเข้าใจบริบทก่อนทำงานจริง เสริมสร้างการทำงานของแพทย์ในโรงพยาบาลชุมชนในอนาคต แพทย์เข้าใจบริบทชุมชน ทั้งแพทย์และผู้ป่วยเข้าใจต่อกัน เขาเข้าใจคนไข้มากกว่าเดิม เพราะได้สัมผัสตั้งแต่เป็นนักเรียนแพทย์ ก็จะเข้าใจญาติ เข้าใจชุมชน แล้วมีความสุขในการทำงาน แล้วก็สามารถ manage ตัวเอง คือเขาจะมีความสุขในการทำงานมากกว่าเดิม (R2)

The RCBME program helps students to understand the rural context and support them before starting the clinical work in the future. The early experiences of this program show that graduates, patients, and the community can understand each other. They can manage themselves as well as work in the rural community more happily. (R2)

Rural patients' health care could be further understood through student opportunities for broader medical learning experiences, which they may not get from the urban context. For example, they have the opportunity to visit their patients at their houses to understand how their patients live and see holistic

patient care in the community setting (S1). Additionally, students were expected to be able to provide health promotion information to serve the local community members and to improve the quality of life (R1). Students could also learn from the wisdom of the local community, for instance, herbal use for some medical conditions, Thai massage for physiotherapy, or rural innovations to serve their day to day lives (R1).

> *เป็นความประทับใจแรก ก็คือผู้ป่วยมา admit ที่โรงพยาบาล เป็น COPD ตอนอยู่โรงพยาบาล เขาก็อยู่แต่บนเตียง เราก็ไม่รู้วิถีชีวิตเขาเป็นอย่างไร พอได้ตามผู้ป่วยไปที่บ้านเลยรู้ว่าที่เขาป่วยบ่อย เพราะเขาเลี้ยงนก แล้วเขาก็ไม่มีคนดูแล ที่เขาอยากมาโรงพยาบาลเพราะว่าที่โรงพยาบาลมีคนดูแล ก็เข้าใจปัญหาชีวิตเขาจริงๆ (S1)*
>
> *I had a patient diagnosed with COPD admitted to the hospital. I did not know about my patient's life until I visited my patient's home after discharge. I found that her COPD was worsening from her birds. She didn't have anyone to take care of her, so she needed someone to stay with her when she was sick. It made me understand about my patient's life. (S1)*
>
> *คนไข้ส่วนใหญ่ที่เข้าไม่ถึงบริการก็ลงเชิงรุกในชุมชน ให้เขา [นักเรียน] เรียนรู้งานกับชุมชน คือการสร้างเสริมสุขภาพ (R1)*
>
> *Most patients in rural areas could not access the rural health service. So we will go out to access patients instead. Visiting patients can let them [students] know about working in the rural community. (R1)*
>
> *นักเรียนได้เรียนรู้แพทย์แผนไทย แพทย์ทางเลือก ภูมิปัญญาชาวบ้าน การใช้สมุนไพร (R1)*
>
> *Students can learn about traditional medicine, alternative medicine, the wisdom of local community members, and herbal medicine as well. (R1)*

In addition, the rural participant reported that students could be actively encouraged to broaden their experiences in other rural service settings in either government or private sectors (R2). These activities could help students to develop greater understanding of rural context and local community members.

> *หากมีโอกาสก็จะพานักเรียนไปตรวจผู้ป่วยที่เรือนจำ เป็นอะไรที่ในชีวิตจะไม่ได้มีโอกาสอย่างนี้ จะได้ไปเห็นว่าผู้ป่วยในเรือนจำน่าสงสาร (R2)*

It would be great if students accompany us treating patients in the jails. It's rare to experience poor patients like this. (R2)

4.6.2 Increased Rural Doctor Retention Rates

The participants knew that the Ministry CPIRD had an educational policy to produce medical students well prepared to be rural doctors and to increase rural doctor retention rates. However, the policy makers expressed the view that the current CPIRD curriculum directly reflects a collaboration between tertiary hospital and the university at the expense of these objectives (P2). They thought the CPIRD curriculum needed to be re-shaped in order to reinforce CPIRD students gaining more rural general practice as well as rural community exposure (P1).

ส่วนใหญ่การเรียนการสอนของ CPIRD เหมือนกับเลียนแบบโรงเรียนแพทย์ ในที่สุดจะไม่ได้ตามเป้าหมายที่ต้องการ มันอยู่ในบรรยากาศการเรียนรู้แบบหนึ่ง แต่ว่าอยากให้นักเรียนตระหนักอีกอย่างหนึ่ง มันอาจไม่ match กันเท่าไหร่ จึงต้องมาดูโครงการนี้ใหม่เพื่อให้ตอบสนองต่อเป้าหมายของ CPIRD และสร้างฐานการเรียนในชุมชน เพื่อเข้าถึงบริบทชุมชนก่อนไปทำงานในชุมชน (P2)

The CPIRD curriculum doesn't achieve the aim of CPIRD because its academic activities and requirements are inconsistent with the objectives of CPIRD. So the CPIRD curriculum must be revised to build the rural community-based education for students to experience the rural context before starting their work in the future. (P2)

CPIRD มีนโยบายเพิ่ม rural retention rate ให้มากขึ้น แต่เดิมการคัดเลือกนักเรียนยังมีสัดส่วนของเด็กในเมือง [หาดใหญ่] มากกว่าเด็กชนบทจริงๆ จึงต้องการพัฒนาหลักสูตรให้มี rural exposure มากขึ้น เพื่อหล่อหลอมให้นักเรียนเข้าใจบริบทชุมชน และคาดหวังว่าจะเพิ่มอัตราการคงอยู่ในชนบทได้มากขึ้น (P1)

CPIRD has a policy to increase rural retention rates. However, it still has had a higher proportion of urban [Hatyai District] students compared to rural or remote-origin students [other districts in Songkhla Province]. So the curriculum will be developed to provide students with increased rural placements. Students from this curriculum can be expected to improve the understanding of rural context and the rate of rural retention. (P1)

The participants thought that the RCBME program should be developed to achieve the CPIRD's mission, particularly in terms of increased rural doctor retention rates. The rural participants expressed an opinion that the RCBME

program would be a suitable program to produce CPIRD graduates to serve local community needs as well (R1, R2). Further, the RCBME program was expected to improve rural health services, and reduce the differences in doctors' working opportunities and career progression, which currently exist between city and rural hospitals (P3).

> *หากเราไม่ผลิตแพทย์ที่ตอบสนองต่อความต้องการของชุมชน มันก็จะทำให้อัตราการคงอยู่ของแพทย์ลดลง ดังนั้นแพทย์รุ่นเก่าก็อาจจะเหนื่อยมากขึ้น (R1)*
>
> *If we don't actively seek to produce graduate doctors the retention rate of rural doctors could decrease. As a result, the current rural doctors may have increased clinical duties. (R1)*
>
> *เราเชื่อว่ามันตอบโจทย์ที่เคยตอบไม่ได้ ที่ว่าบังคับใช้ทุนก็แล้ว ให้เงินก็แล้ว ทุกอย่างที่ผ่านมามันก็ไม่ได้คำตอบ และสุดท้ายเขา [แพทย์ใช้ทุน] ก็ไม่ได้มีความสุข ครบ 3 ปีในการใช้ทุนก็ไปเรียนต่อ แล้วก็ออกไปจากระบบชนบท ดังนั้นถ้าหากมีหลักสูตรแบบนี้ เราเชื่อว่าอย่างน้อยๆ เราจะได้หมอที่เข้าใจบริบทของโรงพยาบาล ทำงานต่อในโรงพยาบาล ชุมชนอย่างมีความสุขได้ หรือใช้ชีวิตในชุมชนได้ (R2)*
>
> *We believe that the RCBME program is a really good solution to fix the rural doctor problem. Previously, both obligation and government payment didn't succeed to keep graduates working for the rural health services. They [graduates] were not happy to stay longer than their three-year obligation and then decided to study further or left the rural hospitals. So, if we implement this RCBME program, we will soon have graduates who understand the rural context and will be happy with their work and stay in the rural community. (R2)*
>
> *ทำให้ในชนบทและในเมืองไม่ต่างกันมาก เพราะถ้าต่างกันมาก มันก็ยังทำให้คนอยากเข้ามาอยู่ในเมืองอยู่ดี (P3)*
>
> *Reducing the differences between rural and urban areas is the way to decrease the number of doctors moving out to the city. The greater the gap between these two settings, the more urbanisation of rural doctors will occur. (P3)*

In contrast, some rural and non-rural participants argued that the RCBME program might not be the only answer for increasing rural doctor retention rates. They thought that the rural doctor retention rates might be impacted by many factors, for instance, rural background, career progression, financial status, personal and family issues, as well as need for further training in the urban

centres (C6, R3).

ไม่แน่ใจว่าหลักสูตรจะทำให้นักเรียนอยากเป็นแพทย์ที่อยู่ในชุมชน เพราะคนที่อยู่ในชุมชนได้คือ หนึ่ง ต้องเป็นคนในท้องถิ่นเอง ถ้าอยู่ต่างท้องถิ่นก็ลำบาก สอง ท้องถิ่นที่เขาอยู่มีอะไรให้กับเขาไหม เช่น มีโรงเรียนให้ลูกเขาไหม มีการเงินเพียงพอไหม และเรื่องการทำงานมีความสบายใจ มีความมั่นคงให้เขาหรือไม่ (C6)

I'm not sure the RCBME program influences students to be rural doctors. The doctors who can stay in the rural community may include rural background firstly, and interests in the rural community secondly, such as a school for their children, incomes, and job security. (C6)

ไม่แน่ใจว่าทำอย่างนี้จะทำให้เขาผูกพันกับชุมชนไปเรื่อยๆไหม ตอนนี้เราอาจอยู่ได้ อีก 10 ปี ก็พออยู่ได้ แต่อีก 20 ปีคงไม่แน่ มันจะมีความคิดอีกด้านมาคอยดึงเราไว้ ถ้าหากเราต้องไปคงไม่ใช่ไม่ชอบที่นี่ แต่คงเป็นเพราะเราอยากรู้อะไรมากขึ้นมากกว่า (R3)

I'm just wondering about whether the RCBME make students bond to the rural community? I may live in the rural community for ten years, but not 20 years. From my personal perspective, if I have to move out from the rural community, it may be because I would like to learn something rather than because I don't like this community. (R3)

4.6.3 Rural Community Capacity Building

A non-rural participant described the mission of the Ministry of Public Health known as the 'Service Plan'. The Service Plan for all health regions in Thailand, including health service from the tertiary hospitals, seeks to transfer services to the primary hospitals in a seamless manner. In this regard, the Ministry directs tertiary hospitals to contribute their staff, medical resources, and budget to primary hospitals in their catchment (C4). The RCBME program will be able to reinforce and support the Service Plan by transferring academic activities to rural health services. (C3).

นโยบาย Service Plan ของกระทรวงต้องการให้มีการถ่ายทอดความรู้จากโรงพยาบาลศูนย์ ไปสู่โรงพยาบาลชุมชนอยู่แล้ว หากมีการเรียนการสอนในชุมชน ก็จะสอดคล้องกับความต้องการดังกล่าว มันทำให้การทำงานประจำและการเรียนการสอน flow ไปด้วยกันตลอด (C4)

The Ministry's policy– Service Plan– actually wants us to transfer our knowledge from the tertiary hospital to the rural hospitals. If we implement academic activities in the rural

setting, it can serve the Ministry requirements. It helps us to link health services and education together. (C4)

วิสัยทัศน์และพันธกิจของ CPIRD ก็เพื่อผลิตแพทย์เพื่อชาวชนบทอยู่แล้ว ดังนั้นเราควรจะต้องมีการเรียนการสอนในชุมชนเพิ่มขึ้นด้วย คิดว่าจะได้ประโยชน์กับชุมชนด้วย (C3)

The vision and mission of CPIRD are to produce rural doctors working for the rural community. So we should have academic activities in the rural community. We also think that the community will get the benefit from the rural placements as well. (C3)

In addition, the participants explained that the RCBME program could provide opportunities for development in other sectors in rural communities, for instance, transportation, local business, or modern technology (P5).

นอกจากนี้ [หลักสูตรใหม่] ยังทำให้มีความเจริญทางด้านอื่นเข้าไปด้วย เช่นการคมนาคม เทคโนโลยี (P5)

Additionally, it [the RCBME program] will be able to get other development into the rural community, for example, transportation or technology. (P5)

4.7 Summary

This chapter presents the results of 21 interviews of RCBME stakeholders in the Thai context. Considering the clinical axis in Worley's symbiosis model, Thai RCBME stakeholders expected to offer students authentic preparation for future roles as rural doctors if students were ready to participate actively in the clinical environment and contribute to the legitimate work of their clinician supervisors. Through apprenticeship-style roles, RCBME was expected to provide students with opportunities to forge meaningful relationships with interprofessional clinical team members. Collaboration between city and rural clinicians to deliver RCBME could enable each party to see clinical practice from the perspective of the other.

In the institutional axis, these results indicate that Thai stakeholders recognised the need for Thai RCBME to be of benefit to both the rural health services and the academic centres engaged in CPIRD. They described hopes that through RCBME, academic centres will be able to meet government expectations of transferring clinical learning to rural areas, and for improving, as well as

sustaining, rural health service quality. The program will in turn support rural health services to make RCBME a success for those services.

Recognising that students develop both personal and professional identities during their medical school training, the personal-professional axis considers the impact of RCBME on this development. Rural clinicians were expected to shape this personal axis through their role modelling and mentorship. However, Thai RCBME stakeholders also expressed concerns for students meeting their academic requirements and protecting their reputation of achievement with regards to academic results of National Examinations.

In the social axis, Thai stakeholders expected students to understand the rural patients together with the rural context through the RCBME program. Potentially, the graduates who are attached to the rural community will meet the government expectations to support health service policy as well as increase rural doctor retention rates. In addition, this axis demonstrated the hopes of Thai stakeholders for building the capacity of the rural community through implementing the RCBME program in a rural location.

In conclusion, many results *within* each symbiotic axis of this study support the key findings from the literature review as outlined in the Chapter 2. Results indicate considerable interest in, and commitment to, Thai RCBME from the range of Thai stakeholders included in the study. These results are consistent with the government imperative to commence RCBME for CPIRD medical students. A number of unexpected results emerged from the data, which seem different from the findings in the literature review as will be explained. The final chapter will proceed with further synthesis of *across* axis themes as well as discussing these context-specific similarities and differences.

CHAPTER 5: DISCUSSION

5.1 Introduction

The previous chapter has clearly illustrated the voices of a representative range of Thai stakeholders including students, urban clinicians, policy makers, rural health professionals, and local community stakeholders, to capture their expectations of the Thai RCBME initiative within each axis of the symbiotic clinical education model.

In this chapter, further synthesis of across-axis themes that builds on the results identifies three cross-categorical discussion themes which emerged from the data that integrate stakeholder perspectives. These three themes are explored, compared to the international literature, and implications for RCBME in Thailand are considered. In addition, the limitations of this study are described. Finally, the conclusions of this thesis are presented.

5.2 Identification of Cross-Categorical Discussion Themes

On initial consideration of the findings outlined in the Chapter 4 regarding Thai stakeholders' expectations of RCBME, many of the themes are consistent with the international literature as outlined in the Chapter 2. On more careful consideration, there are some striking differences in the Thai context. Through an iterative analytic process, as described in the methods chapter, three across-axis themes emerged from the data. These are: dramatic shift in medical education paradigm; seeing rural practice as the future; and collaboration (between urban and rural stakeholders) to improve education and health in rural services. The table of typology showing the thematic correlation across the axes is demonstrated in Table 5.1. These themes are discussed individually below.

Table 5.1: Typology of thematic correlation in cross-categorical themes

STAKEHOLDER EXPECTATIONS	CONTEXT MATTERS: MAJOR THEMES ACROSS CATEGORIES			
	CLINICAL AXIS			
	(4.3.1) Authentic preparation for future roles			
	(4.3.2) Meaningful relationships with members of interprofessional clinical teams			
	(4.3.3) Student readiness to contribute legitimately to rural practice			
	(4.3.4) City and rural clinicians seeing the other side of clinical practice			
	INSTITUTIONAL AXIS			
	(4.4.1) Enabling tertiary hospitals to meet government expectations by transferring clinical learning to rural areas			
	(4.4.2) Rural hospital quality improvement and sustainability			
	(4.4.3) Supporting and valuing rural health services to succeed at RCBME			
	PERSONAL AND PROFESSIONAL AXIS			
	(4.5.1) Students meeting academic requirements of National Examinations			
	(4.5.2) Students developing rural personal and professional identities			
	(4.5.3) Shaping students' development through role modelling and mentorship			
	SOCIAL AXIS			
	(4.6.1) Understanding rural patients			
	(4.6.2) Increased rural doctor retention rates			
	(4.6.3) Rural community capacity building			
		Theme 1: Dramatic shift in medical education paradigm	**Theme 2: Seeing rural practice as the future**	**Theme 3: Collaboration to improve education and health in rural services**

5.3 Theme 1: Dramatic Shift in Medical Education Paradigm

This theme recognises the magnitude of the paradigm shift for Thai medical education associated with the move to RCBME. This shift includes (1) a shift of location: from tertiary hospital to rural general practice; (2) a shift of clinical content: from complex management to common primary and initial care; (3) a shift of focus: from teacher-centred to student-centred participatory learning; and (4) a shift in outcome: from exam-ready to work-ready. These transitions have occurred in medical education in many countries, but in the context of Thailand these shifts are more accelerated by government policy, with potential to be disruptive forces. Each shift is outlined below with the potential implications for Songkhla Province and Thailand considered.

5.3.1 Shift of Location: From Tertiary Hospital to Rural General Practice

This educational shift directly involves moving undergraduate medical student training from urban-based tertiary hospitals to general practice based in rural hospitals and communities. As one policy maker described:

> *เป็นความท้าทาย เป็นการ step up ของความก้าวหน้าในการเรียนการสอนจากดั้งเดิมที่เป็น regional-based [มหาวิทยาลัย] มาในปัจจุบันที่เป็น provincial-based [โรงพยาบาลศูนย์] และต่อไปกำลังจะเป็น district-based [โรงพยาบาลชุมชน] (P5)*

> *This is a challenging step of educational progression primarily from regional-based setting [university] currently to provincial-based setting [tertiary hospital], and then straight forward to be a district-based setting [rural hospital]. (P5)*

Drivers for medical education to shift into rural and remote areas in Thailand include the shortage of rural medical workforce both in terms of undersupply and maldistribution. RCBME was initiated as an educational strategy in the Australian context in 1997 with the aim of improving the recruitment and retention of rural general practitioners (Worley et al., 2000). This strategy included fostering medical students with rural backgrounds through early exposure to rural practice with a view to encouraging more junior doctors to practise in rural communities

(Worley et al., 2000; Young et al., 2011).

In this study of the Thai context however, there are concerns raised by a few stakeholders indicating their scepticism about the benefit of student training in rural locations in Thailand. This might be explained by recognising mindsets of specialists informed by experiences of their own training in medical schools.

> *Mindset ของอาจารย์โดยเฉพาะในโรงพยาบาลศูนย์กับโรงเรียนแพทย์ ซึ่งบางทียังไม่เชื่อสนิทใจว่าหลักสูตรจะเป็นอย่างไร (P2)*
>
> *It is about the mindset of clinical educators and specialists in the tertiary hospital as well as the medical school. They still do not believe that the RCBME program is going to happen. (P2)*

However, it is also possible that poorer human, instrumental, and physical resources in rural health services in Thailand means there are substantially greater differences in the context of care between rural and tertiary hospitals when compared to the differences in resources available in rural and tertiary hospitals in Australia. This will be important to address given the concerns reported by Smith et al. (2015) by faculty and students in a lower resource context.

> *นักเรียนกลัวว่าไปโรงพยาบาลชุมชนแล้วจะไม่ได้อะไร (S4)*
>
> *Students expressed their concerns that they will not gain enough knowledge in the rural hospital. (S4)*

Information regarding the RCBME program development in Songkhla Province has not been universally available to all relevant stakeholders. Even one of the RCBME leaders acknowledged the challenges of inadequate information distribution and recognised the effect this has on acceptance of RCBME:

> *ความใหม่ของหลักสูตรและความไม่ชัดเจนในรายละเอียด ทำให้น่าจะมีคำถามกันเยอะ (P4)*
>
> *Because of unfamiliar and uncleared information regarding the RCBME program, it definitely causes people to raise questions. (P4)*

5.3.2 Shift of Clinical Content: From Complex Management to Common Primary and Initial Care

RCBME also represents a change in the Thai medical educational content as students gain more access to patients with common conditions (including chronic diseases which are managed in the primary care context) and patients with acute care conditions, which need initial emergency management by rural doctors at the primary hospital such as acute trauma, and life-threatening medical conditions. Patients in the rural community hospital with less acute conditions will potentially provide students with opportunities for greater authentic learning. Contact with patients with chronic illnesses over time, may enable student-patient and student-practitioner relationships to develop.

Similar to the international context (Maley, Worley, & Dent, 2009), one driver for moving Thai medical education to rural areas is the change in clinical practice toward more specialisation and shorter duration of treatment in tertiary hospitals. RCBME offers students the opportunity to engage with patients with less specialised requirements for management of chronic illness, as well as primary and initial care. Patients with well-stabilised illnesses and chronic ambulatory care needs are commonly transferred to the rural hospital setting nearer to patients' home communities, or are found in the community and can be seen by students in the primary care setting.

> *โรงพยาบาลศูนย์ไม่เหมาะแล้ว ... staff ก็เป็น specialist เคสก็ complicated มากขึ้น น่าจะหาที่ที่เป็นบริบทจริงที่จะเห็น common case (P3)*

> *The tertiary hospital is not an appropriate learning place for students anymore. …most clinical staff are specialists and also have more complicated cases. We should find an alternative learning setting that can provide common cases for student learning. (P3)*

In contrast to developed countries, the rapid improvement in medical practice at Thai tertiary service hospitals has increased the gap between rural and urban services and has led to increased referral of patients from rural hospitals. Tertiary hospitals in Thailand are perceived to have the advantages of highly

specialised clinicians, more technical medical facilities as well as increased availability of postgraduate training programs in various specialties. The dramatic shift in medical education content in the Thai context is associated with concerns about quality of educational experience. Given the concerns and hopes that the patient mix encountered will be better for learning, collecting information about the impact of RCBME on students' knowledge of common and important conditions will be important to reinforce the value of the shift in content that occurs through RCBME. Further understanding can come from the success stories of RCBME in developing countries which may help to inform content and quality discussions in Thailand (Cristobal & Worley, 2012; Omotara, Yahya, Shehu, Bello & Bassi, 2006; Smith et al., 2015).

5.3.3 Shift of Focus: From Teacher-Centred to Student-Centred Participatory Learning

RCBME will not simply facilitate changes in location and clinical content, it will also provide opportunity to change the focus of medical education in Thailand. Changing to RCBME in the Thai context is associated with a change from traditional teacher-centred hierarchical models of education to more student-centred participatory learning. As another policy maker expressed:

> *…ถ้าเรายังสอนนักเรียนโดยวิธีแบบเดิม นักเรียนก็ไม่สามารถปรับตัวได้ ต้องรอพึ่งครูตลอดเวลา (P1)*
>
> *…If we still have taught them traditionally, they will not actively adapt themselves and they still have depended on their teachers. (P1)*

Consistent with the international trend, tertiary hospital health services in Thailand have advanced in order to manage increasingly complex patient conditions. Clinicians have important, time-sensitive health service provider roles as required to appropriately care for the specialised-needs of patients. As clinical teachers who are academically responsible for CPIRD students' clinical education, Thai tertiary hospital clinicians often blend their clinical and academic roles together because of high massive service workload in each day. This situation

limits the capacity to engage students in patient care. Educational relationships between the triad of clinicians, patients, and students are inconsistent due to specialists' clinical commitments and academic availability. It has been recognised that clinician time pressure is associated with passive student roles (Walters et al., 2011a). This may be a reason why Thai students mainly experience a passive role rather than an active member participating in clinical practice under the supervision from their clinicians in tertiary hospitals.

If improving medical competencies is particularly associated with more active participation in medical practice, then Thai students learning passively in the tertiary hospital setting are potentially becoming less competent than in times past when the tertiary hospital setting was less complex. Therefore, RCBME seeks to bring a new era of Thai clinical education, where RCBME students are able to actively participate in authentic situations in rural clinical practice, and particularly strengthen their generalist competencies through this active learning paradigm thus better preparing them for their future working life.

The results in this study provide evidence that Thai stakeholders understand the magnitude of the shift of medical education and are committed to contribute to RCBME. However, they also recognise the challenges for the Thai context. In this study many participants still saw students as passive learners and were unsure how to move students from the passive clinical roles they experience as healthcare team members in tertiary hospitals. There were concerns regarding student readiness to contribute legitimately to rural practice. It is clear that rural clinicians will need to be adequately supported and trained to deliver RCBME and take on apprenticeship-style learning instead of a traditional culture of passive-receptive student role in Thai medical education in order to realise the maximum benefit of RCBME.

This theme is similar to findings in the international literature that rural experience offers students a lot more active clinical learning than placements in

urban tertiary hospitals (Walters et al., 2012). Through their rural learning, students move from theoretical discipline knowledge to a new way of experiential knowledge (Denz-Penhey & Murdoch, 2008). According to Walters et al. (2011a) and Daly et al. (2013), student learning is facilitated by: diversities in rural patient presentations; experiential hands-on learning in the rural clinical workplace; and authentic engagement with rural GP preceptors and associated clinical team members. These factors support students moving from the periphery to a more legitimate and central position of clinical care, in which they participate as active, agentic learners.

In order to be successful, the Thai RCBME program will need to select and support students who have, or can develop, an active and self-directed learning style. Collecting information about the impact of RCBME on students' learning, in terms of student participation in clinical placements, student satisfaction with apprenticeship relationships, and learning outcomes will be important to reinforce the value of the dramatic shift in focus in medical education which will occur through RCBME.

5.3.4 Shift in Outcome: From Exam-Ready to Work-Ready

Despite Thai stakeholders' hope that rural placements will prepare students to be ready for a professional career rather than focus only on academic preparation for written examinations, this study demonstrates that Thai students have more anxiety about readiness for their National Examinations in contrast to being work-ready for the rural context in which they will spend their first three years following graduation. Their concerns that RCBME would interrupt their preparations for National Examinations is important to understand, monitor, and mitigate. Exploring these concerns further, it seems students worry that their rural attachment would make them less competitive than their urban colleagues, particularly through limiting the opportunity to access urban clinical tutors.

These findings highlight the challenge for Thai RCBME stakeholders if students

attend the rural placement at their end of the fifth year as they are likely to experience significantly increased anxiety due to National Examinations. As reported in the Results Chapter (section 4.5.1), one CPIRD student stated that the timing of the rural placement in relation to National Examinations might be critical:

> *ถ้ามันเป็นช่วงปลายปี 4 ก็ยังไม่กังวลมาก เหมือนช่วงปี 4 ก็ไม่ได้คิดอะไร เราเอาความรู้ก่อน แต่ช่วงปี5 ถ้าสมมุติว่าเป็นช่วงที่ใกล้สอบ National Examination เลย แล้วเพื่อนติวกัน มันต้องติวเป็นกลุ่มในศูนย์แพทย์ ก็จะกังวล (S1)*
>
> *I don't worry about rotating in the rural hospital in my fourth year. I don't mind if I learn there. It is a time to gain the knowledge. However, if I rotate in the fifth year which is a preparation period for the National Examination, this can make me anxious about missing out on the opportunity for tutoring with my peers in the urban Medical Education Centre. (S1)*

Student concerns are influenced by the current focus of the National Examinations on academic content, which needs specialised knowledge and skills rather than common general competencies. One rural junior doctor described their previous experience of National Examinations that confirmed academic study was needed to get high academic results in this examination:

> *National Examination เกือบ 90% มันก็เป็นการสอบความรู้ ซึ่งใครรู้มากกว่าก็เท่ากับว่าสอบผ่าน ตอนเป็นนักเรียนรู้สึกว่า National Examination มันคือชีวิต เพราะถ้าเราไม่มีใบประกอบโรคก็ไม่รู้จะทำอย่างไร รู้สึกว่ามันสำคัญ แคร์เรื่องนี้มาก จะรู้สึกว่าเห็นโรงเรียนแพทย์เขาติวเยอะๆ เรายังแอบหวั่นใจเลยว่าเราขาดอะไรไปหรือเปล่า (R3)*
>
> *Nearly 90% of the National Examination is based on factual knowledge. The more content students know, the more chance to pass the examination. When I was a student, the National Examination was my whole life. I felt anxious that I did not have the opportunity for tutoring with my peers in the university and I felt this made me missed some knowledge. (R3)*

Regarding student academic performance in the literature, it is generally evident that academic results of students in longitudinal rural placements were mostly

similar to, or better than, those results of students with traditional block rotations in tertiary hospitals (Power et al., 2010; Walters, Worley & Mugford, 2003; Wilson & Cleland, 2008; Worley & Lines, 1999; Worley et al., 2004a). CPIRD students' concerns are comparable to one international study where students on longitudinal rural placements did not achieve comparable results in academic examinations with highly specialised content of applied knowledge (Power et al., 2010), although the effect size was small.

In terms of preparation for clinical practice, it is also clear that international students who undertook rural and remote placements progress their role from traditionally passive learners to those of clinically active learners and then co-workers as develop work-readiness in rural practice (Daly et al., 2013). These progressions of clinical participation refer to achieving student performance in their requirements of generalist competency and their responsibility for patients (Worley et al., 2006).

5.3.5 Implications for Thai RCBME

In order to reinforce a paradigm shift in Thai clinical education, as well as support stakeholders' concerns and hopes as mentioned above, a change in strategy is required to ensure the success of Thai RCBME development. As detailed in the Literature Review Chapter, many RCBME programs are longitudinal integrated clerkships (LICs). These programs provide longer continuity of experiences in terms of time for the triangular relationship among students, clinicians, and patients to develop, compared to traditional block rotations (Thistlethwaite et al., 2013; Walters et al., 2012). CPIRD plans to implement the Thai RCBME initiative in Songkhla Province as a hybrid urban-rural community clinical placement across the three clinical years of the course. The RCBME model is proposed to be scheduled as three 12-week compulsory, discipline-integrated rotations, one annually in each of the three clinical years. A plan of the new CPIRD curriculum is shown in Appendix 17. This might be seen

as a short rotation in a rural location each academic year, however there is evidence that recurrent short rotations in the same location and under the same supervisors can be effective in motivating students to consider for working in rural locations (Young et al., 2011). This initial pilot of Thai RCBME is concordant with the Australian John Flynn Placement Program (JFPP), which provides students with an annual rural clinical exposure usually of four two-week placements during their medical training period. The JFPP experience has demonstrated positive influences on student intention to work in rural areas (Young et al., 2011). To ensure the success of Thai RCBME development, there is much support needed as outlined below.

5.3.5.1 Preparation for apprenticeship style learning

While the rural clinicians interviewed expressed a strong commitment to being RCBME students' preceptors, they (and other research participants) expressed particular concerns regarding medical education expertise of the rural preceptors as well as their high service workload in clinical practice. Concerns were raised that these issues would affect the quality of supervision and time available to commit to RCBME. These findings are concordant with the work of Walters et al. (2003) who found that rural GPs were anxious about their teaching capability, time commitment, and infrastructure demands on their practices. It will be an important challenge for CPIRD to support rural clinicians who have concerns that they do not have adequate time to meet the commitments of student supervision because of their massive clinical workloads. The Thai RCBME leadership must respect these concerns, and will need to properly organise faculty development to build medical education expertise, improve teaching performance, and to prepare for a learner-centred environment encouraging active participation in clinical practice, as well as skilled facilitation for students.

International evidence suggests that the parallel consultation is an effective model for implementing student consultation with patients (Couper & Worley, 2010; Walters, 2014), and has further demonstrated that this consulting model is

time-efficient for rural clinicians (Walters, Prideaux, Worley, Greenhill & Rolfe, 2009). However, there are no studies examining parallel consulting in developing countries, and it is unknown whether parallel consulting will translate to the context in rural medicine in Thailand. Thus, Thai rural clinicians who take up the opportunity to become RCBME preceptors will need to be supported to value supervision and, importantly, CPIRD must support rural clinicians to develop their own supervision models for their context that helps to engage students in practice and to have minimal impact on rural clinicians' clinical workload over the course of the RCBME placements.

5.3.5.2. Assessment alignment

CPIRD students in this study described concern that the additional duration of rural clinical placement will reduce their learning period in major disciplines from previous traditional rotations at the teaching hospital. Their reasoning was assumed that the time in RCBME will interrupt the opportunity for learning in major disciplines or specialised knowledge in an academic centre.

> *เนื้อหาวิชาจะลดลงหรือไม่ เพราะต้องแบ่งเวลาไปเรียนในโรงพยาบาลชุมชน (S4)*
>
> *I still have concerns that the content of major disciplines will decrease because of time constraints for learning in the rural hospital. (S4)*

Thai medical education mismatch between learning methods and assessments for National Examinations as revealed by the students' concerns is an important source of potential sabotage for the success of RCBME in Thailand, particularly from the perspectives of students and universities. CPIRD must acknowledge this issue and find an appropriate solution to the concerns raised by CPIRD students about the examination. Importantly, the educational shift, from exam-ready to work-ready, may be valued in medical education in Thailand beyond the RCBME program. It may be time to review National Examinations and consider other assessment processes to produce more work-ready graduates for all of

Thailand. Certainly, authentic clinical exposure coupled with programmatic assessment for learning correlating to students' future practice is becoming more common internationally (Schuwirth & Van der Vleuten, 2011). Another option is that CPIRD may need to consider a courageous move to separate its own assessments for CPIRD RCBME students from the national system. This would enable the introduction of workplace-based assessments into the Thai RCBME program rather than privileging factual knowledge-based examinations.

5.4 Theme 2: Seeing Rural Practice as the Future

This theme recognises the expressed hope, with caution, that if all stakeholders could envision an optimistic future for rural practice, then each group of stakeholders will positively reinforce the RCBME work and outcomes of the other groups. These visions of the future include: (1) the future for Thai rural doctors; (2) the future for Thai patients; and (3) the future for CPIRD students. The future for each group is outlined below.

5.4.1 The Future for Thai Rural Doctors

Thai stakeholders generally anticipated rural clinician preceptors to be key persons in the RCBME program. In the future, rural clinician preceptors will be responsible for facilitating CPIRD students' participation in clinical activities as clinical team members with non-hierarchical relationships among rural clinicians and other health professionals. The international literature suggests many rural doctors choose to supervise students because they enjoy the professional company, intellectual stimulation, and the opportunity to give back to the profession and shape the next generation (Walters, Worley, Prideaux, Rolfe & Keaney, 2005). However, there is also evidence that being a preceptor for medical students needs to be feasible and economically viable (Laurence, Black, Cheah & Karnon, 2011). In order for Thai rural doctors to take up this role and thrive in it, they must envision a positive future and be supported to co-create

this future with RCBME leaders and other stakeholders.

This theme captures perspectives that doctors who choose to stay in rural areas were seen by Thai stakeholders as materially different in their attitudes, values, and interests compared to their medical colleagues who return to the city soon after their initial completion of service.

> *เขาทำงานในโรงพยาบาลชุมชนมาประมาณ 20 ปี ที่เขาอยู่ได้เพราะว่าเขารู้สึกว่าเขามีประโยชน์ในชุมชน สามารถพัฒนา ก็รู้สึกว่ามันเป็นประโยชน์ก็เลยอยู่ได้ เหมือนเป็นแรงบันดาลใจ เป็นทัศนคติที่ดีสำหรับเรา (S1)*
>
> *One rural GP has worked for the rural hospital for 20 years because his work has been valuable and he has been able to develop his own rural community. That is the reason why he remains in the rural community. I personally have this motivation and his story actually gives me a strong interest [for rural general practice]. (S1)*

There is a significant expectation that the power of the apprenticeship relationship will influence future career choices and outcomes. However, there was recognition by Thai stakeholders in this study that retention of rural doctors in the longer term, requires meaningful career progression opportunities to retain doctors who make an initial commitment to stay in rural areas after their three years of mandatory service. One policy maker perceived that:

> *เราปฏิเสธไม่ได้ว่าเด็ก [แพทย์] เหล่านี้อายุยังน้อย จบมาก็ต้องการความก้าวหน้า ต้องการเรียนรู้ ต้องการชีวิตความเป็นอยู่ที่ดี ต้องการมีชื่อเสียง ต้องการความสำเร็จ เขาอาจดิ้นรนถีบตัวเองเพื่อสิ่งที่เขาค้นหา เพื่อตอบโจทย์ตัวเขา สิ่งนี้อาจทำให้เขาอยู่ชุมชนได้ไม่นานก็ไป เราจะต้อง balance เรื่องนี้เพื่อให้เขาอยู่ในชุมชนได้นานขึ้น (P5)*
>
> *We cannot deny that they [graduates] are so young. They want to have more progression, more training, a better life, a better reputation, and more success. They may fight for themselves to get their needs. All of these may be reasons why they don't stay longer in the rural community. We have to balance these issues to achieve more rural retention. (P5)*

Previous studies have indicated that opportunities for rural career progression could help doctors to increase their interest in rural career choices (Marley et al.,

2009). Access to postgraduate training in rural areas has been shown to meet key needs for graduates considering a future in rural practice (Walker et al., 2012). RCBME may provide some complementary opportunities for undergraduate and postgraduate education, enriching continuing professional development for doctors in their career pathways (Hays, 2006). A vertical educational training stream that integrates medical training of undergraduate rural tracks with visible postgraduate career pathways will therefore be fundamental to retaining Thai RCBME doctors for future rural practice. RCBME can be seen by Thai rural doctors as an important initiative which is consistent with the Australian rural education and training interventions *'rural pipeline'* to support the rural medical workforce (Walker et al., 2012, p. 2). The Thai rural pipeline can include recruiting (CPIRD) students with rural background recruitment; delivering (Thai RCBME) medical training in rural regions; and building rural-based postgraduate training pathways.

Considering the international literature, the Ministry CPIRD together with the Thai government would do well to complement RCBME with additional political strategies to provide rural doctors with opportunities for postgraduate specialised training, especially for CPIRD alumni who commit to practice in their home communities. In Australia, postgraduate training in rural and remote medicine is available through the Australian College of Rural and Remote Medicine Fellowship[1]. A reasonable option may be for CPIRD alumni to have further specialised training in partnership with Prince of Songkla University (PSU) Hospital, or a regional tertiary hospital such as Hatyai Hospital, in order to connect the context of training as closely as possible to the context of practice in the rural Southern Region of Thailand. Another opportunity for postgraduate

[1] Australian College or Rural and Remote Medicine Fellowship training program http://www.acrrm.org.au/training-towards-fellowship

training and recognition is through academic qualifications in clinical teaching and rural research higher degrees. Opportunities exist to partner with international universities with high rural and remote standing to develop these pathways for Thailand.

5.4.2 The Future for Thai Patients

Rural patients are seen as important stakeholders in the Thai RCBME program and rural community placements more generally. Apprenticeship-style learning relies on rural sites having capacity for greater access to patients and, more importantly, patient willingness to participate in student consultations. Ideally, RCBME will be more successful if students are also welcomed by community members into the rural community and actively encouraged to engage. If Thai rural people and Thai patients seek to support RCBME, then the program is more likely to produce doctors who are both competent in medical practice and have a deep understanding of the rural context.

In this study, the initial perspective of local community stakeholders regarding willingness to be involved in a student consultation was somewhat negative. The local community members expressed their concerns in relation to student readiness to legitimately contribute to rural practice. This unexpected finding is different from previous findings in the literature (Hudson et al., 2010; Hudson et al., 2012). Thai doctors expressed concern that local community members would not wish to see students because of their lack of clinical experience. As one of Thai rural community stakeholder commented:

> *ชาวบ้านโดยเฉพาะคนแก่ๆ เขาว่าถ้าเป็นนักเรียนจะมองว่าอายุยังน้อย ยังขาดประสบการณ์ หรือประสบการณ์ยังไม่ชัดเจน ไม่เหมือนกับหมอใหญ่ เขาจะรู้ทุกอย่าง (R5)*
>
> *The local community members, especially the elderly, mentioned that medical students were young and inexperienced compared to the senior rural doctors who were more experienced in terms of clinical practice. (R5)*

Interestingly, Australian doctors have been shown to overestimate patients'

concerns about student involvement in consultations, with patients expressing comfort in having students more actively involved in RCBME (Hudson et al., 2010). Even in resource-poor contexts such as Nigeria, people in rural communities perceived student visits to their community primary care setting as beneficial (Omotara et al., 2006).

Additionally in this study, local community members expressed concerns that consultations with a student might take more time. These concerns contrast with the international literature, which has found that patients usually report enjoying the additional time they have with students and clinical teachers during parallel consultations (Walters, 2011c). The time pressure that Thai local community members were concerned about may indicate participants' experience of inadequate rural health service capability due to medical workforce shortages. Patients will need to be supported to see that RCBME does not reduce their access to care, and that having additional time to discuss with medical students can value add to their care. In the international literature, parallel consultation was the preferred model for involving a student in consultations with patients (Couper & Worley, 2010). Walters et al. (2009) demonstrated that consultations took no longer for the doctor when a student was being supervised, demonstrating that patient access to care was not reduced and wait times were not impacted (Walters et al., 2009). Following recommendations by Walters (2011c), patient engagement and consent to see medical students will need to be actively managed. In the Thai context, this will be important when the RCBME program is commenced in Songkhla Province and across Thailand.

In addition, patients can be supported to take pride in their role of teaching students (Hudson et al., 2010). The international evidence indicates that patients' understanding of the value of RCBME students can evolve with evidence of the impact of RCBME on students. A Canadian study by Ellaway et al. (2016) reported evidence of student change including changes to students' socio-cultural attitudes, career choices, enhancing learner satisfaction, and, importantly

having a direct benefit on the community through the contribution they make to clinical services and community social capital (Ellaway et al., 2016). It will be strategic for CPIRD to invite local community stakeholders to become involved with the RCBME initiative at individual, organisational, and more strategic levels (Walters et al., 2011b). The cooperation of local communities will strengthen the RCBME development and help it to become a sustainable program.

5.4.3 The Future for CPIRD Students

RCBME in Thailand will most dramatically affect the experience of CPIRD students during their medical school training. The success of the program will hinge on the acceptability of the program for this stakeholder group and how they embrace the opportunities to learn in rural areas. Student participants in this study saw that Thai RCBME could be a great opportunity for CPIRD students engaging not only with rural patients and health services, but also engaging with local communities.

5.4.3.1 Rich clinical learning experiences

In this study, CPIRD students saw the potential to improve medical competencies through authentic actions and experiences in rural clinical practice. The expectations regarding a sense of participation with interprofessional clinical team members is reflective of international evidence. Medical students can move from being theoretical learners to junior health service providers through participating with their clinical team (Denz-Penhey & Murdoch, 2008). Longitudinal experiences can enable comfort, familiarity, and trust to develop in relationships between students and their preceptors during their clinical placements (Walters et al., 2011a; Zink et al., 2008). Through teaching and mentoring from clinical staff such as clinicians, nurses, other health professionals, and administrative officers, students can develop more collegial relationships over time, compared with a more hierarchical relationship at the tertiary hospital (Worley et al., 2006). Moreover, students could meaningfully engage with patients and take responsibility for their clinical care under

supervision. Such attributes foster an emerging professional identity born at the site of patient-student interaction and grounded in an ethic of clinical caring (Konkin & Suddards, 2012).

A prominent finding in the RCBME literature is the sense of vocation that students develop when they go to a rural site to '*work'* rather than study (Worley et al., 2006, p. 114). Workplace-based learning gives students the opportunity to walk in the shoes of their supervisors (Worley et al., 2006). Situating medical students within the context-rich environment of RCBME allows for meaningful relationships and experiences, which can enhance learning both in relation to practicing medicine and becoming a doctor (Kelly, Walters & Rosenthal, 2014). In this study, CPIRD student expectations about developing a sense of vocation were sparse compared to the literature, however, Thai students are yet to experience RCBME so it will be interesting to see if expectations change. It is likely that this is because CPIRD students still study in the current medical program of clinical learning that focuses on theoretical knowledge, and tertiary hospital environments where students are familiar with passive learning roles.

Stakeholders in this study, including CPIRD students, have great hopes for the development of rural professional and personal identities through RCBME in the Thai context. These expectations are similar to experiences found in the international evidence which show that rural clinical placements positively influenced RCBME students' understanding of rural community-based practice, as well as increasing interest in rural medicine at the beginning of their careers (Couper & Worley, 2010; Critchley et al., 2007; Denz-Penhey & Murdoch, 2008; Florence et al., 2007; Forster et al., 2013; Glasser et al., 2008; Halaas et al., 2008; Lang et al., 2005; Stagg et al., 2009; Verby, 1988; Wilson & Cleland, 2008; Worley et al., 2000; Worley et al., 2006; Young et al., 2011).

One major obstacle to Thai students achieving this ideal future, is their concern about the time pressure of clinical work and inadequate time for examination

preparation. CPIRD students believed that the busy clinical load during their rural attachment would decrease their personal time for revising factual knowledge. They recognised that the tension between contributing authentically to the heavy workload of their rural GP preceptors and their own private study commitments could mean less time studying compared to their tertiary hospital-based colleagues in the medical school. These concerns are similar to those found in the broad international literature. RCBME students expressed anxieties which included lack of access to medical texts and other resources including didactic lectures; social and academic isolation; and insecurities about process of RCBME curriculum (Delaney et al., 2002; Wilson & Cleland, 2008). Students in an Australian year-long RCBME described high-stakes examinations as their major source of stress (Greenhill, Fielke, Richards, Walker & Walters, 2015b). In addition, students in integrated RCBME placements who were learning numerous specialty disciplines simultaneously expressed anxiety that they felt disorientated (Worley et al., 2000; Worley et al., 2006).

In regard to supporting students with their time pressure and focus on academic performance in National Examinations, CPIRD needs to strongly support students' learning needs from the commencement of the program. RCBME leadership team will need to ensure provision of accessible, high quality learning resources in RCBME locations, which are linked to the tertiary hospital. In the longer term, the pressure on students may be improved by better aligning assessments with the RCBME outcomes through work-integrated assessments of competence, rather than knowledge-focused, context-poor National Examinations.

5.4.3.2 Community connections

The results in this study also demonstrated that academic and rural clinician stakeholders generally expected that while CPIRD students would legitimately contribute to general practice in the RCBME program, they would also gain in return more local knowledge from the local community members in terms of

culture, public health priorities, and the influence of social determinants of health different to those found in urban centres.

Despite this view from other stakeholders, students themselves did not mention community engagement as an expectation. This may indicate that Thai students rarely expect to be involved in the broader community outside the clinical context and have little experience of social engagement within their current curriculum. Given this background, it will be beneficial to students if CPIRD organises a community orientation program, or pathway in the preclinical program, before commencing the rural clinical placement in order to impart valuable information regarding the rural health system, and provide early exposure to the local community that will coherently link to training in rural general practice in their clinical years.

Importantly, stakeholders in this study assumed that the longer students stayed in the same rural location, the deeper relationships would be between them and the rural stakeholders, as they lived within the context of their patients and teachers. The ideal future for individual RCBME students is one of social connectedness where rural clinicians provide mentorship and model close ties with the community. It is important to note that the risk of student isolation during rural attachments was not considered by stakeholders in this study. A recent Australia-wide Beyondblue study found that medical students on rural placement suffered higher levels of mental illness than metropolitan-based students (Wu, Ireland, Hafekost & Lawrence, 2013). Social isolation is a major contributor to this with up to 38% of medical students based for a full year in a rural clinical school reporting some level of social isolation (Delaney et al., 2002; King, Purcell, Quinn, Schoo & Walters, 2016). Program-level strategies which have been shown to support medical students in RCBME include features such as providing a secure, supportive learning environment; recognising pressures on student during the RCBME profound learning journey; and having local staff who can provide social support on the ground (Greenhill et al., 2015b). Given that

isolation is a feature in the international context, this will be important to monitor in the Thai context. In addition, CPIRD together with the local community could administer this kind of support as well as providing interesting social activities to help broaden RCBME students' perspectives about socialisation in the community, and demonstrate to students the value of experiential learning outside the medical context in a rural location.

5.5 Theme 3: Collaboration to Improve Education and Health in Rural Services

The final theme captures the sense of collective commitment expressed by the study participants to work together across the rural–urban divide to ensure the success of RCBME. Collaboration between rural and urban stakeholders is anticipated to help improve rural health education as well as health services. The commitment to collaborate can be described at three different levels: (1) collaboration at an individual level; (2) collaboration at an organisational level; and (3) collaboration at a community level. Collaboration at each level is outlined below.

5.5.1 Rural–Urban Collaboration at an Individual Level

At an individual level, this collaboration is expected to develop between urban tertiary hospital specialists and rural clinicians who contribute directly to student learning, initially through interaction focused on supporting rural clinicians to develop their clinical education expertise, but then further in better supporting rural colleagues' health service practice at rural hospitals. A policy maker described:

> *คิดว่าความตั้งใจเขา [แพทย์โรงพยาบาลชุมชน] เต็มร้อยนะ แต่ว่าก็ต้องอาศัยทักษะในการสอน ซึ่งเราต้องพัฒนาให้เขา (P2)*
>
> *In my opinion, rural GPs are willing to be involved, but they need to have more teaching skills. We have to develop them. (P2)*

The literature describes the establishment of partnerships between clinicians at the universities and those at the rural sites during the development of RCBME. Walters et al. (2003) reported that rural GPs were initially recruited through personal networks. Rural clinicians appreciated their relationships with the universities and students, taking great pride in being part of the academic endeavour and helping to train the future generation of doctors (Couper & Worley, 2010). Rural clinicians gained personal satisfaction from continuity of supervision in RCBME programs (Young et al., 2011). There is less written about how and why faculty members in urban academic centres engage with RCBME programs, although collaborative teaching of students is described in the Parallel Rural Community Curriculum (PRCC) and other Australian rural clinical school programs (Couper & Worley, 2010; Delaney et al., 2002).

The results of this study appear to indicate that Thai rural clinicians will appreciate the establishment of an academic network between different sites. This network can aim to deliver complementary teaching for RCBME students and provide rural clinicians with opportunities for developing their medical education expertise. Additionally, results from this study suggest that Thai urban clinicians anticipate joining an academic network with the aim of developing rural clinicians' expertise on medical education through collaborative teaching. One statement from a policy maker confirmed that:

> *Rural GPs มีส่วนในการสอนในแนวระนาบ ร่วมกับ specialists สอนในแนวลึก (P5)*
>
> *Rural GPs play a role in general teaching together with specialists playing a role in the teaching in specialty. (P5)*

This individual collaboration also is seen to be further supporting rural colleague's health service practice at rural hospitals through knowledge sharing with urban clinicians. This collaboration may well help improve routine health service and provide better quality of care. An urban specialist described the perspective that:

ความคิดของเรา [specialists] จะถูกสอดแทรกเข้าไปในการพัฒนาคุณภาพของโรงพยาบาลชุมชน ศักยภาพของเขาต้องเพิ่มขึ้นแน่ (C2)

Our [specialists'] ideas will be incorporated in the development of the rural health service quality. That means the potential of rural GPs will be absolutely increased. (C2)

In addition, the individual collaboration may enable rural clinical practice to be better recognised and understood by urban clinicians. One policy maker described the value of this collaboration:

แพทย์โรงพยาบาลศูนย์และโรงพยาบาลชุมชนน่าจะได้สื่อสารกันมากขึ้น เห็นภาพการทำงานในโรงพยาบาลชุมชนชัดเจนขึ้น (P4)

Specialists and rural GPs are able to have more connection. Specialists also understand the rural practice more clearly. (P4)

At an individual level, community members can also value-add to the urban-based curriculum by teaching RCBME students to understand the rural life and context. As a rural clinician mentioned, the extra benefit for students relates to learning about local wisdom, which students cannot experience in the city:

นักเรียนได้เรียนรู้แพทย์แผนไทย แพทย์ทางเลือก ภูมิปัญญาชาวบ้าน การใช้สมุนไพร (R1)

Students can learn about traditional medicine, alternative medicine, the wisdom of local community members, and herbal medicine as well. (R1)

5.5.2 Collaboration at an Organisational Level

In addition, at an organisational level through the RCBME program, collaboration will enable tertiary hospitals to develop networks with rural hospitals responding to the political strategy to improve rural hospital quality and sustainability. An academic network will provide an organisational-level intervention to enable rural doctors in different hospitals to develop clinical linkages and work together as well as learn from each other to improve clinical care across similarly sized rural hospitals in the network. A policy maker described the benefit from this organisational collaboration through delivering RCBME:

มันถึงเวลาแล้วที่เราจะต้องเข้าไปช่วยกันพัฒนาโรงพยาบาลชุมชน ถ้าโรงพยาบาลชุมชนเป็นที่ที่มีการจัดการเรียนการสอน มีบรรยากาศการเรียนการสอน มันอาจมีหมอส่วนหนึ่งที่ยินดีที่จะอยู่ที่นั่น จะได้เกิดความยั่งยืน ไม่เกิดการขาด (P1)

It is time to develop the capability of rural hospitals. If the rural hospitals are able to implement an adequate learning environment, it might induce doctors to stay in the rural community and make the rural health service more sustainable. (P1)

The organisational-level collaboration in RCBME will require institutional and political investment in RCBME program administration, continuing professional development programs, communication technology, learning spaces, living accommodation, and travel subsidies to increase opportunities for routine engagement across distance within the clinical setting.

In this study, urban specialists were keen to collaborate with rural GP preceptors to enhance student learning in the rural hospital, however they also expressed their own concerns about the capacity to visit due to the tertiary hospital workload and the long distance between sites. If this objective is to be achieved, there will need to be changed to tertiary hospital specialists' clinical loads and financial support for travel costs to enable them to visit rural areas regularly to support rural teaching activities.

These concerns about barriers to collaboration were consistent with the literature, especially in starting a new RCBME program. Couper et al. (2011) reported common concerns regarding program establishment including issues of curriculum standardisation, communication, as well as student and preceptor support, while rural GPs' anxieties particularly focused on their teaching capability, time for academic commitment, and infrastructure demands on their practices (Walters et al., 2003). Moreover, specialist engagement with a RCBME program was challenging and required a significant change in their teaching paradigms and time to develop partnerships (Walters et al., 2003). Resources for student learning on rural placement in the low-resource environment were required, including providing students with access to medical literature and

textbooks as well as practice guidelines (Smith et al., 2015).

To implement the RCBME program successfully, CPIRD needs to be aware of and respect the concerns raised by urban and rural stakeholders, and seek to develop organisational partnerships, which support the human resources and infrastructure required to ensure success of a Thai RCBME program. This means the Thai government will need to invest financially in learning infrastructure for rural hospitals and student accommodation to assist CPIRD in developing a formal learning hub for RCBME in the longer term.

In Australia, a decade of government investment in rural clinical schools has had extensive positive impacts on rural and regional communities, including the development of teaching facilities with increased access to technology for hospitals and community groups involved in health promotion and education; a retained and expanded clinical workforce with increased academic status; and important rural research capacity to progress the health agenda in rural and remote areas (Greenhill, Walker & Playford, 2015).

Thai stakeholders' expectations of RCBME is dependent on academic infrastructure development and, like in Australia, is likely to facilitate engagement of other sectors in rural communities. In due course, these organisational-level collaborations centred on the RCBME program could facilitate rural clinicians to stay longer, thus creating a more experienced and improved rural medical workforce. One urban clinician recognised that the collaboration between urban and rural hospitals could build an academic culture in rural hospitals:

> *ทำให้เกิดวัฒนธรรมองค์กรว่าต่อไปโรงพยาบาลชุมชนจะต้องมีนักเรียน คนที่ไม่เคยมายุ่งเกี่ยวกับการเรียนการสอนก็จะต้องเข้ามาโดยอัตโนมัติเอง เพียงแต่ในช่วงแรกที่เริ่มต้น แพทย์จากโรงพยาบาลศูนย์อาจต้องมาช่วยในเรื่องการเรียนการสอนไปก่อน แล้วค่อยๆผ่องถ่ายให้แพทย์โรงพยาบาลชุมชน (C1)*
>
> *Having students in the rural hospital should be recognised by rural staff as routine, until it becomes part of their culture. The rural staff who are not initially involved in the program*

will be gradually become involved. Specialists from the tertiary hospital should also help rural GPs to develop the learning activity at the rural hospitals and work with rural GPs to facilitate their incremental ownership of the learning activities. (C1)

5.5.3 Collaboration at a Community Level

A community-level collaboration will involve all stakeholder groups in provision of infrastructure to support travel, training, and communication. One policy maker expressed that:

นอกจากนี้ [หลักสูตรใหม่] ยังทำให้มีความเจริญทางด้านอื่นเข้าไปด้วย เช่นการคมนาคม เทคโนโลยี (P5)

Additionally, it [the RCBME program] will be able to get other development into the rural community, for example, transportation or technology. (P5)

If investment in the Thai RCBME enables community-level collaboration, then community ownership will influence the CPIRD program and government policies to create a sustainable RCBME model for Thailand.

Internationally, socially accountable medical schools have sought to produce graduates who are work-ready for the communities in which they will be employed, and simultaneously have also sought to improve the health of the communities in which they train their students through improvements to health services and in community development more broadly. Cristobal & Worley (2012) reported the association between the formation of an innovative medical school in a low-resource, developing-world setting, recruiting students from the local region, and a significant reduction in infant mortality, which is a major problem in the rural and remote regions of the Philippines (Christobal & Worley, 2012). In the Philippines' example, collaboration between academic staff and local hospital clinicians was responsible for developing a RCBME program that fitted with the rural Philippine context. This required community support and cost-effective investment by the government to sustain the quality of the local hospital in such a poor rural area (Cristobal & Worley, 2012). Another study in the resource-poor context of Nigeria described how community stakeholders perceived their local

healthcare services had benefited from having RCBME medical students (Omotara et al., 2006). The findings of this study demonstrate Thai stakeholders in RCBME are interested in improving rural health outcomes. A Thai RCBME model should seek to engage the community in order to ensure ongoing government interest and investment in RCBME. Based on the findings on stakeholder views, program development should include ongoing commitment to, and evaluation of, improvements in rural health service capability, quality, and sustainability.

As discussed in three across-categorical themes in this chapter, these perspectives from Thai stakeholders were explored to answer the question *"What should RCBME in the Thai context look like?"* In comparison to the international literature, there can be found specific differences in the Thai context by which implications for RCBME in Thailand will be considered. Further to this, the thesis answers the question and demonstrates that context does matter when introducing educational innovations to a new context.

5.6 Limitations

There are three primary limitations in this study, which need to be considered as this is a single case study of the Thai context.

First, this qualitative research was conducted as a case study of a single Medical Education Centre in Songkhla Province, to which the RCBME initiative has been formally assigned by the Ministry CPIRD, and will commence as the first project of its kind in Thailand. The relevant stakeholders in the establishment of this RCBME were located in only Songkhla Province. This single regional Medical Education Centre study may not be representative of all regions and all stakeholders in Thailand, and so the results may not be directly transferable to other Medical Education Centres. However, this case study represents an in-depth example of stakeholder consultation in regional Thailand, and so perspectives regarding RCBME are likely to contribute to the understanding of

other potential RCBME stakeholders in other regional contexts in Thailand. Further studies can extend this work to other rural contexts in rural Thailand in order to contrast the regional-based results or strengthen this study's findings of Thai RCBME stakeholder views.

Second, the participant selection in this case study was by a purposive sampling technique through invitations sent to well-engaged cohorts of RCBME stakeholders in Songkhla Province. The 21 participants represent a relatively small number in terms of quantity. Only two community members were recruited in this case study and there were no active patients. The range of views expressed by these two community members may not be representative of the diverse opinions within the community, however, they represented potential patients and were able to express opinions from this perspective. Further input from other local community stakeholders including patients and nurses will be essential during the process of planning and implementation.

Third, this research used the symbiosis model as a conceptual framework for the study. This useful model ensured that the researcher designed the study, evaluated the literature, as well as conducted and analysed qualitative semi-structured interviews with each of the relevant stakeholder groups identified in the model. The symbiosis model may privilege some relationships over others (for instance, clinician to patient over clinician to health service) and the researchers may miss relationships, influences, or other groups of stakeholders who might have an important contribution to make to RCBME. Further studies could explore these lateral relationships within a symbiosis model (see Figure 2.1).

5.7 Conclusions

This study sought to address the research questions, *"What should RCBME in the Thai context look like?"* and *"Does context matter?"*, using a case study of a Southern Thai province. The practical aim was to understand Thai stakeholders'

expectations of RCBME with a view to contributing to the understanding of contextual influences on RCBME and shaping a new program being developed in Songkhla Province.

In the first chapter, this thesis set the scene describing the context of medical services in Thailand, Thai medical education including the CPIRD program, and the government interest in RCBME. The CPIRD collaborative model has increased the number of medical school graduates, and thereby the supply of junior doctors completing three-years compulsory rural practice. However, challenges still exist in overcoming doctor maldistribution and low doctor retention rates in rural areas. CPIRD is developing Thai RCBME in order to foster stronger connections between medical students and rural communities and rural practice with a view to improve rural doctor retention.

In the second chapter, the symbiosis model was described and presented as the conceptual framework of the study, and the current international literature on RCBME programs outlined. It was evident that in the developed world RCBME enabled students to engage in work-integrated-learning in a manner which was considered acceptable and feasible by the majority of clinician preceptors and patients. Universities have demonstrated that student academic results were not compromised by student participation in longitudinal RCBME placements. Health services have been reassured that students have not dramatically reduced the efficiency of their services, and clinician morale can be improved through meaningful relationships with students. There is less clear evidence that partnerships with universities have improved the quality of patient care in health services. Governments have sought rural medical workforce outcomes from RCBME and community members have expressed this at a more individual level, encouraging students to return to their communities. Community members have also valued the immediate contribution medical students can make to the social capital of a rural town, particularly on longer placements. Finally, there is good evidence that Australia, Canada and USA RCBMEs contribute to the development

of students' professional identity as a clinician, a general practitioner, and a rural doctor. Some evidence exists to demonstrate that mentorship also shapes students' personal and lifestyle expectations.

The range of positive impacts in regard to successful RCBME programs in the literature could potentially be replicated in the Thai context. However, there are a number of concerns described in the literature which need exploring: to ensure success of RCBME for all stakeholders in Thailand, and when considering whether the context matters. Unfortunately, there are insufficient studies to make firm judgement on whether all stakeholder views are consistent across programs, regions or countries, and no international comparative studies have explored the question of whether the context matters.

To address this question and understand the Southern Thai context in Songkhla Province, the third chapter describes the methods used in this study. A qualitative case study design was used and individual semi-structured interviews were conducted to explore Thai stakeholder expectations of RCBME from a purposive sample of participants. It also justified case study design as appropriate research design for the research question as well as describing the ethical considerations and research rigour in order to better understand what RCBME in the Thai context might look like and address the question *"Does context matter?"*

In the fourth chapter, initial themes were categorised into Worley's symbiosis model of clinical, institutional, personal, and social axes. Considering the clinical axis in Worley's symbiosis model, Thai RCBME stakeholders expected to offer students authentic preparation for future roles as rural doctors if students were ready to participate actively in the clinical environment and contribute to the legitimate work of their clinician supervisors. Through apprenticeship-style roles, RCBME was expected to provide students with opportunities to make meaningful relationships with interprofessional clinical team members. Collaboration between

city and rural clinicians to deliver RCBME could enable each party to see clinical practice from the perspective of the other.

In the institutional axis, these results indicate that Thai stakeholders recognised the need for Thai RCBME to be of benefit to both the rural health services and the academic centres engaged in CPIRD. They described hopes that through RCBME, academic centres will be able to meet government expectations of transferring clinical learning to rural areas, and for improving, as well as sustaining rural health service quality. The program will in turn support rural health services to make RCBME a success for those services.

Recognising that students develop both personal and professional identities during their medical school training, the personal-professional axis considers the impact of RCBME on this development. Rural clinicians were expected to shape this personal axis through their role modelling and mentorship. However, Thai RCBME stakeholders also expressed concerns for students meeting their academic requirements and protecting their reputation of achievement with regards to academic results of National Examinations.

In the social axis, Thai stakeholders expected students to understand the rural patients together with the rural context through the RCBME program. Potentially, the graduates who are attached to the rural community will meet the government expectations to support health service policy as well as increase rural doctor retention rates. In addition, this axis demonstrated the hopes of Thai stakeholders for building the capacity of the rural community through implementing the RCBME program in a rural location.

This final chapter presented the further synthesis of across-symbiosis axes in order to integrate the views of stakeholders. Three cross-categorical themes which emerged from the perspectives of stakeholders demonstrated that context does matter. These themes include the dramatic shifts in medical education in

Thailand, stakeholders envisioning ideal futures for themselves within Thai RCBME, and the rural-urban collaborations required to develop successful and sustainable RCBME programs in the Thai context.

This study acknowledges that the RCBME program in Songkhla Province is being developed during a time of dramatic shift in medical education paradigm in Thailand. The RCBME program could be a challenging innovation in Thailand, facilitating CPIRD to move from the Thai traditional medical education paradigm: shifting location from tertiary hospital to rural general practice; shifting clinical content from complex management to primary and initial care; shifting focus from teacher-centred passive learning to student-centred participatory learning; as well as shifting student outcomes from exam-ready to work-ready in general practice. These shifting tides have significant implications including the need to adequately prepare students and rural clinicians for apprenticeship learning, and the need to consider the alignment of national assessment with contemporary clinical learning.

For the RCBME pilot to be successful and the results implemented across Thailand, key stakeholders must embrace this program and see an ideal future for themselves. Rural doctors will be key to facilitating students' learning and can shape students' careers through continuity of supervision and role modelling. Their engagement enables them to envision a future where they are well supported to progress in their careers as rural general practitioners with specialist skills, and as academics. Thai patient engagement can be supported by ensuring that patients see a future where students improve their access to, and experience of, health care. Community members may also enjoy being valued as community teachers for students who can learn from their local wisdom about rural health issues and, more generally, about rural life. Importantly, CPIRD students must embrace RCBME as a preferred option for clinical training. It is well established that increased opportunities for authentic training in clinical care. Students will need support to value community engagement opportunities

and to ensure that they are not socially or academically isolated.

Thai RCBME initiatives will succeed through meaningful collaboration between urban and rural stakeholders in order to improve a broad range of rural education and health services. At an individual level, tertiary hospital clinicians and rural doctors can work together to progress medical education expertise of rural GPs and provide complementary teaching to students. Cooperation between rural health services and tertiary hospitals will be required to ensure that service expectations of specialists include time and resources to enable visits to rural hospitals, and that rural hospitals have the capacity to improve health services in response to new knowledge and systems. Finally, collaboration at a community level for RCBME will also strengthen the local community capacity through political and financial support from the Thai government. Considering the Thai context specifically, to ensure the RCBME program is possible and sustainable the Thai government must work with the relevant stakeholders to facilitate the development of infrastructure in rural health services contributing to rural education. The Thai government will also have an important role in facilitating the development of rural hospital systems which enable career progression for rural health clinicians involved in RCBME programs. This may include: professional development both academic and clinical; and collaborative networks for medical education and health service delivery with staff in medical education centres or universities, and research opportunities regarding RCBME, and potentially financial incentives to engage busy rural clinicians in RCBME.

Although this case study was conducted solely in the geographical context of the Southern region of Thailand, it considered the context of medical education is consistent across Thailand in terms of medical course student selection, medical course curriculum framework, and a national assessment at the completion of medical school. The results may well be translatable to other institutions in other parts of Thailand. Further study regarding Thai RCBME in other regions of Thailand should be performed, in order to confirm and strengthen the results of

this study.

In conclusion, this study comprehensively describes Thai stakeholder views of RCBME and demonstrates that although some principles of RCBME are universal, context does influence the expectations and capacity of stakeholders to contribute to RCBME. To ensure successful implementation of new educational innovation in Songkhla Province and translation of this innovation to other regions in Thailand, further studies on RCBME outcomes and stakeholder experiences should be performed that will build upon the stakeholder expectations about the RCBME initiative described in this case study.

APPENDICES

Appendix 1: Literature review ordered by year

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Pittman & Barr	1977	Journal of Medical Education	USA, University of Illinois	Description of the Rockford rural clinical school and participants' experiences	Students and patients	Qualitative	The Community Health Center (CHC) program, as a longitudinal, two half-day sessions per week over the entire three years in primary care
Findings: Students accepted the CHC program. Early involvement of medical students in a primary care setting. The experience provided a strong stimulus to the acquisition of new knowledge and skills by giving immediate relevancy to the students' medical studies. Development of a student-patient relationship. The program permitted students to function as colleagues in a joint effort with the faculty. Continuity of care is further encouraged by requiring students to make daily rounds in order to follow their patients requiring hospitalization. Patients satisfied with the medical care they have received. (CASP reviewed as moderate evidence)							
Verby	1988	Journal of Medical Education	USA, University of Minnesota	Report of outcomes of the Rural Physician Associate Program (RPAP) in the period of 16 years	Former RPAP students	Quantitative	The RPAP, as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: The RPAP students showed significantly higher scores on most biological treatment skills, some behavioral skills and professional skills compared to non-RPAP students. The RPAP students were statistically more likely to be clear and confident about specific career choices. 57% of the former RPAP students were practicing in rural communities, with a majority in Minnesota and a majority in towns with populations less than 10,000. The RPAP had several advantages: (1) similar ratio of ambulatory-to-hospital experiences, (2) continuous care experiences, (3) greater students confidences, (4) students saw larger numbers of patients, (5) students developed computer literacy, (6) the program produced large numbers of family and primary care physicians, and (7) developing an environment and resources for physicians. (CASP reviewed as moderate evidence)							
Worley & Lines	1999	Medical Teacher	Australia, Flinders University	A preliminary report of a study of the academic validity of an innovative RCBME program	Fifth-year undergraduate students (n=8)	Quantitative	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The academic performance of the PRCC students was higher in terms of scores in each of the five specialist disciplines as well as the aggregate results for the whole year. One of the PRCC students topped the year, and five of the eight were ranked in the top 15. (CASP reviewed as moderate evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Worley et al.	2000	Medical Education	Australia, Flinders University	Discussion of the PRCC program, and lessons learnt from the evaluation of the first cohort of students' experience of the course	Fifth-year undergraduate students (n=8)	Qualitative	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The PRCC students reported greater access to patients, clinical learning opportunities, and clinical decision making in the context of the whole patient, their family, and the available community resources. Longitudinal exposure to common diseases. Improved academic performance compared with their tertiary hospital peers and compared to their own results in previous years. (CASP reviewed as moderate evidence)							
Denz-Penhey et al.	2004	Rural and Remote Health	Australia, University of Western Australia	Findings of the student experience portion of the mid-year evaluation	Students (n=21)	Qualitative	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: Students were very happy with the teaching and learning opportunities. The curriculum content, curriculum delivery, and assessment were eclipsed by an overarching theme of anxiety and its management. It was found that the high level of commitment to learning lead to the potential for burnout, generating the student comment: 'What makes the RCS really, really good makes it really bad.' (CASP reviewed as strong evidence)							
Worley et al.	2004a	BMJ	Australia, Flinders University	Determination of academic standard regarding to moving clinical education out of the tertiary hospital into a community setting	Third-year graduate students (n=371)	Quantitative	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in Royal Darwin Regional Hospital, or rural sites
Findings: There were significant difference in mean year 3 scores among university (Adelaide), Darwin, and rural students. Mean year 2 scores were similar for each location. The rural and Darwin groups had a significantly improved score in year 3 compared with the Adelaide group. The community-based students could seek adventure, interest in rural medicine as a career, being suited to rural life, and having fewer ties with the city. (CASP reviewed as strong evidence)							
Worley et al.	2004b	Medical Teacher	Australia, Flinders University	Description and analysis of student learning in three different Australian settings: urban tertiary; remote secondary; and rural community hospitals	Third-year graduate students (n=28)	Quantitative	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for rural general practice in Riverland compared to Royal Darwin Hospital, and Flinders Medical Centre, the traditional tertiary hospital
Findings: The community-based students reported greater contact, more time spent in clinical settings and increased time supervised by experienced clinicians. Students valued their learning in clinical settings more highly than the learning they undertook at their home, that was opposite of tertiary hospital-based students. A community-based program was evident as credible alternatives to traditional teaching hospital-based environments. (CASP reviewed as strong evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Lang et al.	2005	Academic Medicine	USA, East Tennessee State University	Description of the Appalachian Preceptorship Program and the program's experience from 1985 to 2004	Students (n=157)	Quantitative	The Appalachian Preceptorship Program, as a four-week summer elective, community-based preceptorship with an interactive group instructional block in rural areas of southern Appalachia for both preclinical and clinical-year students
Findings: 82% of the participants had selected residencies in primary care, with 60% entering family medicine. Those completing the program were more than three times as likely to practice in a rural community compared with the national average. 56% of their practice settings carried multiple rural or underserved designations. (CASP reviewed as moderate evidence)							
Worley et al.	2006	Medical Education	Australia, Flinders University	Comparison of the learning experiences of students in the community-based program with those in the tertiary hospital in order to explain these improved academic outcomes	Students from community-based program (n=6) and tertiary hospital (n=16)	Qualitative	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital
Findings: The community-based program was successful in immersing the students in the clinical environment in a meaningful way. Clear differences between experiences of the community-based and hospital based students: the value students perceived from supervisors and patients, synergy between the work of the university and the health service, opportunities for students to meet aspirations of both the community and government policy, and opportunities to learn professional expectations and personal values. (CASP reviewed as strong evidence)							
Critchley et al.	2007	Rural and Remote Health	Australia, University of Melbourne	Report of student feedback on their Rural Health Module (RHM) experience and their attitudes about undertaking rural practice in the future	Students (n=368)	Quantitative and qualitative analysis	A four-week rotation based in Shepparton, North East Victoria with a small rural community placement for two weeks
Findings: 70% of RHM students increased their interest in rural health issues and 47% increased their interest in practicing rurally. Students valued their community placements highly but wanted greater clinical focus. (CASP reviewed as strong evidence)							
Florence et al.	2007	The Journal of Rural Health	USA, East Tennessee State University	Comparison of career choices, attitudes, and practice locations of Community Partnerships Program (CPP) graduates with traditional graduates in the period of 10 years	CPP students (n=58) and traditional students (n=72)	Qualitative surveys and quantitative analysis	The CPP three-year longitudinal curriculum in general practice in rural communities. Students participated at least one day/week in the rural sites
Findings: CPP graduates indicated a significantly greater interest in rural primary care, and were more likely to practice in rural locations than their traditionally educated peers. They indicated better prepared to work in interdisciplinary teams and were more likely to work in community-based programs. Family, personal factors, and the availability of employment were major influences in determining the decision to choose a career in a rural location. (CASP reviewed as moderate evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Denz-Penhey & Murdoch	2008	Medical Teacher	Australia, University of Western Australia	Determination of students considered sufficiently and satisfactory prepared for their sixth-year of medical studies after studying in rural areas in their fifth year	Students (n=8)	Qualitative	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: The rural experience offered a lot more than the straight city training. Students moved from theoretical knowledge to a new way of experiential knowing that had consequences for their subsequent learning, clinical behavior and attitudes. (CASP reviewed as strong evidence)							
Glasser et al.	2008	Academic Medicine	USA, University of Illinois	Characteristics and results of the Rural Medical Education (RMED) program	Students	Quantitative analysis	The RMED program, as a 16-week rural clinical placement, which fourth-year students lived in a rural community, worked with a primary care physician, and completed a community-oriented primary care project
Findings: RMED students had slightly lower MCAT scores compared to all other students, but USMLE scores were equal to those of non-RMED students. 76% of RMED students entered primary care residencies. 64.4% practiced primary care in small towns and/or rural communities. RMED program outcomes compared favorably with those of other rural medical education programs. (CASP reviewed as moderate evidence)							
Halaas et al.	2008	The Journal of Rural Health	USA, University of Minnesota	Outcomes of the Rural Physician Associate Program (RPAP) in recruiting and retaining rural primary care physician in the period of 37 years	Graduates who completed the RPAP experience (n=1,175)	Quantitative descriptive analysis	The RPAP, as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: 82% of RPAP graduates had chosen primary care, and 68% family medicine. 44% had practiced in a rural setting all of the time. Rural origin had only a small association with choosing rural practice. (CASP reviewed as strong evidence)							
Mihalynuk et al.	2008	Medical Education	Canada, University of British Columbia	Identification of medical student learning experience in longitudinal integrated clinical clerkship (LICC) program	Students (n=12)	Qualitative	The LICC pilot program of 12-month family practice in a regional site compared to rotational clerkship program
Findings: LICC students reported slow but ongoing increases in patient responsibility, examination-driven learning, program flexibility to address educational gaps, and a strong and positive perception of educational continuity. (CASP reviewed as strong evidence)							
Walters et al.	2008	Medical Education	Australia, Flinders University	Identification of impact of medical students on the consulting time of rural GP supervisors	Rural GP supervisors (n=17)	Quantitative	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites
Findings: The estimated mean of regular consultation time was 13 minutes 27 seconds, which was not significantly shorter than that of precepting consultations (12 minutes 48 seconds), or parallel consultations (12 minutes 24 seconds). Consultation length does not increase when rural GPs supervise medical students using a parallel consulting model. (CASP reviewed as strong evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Wilson & Cleland	2008	Rural and Remote Health	Scotland, University of Aberdeen	Identification of why fourth-year students chose an extended remote and rural option within a degree program	Fourth-year undergraduate students (n=14) who completed one-year remote and rural placement	Mixed methods	The pilot study of fourth-year students opting for an extended remote and rural placement within a degree program where all students must take at least one five-week remote medicine rotation
Findings: Students who extended remote and rural placements viewed remote and rural medicine positively. They had a slight preference towards general practice. The decision to select the remote and rural placement: (1) teaching reputation, (2) to experience remote and rural medicine, (3) a change from Aberdeen, and (4) lifestyle factors. Student performances at the end of the year placement were consistent with their third year performance on all assessment. (CASP reviewed as strong evidence)							
Zink et al.	2008	The Journal of Rural Health	USA, University of Minnesota	Student's perceived value of the immersion learning experience	Third-year students (n=95)	Qualitative	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities
Findings: Continuity of one-to-one mentoring and long-term relationships. Physicians, clinic/hospital staff, and patients as students' teachers. Nurturing environment as learner-centered. Students were supervised and given the autonomy and responsibility to build their confidence and step outside of their comfort zone. RPAP students gained competency skills, more hands-on experience, more confidence and autonomy than their peers in the metropolitan area. (CASP reviewed as moderate evidence)							
Eley & Baker	2009	Teaching and Learning in Medicine	Australia, University of Queensland	Report of the impact of the rural medicine rotation (RMR) on students' understanding and interest in practicing rural medicine.	Students (n=463)	Qualitative	The RMR program, as a eight-week clinical rotation in third-year students in a regional location
Findings: The rural rotation can encourage students' interest in and understanding of rural medicine. Challenges such as increasing student numbers, decreasing clinical placements, and logistically complicated programs remain. (CASP reviewed as moderate evidence)							
Stagg et al.	2009	Rural and Remote Health	Australia, Flinders University	Factors influenced the career choices of Parallel Rural Community Curriculum (PRCC) graduates	PRCC graduates (n=46)	Quantitative and qualitative analysis	The PRCC program, as a year-long integrated clerkship for general practice in rural sites
Findings: Key influences on graduates choosing a rural career pathway were: having a spouse/partner with a rural background, clinical teachers and mentors, the extended rural based undergraduate learning experience, and a specialty preference for general practice. The model consisted of four quadrants derived from the variables career pathway choice (rural or urban) and geographic background (rural or urban) resulted in: the True Believers, the Convertibles, the Frustrated, and the Metro Docs. (CASP reviewed as strong evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Couper & Worley	2010	MJA	Australia, Flinders University	Data from an evaluation of the Flinders University Parallel Rural Community Curriculum (PRCC) to inform immediate challenges facing medical education in Australia	PRCC students, key faculty members, clinicians, health service managers, and community representatives (n=87)	Qualitative	The PRCC program, as a year-long longitudinal integrated clerkship for general practice in 13 rural general practices and one urban tertiary teaching hospital in South Australia
Findings: Participants' views supported the PRCC approach as a solution to the challenges facing Australian medical education. The enabling capacity of the PRCC's longitudinal integrated approach to clinical attachments was revealed as a key factor. (CASP reviewed as strong evidence)							
Hudson et al.	2010	MJA	Australia, University of Wollongong	Investigation of patients' views on being used as an education resource for teaching medical students	Patients (n= 118)	Qualitative questionnaire-based survey	An innovative year-long integrated clinical clerkship for rural general practice for third-year medical students
Findings: Patients were overwhelmingly positive about their doctor and practice being involved in student teaching and felt they played an important role. They were willing partners in developing skills of students. Pre-consultation, patients expressed reluctance to allow students to conduct consultation independently. However, after consultation, patients reported they would have accepted higher levels of involvement than actually occurred. (CASP reviewed as strong evidence)							
Power et al.	2010	Teaching and Learning in Medicine	USA, University of Minnesota	Comparison of the performance of Rural Physician Associate Program (RPAP) students with their peers on a primary care OSCE	Students	Quantitative	The RPAP, as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: RPAP students performed at least as well as their peers on stations assessing performance on common primary care clinical scenarios but not as well as on a small number of stations that assessed applied knowledge of specific content taught in the traditional clerkship curriculum. (CASP reviewed as moderate evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Couper et al.	2011	Rural and Remote Health	Australia, Flinders University and Canada, The Northern Ontario School of Medicine (NOSM)	Analysis of the similarities and differences between two rural programs, and determination of key factors	Students, faculty, preceptors, health service managers and community representatives from Flinders (n=87) and NOSM (n=39)	Qualitative	The Flinders Parallel Rural Community Curriculum (PRCC) and the NOSM Comprehensive Community Clerkship (CCC) programs in general practice for third-year graduate students
Findings: Both programs produce confident and skilled students. The educational value of the programs was expressed in terms of continuity of care, longitudinal exposure, development of relationships, mentoring, teamwork, and participatory learning. Common concerns related to issues of standardization, ensuring exposure to all specialist disciplines, communication, support for students and preceptors, isolation, dealing with personal issues, and the process of site selection. Five key factors for developing programs: (1) site selection, (2) faculty development, (3) IT systems, (4) management of student expectations, and (5) local postgraduate training. (CASP reviewed as strong evidence)							
Walters et al.	2011a	Medical Education	Australia, Flinders University	Consideration of why GPs teach by defining the longitudinal supervisory relationships	GPs (n=21), practice managers (n=4) and students (n=7)	Qualitative	The experience of continuity of supervision from the GP preceptor's perspective from four PRCC rural general practices, which host full-year continuous integrated placements for students
Findings: Preceptors identified many ways in which precepting added value to their roles. The doctor-student relationship was central to GP preceptors' experiences. These developed in chronological order and resulted in changes in the triangular relationship between doctor, patient and student in the consultation. (CASP reviewed as strong evidence)							
Walters et al.	2011b	Australasian Journal of University-Community Engagement	Australia, Flinders University and Monash University	Exploration regarding how community engagement occurred in two CBME programs lead by two Australian medical schools	Community stakeholders (n=12), university staff and health professionals (n=17), and students (n=29)	Qualitative	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital and the East Gippsland Rural Clinical School, Monash University which is also a year-long integrated community-based medical student placement
Findings: Major university and community engagement occurred at different levels including: personal relationships, individual formal connections, collective structured engagement, strategic regional partnerships and policy level engagement. Inter-connectedness and leadership immerged as overarching principles. (CASP reviewed as moderate evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Young et al.	2011	The Australian Journal of Rural Health	Australia, Australian College of Rural and Remote Medicine	Evaluation of the John Flynn Placement Program (JFPP) for medical students	Students and mentors	Quantitative	The JFPP, as a two-week per year longitudinal rural and remote experience over four years
Findings: Overall mean for clinical and rural experiences is extremely positive for both students and mentors. After four JFPP placements, 65% of students intended to work in rural areas. After one JFPP experienced 9% indicated intent to practice as a rural general practitioner while after their fourth JFPP nearly 20% were indicating intent to practice as a rural general practitioner. (CASP reviewed as strong evidence)							
Cristobal & Worley	2012	Rural and Remote Health	Philippines, the Ateneo de Zamboanga University (ADZU)	Formation of an innovative medical school in a low resource developing world setting and evaluation of social accountability	Graduates in fifth-year medical program (n=164)	Quantitative descriptive analysis	The longitudinal community placements in small rural communities, one month/semester for the first 2.5 years and entire fourth-year living in the community
Findings: Over 80% of students in the program practiced in the local underserved regions compared with a national average of 68%. There had been a 55% increase in the number of municipalities in Zamboanga with a doctor. The infant mortality rate in the region had decreased by approximately 90%, compared with a national change of approximately 50% in the same time period. (CASP reviewed as strong evidence)							
Hudson et al.	2012	BMC Family Practice	Australia, University of Wollongong	Evaluation of patients' perceptions of the clerkship initiative, and their perspectives on this approach to training doctors in the community	Patients (n=13)	Qualitative semi-structured, face-to-face interviews	An innovative year-long integrated clinical clerkship for rural general practice for third-year medical students
Findings: The analysis was clustered into four themes: learning as doing; learning as shared experience; learning as belonging to a community; and learning as becoming. Patients viewed the clerkship environment as patient- and student-centred. The patient-student-doctor relationship was important in facilitating active participation. Patient believed that students became central, members of the community of practice during an extended placement, value-adding and improving access to patient care. (CASP reviewed as strong evidence)							
Konkin & Suddards	2012	Advance in Health Sciences Education	Canada, University of Alberta	Understanding how the longitudinal integrated clerkship (LIC) model foster professional identity formation, and the development of an ethic of caring	Students (n=25)	Qualitative	The rural Integrated Community Clerkship (ICC), as a nine-month LIC based in a family practice in rural communities
Findings: The LIC resulted in a safe environment in which students could meaningfully engage with patients and take responsibility for their care under the supervision. These attributes fostered an emerging physician identity born at the site of patient-student interaction and grounded in an ethic of caring. (CASP reviewed as strong evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Daly et al.	2013	Medical Teacher	Australia, University of Sydney	Identification of the factors in an integrated, community-engaged rural placement that may contribute to preparedness for practice from the perspective of students and clinicians	Students (n=48), GPs (n=8), hospital clinicians (n=10) and community health nurses (n=3)	Qualitative	The Broken Hill Extended Clinical Placement Program (BHECPP), as a 6-12-month longitudinal integrated placement for the final two years of medical students
Findings: Opportunities for clinical learning, personal and professional development and cultural awareness were reported as key factors that contribute to preparedness for practice. Potential barriers in rural and remote settings included geographical and academic isolation, perceived educational risk and differing degrees of program engagement. (CASP reviewed as strong evidence)							
Forster et al.	2013	BMC Medical Education	Australia, University of New South Wales	Influence of the number of years spent at an Australian rural clinical school (RCS) on graduate location for rural workforce practice	Students (n=214)	Quantitative analysis	The RCS program provided up to three clinical years of six-year medical program with exposure to rural medicine and rural lifestyle
Findings: Graduates with three years of previous RCS training were more likely to indicate rural areas as their preferred current work location and also were more likely to intend to take up rural medical practice after completion of training, than their colleagues who spent one year at an RCS campus. (CASP reviewed as strong evidence)							
Hudson et al.	2015	Rural and Remote Health	Australia, University of Wollongong	Evaluation of perspectives from stakeholders on the impact of the longitudinal integrated clerkship on the healthcare community	Clinicians, students, nurses, allied health professional, and managers (n=23)	Qualitative, semi-structured interviews	An innovative year-long integrated clinical clerkship for rural general practice for third-year medical students
Findings: Four major themes emerged: transforming a community of practice; realizing the potential of the health service; investment in rural return; and sustainability. (CASP reviewed as strong evidence)							
Shahi et al.	2015	Medical Education	Australia, Flinders University	Exploration and comparison of the clinical experiences of students in hospital-based and community-based training programs	Students (n=35)	Mixed method approach	The PRCC program, as a year-long longitudinal integrated clerkship for rural general practice, compared to community hybrid program and traditional tertiary hospital block model
Findings: The results demonstrate significant differences among the three models in students' clinical participation. Community settings provide more opportunities to students for meaningful engagement in patient care activities. (CASP reviewed as strong evidence)							

Authors	Year	Journal	Location	Aims	Participants	Methodology	Settings
Smith et al.	2015	Rural and Remote Health	Australia, Bond University	Evaluation of a pilot elective program for clinical placement in a remote region in the developing country	Final-year undergraduate students (n=33)	Qualitative	A pilot four-week longitudinal embedded placement at a small very remote community hospital for final-year students at Kirakira Hospital, the Solomon Islands
Findings: The program was an extremely valuable, personally safe, clinically fascinating and professionally life changing student experience, which was greatly appreciated by, and contributes to, the local community. The greatest strength of the program was the peer mentoring and supervision model – whereby four students worked in pairs supported by nurses, the doctor and local community. The main challenges were the supervision arrangements and available resources. (CASP reviewed as strong evidence)							
Takamura et al.	2015	Education for Primary Care	Japan, Mie University	Challenging in primary care education trial of a longitudinal integrated clerkship (LIC) in a rural community setting	A sixth-year undergraduate student	Qualitative	A pilot of four-month integrated clerkships in primary care at Shima Prefectural Hospital
Findings: Challenges (a lack of peer-support and effective time management), benefits (continuity and deeper relationships among student and stakeholders) and understanding of community of the student in long-term placement. The supervisor needs a more careful assessment. Acceptable workload for the administrative staff in LIC but concern about the number of student capacity and community exposure. (CASP reviewed as moderate evidence)							

Appendix 2: Articles that considered the success of RCBME program from perspectives of clinicians–student–patients relationships, ordered by year

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Pittman & Barr (1977)	Journal of Medical Education	Students, patients and faculty	Students' clinical experience	The Community Health Center (CHC) program, as a longitudinal, two half-day sessions per week over the entire three years in primary care
Findings: Students accepted the CHC program. Early involvement of medical students in a primary care setting. The experience provided a strong stimulus to the acquisition of new knowledge and skills by giving immediate relevancy to the students' medical studies. Development of a student-patient relationship. Continuity of care is further encouraged by requiring students to make daily rounds in order to follow their patients requiring hospitalization. Patients were satisfied with the medical care they have received. (CASP reviewed as moderate evidence)				
Worley et al. (2000)	Medical Education	Students and patients	Student performance	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The PRCC students reported greater access to patients, clinical learning opportunities, and clinical decision making in the context of the whole patient, their family, and the available community resources. Longitudinal exposure to common diseases. Improved academic performance compared with their tertiary hospital peers and compared to their own results in previous years. (CASP reviewed as moderate evidence)				
Denz-Penhey et al. (2004)	Rural and Remote Health	Students	Students' perception	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: Students appreciated the teaching and learning opportunities. (CASP reviewed as strong evidence)				
Worley et al. (2004b)	Medical Teacher	Students	Student learning experience	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for rural general practice in Riverland compared to Royal Darwin Hospital, and Flinders Medical Centre, the traditional tertiary hospital
Findings: The community-based students reported greater patient contact, more time spent in clinical settings and increased time supervised by experienced clinicians. Students valued their learning in clinical settings more highly than the learning they undertook at their home, that was opposite of tertiary hospital-based students. A community-based program was evident as credible alternatives to traditional teaching hospital-based environments. (CASP reviewed as strong evidence)				
Worley et al. (2006)	Medical Education	Students	Students' clinical experience	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital
Findings: The community-based students described their environment as hands-on, sense of involvement/ownership in the care of their patients, increase responsibility, led to knowledge becoming relevant, increase patient contact, and be a collegiate relationship between the community-based students and their supervisors, compared with a more hierarchical relationship at the tertiary hospital. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Denz-Penhey & Murdoch (2008)	Medical Teacher	Students	Student performance	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: The rural experience offered a lot more than the straight city training. Students moved from theoretical knowledge to a new way of experiential knowing that had consequences for their subsequent learning, clinical behavior and attitudes. (CASP reviewed as strong evidence)				
Mihalynuk et al. (2008)	Medical Education	Students and patients	Students' learning experience	The LICC pilot program of 12-month family practice in a regional site compared to rotational clerkship program
Findings: LICC students had to be self-directed to obtain experiences with patients in hospitals. The level of patient responsibility grew slowly but steadily across the 48 weeks. It was examination-driven learning. They reported that caring for patients presenting at different stages of the same disease in multiple settings enhanced their understanding. They expressed a strong and positive perception of educational continuity through their year-long attachments. (CASP reviewed as strong evidence)				
Walters et al. (2008)	Medical Education	Rural GP supervisors	Impact of medical students on the consulting time of rural GP supervisors	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites
Findings: The estimated mean of regular consultation time was 13 minutes 27 seconds, which was not significantly shorter than that of precepting consultations (12 minutes 48 seconds), or parallel consultations (12 minutes 24 seconds). Consultation length does not increase when rural GPs supervise medical students using a parallel consulting model. (CASP reviewed as strong evidence)				
Zink et al. (2008)	The Journal of Rural Health	Students	Students' perceptions of learning in the RPAP	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: RPAP students gained competency skills, more hands-on experience, more confidence and autonomy than their peers in the metropolitan area. Physicians, clinic/hospital staff, and patients as students' teachers. (CASP reviewed as moderate evidence)				
Couper & Worley (2010)	MJA	Students, faculty members, and clinicians	Participants' perceptions of the program	The PRCC program, as a year-long longitudinal integrated clerkship for general practice in 13 rural general practices and one urban tertiary teaching hospital in South Australia
Findings: GPs in private practice spoke that seeing the results of students gradually learning how to do it, it was quite rewarding. It became clear that parallel consulting was the favored model. Students reported that seeing the same patient over time and following the course of illness and health care experience from home to practice to hospital was invaluable. Students were not just observers, but contributed directly to patient care. (CASP reviewed as strong evidence)				
Hudson et al. (2010)	MJA	Patients	Patient perceptions of being used as an education resource for teaching medical students	An innovative year-long integrated clinical clerkship for rural general practice for third-year medical students
Findings: Patients were overwhelmingly positive about their doctor and practice being involved in student teaching and felt they played an important role. They were willing partners in developing skills of students. Pre-consultation, patients expressed reluctance to allow students to conduct consultation independently. However, after consultation, patients reported they would have accepted higher levels of involvement than actually occurred. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Couper & Worley (2011)	Rural and Remote Health	Students, faculty members, and preceptors	Participants' perceptions of the program	The Flinders Parallel Rural Community Curriculum (PRCC) and the Northern Ontario School of Medicine (NOSM) Comprehensive Community Clerkship (CCC) programs in general practice for third-year graduate students
Findings: Both programs produce confident and skilled students. The educational value of the programs was expressed in terms of continuity of care, longitudinal exposure, and development of relationships, mentoring, teamwork, and participatory learning. (CASP reviewed as strong evidence)				
Walters et al. (2011a)	Medical Education	Students, GPs, and practice managers	Continuity of supervision	The PRCC rural general practices, which host full-year continuous integrated placements for students
Findings: Preceptors identified many ways in which precepting added value to their roles. Types of triangular interactions recognized in precepting consultations: (1) the student-observer model is focused on the doctor-patient relationship, (2) the teacher-healer model is expert-centric, (3) the doctor-orchestrator model allowed the doctor to step back from interactions within the consultation and, (4) the doctor-advisor model encouraged the learner-patient relationship. (CASP reviewed as strong evidence)				
Hudson et al. (2012)	BMC Family Practice	Patients	Patients' perceptions of the clerkship initiative and their perspectives on this approach	An innovative year-long integrated clinical clerkship for rural general practice for third-year medical students
Findings: The analysis was clustered into four themes: learning as doing; learning as shared experience; learning as belonging to a community; and learning as becoming. Patients viewed the clerkship environment as patient- and student-centred. The patient-student-doctor relationship was important in facilitating active participation. Patient believed that students became central, members of the community of practice during an extended placement, value-adding and improving access to patient care. (CASP reviewed as strong evidence)				
Shahi et al. (2015)	Medical Education	Students	Students' clinical experiences	The PRCC program, as a year-long longitudinal integrated clerkship for rural general practice, compared to community hybrid program and traditional tertiary hospital block model
Findings: The results demonstrate significant differences among the three models in students' clinical participation. Community settings provide more opportunities to students for meaningful engagement with patient care activities. (CASP reviewed as strong evidence)				
Smith et al. (2015)	Rural and Remote Health	Students, and faculty members	Student's perception	A pilot four-week longitudinal embedded placement at a small very remote community hospital for final-year students
Findings: Students thought the objectives of their placement had been well met. They were able to discuss the typical medical problems facing people of the region, and also health promotion as well as public health issues. They were confident in taking a history and performing a clinical examination and able to suggest appropriate treatments. They had good opportunities to perform procedures on their patients. They reported good clinical exposure and hands-on experience. The level of clinical supervision from faculty members was satisfactory, although some disagreed that the supervision met their needs. However, students felt less able to apply evidence-based practice in the resource-poor clinical environment. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Takamura et al. (2015)	Education for Primary Care	Students	Student's perception	A pilot of four-month integrated clerkship in primary care at Shima Prefectural Hospital
Findings: The student reported a challenge of community-based practice with unscheduled problems arising that might require immediate action. The student experienced continuity from hospital admission to discharge and into the community that would have otherwise been impossible. (CASP reviewed as moderate evidence)				

Appendix 3: Articles that considered the success of RCBME program from perspectives of university–student–health service relationships, ordered by year

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Verby (1988)	Journal of Medical Education	Faculty members and preceptors	Student and performance and willingness to involve the RPAP	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: The RPAP students showed significantly higher scores on most biological treatment skills, some behavioral skills and professional skills compared to non-RPAP students. Economic support was provided to faculty members and preceptors who were willing to involve the RPAP by the government. However, there were initial problems affecting the quality of the RPAP: students' evaluation bias of faculty members and preceptors, cancellation of faculty members' visits to communities, and tardy evaluations by preceptors. The RPAP had several advantages: (1) similar ratio of ambulatory-to-hospital experiences, (2) continuous care experiences, (3) greater student confidences, (4) students saw larger numbers of patients, (5) students developed computer literacy, (6) the program produced large numbers of family and primary care physicians, and (7) developing an environment and resources for physicians. (CASP reviewed as moderate evidence)				
Worley & Lines (1999)	Medical Teacher	Students	Student performance and clinical educational value of the PRCC program in comparison with traditional hospital-based teaching	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The academic performance of the PRCC students was higher in terms of scores in each of the five specialist disciplines as well as the aggregate results for the whole year. One of the PRCC students topped the year, and five of the eight were ranked in the top 15. The results suggested that might be able to add academic achievement to the reasons to move more of medical education into the community. (CASP reviewed as moderate evidence)				
Denz-Penhey et al. (2004)	Rural and Remote Health	Students	Curriculum delivery and assessment	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: The curriculum content, curriculum delivery, and assessment were eclipsed by an overarching theme of anxiety and its management. (CASP reviewed as strong evidence)				
Worley et al. (2004a)	BMJ	Students	Student performance	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in Royal Darwin Regional Hospital, or rural sites
Findings: There were significant difference in mean year 3 scores among university (Adelaide), Darwin, and rural students. Mean year 2 scores were similar for each location. The rural and Darwin groups had a significantly improved score in year 3 compared with the Adelaide group. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Worley et al. (2006)	Medical Education	Students	Students' clinical experience	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital
Findings: The participatory learning environment in the community-based program led to a sense of the students feeling valued by staff at the local hospital. This study was based on the patients who walked through the door of the general practice that was self-directed, integrated learning environment. (CASP reviewed as strong evidence)				
Glasser et al. (2008)	Academic Medicine	Students	Student performance	The RMED program, as a 16-week rural clinical placement, which fourth-year students lived in a rural community, worked with a primary care physician, and completed a community-oriented primary care project
Findings: RMED students had slightly lower MCAT scores compared to all other students, but USMLE scores were equal to those of non-RMED students. 76% of RMED students entered primary care residencies. (CASP reviewed as moderate evidence)				
Wilson & Cleland (2008)	Rural and Remote Health	Students	Student performance	The pilot study of fourth-year students opting for an extended remote and rural placement within a degree program where all students must take at least one five-week remote medicine rotation
Findings: Students who extended remote and rural placements had academic performances at the end of the year placement consistently with their third year performance on all assessment. (CASP reviewed as strong evidence)				
Zink et al. (2008)	The Journal of Rural Health	Students	Students' perceptions of learning in the RPAP	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: Continuity of one-to-one mentoring and long-term relationships. Physicians, clinic/hospital staff, and patients as students' teachers. Nurturing environment as learner-centered. Students were supervised and given the autonomy and responsibility to build their confidence and step outside of their comfort zone. (CASP reviewed as moderate evidence)				
Eley & Baker (2009)	Teaching and Learning in Medicine	Students	Students' perceptions of the program	The RMR program, as an eight-week clinical rotation in third-year students in a regional location
Findings: The rural rotation can encourage students' interest in and understanding of rural medicine. Challenges such as increasing student numbers, decreasing clinical placements, and logistically complicated programs remain. (CASP reviewed as moderate evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Couper & Worley (2010)	MJA	Students, faculty members, clinicians, and health service managers	Participants' perceptions of the program on facing medical education in Australia	The PRCC program, as a year-long longitudinal integrated clerkship for general practice in 13 rural general practices and one urban tertiary teaching hospital in South Australia
Findings: Expanding venues for clinical education. All sites were seen to have their strengths and weaknesses and were suited to different students, depending on their goals, personal situations and learning styles. The doctors and staff in the private practices appreciated their relationship with the university and the students, taking great pride in being part of the academic endeavour and helping to train the future generation of doctors. (CASP reviewed as strong evidence)				
Power et al. (2010)	Teaching and Learning in Medicine	Students	Student performance	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: RPAP students performed at least as well as their peers on stations assessing performance on common primary care clinical scenarios but not as well as on a small number of stations that assessed applied knowledge of specific content taught in the traditional clerkship curriculum. (CASP reviewed as moderate evidence)				
Couper et al. (2011)	Rural and Remote Health	Students, faculty members, preceptors, and health service managers	Participants' perceptions of the program	The Flinders Parallel Rural Community Curriculum (PRCC) and the Northern Ontario School of Medicine (NOSM) Comprehensive Community Clerkship (CCC) programs in general practice for third-year graduate students
Findings: Common concerns related to issues of standardisation, ensuring exposure to all specialist disciplines, communication, support for students and preceptors, isolation, dealing with personal issues, and the process of site selection. Five key factors for developing programs: (1) site selection, (2) faculty development, (3) IT systems, (4) management of student expectations, and (5) local postgraduate training. (CASP reviewed as strong evidence)				
Walters et al. (2011a)	Medical Education	Students, GP, and practice managers	Continuity of supervision	The PRCC rural general practices, which host full-year continuous integrated placements for students
Findings: Preceptors identified many ways in which precepting added value to their roles. Types of triangular interactions recognized in precepting consultations: (1) the student-observer model is focused on the doctor-patient relationship, (2) the teacher-healer model is expert-centric, (3) the doctor-orchestrator model allowed the doctor to step back from interactions within the consultation and, (4) the doctor-advisor model encouraged the learner-patient relationship. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Walters et al. (2011b)	Australasian Journal of University-Community Engagement	Community stakeholders, university staff, health professionals, and students	Exploration regarding how community engagement occurred in two CBME programs lead by two Australian medical schools	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital and the East Gippsland Rural Clinical School, Monash University which is also a year-long integrated community-based medical student placement
Findings: Major university and community engagement occurred at different levels including: personal relationships, individual formal connections, collective structured engagement, strategic regional partnerships and policy level engagement. Inter-connectedness and leadership immerged as overarching principles. (CASP reviewed as moderate evidence)				
Young et al. (2011)	The Australian Journal of Rural Health	Students and mentors	Participants' perceptions of the program	The John Flynn Placement Program (JFPP), as a two-week per year longitudinal rural and remote experience over four years
Findings: Overall mean for clinical and rural experiences is extremely positive for both students and mentors. (CASP reviewed as strong evidence)				
Cristobal & Worley (2012)	Rural and Remote Health	Students, academic staff and rural health service clinicians	Value of the program to solve the problems of the lack of doctors and recognition of health outcomes	The longitudinal community placements in small rural communities, one month/semester for the first 2.5 years and entire fourth-year living in the community of Zamboanga, the Philippines
Findings: Stakeholders perceived the association between the formation of an innovative medical school in a low-resource developing world setting with student recruitment from the local region. The program demonstrated a helpful collaboration between academic staff and local hospital clinicians as well as the cost-effective investment to sustain the quality of local hospital in a poor rural area. A significant improvement in the infant mortality that was the major problem in the region. (CASP reviewed as moderate evidence)				
Daly et al. (2013)	Medical Teacher	Students, GPs, and hospital clinicians	Participants' perceptions of the program	The Broken Hill Extended Clinical Placement Program (BHECPP), as a 6-12-month longitudinal integrated placement for the final two years of medical students
Findings: Potential barriers in rural and remote settings included geographical and academic isolation, perceived educational risk and differing degrees of program engagement. (CASP reviewed as strong evidence)				
Hudson et al. (2015)	Rural and Remote Health	Clinicians, students, nurses, allied health professional, and managers	Participants' perceptions of the impact of the longitudinal integrated clerkship on the healthcare community	An innovative year-long integrated clinical clerkship for rural general practice for third-year medical students
Findings: Four major themes emerged: transforming a community of practice; realizing the potential of the health service; investment in rural return; and sustainability. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Smith et al. (2015)	Rural and Remote Health	Students, faculty, and local hospital staff	Student's learning experience	A pilot four-week longitudinal embedded placement at a small very remote community hospital for final-year students
Findings: The program was extremely valuable and personally safe placement experience for students. However, students did not have sufficient opportunity to raise their issues and concerns in the post placement debriefing experiences. The local hospital staff perceived having improved the capacity of the hospital, raised the quality of care of patients. The resources provided did not meet the student's needs, specifically lack of internet access for Skyping supervisors and educators, information and resources and guidelines. (CASP reviewed as strong evidence)				
Takamura et al. (2015)	Education for Primary Care	Supervisor	Supervisor's perception	A pilot of four-month integrated clerkships in primary care at Shima Prefectural Hospital
Findings: The supervisor reported that a more careful needs assessment was required compared with a short-term placement along with diligent planning (including setting outcomes and evaluation) and preparing staff. (CASP reviewed as moderate evidence)				

Appendix 4: Articles that considered the success of RCBME program from perspectives of government–student–community relationships, ordered by year

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Verby (1988)	Journal of Medical Education	Government	Expectation to redistribute physicians into medically underserved rural areas of Minnesota	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: Government funded for the medical school, faculty members, preceptors as well as RPAP students in order to support the RPAP. In the period of 16 years of the program, 57% of the former RPAP students were practicing in rural communities, with a majority in Minnesota and a majority in towns with populations less than 10,000. (CASP reviewed as moderate evidence)				
Worley & Lines (1999)	Medical Teacher	Students	Social responsibility of the PRCC program	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The academic results suggested that might be able to add academic achievement to the reasons to move more of medical education into the community. (CASP reviewed as strong evidence)				
Worley et al. (2000)	Medical Education	Students	Social responsibility of the PRCC program	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The PRCC program was feasible to address the social responsibility to the rural community at the same time as fulfilling the academic responsibility to the students. (CASP reviewed as strong evidence)				
Worley et al. (2004a)	BMJ	Government	Expectation of the program strategy to tackle the shortage of doctors in rural Australia	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in Royal Darwin Regional Hospital, or rural sites
Findings: The community-based students could seek adventure, interest in rural medicine as a career, being suited to rural life, and having fewer ties with the city. (CASP reviewed as strong evidence)				
Worley et al. (2006)	Medical Education	Students	Students' clinical experience	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital
Findings: The community-based students recognized themselves as being part of the solution to the problem and had this reinforced by their medical supervisors. They also reported seeing patients out of the medical/health context. The considerable length of time it takes to achieve this continuity and community rapport was recognized. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Florence et al. (2007)	The Journal of Rural Health	Government	Expectation of the program to increase the number of health care providers in rural underserved communities	The Community Partnerships Program (CPP) three-year longitudinal curriculum in general practice in rural communities. Students participated at least one day/week in the rural sites
Findings: CPP graduates indicated a significantly greater interest in rural primary care, and were more likely to practice in rural locations than their traditionally educated peers. They indicated better prepared to work in interdisciplinary teams and were more likely to work in community-based programs. Family, personal factors, and the availability of employment were major influences in determining the decision to choose a career in a rural location. (CASP reviewed as moderate evidence)				
Denz-Penhey et al. (2008)	Medical Teacher	Government	Expectation of the program to produce doctors working in high workforce need areas	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: The rural experience offered a lot more than the straight city training. Students moved from theoretical knowledge to a new way of experiential knowing that had consequences for their subsequent learning, clinical behavior and attitudes. They sensitized to such knowledge felt a strong emotional connection to rural life. (CASP reviewed as strong evidence)				
Halaas et al. (2008)	The Journal of Rural Health	Government	Expectation of the program to increase the number of primary care physicians practicing in rural Minnesota	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: The government provided funding for the program. 82% of RPAP graduates had chosen primary care, and 68% family medicine. 44% had practiced in a rural setting all of the time. Rural origin had only a small association with choosing rural practice. (CASP reviewed as strong evidence)				
Zink et al. (2008)	The Journal of Rural Health	Government	Expectation of the program to increase the number of primary care physicians practicing in rural Minnesota	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: Students discussed career choices with both physicians and staff. This gave them the opportunity to walk in the shoes of the physician in charge. They knew firsthand what it is like to be a physician in a rural area in Minnesota. (CASP reviewed as moderate evidence)				
Stagg et al. (2009)	Rural and Remote Health	Government	Expectation of the PRCC program on graduates' career pathway	The PRCC program, as a year-long integrated clerkship for general practice in rural sites
Findings: Key influences on graduates choosing a rural career pathway were: having a spouse/partner with a rural background, clinical teachers and mentors, the extended rural based undergraduate learning experience, and a specialty preference for general practice. The model consisted of four quadrants derived from the variables career pathway choice (rural or urban) and geographic background (rural or urban) resulted in: the True Believers, the Convertibles, the Frustrated, and the Metro Docs. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Couper & Worley (2010)	MJA	Community representative	Participants' perceptions of the program	The PRCC program, as a year-long longitudinal integrated clerkship for general practice in 13 rural general practices and one urban tertiary teaching hospital in South Australia
Findings: Community representatives described developing strong relationships with their students. They described their experience of being patients of PRCC students with great enthusiasm. (CASP reviewed as strong evidence)				
Walters et al. (2011b)	Australasian Journal of University-Community Engagement	Community stakeholders and students	Exploration regarding how community engagement occurred in two CBME programs lead by two Australian medical schools	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital and the East Gippsland Rural Clinical School, Monash University which is also a year-long integrated community-based medical student placement.
Findings: Major university and community engagement occurred at different levels including: personal relationships, individual formal connections, collective structured engagement, strategic regional partnerships and policy level engagement. Inter-connectedness and leadership immerged as overarching principles. (CASP reviewed as moderate evidence)				
Cristobal & Worley (2012)	Rural and Remote Health	Community stakeholders	Expectation of the program to solve the problems of the lack of doctors in the region and the poor health outcomes of people living in communities, and social accountability	The longitudinal community placements in small rural communities, one month/semester for the first 2.5 years and entire fourth-year living in the community of Zamboanga, the Philippines
Findings: Over 80% of students in the program practiced in the local underserved regions compared with a national average of 68%. There had been a 55% increase in the number of municipalities in Zamboanga with a doctor. The infant mortality rate in the region had decreased by approximately 90%, compared with a national change of approximately 50% in the same time period. (CASP reviewed as strong evidence)				
Smith et al. (2015)	Rural and Remote Health	Community stakeholders	Community stakeholders' perception	A pilot four-week longitudinal embedded placement at a small very remote community hospital for final-year students
Findings: Students had made a big impact on the community, having improved the capacity of the hospital, raised the quality of care of patients, as well as the overall standards of nursing care. Students were viewed as really smart, respectful and team players who were valued by the community and local staff, and their work was seen as making a significant contribution to the local community through an exchange of experience. Students' presence has also contributed to the local economy through their accommodation, food and recreational activities, as well as the community wanting to see these placements leaving a legacy. (CASP reviewed as strong evidence)				

Appendix 5: Articles that considered the success of RCBME program from perspectives of personal principles–student–professional expectations relationships, ordered by year

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Pittman & Barr (1977)	Journal of Medical Education	Students and faculty	Partnership establishment	The Community Health Center (CHC) program, as a longitudinal, two half-day sessions per week over the entire three years in primary care
Findings: The program permitted students to function as colleagues in a joint effort with the faculty. (CASP reviewed as moderate evidence)				
Verby (1988)	Journal of Medical Education	Students	Students' career preference	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: The RPAP students were statistically more likely to be clear and confident about specific career choices. (CASP reviewed as moderate evidence)				
Worley et al. (2000)	Medical Education	Students	Students' career plans	The Parallel Rural Community Curriculum (PRCC), as a pilot year-long integrated clerkship for general practice in Riverland rural sites
Findings: The PRCC program impacted on students' career plans and the adequacy of the rural workforce was properly the domain of the study. Initial feedback from the students has been encouraging. Tracking procedures have been instituted to follow the careers of these and subsequent students after graduation. A positive impact on the practices was indicated. (CASP reviewed as strong evidence)				
Denz-Penhey et al. (2004)	Rural and Remote Health	Students	Expectation of the program	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: The program was found that the high level of commitment to learning lead to the potential for burnout, generating the student comment: 'What makes the Rural Clinical School really, really good makes it really bad.' (CASP reviewed as strong evidence)				
Lang et al. (2005)	Academic Medicine	Students	Students' career preference	The Appalachian Preceptorship Program, as a four-week summer elective, community-based preceptorship with an interactive group instructional block in rural areas of southern Appalachia for both preclinical and clinical-year students
Findings: 82% of the participants had selected residencies in primary care, with 60% entering family medicine. Those completing the program were more than three times as likely to practice in a rural community compared with the national average. 56% of their practice settings carried multiple rural or underserved designations. (CASP reviewed as moderate evidence)				
Worley et al. (2006)	Medical Education	Students	Students' clinical experience	The Parallel Rural Community Curriculum (PRCC), as a year-long integrated clerkship for general practice in rural sites compared to the tertiary hospital
Findings: The community-based students had continuous mentorship in the same supervisor. Learning as role model including the life of a doctor's family, community and practice expectations. They referred to going to work each day, reflecting a sense of vocation in their day-to-day learning activities. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Critchley et al. (2007)	Rural and Remote Health	Students	Students' perceptions	A four-week rotation based in Shepparton, North East Victoria with a small rural community placement for two weeks
Findings: 70% of RHM students increased their interest in rural health issues and 47% increased their interest in practicing rurally. Students valued their community placements highly but wanted greater clinical focus. (CASP reviewed as strong evidence)				
Florence et al. (2007)	The Journal of Rural Health	Students	Students' career choices, attitudes, and practice location of the CPP	The Community Partnerships Program (CPP) three-year longitudinal curriculum in general practice in rural communities. Students participated at least one day/week in the rural sites
Findings: CPP graduates indicated a significantly greater interest in rural primary care, and were more likely to practice in rural locations than their traditionally educated peers. They indicated better prepared to work in interdisciplinary teams and were more likely to work in community-based programs. Family, personal factors, and the availability of employment were major influences in determining the decision to choose a career in a rural location. (CASP reviewed as moderate evidence)				
Denz-Penhey et al. (2008)	Medical Teacher	Students	Student satisfaction in the learning preparation	The 12-month longitudinal clerkship in general practice for fifth-year students of six-year medical course in remote communities
Findings: The rural experience offered a lot more than the straight city training. Students moved from theoretical knowledge to a new way of experiential knowing that had consequences for their subsequent learning, clinical behavior and attitudes. (CASP reviewed as strong evidence)				
Glasser et al. (2008)	Academic Medicine	Students	Students' career choices	The RMED program, as a 16-week rural clinical placement, which fourth-year students lived in a rural community, worked with a primary care physician, and completed a community-oriented primary care project
Findings: 64.4% practiced primary care in small towns and/or rural communities. (CASP reviewed as moderate evidence)				
Halaas et al. (2008)	The Journal of Rural Health	Students	Students' career choices	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: 82% of RPAP graduates had chosen primary care, and 68% family medicine. 44% had practiced in a rural setting all of the time. Rural origin had only a small association with choosing rural practice. (CASP reviewed as strong evidence)				
Mihalynuk et al. (2008)	Medical Education	Students	Students' learning experience	The LICC pilot program of 12-month family practice in a regional site compared to rotational clerkship program
Findings: LICC students felt unsure and experienced a lack of structure of patient care. This increased anxiety. It took longer for them to feel competent in a specific discipline. They later valued the program flexibility, which allowed them to design educational experiences to address perceived gaps. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Wilson & Cleland (2008)	Rural and Remote Health	Students	Students' learning experience Students' career preference	The pilot study of fourth-year students opting for an extended remote and rural placement within a degree program where all students must take at least one five-week remote medicine rotation
Findings: Students who extended remote and rural placements viewed remote and rural medicine positively. They had a slight preference towards general practice. The decision to select the remote and rural placement: (1) teaching reputation, (2) to experience remote and rural medicine, (3) a change from Aberdeen, and (4) lifestyle factors. (CASP reviewed as strong evidence)				
Zink et al. (2008)	The Journal of Rural Health	Students	Students' perceptions of learning in the RPAP	The Rural Physician Associate Program (RPAP), as a longitudinal, 36-week immersion in rural communities for third-year students
Findings: The longitudinal experience allowed comfort and familiarity to develop. Relationships grew between the students and their teachers (physicians, clinic/hospital staff, and patients). These relationships were both professional and personal. Students watched their preceptors balance profession and family and grew to know some of their preceptors personally. (CASP reviewed as moderate evidence)				
Stagg et al. (2009)	Rural and Remote Health	Students	Graduates' career choices	The PRCC program, as a year-long integrated clerkships for general practice in rural sites
Findings: Key influences on graduates choosing a rural career pathway were: having a spouse/partner with a rural background, clinical teachers and mentors, the extended rural based undergraduate learning experience, and a specialty preference for general practice. The model consisted of four quadrants derived from the variables career pathway choice (rural or urban) and geographic background (rural or urban) resulted in: the True Believers, the Convertibles, the Frustrated, and the Metro Docs. (CASP reviewed as strong evidence)				
Couper & Worley (2010)	MJA	Students, faculty members, clinicians, and health service managers	Participants' perceptions of the program	The PRCC program, as a year-long longitudinal integrated clerkships for general practice in 13 rural general practices and one urban tertiary teaching hospital in South Australia
Findings: Encouraging graduates to work in underserved areas. The PRCC had improved attitudes towards rural practice. Students reported developing personal relationships with patients, GPs and practice staff, thus reinforcing the importance of understanding people in health care. The continuity of relationships with faculty members (GPs and academic coordinators) facilitated monitoring the students' coverage of the curriculum over the year, despite the lack of a formal discipline-based structure. Students lived and worked in the context of their patients, and of their teachers, thus having the chance to see and experience the influence of this on professional practice, on illness and on health care. Students were individually mentored, guided and coached through the year, which provided them with opportunities for personal and professional growth. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Couper et al. (2011)	Rural and Remote Health	Students, faculty members, preceptors, and health service managers	Participants' perceptions of the program	The Flinders Parallel Rural Community Curriculum (PRCC) and the Northern Ontario School of Medicine (NOSM) Comprehensive Community Clerkship (CCC) programs in general practice for third-year graduate students
Findings: Common concerns related to issues of support for students and preceptors, isolation, and dealing with personal issues. (CASP reviewed as strong evidence)				
Walters et al. (2011a)	Medical Education	Students, GPs, and practice managers	Continuity of supervision	The PRCC rural general practices, which host full-year continuous integrated placements for students
Findings: The doctor-student relationship was central to GP preceptors' experiences. These developed in chronological order and resulted in changes in the triangular relationship between doctor, patient and student in the consultation. (CASP reviewed as strong evidence)				
Young et al. (2011)	The Australian Journal of Rural Health	Students and mentors	Participants' perceptions of the program	The John Flynn Placement Program (JFPP), as a two-week per year longitudinal rural and remote experience over four years
Findings: After four JFPP placements, 65% of students intended to work in rural areas. After one JFPP experienced 9% indicated intent to practice as a rural general practitioner while after their fourth JFPP nearly 20% were indicating intent to practice as a rural general practitioner. (CASP reviewed as strong evidence)				
Konkin & Suddards (2012)	Advance in Health Sciences Education	Students	Professional identity formation	The rural Integrated Community Clerkship (ICC), as a nine-month LIC based in a family practice in rural communities
Findings: The LIC resulted in a safe environment in which students could meaningfully engage with patients and take responsibility for their care under the supervision. These attributes fostered an emerging physician identity born at the site of patient-student interaction and grounded in an ethic of caring. (CASP reviewed as strong evidence)				
Daly et al. (2013)	Medical Teacher	Students, GPs, and hospital clinicians	Participants' perceptions of the program	The Broken Hill Extended Clinical Placement Program (BHECPP), as a 6-12-month longitudinal integrated placement for the final two years of medical students
Findings: Opportunities for clinical learning, personal and professional development and cultural awareness were reported as key factors that contribute to preparedness for practice. (CASP reviewed as strong evidence)				

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Forster et al. (2013)	BMC Medical Education	Students	Students' perceptions	The Rural Clinical School (RCS) program provided up to three clinical years of six-year medical program with exposure to rural medicine and rural lifestyle
Findings: Graduates with three years of previous RCS training were more likely to indicate rural areas as their preferred current work location and also were more likely to intend to take up rural medical practice after completion of training, than their colleagues who spent one year at an RCS campus. (CASP reviewed as strong evidence)				
Smith et al. (2015)	Rural and Remote Health	Students	Student's perception	A pilot four-week longitudinal embedded placement at a small very remote community hospital for final-year students
Findings: Students enjoyed working in a cross-cultural multidisciplinary team, felt confident working in the cross-cultural environment, learnt a lot about themselves during the placement and believed the work they performed was useful to the community. Students enjoyed living in the remote community, working and socializing with the other students and very importantly, they felt safe in the community. A "peer mentoring and supervision model" was developed, which turned out to be a major strength of the program. (CASP reviewed as strong evidence)				
Takamura et al. (2015)	Education for Primary Care	Students	Student' s perception	A pilot of four-month integrated clerkships in primary care at Shima Prefectural Hospital
Findings: Challenging in a lack of peer-support and the absence of peer referencing with a resulting personal need to manage time and schedules effectively. The longer the student stayed in the same place, the deeper relationships they made among staff, patients, and community stakeholders. The program enhanced understanding of community-based practice and the community, especially in the rural setting. (CASP reviewed as strong evidence)				

Appendix 6: Articles that considered the success of RCBME program from perspectives of other identified stakeholders, ordered by year

Authors (Year)	Journal	Stakeholders	Outcome measures	Program
Daly et al. (2013)	Medical Teacher	Community health nurses	Participants' perceptions of the program	The Broken Hill Extended Clinical Placement Program (BHECPP), as a 6-12-month longitudinal integrated placement for the final two years of medical students
Findings: Opportunities for clinical learning, personal and professional development and cultural awareness were reported as key factors that contribute to preparedness for practice. (CASP reviewed as strong evidence)				
Smith et al. (2015)	Rural and Remote Health	Nurses	Nurses' perception	A pilot four-week longitudinal embedded placement at a small very remote community hospital for final-year students
Findings: Students had made a big impact on the community, having improved the capacity of the hospital, raised the quality of care of patients, as well as the overall standards of nursing care. (CASP reviewed as strong evidence)				
Takamura et al. (2015)	Education for Primary Care	Administrative staff member	Administrative staff member's perception	A pilot of four-month integrated clerkships in primary care at Shima Prefectural Hospital
Findings: The administrative staff member reported that compared to a short-term placement, the workload in accepting a medical student for a longitudinal placement was lighter. The administrative staff member also reported that a student from the city should understand and have a positive experience of a community attachment. The administrative staff member expressed some caution about capacity and that accepting longer clerkships may reduce the overall number of students that have a community-oriented exposure. (CASP reviewed as strong evidence)				

Appendix 7: Letter of introduction of the study (English version)

Professor Lucie Walters
Flinders University Rural Clinical School
School of Medicine
Faculty of Medicine, Nursing and Health Sciences
GPO Box 2100
Adelaide SA 5001
Tel: +61 8 8726 3914
lucie.walters@flinders.edu.au
www.flinders.edu.au
CRICOS Provider No. 00114A

LETTER OF INTRODUCTION

Dear Sir/Madam

This letter is to introduce Mr Praphun Somporn who is a postgraduate research student of the Master of Clinical Education, School of Medicine at Flinders University. He will produce his student card, which carries a photograph, as proof of identity.

He is undertaking research leading to the production of a thesis or other publications on the subject of "Perspectives of Stakeholders of Thai Rural Community-based Medical Education".

He would like to invite you to assist with this project by agreeing to be involved in an interview or focus group which covers certain aspects of this topic. No more than 90 minutes on one occasion would be required.

Be assured that any information provided will be treated in the strictest confidence and none of the participants will be individually identifiable in the resulting thesis, report or other publications. Due to the nature of research, its intended focus group and the rural (small population) setting, anonymity cannot be assured. However, all appropriate steps will be taken to ensure confidentiality. You are, of course, entirely free to discontinue your participation at any time or to decline to answer particular questions.

Since he intends to make a tape recording of the interview, He will seek your consent, on the attached form, to record the interview, to use the recording or a transcription in preparing the thesis, report or other publications, on condition that your name or identity is not revealed, or that the recording will not be made available to any other person. It may be necessary to make the recording available to secretarial assistants (or a transcription service) for transcription, in which case you may be assured that such persons will be asked to sign a confidentiality agreement which outlines the requirement that your name or identity not be revealed and that the confidentiality of the material is respected and maintained.

Any enquiries you may have concerning this project should be directed to me at the address given above or by telephone on +61 8 8726 3914, or e-mail lucie.walters@flinders.edu.au

Thank you for your attention and assistance.

Yours sincerely

Professor Lucie Walters
Professor in Rural Medical Education, *Academic Coordinator PRCC Flinders University,*
Flinders University Rural Clinical School

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number 7094). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au

Appendix 8: Letter of introduction of the study (Thai version)

Professor Lucie Walters
Flinders University Rural Clinical School
School of Medicine
Faculty of Medicine, Nursing and Health Sciences
GPO Box 2100
Adelaide SA 5001
Tel: +61 8 8726 3914
lucie.walters@flinders.edu.au
www.flinders.edu.au
CRICOS Provider No. 00114A

Translated version of Letter of Introduction

หนังสือเรียนเชิญเข้าร่วมงานวิจัย

เรียน ท่านผู้เข้าร่วมวิจัย

ข้าพเจ้าขอส่งหนังสือเรียนเชิญเข้าร่วมงานวิจัยฉบับนี้เพื่อแนะนำ นพ.ประพันธ์ สมพร นักศึกษาปริญญาโท สาขาแพทยศาสตรศึกษา มหาวิทยาลัยฟลินเดอร์ ประเทศออสเตรเลีย ซึ่งได้แสดงบัตรประจำตัวนักศึกษาของมหาวิทยาลัยที่มีรูปถ่ายยืนยันตัวตน

นพ.ประพันธ์ สมพร อยู่ในระหว่างดำเนินการวิจัยซึ่งเป็นส่วนหนึ่งของวิทยานิพนธ์ หรือผลงานทางวิชาการในเรื่อง “มุมมองของผู้มีส่วนได้ส่วนเสียในแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานของประเทศไทย” โดยขอเรียนเชิญท่านเพื่อเข้าร่วมงานวิจัยนี้ โดยการสัมภาษณ์แบบส่วนตัว หรือแบบกลุ่ม โดยเนื้อหาการสัมภาษณ์จะครอบคลุมตามหัวข้อวิจัย และใช้เวลาสัมภาษณ์ไม่เกิน 90 นาที

ข้าพเจ้าขอยืนยันว่า ข้อมูลที่ได้จากการสัมภาษณ์จะถูกเก็บรักษาเป็นความลับอย่างเข้มงวด ท่านจะไม่ถูกระบุตัวตนและชื่อในวิทยานิพนธ์ หรือผลงานทางวิชาการใดๆ เนื่องด้วยการสัมภาษณ์แบบกลุ่มจะมีโอกาสที่ผู้เข้าร่วมวิจัยท่านอื่นรู้จักชื่อหรือตัวตนของท่านได้ อย่างไรก็ตามผู้วิจัยจะดำเนินการทุกขั้นตอนของงานวิจัยให้ท่านแน่ใจว่าท่านยังได้รับการปกปิดข้อมูลความเป็นตัวตนของท่าน และแน่นอนที่สุดว่าท่านมีอิสระในการถอนตัวจากงานวิจัยนี้ได้ทุกเวลา หรือแม้กระทั่งปฏิเสธที่จะตอบคำถามในการสัมภาษณ์ตามที่ท่านต้องการ

เนื่องจากนพ.ประพันธ์ สมพร จะบันทึกเสียงสัมภาษณ์ และได้ยื่นเอกสารให้ความยินยอมเข้าร่วมงานวิจัยให้ท่านพร้อมด้วยแล้วนั้น เพื่อใช้ในการถอดบทความสัมภาษณ์สำหรับวิทยานิพนธ์ หรือผลงานทางวิชาการด้วยเงื่อนไขดังกล่าวจะไม่มีระบุตัวตนและชื่อของท่าน รวมทั้งไม่มีการนำข้อมูลใดๆของท่านเผยแพร่แก่บุคคลภายนอก ทั้งนี้การถอดบทความสัมภาษณ์จากไฟล์บันทึกเสียงอาจจำเป็นต้องมีเจ้าหน้าที่ช่วยดำเนินการ โดยผู้วิจัยจะร้องขอเจ้าหน้าที่ให้ลงนามในเอกสารรับรองการปกปิดข้อมูลของท่าน และดำเนินการตามที่ผู้วิจัยได้กำหนดไว้อย่างเคร่งครัด

หากท่านมีข้อสงสัยประการใดที่ต้องการสอบถามข้าพเจ้า กรุณาติดต่อข้าพเจ้าตามที่อยู่ด้านบนนี้ หรือทางโทรศัพท์ +61 8 8726 3914 หรือทางอีเมล lucie.walters@flinders.edu.au

ขอบคุณที่ท่านให้ความตั้งใจและยินดีเข้าร่วมวิจัย

ขอแสดงความนับถือ

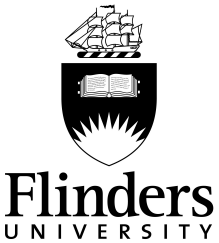
Professor Lucie Walters

Professor in Rural Medical Education, *Academic Coordinator PRCC Flinders University,*

Flinders University Rural Clinical School

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number 7094). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au

Appendix 9: Consent form for individual interview (English version)



CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview, focus group)

"PERSPECTIVES OF STAKEHOLDERS OF THAI RURAL COMMUNITY-BASED MEDICAL EDUCATION"

I .....

being over the age of 18 years hereby consent to participate as requested in the Letter of Introduction and Information Sheet for the research project on "Perspectives of Stakeholders of Thai Rural Community-based Medical Education".

1. I have read the information provided.
2. I agree to audio recording of this interview or focus group.
3. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
4. I understand that:
    - I may not directly benefit from taking part in this research.
    - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
    - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
    - Whether I participate or not, or withdraw after participating, will have no effect my relationship with Hatyai Hospital including:
        - No effect on any treatment or service that is being provided to me.
        - No effect on my progress in my course of study, or results gained.
    - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
5. I agree/do not agree* to the tape/transcript being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed.

Participant's signature.....Date.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name……

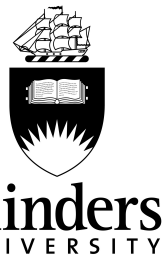
Researcher's signature……Date……

NB: Two signed copies should be obtained. The copy retained by the researcher may then be used for authorisation of Items 6 as appropriate.

6. I, the participant whose signature appears below, have read a transcript of my participation and agree to its use by the researcher as explained.

Participant's signature……Date……

Appendix 10: Consent form for individual interview (Thai version)



เอกสารให้ความยินยอมเข้าร่วมงานวิจัย

โดยการสัมภาษณ์แบบส่วนตัว และแบบกลุ่ม

"PERSPECTIVES OF STAKEHOLDERS OF THAI RURAL COMMUNITY-BASED MEDICAL EDUCATION"

ข้าพเจ้า .....

อายุมากกว่า 18 ปีบริบูรณ์ ยินยอมเข้าร่วมงานวิจัยตามหนังสือเรียนเชิญและเอกสารแนะนำข้อมูลงานวิจัย เรื่อง "มุมมองของผู้มีส่วนได้ส่วนเสียในแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานของประเทศไทย" โดยมีข้อตกลงดังนี้

1. ข้าพเจ้าได้อ่านเอกสารแนะนำข้อมูลงานวิจัยเรียบร้อยแล้ว
2. ข้าพเจ้ายินยอมให้มีการบันทึกเสียงการสัมภาษณ์แบบส่วนตัว และแบบกลุ่ม
3. ข้าพเจ้าตระหนักว่า ข้าพเจ้าควรสำเนาเอกสารแนะนำข้อมูลงานวิจัย รวมทั้งเอกสารให้ความยินยอมเข้าร่วมงานวิจัย เพื่อใช้เป็นหลักฐานอ้างอิงในอนาคต
4. ข้าพเจ้าเข้าใจแล้วว่า
    - ข้าพเจ้าอาจไม่ได้รับประโยชน์โดยตรงใดๆ จากการเข้าร่วมงานวิจัย
    - ข้าพเจ้ามีอิสระในการปฏิเสธหรือถอนตัวจากการเข้าร่วมงานวิจัยได้ทุกเวลา รวมทั้งข้าพเจ้ามีอิสระในการปฏิเสธการตอบคำถามสัมภาษณ์
    - หากข้อมูลของข้าพเจ้าถูกบันทึกในวิทยานิพนธ์ หรือตีพิมพ์ผลงานทางวิชาการ ข้าพเจ้าจะไม่ถูกระบุตัวตนและชื่อในวิทยานิพนธ์ หรือผลงานทางวิชาการนั้น และข้อมูลของข้าพเจ้าจะยังคงถูกรักษาไว้ซึ่งความเป็นส่วนตัวและความลับ
    - ไม่ว่าข้าพเจ้าจะตอบรับหรือปฏิเสธเข้าร่วมงานวิจัยนี้ หรือถอนตัวหลังจากเข้าร่วมงานวิจัยแล้ว จะไม่มีผลกระทบใดๆ กับความสัมพันธ์ของข้าพเจ้าต่อโรงพยาบาลหาดใหญ่ โดย

- ไม่มีผลกระทบต่อการรักษาหรือการบริการใดๆ ต่อข้าพเจ้า และ
- ไม่มีผลกระทบต่อผลการทำงาน/การศึกษา หรือมีผลผูกพันใดๆ ต่อข้าพเจ้า

- ข้าพเจ้าอาจร้องขอให้หยุดบันทึกเสียงการสัมภาษณ์ได้ทุกเวลา และข้าพเจ้าอาจถอนตัวจากงานวิจัยนี้ได้ทุกเวลาโดยไม่สูญเสียประโยชน์ใดๆ

5. ข้าพเจ้าให้ความยินยอม/ไม่ยินยอม* ในการใช้ข้อมูลจากไฟล์บันทึกเสียง หรือบทความที่ได้จากการสัมภาษณ์แก่นักวิจัยอื่นที่ไม่ใช่สมาชิกของงานวิจัยนี้ แต่ทั้งนี้จะถูกพิจารณาโดยทีมผู้วิจัย และแน่นอนว่าข้อมูลนั้นจะไม่มีการระบุตัวตนและชื่อของข้าพเจ้า

ลงนามผู้เข้าร่วมวิจัย ..... **วันที่** .....

ข้าพเจ้าขอรับรองว่าได้ให้ข้อมูลงานวิจัยแก่ผู้เข้าร่วมวิจัย และพิจารณาแล้วว่าผู้เข้าร่วมวิจัยได้ทำความเข้าใจในงานวิจัยดังกล่าวเป็นที่เรียบร้อยแล้ว และมีอิสระที่จะเข้าร่วมงานวิจัยนี้

ลงชื่อผู้วิจัย .....

ลงนามผู้วิจัย ..... **วันที่** .....

หมายเหตุ ผู้เข้าร่วมวิจัยลงนามในข้อที่ 6 ตามความเหมาะสม และผู้วิจัยสำเนาเอกสารไว้เพื่อการอนุญาต

6. ข้าพเจ้า ผู้เข้าร่วมวิจัยที่ลงนามข้างล่างนี้ ได้อ่านบทความที่ถอดจากการสัมภาษณ์ตัวข้าพเจ้าและยินยอมให้ผู้วิจัยใช้ข้อมูลนี้ตามรายละเอียดที่ได้แจ้งไว้

ลงนามผู้เข้าร่วมวิจัย ..... **วันที่** .....

Appendix 11: Consent form for observation (English version)

CONSENT FORM FOR OBSERVATION OF PROFESSIONAL ACTIVITY

"PERSPECTIVES OF STAKEHOLDERS OF THAI RURAL COMMUNITY-BASED MEDICAL EDUCATION"

I hereby give my consent to Dr Praphun Somporn, a researcher/research student in the Faculty of Medicine, Nursing, and Health Sciences, Flinders University, Australia

at ……

whose signature appears below, to record community engagement and professional activities as part of a study of Perspectives of Stakeholders of Thai Rural CBME.

I give permission for the use of these data, and other information, which I have agreed may be obtained or requested, in the writing up of the study, subject to the following conditions:

My participation in this study is voluntary, and I understand that I may withdraw from the study at any time.

SIGNATURES

Participant……Date……..

Researcher……Date……

Appendix 12: Consent form for observation (Thai version)

เอกสารให้ความยินยอมเข้าร่วมงานวิจัย

โดยการสังเกตการณ์

“มุมมองของผู้มีส่วนได้ส่วนเสียในแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานของไทย”

“PERSPECTIVES OF STAKEHOLDERS OF THAI RURAL COMMUNITY-BASED MEDICAL EDUCATION”

ข้าพเจ้า ขอมอบความยินยอมเข้าร่วมงานวิจัยนี้ แก่นพ.ประพันธ์ สมพร ผู้วิจัย และนักศึกษาปริญญาโท สาขาแพทยศาสตรศึกษา คณะแพทยศาสตร์ พยาบาลศาสตร์ และวิทยาศาสตร์สุขภาพ มหาวิทยาลัยฟลินเดอร์ ประเทศออสเตรเลีย

ณ สถานที่ .....

ซึ่งได้ลงนามรับรองข้างล่างนี้ โดยยินยอมให้มีการสังเกตการณ์ หรือบันทึกการทำงานในบทบาทของข้าพเจ้า รวมทั้งความสัมพันธ์ที่เกิดขึ้นในชุมชนของข้าพเจ้า

ข้าพเจ้า อนุญาตให้มีการใช้ข้อมูลดังกล่าว ที่ข้าพเจ้ายินยอมไปแล้วนั้น เพื่อการเขียนงานวิจัย หรือวิทยานิพนธ์ของผู้วิจัย

ข้าพเจ้า เข้าร่วมในงานวิจัยดังกล่าวโดยความสมัครใจ และเข้าใจด้วยว่า ข้าพเจ้ามีสิทธิ์ถอนตัวจากการเข้าร่วมงานวิจัยดังกล่าวได้ทุกเวลา

ลงนาม

ผู้เข้าร่วมวิจัย ..... **วันที่** .....

ผู้วิจัย ..... **วันที่** .....

Appendix 13: Interview questions (English version)

Interview questions for clinical educators/rural GPs/policy makers at CPIRD and university

1. Can you please tell me a bit about yourself and what is your role in your clinical practice here?
Prompts:
- What does this role involve?
- How long have you been here? Why did you settle here?
- What is your experience in your rural community?
- What is it you enjoy? It must be challenging, how do you manage?
- What contact have you had in the past with medical students? Tell me about this experience? What did you gain through this experience? What did you lose through this experience?

2. I am working to develop a CBME program. What is your understanding of CBME?
Prompts:
- Have you had any experience with CBME? Tell me about it?
- Are you interested in CBME? Why?

For the purposes of this research this is my understanding of CBME….people like you looking after the students and teaching the student

3. What kind of things can you and your clinical colleagues contribute to medical students if we develop a CBME program here?
Prompts:
- What kind of things could students do in rural hospital or clinic?
- What kind of things could students do in rural community to better understand the health issues in this community?
- What kind of things could students do in rural community to feel part of the community?
- Another person said that medical students can be enjoyable to supervise? What do you think? How could they be enjoyable?
- I am interested in sustainability. Do you have a preference for how long students stay? Why?

4. Do you have any concern about CBME in your community? If any, please tell me.
Prompts:
- Your role as clinical educator/preceptor/authority
- Your workload
- How can we manage your concerns about student learning in rural community together?

5. I respect that a strong CBME program needs to give back to you, the health service and the community
What is/are your expectation(s) of a rural CBME program if we were to develop one here?
Prompts:
- What things do you expect to get in return for you engagement in a local CBME program?
- What about in the clinical setting? Do you expect them to be useful? How?
- What about your expectations of the students after they graduate?
- What do you think about why students should learn in rural health service?
- In other countries rural doctors find that students can help keep them up to date with new knowledge. What do you think?
- In other countries CBME has provided status for rural doctors. What do you think?
- What things would encourage you to get involved in rural CBME?

6. In my experience the stakeholders for CBME include doctors, patients, community members and hospital staff and government. I don't want to miss anyone out who is important. Do you suggest I talk to anyone else about CBME in this community?
Prompt:

- What relevant sectors could be involved in rural CBME in your opinion?

Interview questions for medical students

1. Can you please tell me a bit about yourself and your role in your class?
Prompts:
- What does this role involve?
- What is your experience in your rural community?
- What is it you enjoy? It must be challenging, how do you manage?
- What contact have you had in the past with rural doctors? Tell me about this experience? What did you gain through this experience? What did you lose through this experience?

2. I am working to develop a CBME program. What is your understanding of CBME?
Prompts:
- Have you had any experience with CBME? Tell me about it?
- Are you interested in CBME? Why?

For the purposes of this research this is my understanding of CBME….people like you involving in learning in, and participating with, the rural health service.

3. What kind of things could encourage you to get involved if we develop a CBME program here?
Prompts:
- What kind of things do you want to do in rural hospital or clinic?
- What kind of things could you do in rural community to better understand the health issues in this community?
- What kind of things could you do in rural community to feel part of the community?
- Another person said that medical students can be enjoyable to supervise? What do you think? How could they be enjoyable?
- I am interested in sustainability. Do you have a preference for how long students stay? Why?

4. Do you have any concern about CBME in your community? If any, please tell me.
Prompts:
- Your workload/competencies
- How can we manage your concerns about student learning in your community together?

5. I respect that a strong CBME program needs to give back to you, the health service and the community
What is/are your expectation(s) of a rural CBME program if we were to develop one here?
Prompts:
- What things do you expect to get in return for you engagement in a local CBME program?
- What about in the clinical setting? Do you expect to be useful? How?
- What about your expectations after you graduate and your work in 3 years compulsory service?
- What do you think about why you should learn in rural health service?
- What things would encourage you to get involved in rural CBME or rural career choice?

6. In my experience the stakeholders for CBME include doctors, patients, community members and hospital staff and government. I don't want to miss anyone out who is important. Do you suggest I talk to anyone else about CBME in this community?
Prompt:
- What relevant sectors could be involved in rural CBME in your opinion?

Appendix 14: Interview questions (Thai version)

Interview questions for clinical educators/rural GPs/policy makers

1. โปรดแนะนำตัวท่านเองและหน้าที่ในเวชปฏิบัติในสถานที่ทำงานของท่าน

เสริม:

- บทบาทหน้าที่ของท่านมีอะไรบ้าง
- ท่านทำงานที่นี่มานานเท่าไหร่ ทำไมถึงทำงานอยู่ที่นี่
- ท่านเคยมีประสบการณ์ในการทำงานในชุมชนอย่างไรบ้าง
- อะไรที่ท่านรู้สึกมีความสุข หากมีเรื่องท้าทาย ท่านจัดการความท้าทายได้อย่างไร
- ท่านเคยมีประสบการณ์เกี่ยวกับนักศึกษาแพทย์อย่างไรบ้าง
- ท่านได้รับ/สูญเสียอะไรบ้างจากประสบการณ์เกี่ยวกับนักศึกษาแพทย์

2. ข้าพเจ้ากำลังพัฒนาหลักสูตรแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน ท่านมีความเข้าใจเกี่ยวกับเรื่องนี้อย่างไรบ้าง

เสริม:

- ท่านเคยมีประสบการณ์เกี่ยวกับแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานอย่างไรบ้าง
- ท่านสนใจเรื่องแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานหรือไม่ เพราะอะไร

3. สิ่งใดที่ท่านหรือเพื่อนร่วมงานของท่านสามารถจัดหาให้กับนักศึกษาแพทย์ได้บ้าง หากพวกเราจะพัฒนาหลักสูตรแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานที่นี่

เสริม:

- นักศึกษาแพทย์จะมาทำอะไรในโรงพยาบาลชุมชนหรือคลินิกได้บ้าง
- สิ่งใดที่จะทำให้นักศึกษาแพทย์เข้าใจเรื่องปัญหาสุขภาพในชุมชน
- สิ่งใดที่จะทำให้นักศึกษาแพทย์รู้สึกเป็นส่วนหนึ่งในชุมชน
- ท่านคิดเห็นอย่างไรเกี่ยวกับนักศึกษาแพทย์ที่จะมีอาจารย์ที่ปรึกษาอยู่ในโรงพยาบาลชุมชน และสามารถ ทำให้เป็นประโยชน์แก่นักศึกษาแพทย์ได้อย่างไร
- ท่านคิดว่าควรใช้เวลาในการเรียนการสอนในชุมชนนานเท่าไหร่ เพราะอะไร

4. ท่านมีความกังวลเกี่ยวกับแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานอย่างไรบ้าง

เสริม:

- เกี่ยวกับบทบาทในฐานะอาจารย์แพทย์/แพทย์ในโรงพยาบาลชุมชน/ผู้บริหารหลักสูตร
- พวกเราจะสามารถแก้ปัญหาความกังวลของท่านได้อย่างไร

5. ท่านมีความคาดหวังอย่างไรบ้างเกี่ยวกับหลักสูตรแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน หากพวกเราพัฒนาหลักสูตรนี้ในชุมชนของท่าน

เสริม:

- ท่านคาดหวังสิ่งใดเพื่อให้ท่านเข้าร่วมในหลักสูตรนี้
- ท่านคิดว่าชุมชนของท่านจะเป็นประโยชน์ต่อหลักสูตรนี้อย่างไรบ้าง
- ท่านคาดหวังสิ่งใดกับนักศึกษาแพทย์ภายหลังจบการศึกษา
- ท่านคิดว่าทำไมนักศึกษาแพทย์ควรเรียนในชุมชน
- ท่านคิดเห็นอย่างไรเกี่ยวกับแพทย์ในโรงพยาบาลชุมชนจะมีโอกาสได้ทบทวนความรู้ใหม่ๆ จากการที่มีนักศึกษาแพทย์มาเรียนในชุมชน
- ท่านคิดว่าสิ่งใดที่เป็นตัวกระตุ้นให้ท่านมาเข้าร่วมในหลักสูตรนี้

6. ตามประสบการณ์ของข้าพเจ้า ผู้มีส่วนได้ส่วนเสียในแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน ได้แก่แพทย์ ผู้ป่วย บุคคลในชุมชน เจ้าหน้าที่ต่างๆในโรงพยาบาลชุมชน และรัฐบาล ในความเห็นของท่าน ท่านคิดว่ายังมีบุคคลใดที่มีส่วนได้ส่วนเสียในเรื่องนี้อีกหรือไม่

เสริม:

- ท่านคิดว่ามีหน่วยงานใดที่เกี่ยวข้องกับหลักสูตรนี้หรือไม่

Interview questions for medical students

1. โปรดแนะนำตัวท่านเองและบทบาทของท่านในชั้นเรียน

เสริม:

- บทบาทหน้าที่ของท่านมีอะไรบ้าง
- ท่านเคยมีประสบการณ์ในชุมชนอย่างไรบ้าง
- อะไรที่ท่านรู้สึกมีความสุข หากมีเรื่องท้าทาย ท่านจัดการความท้าทายได้อย่างไร
- ท่านเคยมีประสบการณ์เกี่ยวกับแพทย์ในโรงพยาบาลชุมชนอย่างไรบ้าง
- ท่านได้รับ/สูญเสียอะไรบ้างจากประสบการณ์เกี่ยวกับแพทย์ในโรงพยาบาลชุมชน

2. ข้าพเจ้ากำลังพัฒนาหลักสูตรแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน ท่านมีความเข้าใจเกี่ยวกับเรื่องนี้อย่างไรบ้าง

เสริม:

- ท่านเคยมีประสบการณ์เกี่ยวกับแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานอย่างไรบ้าง
- ท่านสนใจเรื่องแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานหรือไม่ เพราะอะไร

3. สิ่งใดที่กระตุ้นให้ท่านเข้าร่วมในหลักสูตรนี้ หากพวกเราจะพัฒนาหลักสูตรแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานที่นี่

- นักศึกษาแพทย์จะมาทำอะไรในโรงพยาบาลชุมชนหรือคลินิกได้บ้าง
- ท่านต้องการทำสิ่งใดเพื่อให้เกิดความเข้าใจในบริบทสุขภาพในชุมชนให้มากขึ้น
- ท่านต้องการทำสิ่งใดเพื่อให้เป็นส่วนหนึ่งของชุมชน
- ท่านคิดเห็นอย่างไรเกี่ยวกับนักศึกษาแพทย์ที่จะมีอาจารย์ที่ปรึกษาอยู่ในโรงพยาบาลชุมชนและสามารถ ทำให้เป็นประโยชน์แก่นักศึกษาแพทย์ได้อย่างไร
- ท่านคิดว่าควรใช้เวลาในการเรียนการสอนในชุมชนนานเท่าไหร่ เพราะอะไร

4. ท่านมีความกังวลเกี่ยวกับแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐานอย่างไรบ้าง

เสริม:

- เกี่ยวกับภาระงาน/การเรียนรู้/ความสามารถของท่าน
- พวกเราจะสามารถแก้ปัญหาความกังวลของท่านได้อย่างไร

5. ท่านมีความคาดหวังอย่างไรบ้างเกี่ยวกับหลักสูตรแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน หากพวกเราพัฒนาหลักสูตรนี้ในชุมชนของท่าน

เสริม:

- ท่านคาดหวังสิ่งใดเพื่อให้ท่านเข้าร่วมในหลักสูตรนี้
- ท่านคิดว่าชุมชนของท่านจะเป็นประโยชน์ต่อหลักสูตรนี้อย่างไรบ้าง
- ท่านคาดหวังสิ่งใดภายหลังจบการศึกษา และการทำงานใช้ทุนในโรงพยาบาลชุมชน 3 ปี
- ท่านคิดว่าทำไมนักศึกษาแพทย์ควรเรียนในชุมชน
- ท่านคิดเห็นอย่างไรเกี่ยวกับแพทย์ในโรงพยาบาลชุมชนจะมีโอกาสได้ทบทวนความรู้ใหม่ๆ จากการที่มีนักศึกษาแพทย์มาเรียนในชุมชน
- ท่านคิดว่าสิ่งใดที่เป็นตัวกระตุ้นให้ท่านมาเข้าร่วมในหลักสูตรนี้ หรือทำให้ท่านเลือกเป็นแพทย์ในโรงพยาบาลชุมชน

6. ตามประสบการณ์ของข้าพเจ้า ผู้มีส่วนได้ส่วนเสียในแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน ได้แก่แพทย์ ผู้ป่วย บุคคลในชุมชน เจ้าหน้าที่ต่างๆในโรงพยาบาลชุมชน และรัฐบาล ในความเห็นของท่าน ท่านคิดว่ายังมีบุคคลใดที่มีส่วนได้ส่วนเสียในเรื่องนี้อีกหรือไม่

เสริม:

- ท่านคิดว่ามีหน่วยงานใดที่เกี่ยวข้องกับหลักสูตรนี้หรือไม่

Appendix 15: Ethics approval by Flinders University Social and Behavioural Research Ethics Committee (SBREC)

7094 SBREC final approval notice (6 January 2016)

Human Research Ethics <human.researchethics@flinders.edu.au>

Wed 1/6/2016 10:40 AM

To:Praphun Somporn <somp0004@uni.flinders.edu.au>; Lucie Walters <lucie.walters@flinders.edu.au>; Julie Ash <julie.ash@flinders.edu.au>; lucksameeh@yahoo.com <lucksameeh@yahoo.com>;

Importance: High

Dear Praphun,

The Chair of the Social and Behavioural Research Ethics Committee (SBREC) at Flinders University considered your response to conditional approval out of session and your project has now been granted final ethics approval. This means that you now have approval to commence your research. Your ethics final approval notice can be found below.

FINAL APPROVAL NOTICE

Project No.:	**7094**
Project Title:	Perspectives of Stakeholders of Thai Rural Community-based Medical Education
Principal Researcher:	Mr Praphun Somporn
Email:	somp0004@uni.flinders.edu.au
Approval Date:	5 January 2016
Ethics Approval Expiry Date:	**30 September 2018**

The above proposed project has been **approved** on the basis of the information contained in the application, its attachments and the information subsequently provided.

RESPONSIBILITIES OF RESEARCHERS AND SUPERVISORS

1. **Participant Documentation**
   Please note that it is the responsibility of researchers and supervisors, in the case of student projects, to ensure that:

- all participant documents are checked for spelling, grammatical, numbering and formatting errors. The Committee does not accept any responsibility for the above mentioned errors.
- the Flinders University logo is included on all participant documentation (e.g., letters of Introduction, information Sheets, consent forms, debriefing information and questionnaires – with the exception of purchased research tools) and the current Flinders University letterhead is included in the header of all letters of introduction. The Flinders University international logo/letterhead should be used and documentation should contain international dialling codes for all telephone and fax numbers listed for all research to be conducted overseas.
- the SBREC contact details, listed below, are included in the footer of all letters of introduction and information sheets.

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project Number 'INSERT PROJECT No. here following approval'). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au.

2. Annual Progress / Final Reports

In order to comply with the monitoring requirements of the *National Statement on Ethical Conduct in Human Research (March 2007)* an annual progress report must be submitted each year on the **5 January** (approval anniversary date) for the duration of the ethics approval using the report template available from the Managing Your Ethics Approval SBREC web page. *Please retain this notice for reference when completing annual progress or final reports.*

If the project is completed *before* ethics approval has expired please ensure a final report is submitted immediately. If ethics approval for your project expires please submit either (1) a final report; or (2) an extension of time request and an annual report.

Student Projects

The SBREC recommends that current ethics approval is maintained until a student's thesis has been submitted, reviewed and approved. This is to protect the student in the event that reviewers recommend some changes that may include the collection of additional participant data.

Your first report is due on **5 January 2017** or on completion of the project, whichever is the earliest.

3. Modifications to Project

Modifications to the project must not proceed until approval has been obtained from the Ethics Committee. Such proposed changes / modifications include:

- change of project title;
- change to research team (e.g., additions, removals, principal researcher or supervisor change);
- changes to research objectives;
- changes to research protocol;
- changes to participant recruitment methods;
- changes / additions to source(s) of participants;
- changes of procedures used to seek informed consent;
- changes to reimbursements provided to participants;
- changes / additions to information and/or documentation to be provided to potential participants;
- changes to research tools (e.g., questionnaire, interview questions, focus group questions);
- extensions of time.

To notify the Committee of any proposed modifications to the project please complete and submit the *Modification Request Form* which is available from the Managing Your Ethics Approval SBREC web page. Download the form from the website every time a new modification request is submitted to ensure that the most recent form is used. Please note that extension of time requests should be submitted prior to the Ethics Approval Expiry Date listed on this notice.

Change of Contact Details

Please ensure that you notify the Committee if either your mailing or email address changes to ensure that correspondence relating to this project can be sent to you. A modification request is not required to change your contact details.

4. **Adverse Events and/or Complaints**
Researchers should advise the Executive Officer of the Ethics Committee on 08 8201-3116 or human.researchethics@flinders.edu.au immediately if:

- any complaints regarding the research are received;
- a serious or unexpected adverse event occurs that effects participants;
- an unforeseen event occurs that may affect the ethical acceptability of the project.

Kind regards
Rae

Mrs Andrea Fiegert and Ms Rae Tyler
Ethics Officers and Executive Officer, Social and Behavioural Research Ethics Committee
Andrea - Telephone: +61 8 8201-3116 | Monday, Tuesday and Wednesday
Rae – Telephone: +61 8 8201-7938 | ½ day Wednesday, Thursday and Friday

Email: human.researchethics@flinders.edu.au
Web: Social and Behavioural Research Ethics Committee (SBREC)

Manager, Research Ethics and Integrity – Dr Peter Wigley
Telephone: +61 8 8201-5466 | email: peter.wigley@flinders.edu.au
Research Services Office |Union Building Basement
Flinders University
Sturt Road, Bedford Park | South Australia | 5042
GPO Box 2100 | Adelaide SA 5001

Appendix 16: Ethics approval by the Ethics Committee of Hatyai Hospital

THE ETHICS COMMITTEE OF HATYAI HOSPITAL

HATYAI HOSPITAL 182 , HATYAI, SONGKHLA 90110 THAILAND

DOCUMENTARY PROOF OF ETHICAL CLEARANCE COMMITTEE ON HUMAN RIGHTS RELATED TO RESEARCHES INVOLVING HUMAN SUBJECTS

ID1	47
Date	10/08/58 expired 1 year after issuing
Title of project	การรับรู้ของบุคลากรทางการแพทย์ไทยต่อแพทยศาสตรศึกษาโดยใช้ชุมชนเป็นฐาน Perspective of Thai medical stakeholder on community-based medical education)
Protocol number	47/58
Principal investigator	PRAPHUN SOMPORN, MD
Office address	Department of Neurosurgery Hatyai Hospital
Document review 1	Protocol
Document review 2	

The aforementioned documents have been reviewed and acknowledged by Committe human rights related to researches involving human subjects, based on the declaration of Helsinki

Signature of Chairman .....

Pairoj Boonluksiri

Signature of Committee .....

Hathaitip Tumviriyakul

Appendix 17: Framework of new CPIRD curriculum (Clinical years)

Year 4 (42 weeks)

Introduction of Clinical Medicine (2)	Family Medicine & Community Medicine (6)	Health & Disease of Adult & Elderly (6)	Preoperative to Postoperative Care (6)	Health & Disease from Conception to Adolescence (3) Health & Disease of Women (3)	**Rural Medicine (12)**	Family Medicine & Community Medicine (4)

Year 5 (48 weeks)

Health & Disease of Adult & Elderly (6)	Preoperative to Postoperative Care (6)	**Rural Medicine (6)**	Health & Disease from Conception to Adolescence (3) Health & Disease of Women (3)	Health, Disease & Rehabilitation of Orthopaedics (3) Emergency Medicine & Accident (3)	**Rural Medicine (6)**	Family Medicine & Community Medicine (6)	Ambulatory Ophthalmology & Otorhinolaryngology (3) Elective (3)

Year 6 (48 weeks)

Internal Medicine (4)	Surgery (4)	Obstetrics & Gynecology (4)	Pediatrics (4)	Emergency Medicine, Accident & Orthopaedics (8)	**Rural Medicine (12)**	Elective (4)	Internal Medicine & Psychiatry (4)	**Elective (Rural hospital) (4)**

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