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Improving the Recognition and Management of Common Mental Disorders in Government-Operated Primary Care Settings in Penang, Malaysia: Feasibility of a Pilot Primary Care Consultation-Liaison Psychiatry Service and Impact on Undergraduate Medical Education

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Improving the recognition and management of common mental disorders in government-operated primary care settings in Penang, Malaysia: feasibility of a pilot primary care consultation-liaison psychiatry service and impact on undergraduate medical education

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A thesis submitted to the Faculty of Medicine and Health Sciences, Royal College of Surgeons in Ireland, in fulfilment of the degree of

Doctor of Medicine

Supervisors: Professor Susan Smith, RCSI General Practice

Dr Mary Clarke, RCSI Psychology and Psychiatry

August 2018
I declare that this thesis, which I submit to RCSI for examination in consideration of the award of a higher degree, MD, is my own personal effort. Where any of the content presented is the result of input or data from a related collaborative research programme this is duly acknowledged in the text such that it is possible to ascertain how much of the work is my own. I have not already obtained a degree in RCSI or elsewhere on the basis of this work. Furthermore, I took reasonable care to ensure that the work is original, and, to the best of my knowledge, does not breach copyright law, and has not been taken from other sources except where such work has been cited and acknowledged within the text.

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Student Number: _____ 1318089 _____

Date: _____ August 7 2018 ______________
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<td>AHP</td>
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<td>CADET</td>
<td>Collaborative Depression Trial</td>
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<td>CMDs</td>
<td>Common Mental Disorders</td>
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<tr>
<td>CME</td>
<td>Continuing Medical Education</td>
</tr>
<tr>
<td>CRC</td>
<td>Clinical Research Centre</td>
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<tr>
<td>DASS</td>
<td>Depression, Anxiety and Stress Scale</td>
</tr>
<tr>
<td>DSM-5</td>
<td>Diagnostic and Statistical Manual, Fifth Edition</td>
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<tr>
<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>FMS</td>
<td>Family Medicine Specialist</td>
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<tr>
<td>GAD-7</td>
<td>General Anxiety Disorder Scale (7 item)</td>
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<tr>
<td>GBD</td>
<td>Global Burden of Disease</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<tr>
<td>GHQ</td>
<td>General Health Questionnaire</td>
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<tr>
<td>HC A</td>
<td>Health Clinic A</td>
</tr>
<tr>
<td>HC B</td>
<td>Health Clinic B</td>
</tr>
<tr>
<td>IC</td>
<td>Identification Card</td>
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<tr>
<td>ICD-10</td>
<td>International Classification of Diseases (10th edition)</td>
</tr>
<tr>
<td>IMAAI</td>
<td>Integrated Management of Adult and Adolescent Illness</td>
</tr>
<tr>
<td>LMIC</td>
<td>Low and Middle-Income Country</td>
</tr>
<tr>
<td>MDD</td>
<td>Major Depressive Disorder</td>
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<tr>
<td>MA</td>
<td>Medical Assistant</td>
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<tr>
<td>mhGAP</td>
<td>Mental Health Gap</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>MO</td>
<td>Medical Officer</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<td>MRC</td>
<td>Medical Research Council</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<td>NPT</td>
<td>Normalisation Process Theory</td>
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<td>PHQ-2</td>
<td>Patient Health Questionnaire (2 item)</td>
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<td>PHQ-9</td>
<td>Patient Health Questionnaire (9 item)</td>
</tr>
<tr>
<td>PMC</td>
<td>Penang Medical College</td>
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<tr>
<td>PRIME</td>
<td>Programme for Improving Mental Health Care</td>
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<tr>
<td>RCSI</td>
<td>Royal College of Surgeons in Ireland</td>
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<tr>
<td>RCT</td>
<td>Randomised Controlled Trial</td>
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<tr>
<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<tr>
<td>UCD</td>
<td>University College Dublin</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<td>WONCA</td>
<td>World Association of Family Physicians</td>
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International evidence suggests that the implementation of evidence-based interventions for common mental disorders (CMDs) in primary care settings is challenging, especially in low and middle-income countries.

This thesis is based on a clinical and medical educational research initiative carried out by the author at Penang Medical College, Malaysia in collaboration with local academic colleagues and clinicians and support from academics in his home institution in RCSI, Dublin. The aims of the study were to explore challenges and opportunities in delivering enhanced care for CMDs in Malaysian government-operated primary care clinics and the potential added educational value of medical students learning psychiatry in primary care settings.

Mixed qualitative and quantitative methods and a process evaluation framework were employed to evaluate current primary care services for CMDs and the operation and utilisation of an on-site pilot consultation-liaison psychiatry service at two primary care clinics in Penang. Semi-structured individual interviews with front-line clinicians and focus groups with medical students explored perceptions of CMDs and the experience of participation in the pilot intervention.

The study found that barriers to the recognition and management of CMDs arose from weak structures and processes to support current primary care mental health policy implementation. Other challenges include competing service demands on frontline clinicians and limitations in clinicians’ understanding of the benefits of recognition and management of CMDs.

The pilot consultation-liaison intervention, however, was broadly implemented and utilised as intended and participating front-line clinicians appeared to value holistic care and reported a change in their understanding of CMDs. Medical students rated their primary care experiences as providing considerable added value in comparison with other clinical placements in questionnaire survey responses and in focus group thematic findings.
These results highlight the need for and potential benefits from investment in front-line clinician support from family medicine and mental health specialists in the future implementation of evidence-based programmes for CMDs in Malaysian primary care settings. In addition, the study suggests that primary care experiences should be considered as a regular component of the clinical clerkship in psychiatry for medical undergraduates.
Acknowledgements

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Chapter 1: Introduction

1.1 Introduction
The introductory chapter provides a background for the subject area addressed in the thesis and a rationale for the chosen research focus.

It begins with a review of the literature on the global public health impact of common mental disorders (CMDs) and their interaction with other non-communicable diseases (NCDs). It then addresses approaches to the management of CMDs in primary care, to date, describing several theoretical models of care and the evidence base for each, with particular reference to the consultation-liaison and collaborative care approaches.

There follows a review of research carried out in implementing collaborative care programmes for CMDs in low and middle-income countries (LMICs) and of the barriers and facilitators to successful implementation in primary care settings, as identified in previous studies.

The introduction proceeds to review existing literature on opportunities for developing skills and attitudes in the recognition and management of CMDs, among medical undergraduates, in order to maximise the benefits of programmatic interventions for CMDs in primary care in the future, especially in LMIC settings.

The focus then moves to Malaysia as the setting for the research project, beginning with an overall description of the country and of the state of Penang. Recent challenges faced in healthcare provision in Malaysia are outlined, with an emphasis on current services for NCDs and CMDs in primary care provided at government-operated primary care clinics.

The chapter concludes with summary of the rationale for a process evaluation of a consultation-liaison psychiatry service, as a pilot intervention implemented at two primary care clinics in Penang. A summary argument is also presented for the decision to explore front-line clinical service provider and participating undergraduate medical student perspectives within a single study.
1.2 Common Mental Disorders

The term common mental disorders (CMDs), refers mainly to two diagnostic categories: neurotic, stress-related and somatoform disorders and mood disorders (Goldberg and Huxley, 1992). CMDs, such as major depressive disorder and anxiety disorders, represent the great majority of all mental disorders, which, in turn, account for 13% of the total global burden of disease (GBD) (Mathers and Loncar, 2006). Depression alone ranks second in terms of its contribution to the total GBD while anxiety disorders rank seventh, although these rankings underestimate the actual contribution of CMDs, because of the manner in which mental disorders are classified for reporting purposes (Vigo et al., 2016).

Recent evidence suggests that mental disorders of all kinds increase the risk of the onset of a range of physical conditions and that this risk accumulates throughout the life-span (Scott et al., 2016). CMDs frequently co-exist with other long-term conditions (LTCs) such as diabetes, respiratory disorders and coronary heart disease. For example, 27% of people with diabetes and over 50% with HIV/AIDS have been found to suffer with depression while people with panic disorder have a higher prevalence of asthma (Hasler et al., 2005, Prince, 2007, Petruskin et al., 2005).

CMDs and other NCDs interact in a bi-directional manner, whereby the risk of developing one condition is increased in the presence of the other (WHO, 2004). This co-morbidity, which is usually undetected, increases the utilisation of general medical services and worsens the prognosis both for the mental disorder and the physical illness (Prince, 2007). There is also increasing evidence that adverse social and economic circumstances such as poverty, income inequality, discrimination, interpersonal or collective violence and forced migration increase both the prevalence and the severity of CMDs, in men and women (Lund, 2018).

1.2.1 Common Mental Disorders in Low and Middle Income Countries

Approximately 80% of people with mental disorders live in low and middle-income countries (LMICs), and LMICs account for almost three quarters of the global burden of mental disorders (Eaton et al., 2011). The WHO uses the concept of the treatment gap as
a common metric of unmet need for international comparative purposes (Kohn et al., 2004). The treatment gap for mental disorders is defined as the gap between the service response that could be provided and that which the individual actually receives and is almost 90% in LMICs (Mathers and Loncar, 2006).

Similarly, the impact of NCDs on mortality, especially for people below age 70 years, is greater in LMICs, than in high-income countries. The highest rates of increase in deaths from NCDs between 2010 and 2020 are predicted in the Western Pacific region and in South–East Asia (WHO, 2013b). Despite this, less than 1% of all development assistance for health is directed towards NCDs while less than 3% of the health budget in LIMCs is allocated to mental health (To et al., 2012).

1.2.2 Global Response to Common Mental Disorders
The World Health Organization (WHO) has identified efforts to prevent and control NCDs as a global health priority and has set a target of a 25% reduction of NCDs by 2025 in its Global NCD Action Plan 2013-2020 (WHO, 2013a). While mental health had always been included in the WHO’s definition of health, it remains a source of some contention that mental illness is not included in its list of NCDs. It has been argued that there is “no health without mental health” and that the international community has not mobilized the necessary attention to the contribution of mental disorders to global disability (Prince, 2007). It is also recognised, however, that the social determinants of mental health are such that the global burden of these disorders, especially in LMICs, will not be relieved by improved access to mental health services alone, but will require co-ordination by governments across the multiple domains of sustainable development (Lund, 2018).

Awareness of the enormous treatment gap for mental disorders, especially in LMICs, has led to a focus on the need for a “new paradigm of public mental health” involving the scaling up of mental health services through a range of measures within the wider political and economic domains and within the health service sector (Eaton et al., 2011). The WHO’s Mental Health Action Programme (mhGAP) is regarded as a flagship programme to strengthen mental health policy and access to evidence-based services, especially those in primary care and the mhGAP intervention guide for eight priority
mental, neurological and substance misuse disorders in non-specialised settings was published in 2010 (WHO, 2010).

1.2.3 Health Service Response to Common Mental Disorders
The high prevalence of CMDs relative to resource availability is such that specialist mental health services can never respond effectively, even in high-income countries (Saxena et al., 2007). A broad international consensus has emerged, therefore, that primary care is the most appropriate locus of care and this is now reflected in the health policies of many countries (Patel et al., 2010a).

A landmark report, jointly published by the WHO and World Organization of Family Doctors (WONCA) in 2006, entitled “Integrating Mental Health into Primary Care”, detailed 12 best practice examples, from both rich and poorly resourced countries, of health systems that have successfully integrated mental health services into primary care (WHO and WONCA, 2006).

1.2.4 Screening for Common Mental Disorders
It is acknowledged internationally that even in high-income countries common mental disorders are often unrecognised in primary care, even though patients with CMDs visit their doctors more frequently and utilize more healthcare resources (Simon et al., 2002). A number of factors may inhibit the identification of CMDs in primary care attenders, most notably the stigma attached to mental disorders that may inhibit disclosure by service users and recognition by providers (Thornicroft et al., 2010). In addition, the perceived consequences of receiving a mental health diagnosis, in terms of referral to specialist mental health services, may be unacceptable to some patients (Thornicroft et al., 2016).

Low levels of mental health literacy among primary care patients and inadequate mental health training among frontline health care providers may also inhibit disclosure and recognition of mental health symptoms (Ito et al., 2012). Cultural influences on the expression of symptoms have been linked with increased somatic presentations of emotional distress, especially in certain ethnic groups (Rogers and Allison, 2004).

A further barrier to recognition of CMDs relates to the fact that mental health diagnoses
are more complex and less clear-cut in primary care settings, while diagnostic classification systems may be less useful (Gask et al., 2009a). It is also recognised that in the context of physical illness, especially long-term conditions, mental health symptoms can be perceived as justifiable or otherwise normalised in the discourse between patient and doctor (Coventry et al., 2011).

For these reasons, the use of valid and reliable instruments for routine screening of primary care attenders for CMDs is conceptually appealing. There are now a number of reliable and relatively short symptom scales for CMDs, such as the PHQ-9 and GAD-7, which have been validated and translated into several languages for use in a variety of international settings (Kroenke et al., 2001, Mohd-Sidik et al., 2011, Spitzer et al., 2006).

However, screening remains controversial, as on its own, it has not been shown to improve the quality of care or patient outcomes (Gilbody et al., 2006, Kroenke et al., 2000). While debate in the area continues, several recent studies of collaborative care in the US and in LMICs have suggested that screening for CMDs by lay workers and non-specialist health care providers may be effective as part of a package of other interventions (Katon et al., 2010, Patel et al., 2011).

In a global context of limited evidence for the benefits of mental health training for primary care clinicians, it has been argued that routine screening, using brief self-report questionnaires such as the PHQ-9 and GAD-7 is justified, at least in high-risk groups, including people with chronic diseases or chronic sleep disturbance (Reynolds and Patel, 2017). However, the environment in which screening for CMDs is implemented is recognised as a paramount consideration, as there is a danger of it being introduced to meet a bureaucratic requirement and the resulting data reported to higher levels within the administrative hierarchy but without impacting on actual clinical performance or service delivery (Prince, 2018).
1.3 Models of Care for Common Mental Disorders in Primary Care

Bower and Gilbody (2005) have outlined general principles in guiding the delivery of mental health services at a primary care level. Services should be (a) effective in improving health and well-being, (b) efficient in distributing limited resources to maximize health gains, (c) accessible to people in the community and (d) equitable, in reaching people with greatest need (Bower and Gilbody, 2005). In attempting to reduce the complexity faced in understanding the multiple ways in which the quality of mental health services in primary care can be improved, the same authors have described four qualitatively different models (see Box 1 below)

Box 1: Models of Care for CMDs in Primary Care Settings

| Replacement | Mental health care role in primary care replaced by on-site specialist who provides direct interventions for patients following referral. |
| Training    | Primary care clinicians trained in the recognition and management of mental health disorders. |
| Consultation-Liaison | Regular specialist contact with primary care clinician for support and feedback, with direct patient consultation as required, following discussion. |
| Collaborative Care | Involves case managers co-ordinating care, providing direct patient interventions and follow-up, while also liaising with primary care and mental health specialists. |

Adapted by the author from Gask, Gilbody & Kendrick, 2009

1.3.1 Training and Replacement of Primary Care Professionals

In considering the evidence base and feasibility of the four models in turn, the practice of replacing primary care clinicians in management of mental disorders may be effective, especially in delivering high quality psychological therapies in primary care.
However, the prevalence of CMDs is such that it can not be regarded as cost-effective, even in high-income countries (Singleton et al., 2001).

Similarly, training primary care professionals in the mental health aspects of their role may be helpful in changing clinician behaviour, but as a sole intervention, has been found to be ineffective in improving the recognition and management of CMDs (Gask et al., 1998, Gilbody et al., 2003). A range of barriers to the success of educational interventions in primary care settings has been identified, involving the attitudes of clinicians towards the training as well as the appropriateness of the training and the organizational context in which it is implemented (Gask et al., 2005).

1.3.2 Primary Care Consultation Liaison Model
Of the four models of care, consultation liaison psychiatry in primary care settings has a long tradition and is theoretically appealing (Gask et al., 1997). General adult consultant psychiatrists began to visit general practitioners to discuss patients in shared care in several western countries from the mid-twentieth century onwards and this approach was promoted by the World Health Organization (WHO, 1973). Although valued by GPs, the practice waned with the development of psychiatric subspecialties and the associated fragmentation of mental health services, although Scottish psychiatrists were reported as spending significant time in primary care up to the late 1980s (Pullen and Yellowlees, 1988).

In Canada the ongoing influence of the consultation-liaison model was reflected in the shared care approach (Kates et al., 2010, Kisely and Campbell, 2007). The author, who worked in Canada the 1980s and 90s, began regular primary care consultation liaison psychiatry visits to primary care settings in Ottawa and continued this practice on returning to work in the Irish mental health service (Russell et al., 2003). His local experience of implementing the model in Canada and Ireland, in both rural and urban settings, was that it was clinically beneficial in itself and that it also facilitated other service innovations, such as home treatment for acute psychiatric disorders and early intervention in psychosis, that required the co-operation and good will of GPs.
(McCauley et al., 2005, Nkire et al., 2015). It was also professionally rewarding, well received by allied health professionals in primary care teams and of educational benefit to trainees in psychiatry and general practice (Wright and Russell, 2007). Nonetheless, attempts to promote primary care consultation liaison psychiatry at a wider organisational level seemed to encounter resistance from within Irish psychiatry and an apparent lack of enthusiasm on the part of national bodies representing general practice (Russell and Kelly, 2010).

A Cochrane review by Bower and Sibbald (2004), concluded that there was no evidence that consultation-liaison, as a sole intervention, led to changes in patient outcomes (Bower and Sibbald, 2004). However, a more recent Cochrane review of 12 trials of the effectiveness of consultation-liaison in comparison with standard care and other types of mental health care, up to 2014, found improvements in patient mental health outcomes, satisfaction with care and adherence to treatment, albeit of a lesser degree than those resulting from collaborative care interventions (Gillies et al., 2015).

It is also acknowledged that there is significant overlap between the consultation-liaison and collaborative care models as the role of a mental specialist in providing support and supervision to primary care health workers is an essential component of collaborative care (Katon, 2010, Bao et al., 2015).

1.3.3 Collaborative Care and Stepped Care for Common Mental Disorders

Two related approaches have emerged as pre-eminent in offering improved patient outcomes in primary care settings, namely, collaborative care and stepped care. Collaborative care traces its origin to the concept of chronic disease management which places an emphasis on the manner in which care is organized, in order to ensure optimal patient outcomes (Wagner et al., 1996). The core elements in collaborative care include patient self-management, the use of clinical information systems, delivery system redesign, provider decision support through the integration of specialist mental health professionals, community resource linkage and health care organization support (Katon, 2010).
Collaborative care shares with the consultation liaison model the goal of enhancing relationships between frontline primary care and specialists in mental health but has the added feature of a case manager who works directly with patients while also liaising with both primary care and specialist mental health professionals in order to improve the quality of care.

Stepped care aims to deploy available resources efficiently by tailoring the level of intensity of intervention to the severity of the patient’s condition (RCPsych, 2011). In this approach, which is ideally self-correcting, patients with milder conditions receive "minimal interventions", which can be "stepped up" to interventions of higher intensity, if they fail to respond after an adequate trial.

Much of the early work in collaborative and stepped care was carried out in Seattle, U.S. by Katon and by Kates in Canada but has been extended to several other jurisdictions subsequently, including the UK (Katon, 2010, Katon et al., 2010, Richards et al., 2009).

A Cochrane review revealed that collaborative care, often incorporating elements of stepped care, has been evaluated in 79 randomized clinical trials in depression and has been demonstrated to be consistently more effective than usual care (Archer, 2012). Although fewer in number, several RCTs have now shown similarly positive results when collaborative care has been implemented in the management of other CMDs including anxiety disorders and post-traumatic stress disorder (Wolff et al., 2012).

A more recent focus of research attention has been the identification of the elements within collaborative care that have the greatest impact in improving patient outcomes. A systematic review and meta-regression of 74 RCTs of collaborative care for the treatment of depression found that those that included psychological treatment, with or without anti-depressant medication, appeared to improve clinical outcomes more than those without psychological treatment (Coventry et al., 2014).

A recent cluster randomised controlled trial of the clinical effectiveness and cost-effectiveness of collaborative care for depression in primary care in the UK (CADET) involved 51 primary care practices and 581 adult patients. It found that collaborative care
offered health gains at relatively low cost, in comparison with usual care and was preferred by patients over usual care. The primary clinical outcome was improvement in depression scores in the Patient Health Questionnaire -9 (PHQ-9), which were demonstrated at 12 months following the intervention (effect size= 0.26; p=0.009) but which disappeared by 36 months. Patient benefits appeared to be mediated by behavioural activation (Richards et al., 2016).

1.3.4 Collaborative Care for Common Mental Disorders in Low and Middle-Income Countries

Several collaborative care programmes aiming to improve the detection and treatment of CMDs in LMIC countries have emerged over the past several decades. Early demonstration projects included the “Strategies for Extending Mental Healthcare” programme, developed by the WHO in seven LMIC countries in the early 1980s, including Brazil, Columbia, Egypt, India, the Philippines, Senegal and Sudan (Sartorius and Harding, 1983). A review of subsequent initiatives, piloted in Botswana, Guinea, Bissau, India, Iran, Nicaragua, Nepal and Tanzania by Cohen in 2001, concluded that not enough data was available on their long-term impact to make meaningful interpretations (Cohen, 2001). A randomised controlled trial of stepped care for depression in low-income women in primary care settings in Chile, involved a multi-component intervention, led by a non-medical health worker but included psychoeducation groups, systematic follow-up and drug treatment: outcomes were substantially improved in comparison to usual care (Araya et al., 2003).

Stronger evidence for the cost-effectiveness of collaborative care has emerged from applications in LMICs in more recent years where similar benefits have been demonstrated to those that were found in studies in high income countries (Patel, 2009). In the MANAS cluster randomised trial in Goa, India, a large project involving almost 3,000 CMD patients in 24 primary care settings, trained lay counsellors worked in a collaborative care model with a psychiatrist. The study was carried out in successive phases involving 12 government-run primary care facilities and then in 12 private GP practices and compared collaborative stepped care with enhanced usual care. Adult
primary care patients were screened for CMD using the General Health Questionnaire (GHQ). The primary outcome was recovery from ICD-10 defined CMD six months after treatment, with secondary outcomes including depressive and anxiety symptom severity. The study found that patients with CMD in the intervention arm were more likely to have recovered at six months than those in usual care (65% vs 53%; risk ratio = 1.22, 95% CI 1.00-1.47). Secondary analysis revealed that the intervention had a stronger and more consistent effect in public primary care settings than in private GP practices (Patel et al., 2010b).

Similar benefits for Collaborative Care in CMDs have been demonstrated in the WHO's Integrated Management of Adult and Adolescent Illness (IMAI) strategy, which includes mental health care in the overall care model for HIV/AIDS (WHO, 2013a). The Emerald programme involved six LMICs in capacity building in relation to primary mental health care (Semrau et al., 2015).

More recently, the Programme for Improving Mental Health Care (PRIME) has attempted to integrate mental health care into existing primary care settings in Ethiopia, India, Nepal, South Africa and Uganda. This programme utilises a task-sharing approach with local stakeholders, employing general primary care workers to deliver mental health care in a manner that is sensitive to local needs while yet delivering evidence-based psychosocial and psychopharmacological interventions (Lund et al., 2016).

It is increasingly recognised that, in resource constrained LMICs, a key element in improving access to mental health interventions through primary care is task-shifting of mental health interventions towards non-specialist health professionals and also non-medical health workers, the family and the voluntary sector (Patel, 2009). However, it is also recognised that non-specialist health professionals need continuous training, support and supervision from specialist mental health professionals (Gask et al., 2009b).
1.3.5 Integrated Management of Common Mental Disorders and Other Non-Communicable Diseases

Common mental disorders and other NCDs, because of their shared determinants, course and outcomes are amenable to common strategies for their prevention and management. The WHO, in 2013, produced an important report, calling for an integrated response to mental disorders and other chronic diseases in health care systems. This report reflects the increasing influence of the Chronic Care Model in primary care as a necessary paradigm shift from the traditional acute care model in managing chronic medical conditions (WHO, 2014a). Synergies and potential solutions in the management of CMDs through integration into service platforms for other NCDs are beginning to be realised in several recent initiatives. As an example, the TEAMCARE project evaluated Collaborative Care for people with co-morbid depression, diabetes and/or heart disease and resulted in improved outcomes, not alone for depressive symptoms, but for control of diabetes, hypertension and hyperlipidemia (Katon et al., 2010).

1.3.6 Barriers and Facilitators to Implementing Collaborative Care for Common Mental Disorders

Despite the accumulating global research evidence that CMDs can be effectively managed, experience to date, suggests that successful implementation of integrated models of care for CMDs and other NCDs is difficult, particularly with regard to sustainability (Patel et al., 2010b). Even in high-income countries, uptake of evidence-based models for improving the management of depression in primary care settings has been slow (Chang et al., 2012, Russell and Kelly, 2010).

In LMICs, implementation of evidence-based models of collaborative care for CMDs faces a considerable additional challenge in terms of the “pervasive reality” of limited resources and competing healthcare priorities (Lund, 2018). This reality is graphically illustrated by WHO statistics revealing that the ratio of mental health workers in the South East Asia region is 4.8 per 100,000 population compared with 43.5 in the European region (WHO, 2014a). It is also clear that, while evidence-based interventions
have essential elements in common, it cannot be assumed that models developed in high-income countries can be transposed to resource-constrained LMICs (Ito et al., 2012).

An analysis across five LMICs found a low level of baseline health system preparedness for implementing integrated service strategies to improve the management of CMDs and other NCDs (Hanlon et al., 2014). It underlined the necessity for transformation at all levels of health care organization and delivery with community participation, as essential to sustainable, quality mental health care integrated into primary care.

Apart from overall resource deficiencies in primary care, the multiple barriers to implementing collaborative care in LMICs, include the unavailability of information on existing treatment coverage for mental disorders, inadequate numbers of mental health specialists to support the initiatives and poor co-ordination across health systems and between health systems and traditional family and community supports (Saxena et al., 2007).

In a recent framework analysis of 18 studies of collaborative care interventions for depression across a range of settings, the barriers most commonly reported were those relating to multi-professional integration and communication. In the same study, facilitators included support for staff from managers through mental health training and supervision as well as standardized clinical pathways in helping to break down professional silos. In this review, sustained political and financial commitment was seen as key to sustaining interventions beyond the study period (Wood et al., 2017).

Equally, it is recognised that quality of care will always rest ultimately upon the motivation, skills and attitudes of the individual personnel involved in service delivery (Coventry et al., 2011). Staff may lack confidence in working outside their area of specialism. Successful implementation, therefore, requires an accurate and realistic appraisal of the current resource status and potential for enhancing primary mental health care.
1.4 Undergraduate Medical Education in Psychiatry

Because of the high global prevalence of medical-psychiatric co-morbidity, the medical contribution to the diagnosis and management of CMDs is mainly reliant on non-specialist physicians, even in high-income countries (Saxena et al., 2007). In low and middle-income countries (LMICs), where almost three-quarters of the burden of mental disorder lies, the paucity of specialist mental health professionals is compounded by an overburdened front-line healthcare workforce and a range of other economic and socio-cultural barriers to effective mental health care (Kohn et al., 2004). There is a global epidemiological imperative, therefore, to better equip future doctors with the skills and attitudes they need to respond effectively to CMDs, as they present in general health and primary care settings.

Recent developments in adult educational theory emphasize that learning is to a large extent a social activity, powerfully influenced by context and by the tools available in a specific setting (Mann, 2011, Woolard, 2006, Taylor and Hamdy, 2013). As applied to undergraduate medical training, this points towards the importance of providing a more holistic view of patient experience, exposure to systems-based practice and situated learning opportunities in settings typical of those in which the future physician will ultimately practice (Bogetz and Bogetz, 2015). It is also recognized that professional identity is intrinsically shaped by the context in which future doctors learn (van Mook et al., 2009).

Meanwhile, however, the dominant locus of undergraduate learning in psychiatry remains within specialist settings and there has been little published literature addressing the question of how to ensure that curriculum content and learning situations are tailored to the needs of the majority of graduates who will not choose psychiatry as a career (Gask et al., 2009c).

From a skills perspective, the challenge is that learning opportunities should be available for medical students in front-line community settings. It has also been suggested that academic psychiatry must accept the responsibility for modifications to traditional undergraduate curricula to reflect a greater emphasis on the teaching of brief assessment and management skills, relevant to physicians working within time-constrained healthcare settings (Lake, 2008). From an attitudinal perspective, effective
management of CMDs and other NCDs implies the nurturing of a professional identity in which values of social accountability and interdependence between healthcare providers from different professional disciplines are internalised (Woolard, 2006).

1.4.1 Primary Care and Undergraduate Education in Psychiatry

The potential of community health settings as an optimal learning environment in which essential skills, attitudes and values can be developed among future doctors has long been recognised (de Villiers et al., 2017). Initiatives designed to integrate psychiatry into medicine during the undergraduate psychiatry clinical clerkship have been described in the literature, as have post-graduate mental health learning experiences in primary care settings during psychiatric residency training (Schiess et al., 2017, Leigh et al., 2008, Cerimele et al., 2013, Wright and Russell, 2007). However, published studies evaluating medical student learning in psychiatry and mental health care, within primary care settings, are relatively infrequent.

Kates described the successful implementation of medical student clinical placements in a community mental health consultation-liaison service to family physicians at a Canadian medical school in the 1980s (Links et al., 1982). In the UK, Walters et al found that medical undergraduates valued the opportunity of learning psychiatry in primary care settings in terms of developing a heightened awareness of the importance of collaboration with primary care and the identification of hidden psychiatric morbidity (Walters et al., 2007). Student-run free clinics with close faculty supervision, have also been found to be feasible and to lead to improved clinical and learning outcomes (Soltani et al., 2015, Murzi et al., 2017).

Educational benefits arising from the integration of undergraduate psychiatry learning into other specialties have also been described in Asian settings (Schiess et al., 2017). However, no published studies, to date, have reported placements within primary care settings as a regular component of the undergraduate psychiatry curriculum.
1.5 Malaysia
Malaysia is a federal constitutional monarchy located just north of the equator, with Singapore to the south and Thailand to the north. It is comprised of 13 states, 11 in peninsular Malaysia and 2 on the island of Borneo. The population of just over 30 million is multi-racial, made up mainly of people with ethnic Malay (70%), Chinese (24%) and Indian (7%) origins. The seat of government is Putrajaya, located near the federal capital Kuala Lumpur.

The World Bank classifies Malaysia in the upper range of low and middle income. It is rich in natural resources and economic growth had been rapid up to the economic crash of 2008 (Worldbank, 2015). Since then, however, growth has slowed considerably: there is an accumulating national debt and recent political change, with the party in power since the origin of the state in 1957, losing a general election to the opposition.

1.5.1 Penang
Penang (population 1.5 million approx.) one of the 13 Malaysian states, is a scenic island, just off the west coast of the peninsula to which it has a land-bridge connection. Originally colonised by the British in 1786 it was one of the so-called Straits Settlements, along with Malacca. As such, it is rich in history, is culturally and linguistically diverse and it remains a popular tourist destination.

While all three major ethnicities are represented, the ethnic composition of the state of Penang differs from the rest of Malaysia insofar as people of Chinese ethnicity outnumber ethnic Malays. Also, because of its long colonial past, English is more widely spoken. It is also economically successful, in comparison with most other Malaysian states due, to a favourable tax status, which has enticed major inward investment in the form of multinational electronics and engineering plants. In comparison with the Malaysian average Penang has relatively higher numbers of educated, working adults and a lower dependency ratio (IMHE, 2010).
In terms of the configuration of health services, Penang is also notably different to the rest of Malaysia in that it has relatively higher representation of private hospitals and clinics, offering specialist procedures and Penang accounts for 70% of the national total for medical tourism (IMHE, 2010). However, the number of government operated primary care clinics to population is also favourable in comparison with the Malaysian average.

1.5.2 Health and Health Care Challenges in Malaysia

Malaysia faces new challenges arising from demographic and epidemiological transitions, which have occurred more rapidly than in other South East Asian states. The Malaysian population is aging and becoming increasingly urbanised. Non-communicable diseases are now the leading causes of mortality and morbidity, accounting for 71% of the mortality and 69% of the total burden of disease (WHO, 2011). The increased prevalence of so-called lifestyle diseases in recent years in Malaysia has been particularly alarming. Diabetes prevalence increased from 8.3% of the population in 1986 to 14.6% in 2006 while the Global Burden of Disease Survey (2013) revealed the rate of obesity in Malaysia as the highest in Asia (WHO, 2013b). Physical inactivity has also been reported as higher among Malaysian adults than in several other South-East Asian countries (Dans, 2011).

1.5.3 Malaysia’s Health Service

Malaysia has a dual health system, where universal access to government operated primary and secondary care exists in parallel with a large and expanding private health sector. Expenditure on health, as a percentage of GDP, at approximately 4.2 %, is lower than the 6.1% average for upper middle-income countries (APOHSP, 2013).

Historically, Malaysia’s health system has been recognised for its success in delivering basic primary and secondary health care on a “walk-in” basis and at minimal cost at the point of contact. People who are financially better off, however, can choose to by-pass the public system and access both general practitioner and specialist care directly (MOH, 2011a). (Sebastian et al., 2016)

Recognising the potential economic benefits, Malaysian government policy in recent years has actively promoted medical tourism. As a consequence, the number of private
hospitals, mainly offering curative and cosmetic procedures, has burgeoned.

Recent criticism of Malaysia’s dual health system relates to the fact that whereas it may have served the country reasonably well in the past, it is increasingly unsustainable financially and is no longer fit for purpose, particularly with regard to the prevention and management of NCDs (Sebastian et al., 2016).

1.5.4 Human Resources in the Malaysian Health Service
Malaysia is experiencing an ongoing shortage of doctors. In 2013, there was a total 46,916 physicians in Malaysia, a physician to population ratio of 1:633. There is a particular shortage of vocationally trained general practitioners, with only 218 trained family specialists to serve a population of over 30 million (Sebastian et al., 2016).

Registered Nurse staffing, at approximately 2.1 for every one doctor, is lower than that of most countries in the WHO Western Pacific Region. However, a total of 2,300 Assistant Medical Officers are employed in the public primary care clinics, who carry out some nursing duties, in a role similar to nurse practitioners.

There is an acknowledged “brain drain” of health professionals, especially from government-operated services which are generally perceived by the public as of lower quality than private facilities, albeit without actual supporting evidence (Noh, 2011a).

1.5.5 Medical Education and Training in Malaysia
Medical education has expanded enormously since the first medical school was established in 1963 and there are now 32 medical schools (11 public and 21 private), up from 21 in 2007. In 2014, there were over 33,000 medical students attending either Malaysian or foreign medical schools and 30,000 doctors were predicted to enter the health service in the 5 years from 2017.

Despite this favourable development, in terms of the doctor to population ratio, concerns have been expressed regarding the quality of undergraduate medical education (Lim, 2008b). The dramatic increase in medical student numbers has placed enormous strain on the physical infrastructure and faculty resources required to maintain standards and the government introduced a moratorium on medical school numbers from 2011 to
2016. Other concerns include the maldistribution of graduates with large numbers competing for training in the popular specialties and excessive numbers of doctors working in some urban areas while rural areas remain undersupplied (Wong and Kadir, 2017).

In regard mental health training, the WHO 2014 Mental Health Atlas reports that the majority of primary care doctors have received official in-service training on mental health within the past five years but the majority of nurses have not (WHO, 2014b). Doctors in primary care are authorised to prescribe a restricted number of psychotropic medications but nurses are not permitted, according to official policy, to independently diagnose and treat mental disorders in primary care (MOH, 2011b).

A further issue was pointed out in a recent appraisal of systemic barriers to hypertension management in Malaysia, in which it was stated that “undergraduate medical training does not focus on primary care, so that newly qualified doctors are often unfamiliar with the conditions seen at this level” (Risso-Gill et al., 2015).

1.5.6 Penang Medical College
Penang Medical College (PMC) is Malaysia’s first accredited private medical school, established by the Royal College of Surgeons in Ireland (RCSI) and University College Dublin (UCD) in 1995, with representatives from the state and private sector in Penang. Students spend their pre-clinical years in Dublin at either RCSI or UCD and return to the Penang campus, located in the state capital, Georgetown for their clinical years. One of the perceived advantages for PMC students, almost all of whom are Malaysian, is that they undergo their clinical training in the environment in which they will later practice (RCSI, 2018).

PMC graduates are awarded medical degrees of the National University of Ireland, receiving the same qualifications as those who complete the full programme in Ireland and the College is accredited by both the Irish and Malaysian Medical Councils. Each year, approximately 130 students graduate and almost 2,000 have graduated since 2001.
1.6 Primary Care Services in Malaysia
The bulk of primary care in Malaysia, especially in urban areas, is provided in private clinics, by solo practitioners who practise on a fee-per-service basis. These physicians are generally referred to as “GPs” but are not required to have undergone post-graduate general practice training.

In total there are over 6,000 private primary care clinics in the country, in comparison with approximately 1,000 government health clinics in which a doctor is present and 1,821 nurse-operated community clinics, mainly offering maternal and child health services.

The particular shortage of clinical staff in public primary care settings has been acknowledged by the Malaysian government and has led to a programme of reform (Noh, 2011a). So also is the fact that “overwhelming numbers” of patients attend the government health clinics, which deal with a disproportionate percentage of the country’s chronic disease burden, relative to the private sector (APOHSP, 2013).

1.6.1 Government Operated Primary Care Clinics in Malaysia
The government health clinics are referred to as Klinik Kesihatan (KK) (kesihatan meaning “health” in the Malay language) while the nurse-operated clinics are named Klinik Desa (KD) or community clinics. Approximately 1,000 medical practitioners and over 5,000 nurses are employed in these clinics. However, only about 7% of the country’s publicly employed doctors are based in primary care (MOH, 2012). The structure of government-operated primary care is summarised in Table 1 below.
Table 1. Structure, staffing and services of Malaysian government-operated primary care services

<table>
<thead>
<tr>
<th>Structure</th>
<th>Level of Service</th>
<th>Staff</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-tier System, since 1970</td>
<td>Health Clinics-1:20,000 pop.</td>
<td>Doctor, dentist, pharmacist, assistant medical officer, public health nurses, pharmacy officer</td>
<td>Out-patient services, Maternal and Child Health, Health promotion, Family planning</td>
</tr>
<tr>
<td>Community Clinics 1:4,000 pop.</td>
<td>Community nurse, Midwife</td>
<td>Maternal and Child Health, Home care, family planning</td>
<td></td>
</tr>
</tbody>
</table>

In terms of their functioning, the primary care clinics (KKS) in Malaysia are classified into 6 types, based on their capacity, in terms of daily patient attendance, as in Table 2 below.
Table 2. Classification of Malaysian government operated primary care clinics, based on daily patient attendance

<table>
<thead>
<tr>
<th>Classification of Primary Healthcare Clinics</th>
<th>Patient Attendance Per Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>&gt;800</td>
</tr>
<tr>
<td>Type 2</td>
<td>500 – 800</td>
</tr>
<tr>
<td>Type 3</td>
<td>300 – 500</td>
</tr>
<tr>
<td>Type 4</td>
<td>150 – 300</td>
</tr>
<tr>
<td>Type 5</td>
<td>&lt; 150</td>
</tr>
<tr>
<td>Type 6</td>
<td>&lt; 50</td>
</tr>
</tbody>
</table>

There are three categories of opening hours: those that open during office hours only, those with after-hours services, on-call and those open for extended hours, the latter group established with the aim of decongesting the hospital emergency departments.

1.6.2 Pathways to Health Care in Malaysia

While there is limited empirical data available, informal health care delivered by traditional healers is recognised as a prominent feature of the healthcare landscape in Malaysia and this involves and draws on the beliefs of all three of the major ethnic groups that make up the Malaysian population (Chong et al., 2013).

This phenomenon is felt to impact considerably on both the help-seeking pathway as well on acceptance and adherence to western treatment recommendations.

Many patients may consult a traditional healer before considering attending a medical doctor and may be attracted to herbal remedies for conditions such as hypertension on the basis that they are “natural”, and also to discontinuing physician-prescribed medications in favour of herbal products if they experience side effects (Risso-Gill et al., 2015).

There is also felt to be frequent movement between traditional healers and general medical practitioners practising western medicine with patients discontinuing prescribed medications when offered herbal remedies but not revealing this when they present to
their doctor (Riso-Gill et al., 2015).

A particular impact of traditional health beliefs has been described in relation to the fact that traditional health belief systems among Malaysians of Malay, Chinese and Indian ethnicities tend to perceive illness in terms of temporary imbalances arising from various combined factors, many of them social (Swami et al., 2008). Consequently, they may have difficulty with the concept of chronic illness and the need for long-term maintenance treatment, especially if they are not currently symptomatic.

The tendency towards help-seeking from non-medical healers may be more pronounced in relation to mental disorders, because of the added complication of stigma. In one study, 70% of psychiatric out-patient attenders had sought help from a traditional healer prior to attending the clinic which results in a pattern of late presentation to mental health services (Razali and Najib, 2000).

1.6.3 Policy and Services for Non-Communicable Diseases in Malaysia

The Malaysian government’s health policy document, the 10th Country Health Plan (2011-2015), states the need for an integrated approach to NCDs across primary and secondary care (MOH, 2011a). Within the government health system, according to information provided to the WHO, there are guidelines, protocols and standards for the management of diabetes, hypertension, obesity and abnormal blood lipids (MOH, 2011b). There has also been a strong focus on health promotion with nutrition counselling as well as physical activity and smoking cessation programmes (MOH, 2012).

A National Plan for Non-Communicable Diseases 2010-2014 was established as a multi-sectoral approach involving nation-wide screening as well as community engagement through local projects delivered by community health volunteers (MOH, 2011b). In addition, since 1995 there have been Health Clinic Advisory Panels which seek to mobilise local community leaders in health promotion activities, as a bridge between the health clinics and the community (Mustapha et al., 2014). Diabetes has received the greatest attention, with the establishment of the National Diabetes Registry which, since 2009, registers all patients receiving diabetes care at 644 participating primary care health clinics.
However, the acknowledged lack of co-ordination between the public and private sectors makes a “whole system” approach to managing NCDs difficult. The government has little control over the clinical activities in the private sector, in terms of insisting on adherence to guidelines and protocols and minimal access to health information from private primary care clinics (APOHSP, 2013). In addition, the original resources allocated to primary care were designed for acute care, with severe limitations in the availability of family medicine specialists and most patients seeing a different doctor at each health clinic visit so that continuity of care is difficult to achieve (Risso-Gill et al., 2015). Finally, deeply ingrained health beliefs present in the community, as described earlier, present an ongoing barrier to presentation and consistent follow-up in primary care. In this context, the Ministry of Health has come under criticism for an excessive reliance on “top-down” vertical approaches to managing NCDs with inadequate engagement with the target communities.

1.7 Mental Health and Mental Health Services in Malaysia
The Third National Health and Morbidity Survey reported an overall prevalence of mental disorders of 11.2% among Malaysian adults (IPH, 2006). A subsequent survey found depression and anxiety disorders to be the most frequent CMD diagnoses and in 23% of cases, a co-morbid medical diagnosis was found (Krishnaswamy et al., 2009). Particular concerns regarding poor mental health status of Malaysian women emerged from the Burden of Disease Survey, 2004 where major depression was ranked third leading cause of disease burden for women (IPH, 2004).

Prevalence rates for CMDs in primary care settings in Malaysia are similar to those of western countries with at least 24% overall prevalence (Zam Zam et al., 2009). Common mental disorders were found to commonly present with physical rather than psychological symptoms, particularly symptoms of pain and insomnia (Fuziah et al., 2004). A prevalence rate of depression of 12.1% was found among women attending an urban primary care clinic in Malaysia, significantly associated with financial pressure and domestic disharmony (Sidik et al., 2012). Anxiety disorder was found among 7.8% of women attending a government-funded primary care clinic and was significantly associated with domestic violence (Sidik et al., 2011).
However, a study of health care service utilization in Malaysia found that only 7% of people who met diagnostic criteria for a CMD, using a standardised clinical interview, had been previously diagnosed by a health professional (Krishnaswamy et al., 2012). In this study also, 67% of people with CMDs had other chronic health problems and people with CMDs and other comorbid medical conditions were 3.5 times more likely to have seen a health professional for a physical symptom within the previous three months.

1.7.1 Mental Health Policy in Malaysia
As a legacy of its colonial past, Malaysia has four large psychiatric hospitals, built during the early 20th century and originally intended to provide for the mental health needs of the entire population. As in other countries in which the asylum model prevailed, these institutions accumulated large numbers of long-stay residents. The process of deinstitutionalisation in Malaysia began in the 1970s and has been gradual, but the numbers of in-patients in the four hospitals have declined steadily (Singh and Cheah, 2012).

The mental health policy document published in 1998 called for a gradual reduction of the numbers of patients, rather than the closure of the four psychiatric hospitals (MOH, 1998). At the same time it was planned to expand community mental health services as an outreach from the psychiatric hospitals as well as expanded in-patient and out-patient services in general hospitals, an estimated 40% of which now provide mental health services (Kadir, 2011).

The first general hospital in-patient psychiatric unit in Malaysia was established in Penang General Hospital, although, because of competing demands for general services the psychiatric beds were subsequently moved to a stand-alone setting at some distance from the hospital. The Mental Health Act (2011) included legislation for the provision of residential programmes and for community treatment.

However, full implementation of planned community mental health services has been delayed (Ito et al., 2012). Malaysia has similar challenges to those of its neighbours in the Asia-Pacific region, in terms of under allocation of resources for mental health services as a percentage of the total health budget, reported as 3% of the total health budget (Singh and Cheah, 2012). Other challenges in common with other countries in the region include stigma surrounding mental illness and a lack of development of inter-
sectoral service co-ordination (Ng et al., 2009). Clinical practice guidelines have been developed as a collaboration between the Malaysian Ministry of Health and the Malaysian Psychiatric Association, for depression (2007), schizophrenia (2009), ADHD in children and adolescents (2008) and dementia (2009).

In addition, the Ministry of Health has set key performance indicators in mental health in relation to the waiting time to attend a specialist clinic as well as rates of readmission following psychiatric hospitalisation and default from subsequent out-patient follow-up (MOH, 2011c). However, outcome data available in relation to these performance indicators is limited and existing published literature suggests that there is a prolonged duration of untreated psychosis and low rates of continuous service retention following presentations with first episode schizophrenia (Chee et al., 2010).

1.7.2 Primary Care Mental Health Policy in Malaysia
The most recent Malaysian government mental health policy- Psychiatric and Mental Health Services Operational Policy, 2011, includes the objective of “integrated psychiatric services in mainstream general health care” (MOH, 2011c).

In reference to the scope of mental health services provided in primary care, it specifies that mental health services in government primary care clinics should provide services for:

- The promotion of mental health
- Early detection and prompt treatment of mental disorders
- Follow-up of “stable psychiatric cases” discharged from secondary and tertiary care facilities
- Psychosocial rehabilitation.

1.7.3 Primary Care Mental Health Services
In terms of mental health service provision in primary care, the most recent MOH Annual Report 2012, states that of 802 government health clinics, 680 provided mental health services (MOH, 2012). It also reported that 741,332 primary care patients were screened
for stress, anxiety and depression of whom only 6,576 (0.9%) were felt to be at risk of having a mental disorder. However, the WHO Mental Health Atlas country profile (2014), reported that no information on the type of interventions provided by primary care for people with mental disorders was collected (WHO, 2014b).

It has been claimed, in several published reviews of Malaysian mental health services, that consultant psychiatrists provide on-site direct patient assessment and support of primary care clinicians “as and when required” (Deva, 2004, Kadir, 2011, Singh and Cheah, 2012). However, no specific data in support of these claims have been published.

Therefore, the extent and nature of mental health service provision in primary care, apart from statistics on screening and follow-up of “stable cases” referred from secondary and tertiary care facilities, remain unclear. Service data in relation to the stated policy objective of providing “prompt treatment” of mental disorders in primary care settings is notably lacking in government publications. There is no specific reference in the 2011 mental health policy to the service response to CMDs or to the integration of care for CMDs with other NCDs and no official information is available on the service response to people with CMDs presenting in primary care.

1.8 Study Rationale
In approaching the implementation of collaborative care models for CMDs in primary care in LMICs, two important considerations arise. The first is that there is no “typical” LMIC, but rather that each country in which an intervention is delivered has uniquely varying features (Isaac and Gureje, 2009). Secondly, collaborative interventions delivered in randomised controlled trials for CMDs in primary care, are in themselves, complex interventions, comprising multiple interacting components (Moore et al., 2015a).

Consequently, a decision to implement a collaborative care programme in a particular setting, based on outcome data from previous RCTs alone, risks that the results may not be replicated because of the interaction between the intervention and a range of unique contextual factors that strongly influence clinical outcomes.

Recognition of these challenges in implementing complex interventions in diverse settings has given rise to an increasing focus on process evaluation, reflected in revised
guidance for evaluating complex interventions from the Medical Research Council in the UK (Moore et al., 2015b). Implementation science has also emerged, as a means by which the “how” of implementation can be better understood and theoretical frameworks have been developed, notably the Normalisation Process Model, that help to elucidate the work involved in embedding complex interventions in routine practice (May and Finch, 2009, Chambers et al., 2016).

The interest in process evaluation is reflected also in the increasing use of mixed qualitative and quantitative methods in mental health service research, in order to capture important information on details of the intervention and the context in which it is delivered, so that adaptations and modifications can be made that enhance the feasibility of future implementation (Palinkas, 2014).

As is the case in other countries, improving the management of CMDs in primary care in Malaysia has the potential to make a major contribution to improved physical and mental health outcomes for the population. However, to date, there is no published literature on the challenges and opportunities that might be encountered in the future implementation of evidence-based interventions for CMDs, in the unique context of Malaysian primary care.

The present study seeks to address this research gap, at least in part, by carrying out a process evaluation of a pilot consultation-liaison psychiatry service for CMDs, as a clinical and undergraduate teaching initiative, on-site at two government-operated primary care clinics in Penang, Malaysia. The choice of a consultation-liaison psychiatry service, rather than a collaborative care approach was based on the pragmatic considerations of limited resource availability, limited time-frame in which to conduct the research, the opportunity to involve medical students and the author’s previous experience with both the clinical and medical educational aspects of delivering consultation-liaison psychiatry services in primary care.

In conclusion, based on the evidence as summarised above, there is now an epidemiological and clinical imperative to provide evidence-based management of
CMDs integrated with care for other NCDs, in primary care settings in Malaysia (APOHSP, 2013). There is also an urgent service requirement to better prepare future Malaysian doctors to incorporate mental health care into general health service provision in primary care settings.

1.9 Study Aims and Objectives

1.9.1 Study Aims

a. To explore the challenges and opportunities for improved services for people with CMDs in government-operated primary care clinics in Penang, Malaysia
b. To explore the feasibility and educational value of on-site learning in primary care settings as part of the clinical clerkship in psychiatry, from the perspective of fourth year medical students.

1.9.2 Study Objectives

1. To outline the current services for people with common mental disorders at two government-operated primary care clinics in Penang, Malaysia.
2. To describe the planning, implementation and service utilisation of a pilot primary care psychiatry consultation service (PIPC) provided on-site at the two health clinics.
3. To explore the perceptions of primary care clinicians at the two health clinics, of their role in relation to services for people with common mental disorders and their experience of the pilot PIPC service.
4. To determine the educational value of the PIPC service from the perspective of fourth year medical students at Penang Medical College (PMC) who participated in the pilot programme as part of their undergraduate clinical posting in psychiatry.
Chapter 2: Methods

2.1 Introduction
This chapter provides an overview of the methods employed in the study. Further
details of the methodologies used for the various objectives are included in subsequent
chapters. The chapter begins with a definition of common mental disorders for the
purpose of the study, followed by a statement of the aims and the objectives.
Thereafter, the setting for the study is outlined as is the make-up of the research team
and a justification is presented for the focus on process evaluation and specifically for
the use of the Medical Research Council Framework on process evaluation and
Normalisation Process Theory. This is followed by a description of the intervention and
explanation of the mixed method approach, in relation to the study's aims and
objectives and here, a summary of the qualitative and quantitative procedures and data
analysis is included. The chapter concludes with sections on the ethical issues
identified, the author's role in the study and a rationale for the inclusion of reflective
commentary.

2.2 Common Mental Disorders: Study Definition
For the purpose of the study, the term Common Mental Disorders (CMD) included the
DSM V classifications of major depressive disorder, generalized anxiety disorder, panic
disorder, agoraphobia, specific phobia, social anxiety disorder, obsessive-compulsive
disorder and post-traumatic stress disorder.

2.3 Setting
The study was based at Penang Medical College (PMC), a private medical school,
owned and operated by two Irish universities in Penang, Malaysia and at two
government-operated primary care Health Clinics (HC) in Penang. The choice of the
two primary care clinics involved in the study was determined by the Penang State,
Health Department based on its consideration of the primary care human and physical resources required to support the study.

Both HCs were located in urban communities in Penang. One of the two clinics (referred to as “HC A”) was located in a residential suburb serving a larger community with a younger population with high employment levels in nearby industrial estates. It had a larger volume of clinical activity than HC B and higher medical & nursing staffing levels including a full-time Family Medicine Specialist (FMS) on-site.

The other clinic (HC B) was located in an older and relatively more socially and economically deprived downtown area. It incorporated a methadone and an antenatal clinic as part of its service and had limited medical staffing with one FMS who visited once every two weeks.

The location of HC A and HC B on Penang Island is such that both serve more urban population relative to most areas of peninsular Malaysia. The catchments of both HCs are more economically advanced with employment rates higher than the Malaysian average. In other respects, however, the characteristics of HC A and HC B are typical of government-operated HCs in Malaysia. Both deal with a high patient volume in terms of daily attendances and have very low levels of staffing by vocationally trained family medicine specialists, with only a visiting FMS every two weeks, in the case of HC B.

The fact that nurses are present in far greater numbers, particularly those providing community outreach services is also consistent with national statistics as is the fact that the Medical Assistant grade is represented in relatively large numbers.

2.4 Research Team
The research was led by the author, who was personally involved in all aspects of the proposal, application for ethics approval and grant-funding, design, implementation and evaluation of the PIPC project. Other members of the research team included a research officer, a Malaysian junior medical doctor in a training position in public health, who was assigned to assist with administration of the project by the director of the Clinical Research Centre (CRC) at Seberang Jaya Hospital, Penang. The CRC is an
agency of the Ministry of Health Malaysia whose role is to support clinical and health service related research. In addition to her administrative role in the research, the research officer conducted individual qualitative interviews with primary care clinicians at the two health clinics participating in the study and also facilitated the four focus group discussions with the medical students at PMC, under direct supervision of the author and other members of the research team. Further details of the research officer’s role and responsibilities and the author’s oversight and supervision of her activities are provided in subsequent sections below and in following chapters.

Other members of the research team included the author’s two psychiatrist colleagues within the department of psychiatry at PMC, both of whom are Malaysian, who collaborated in delivering the PIPC clinical service and who also contributed to aspects of the design, data collection, analysis and interpretation of the study findings. Support was also provided in terms of statistical advice from a statistician at RCSI, Dublin. An experienced qualitative researcher at the Institute of Leadership, RCSI Dublin provided expert guidance on the qualitative data thematic analysis and feedback on a draft submission of the focus group findings for journal publication.

2.5 Process Evaluation

2.5.1 Normalisation Process Theory

The study design was informed, in part, by awareness of the extensive literature describing the enduring gap between research and implementation in mental healthcare, especially when the interventions are complex (Kohn et al., 2004). In recent years, this has prompted an increasing interest in the area of implementation research, which seeks to understand how complex interventions can be normalised into routine clinical practice.

Normalisation Process Theory (NPT) has been developed by May and colleagues, as a model for the assessment and evaluation of the social processes whereby participants collectively engage with, invest in and sustain the activities involved in complex interventions (May and Finch, 2009). More recently, NPT has been elaborated into a set of
stepwise tasks for researchers planning to implement and evaluate complex interventions, so that they are more likely to be embedded and integrated in everyday practice (Murray et al., 2010, May et al., 2018). The first task, within the NPT paradigm, is a description of the context of the proposed intervention and consideration of the likely implications of changes to existing practice. Subsequent tasks include the definition of the intervention and an analysis of its implementation in terms of its coherence and fit with the context.

Questions that the NPT framework urges researchers to consider include the perceived meaning and sense making of the intervention by participants, their commitment to take collective action to make the intervention function and the likelihood that they will reflectively monitor and adapt the intervention for sustained use into the future. These questions are elaborated in a set of four core constructs, for which summary definitions are provided in table 3 below.

<table>
<thead>
<tr>
<th>NPT Core Constructs</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Coherence</td>
<td>Sense-making work that people do individually and collectively when operationalizing a set of practices</td>
</tr>
<tr>
<td>Cognitive Participation</td>
<td>Relational work that people do to build and sustain a community of practice</td>
</tr>
<tr>
<td>Collective Action</td>
<td>Operational work that people do to enact a set of practices</td>
</tr>
<tr>
<td>Reflexive Monitoring</td>
<td>Appraisal work that people do to assess and understand the ways in which a new set of practices affects them and others around them</td>
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(Adapted from May et al., 2018)
The ultimate goal of the NPT model is to provide high quality information so that a decision can be made as to whether the intervention studied can be redesigned, in order to increase the potential for normalisation, or abandoned altogether in the case of an intervention that appears to have little chance of implementation (May and Finch, 2009).

2.5.2 Medical Research Council (MRC) Framework
The increasing recognition of the importance of process and context in the successful implementation of complex interventions (defined as those that comprise multiple interacting components) is also reflected in recently updated guidance from the UK’s Medical Research Council (MRC) (Moore et al., 2015a). Earlier MRC guidance had emphasised the limitations of randomised controlled trials (RCTs) in evaluating complex interventions because outcomes in practice can be greatly influenced by causal assumptions surrounding the intervention and contextual factors that vary considerably from one setting to the next.

The updated MRC guidance provides a framework for carrying out process evaluation with the aim of providing greater confidence about the conclusions drawn with regard to the generalisability of findings and the feasibility of the intervention. As in the NPT framework, there is an emphasis, at all stages in evaluation, from planning through to reporting and dissemination of findings, on providing a detailed and transparent description of the intervention itself and of the causal assumptions, context and processes involved in its implementation.

The research process as applied to the present study, incorporating essential components of the MRC guidance and the NPT framework can be considered as an iterative cycle, illustrated in Figure 1 below.
Figure 1. Illustration of the research process as an iterative cycle using the MRC principles

Adapted by the author from (Moore et al., 2015b)
2.6 Study Design

The principles of NPT and the MRC guidance, as described, are felt to be particularly salient to the study and were reflected in the design. In considering potential design options, a mixed methods approach was chosen, as it offered the best fit with NPT principles as well as with the broader context for the study and its aims.

The mixed method approach to study design involves the collection, analysis and merging of both quantitative and qualitative data in one study. In recent years, this multi-perspective approach has been increasingly adopted, as offering a more robust understanding of health services, including mental health services, than when either quantitative or qualitative methods are used alone (Robins et al., 2008).

Mixed methods researchers frequently adopt both pragmatic and transformative philosophical positions (Creswell et al., 2011). The pragmatic position reflects an interest in the question of “what works” in real world settings while the transformative position implies a concern with achieving systemic change that leads to improved equity and fairness.

2.6.1 Design Elements

Within the mixed method paradigm, several different typologies have been identified (Creswell et al., 2011) Having considered the choices of typology appropriate to the aims of the study, a convergent design was chosen. In convergent design, the quantitative and qualitative data are collected concurrently with the data subsequently merged and interpreted (Ostlund et al., 2011).

A further consideration in the choice of a mixed methods approach emerged from the author’s preliminary consultation sessions with senior service managers and front-line service providers in Penang. It was anticipated from these discussions, that minimal recorded information and consequently, limited quantitative data, might be available in relation to current services for people with CMD attending primary care clinics. A recognised advantage of the mixed method approach is that it does not require that equal weight be given to quantitative and qualitative methods (Creswell, 2014).
Weaknesses in either method can be offset by the strengths of the other, thereby enhancing the usefulness of the overall study findings. Consequently, in employing a mixed methods approach to the present study, qualitative methodology was identified at the outset as the dominant element in the design with the quantitative elements acknowledged as secondary.

2.6.2 Rationale for Mixed Methods

Both the pragmatic and transformative philosophical positions that underpin mixed method design are highly salient to the broader policy and service context as well as to the aims of the present study. These considerations informed the decision to integrate, within a single study, the perspectives and experiences of both frontline clinicians and of medical undergraduates.

The pragmatic position is reflected (a) in the study’s exploring the perceptions of both current and future clinical service providers of mental health in primary care in Malaysia and (b) in the evaluation of a pilot intervention to support Malaysian primary care clinicians while providing learning experiences for medical undergraduate in providing an enhanced service to people with CMDs.

Similarly, the transformative position is represented in the study’s exploring the potential for positive change in clinician attitudes and perceptions that might result from participation in a novel mental health service intervention. In the case of medical students, the study builds on the theory that learners are transformed through opportunities for situated learning in community settings typical of those in which they will ultimately practice (Walters et al., 2007).

From both the pragmatic and transformative perspectives, there is a parallel, therefore, between the historic and current status of mental health service delivery and undergraduate medical education in primary care settings that supports the decision to integrate both these areas of activity within a single study. Insofar as there has been acknowledged resistance towards the implementation of evidence based mental health interventions in primary care, it is also recognised that the discourse of medical education has evolved towards one that values active and collaborative engagement in community settings. Opportunities to learn psychiatry in these settings therefore, have
the potential to shape the professional identity and clinical activity of future doctors to the ultimate benefit of society.

2.6.3 Qualitative Methods

Qualitative research has been described, essentially, as a form of social inquiry that focuses on the way people interpret and make sense of the world in which they live (Holloway, 1997). Qualitative methods are regarded as best suited to the aims of studies that set out to collect data that is presented in words rather than numbers and where depth rather than breadth of understanding is important (Palinkas, 2014). A recognised advantage of qualitative methodology relates to its ability to provide new insights and understanding in poorly understood and complex subject areas, which accounts for its increasing relevance to mental health and mental health services (Crowe et al., 2015).

Central to the aims of the present study was the need to elicit, explore and interpret perceptions and experiences of front-line clinicians and medical students respectively, within the relatively complex, multi-service settings of community-based primary care clinics.

2.6.4 Qualitative Data Collection: Interviews

Among the variety of ways in which information is gathered in qualitative research, some form of observation or interviewing method is typical. In considering the specific options for the present purpose, semi-structured qualitative interviews, employing both individual interviews and focus groups in combination were chosen, as the preferred approach when an in-depth exploration of participants’ perceptions and attitudes is sought, in an area in which there is some, but limited existing knowledge (Burman, 1994).

The choice of individual interviews of the clinics’ front-line service providers was, in part, determined largely by the practical constraints of time, availability and the need for flexibility in this regard. A further consideration was the diversity of the primary care clinician participants in terms of their respective roles, position within the organisational hierarchy and professional backgrounds, such that might compromise spontaneity and open expression of opinions in a group interview setting.

In contrast, for the medical students, as a relatively more homogenous and accessible
set of interviewees, in terms of background, parity of status and roles, focus groups were felt to be more appropriate and more feasible. Focus groups, in addition, have the inherent advantage of participant interaction and consequently, the potential for a group dynamic that encourages an expanded range and depth of discussion (Barbour, 2005).

The author met with the research officer through the course of her subsequent interviewing in order to achieve consistency over time in the manner in which the individual and focus group interviews were conducted.

2.6.5 Qualitative Procedures
Primary care clinician interviewees were recruited purposefully from a list of all clinical staff based at each of the two health clinics. The aim was to recruit a mix of front-line clinicians of different professional disciplines and to reflect a balanced representation, in terms of the number of participants and their professional discipline, from both HCs.

Student participants were recruited purposefully through the class representative as gatekeeper, to achieve balanced representation of the class in terms of gender and ethnicity.

For the primary care clinician interviews, a topic guide was employed that had been developed by the author and co-investigators involved in the project and informed by the study’s aims and relevant published literature. The research officer for the study approached each potential interviewee, obtained informed consent and carried out the interviews. The interviewer had prior training in qualitative interview techniques. Each interview was audiotaped and held at the respective HC, before the 8-month pilot intervention commenced and within a two month period following its completion. The interviews explored the PCCs’ current knowledge, attitudes, beliefs and skills in relation to patients with CMD, interest in taking on an expanded role in this area and perceived needs for support, training and supervision in relation to clinical service provision for CMDs.

Four medical student focus groups, each involving 9-10 students were conducted at the end of each 8-week psychiatry posting through the academic year. Each focus group was audiotaped and co-facilitated by the research officer who led the discussion while a research colleague, who was also uninvolved in the service or teaching at PMC,
annotated observations of the interview process. An interview guide was employed, developed by the study team, informed by the existing literature and by the students’ learning outcomes in relation to primary care mental health. The focus groups explored the students’ experiences of the primary care sessions in relation to the similarities and differences with other elements in their clinical posting in psychiatry and the perceived value from an educational perspective with reference to patients with common mental disorders presenting in primary care. All focus group interviews were conducted in English.

2.6.6 Qualitative Data Analysis
Individual qualitative interviews were transcribed verbatim. Thematic analysis was chosen as “a theoretically flexible method that organises, describes and interprets qualitative data” (Crowe et al., 2015). Transcripts were read and reread after initial codes were generated in terms of the research questions using NVivo software to facilitate this process. These codes were then clustered in order to identify the emerging themes in relation to the objectives of the study. This was undertaken by members of the study team individually initially and subsequently by discussion to resolve areas of overlap and divergence in order to achieve consensus on the salient themes and sub-themes. Final thematic interpretations were agreed upon by consensus among the study team. Focus group verbatim transcripts were similarly coded and analysed for thematic content. In relation to both the individual and focus group qualitative data, the thematic content was synthesised to further explore the meaning in terms of the interrelatedness of themes and the contextual factors that impacted upon them. Advice on the focus group thematic analysis was received from an academic colleague at RCSI with experience in qualitative research.

2.6.7 Quantitative Methods
Quantitative methods are relevant to overall design and aims of the study in terms of providing accurate information to complement the qualitative methodology within the mixed method paradigm. Specifically, quantitative methods were chosen as appropriate to objective 1- the description of the current practice in relation to CMDs at the two participating HCs, objective 2 – the description of the pilot Psychiatry in Primary Care
(PIPC) intervention, its operation and service utilisation and to objective 4, which included a questionnaire survey of medical students’ learning experiences in the PIPC service.

2.6.8 Quantitative Procedures
In regard to objectives 2 and 4, the quantitative procedures involved the compiling and description of service provision and utilisation data, provided by management at both participating HCs. It also involved the extraction of data in relation to services for people with CMDs, from a random sample of patient files: details of the latter are outlined in chapter 3.

With regard to objective 4, the quantitative procedure involved the administration of an anonymous on-line survey to a class of 113 students through Surveymonkey, details of which are outlined in chapter 5.

Objectives 3 and 4 also involved the administration of the Patient Health Questionnaire (PHQ-9), an established screening instrument, by the participating medical students under the direct supervision of the PMC consultant psychiatrist. The PHQ9 is based on the DSM-5 diagnostic criteria for major depressive disorder, translated versions of which have been validated in Mandarin, Tamil and Malay languages (Kroenke et al., 2001, Sherina et al., 2012). The PHQ-9 has nine items, each of which is scored 0-3, providing a 0 to 27 severity score. Scoring of each item is based on response categories of “not at all”, “several days”, “more than half the days” and “nearly every day”. Scores of 5, 10, 15 and 20 represent cutpoints for mild, moderate, moderately severe and severe depression, respectively (Kroenke and Spitzer, 2002).

2.6.9 Quantitative Data Analysis
Simple descriptive analyses were performed on the service utilisation data and inferential analyses performed to look for associations between patient and clinician related demographic variables and service utilisation data. Total scores on the PHQ 9 were compiled from the scoring sheets completed for each patient to which the PHQ 9 was administered. Questionnaire responses to the students’ on-line questionnaire survey were analysed using Stata Version 13.
2.7 Intervention

2.7.1 Intervention Development

International research reveals that evidence-based interventions designed to increase the capacity of primary care services for patients presenting with CMDs, cannot be successfully implemented without sustained access to specialist mental health provider support and consultation (Gillies et al., 2015). Similarly, previous studies suggest that learning experiences during psychiatry clinical postings during the undergraduate medical education years exert a powerful impact on the attitudes of future medical doctors towards mental health care and towards people with mental illness (Budd et al., 2011, Bharathy et al., 2016).

In developing the pilot intervention for the present study, therefore, both these elements were incorporated and integrated. Human and physical resources currently available within Penang primary care health centres were harnessed in synergy with the specialist mental health clinical and educational expertise of the academic department of psychiatry at an established local medical school. By so doing, the feasibility and perceived impact of the intervention could be examined in a “real world” clinical and educational context.

2.7.2 Intervention Approval Process

Following a number of formal and informal meetings and written communication with local stakeholders whose support for the study appeared to be crucial, the author submitted a document outlining the proposed study to the Penang State Health Department requesting approval. This request was forwarded to the Ministry of Health, Malaysia who, after a period of several months, offered to meet the author in order to hear the proposal. Following this, the MOH sent a letter to the Penang State, Director of Health, in which it notified the Penang State of MOH approval.

The author subsequently approached the Clinical Research Centre (CRC), a Malaysian government agency responsible for promoting and regulating health research requesting further support and co-sponsorship of the study. The CRC agreed, and assigned a research officer to the study, a medical graduate who was not involved in
the clinical service or educational components of the project and whom the author and her CRC line manager jointly supervised. In a joint application with the CRC and the State Public Health Department and PMC, the author, as principle investigator submitted a successful application for grant funding for the study to the Ministry of Health, Malaysia.

2.8 Ethical Considerations

The author and his co-investigators were mindful of the ethical considerations, particularly in relation to the protection of confidentiality of the primary care clinicians recruited for individual qualitative interviews and the medical students recruited as focus group participants. Both these groups were potentially vulnerable, in a situation where their individual opinions were revealed to third parties at any stage in the research process, or where they could be identified from any interview transcripts or in published reports arising from the study. These issues were discussed at some length in the planning stage and the experience and sensitivity to these concerns, among the Malaysian clinicians within the research team, was invaluable.

The potential vulnerability of patients seen was also considered in terms of the confidentiality regarding the sharing of information surrounding clinical consultations carried out in the course of the PIPC service and its evaluation. It was agreed that on each contact patients would be assured by the consultant psychiatrist that any clinical feedback would only be given to the referring primary care clinician. In addition all personal identifying data was removed from the forms that recorded patients’ recorded experiences and opinions regarding the PIPC service.

In the subsequent design of the study, therefore, appropriate steps were taken to anonymise data at all stages and this was reflected in the successful ethics application. A further ethical consideration that emerged was in relation to the independence of the research, in light of the fact that it involved registration with and grant support from a government agency. Moreover, the Malaysian Research Ethics Committee (MREC) of the Ministry of Health Malaysia requires that all research carried out in government facilities is reviewed and approved by MREC prior to publication. While the author regarded this stipulation as an unwelcome encroachment on academic freedom, the
only pragmatic option was to proceed, on the assumption that any reports arising would not be compromised before publication.

Following completion of the required ethics application form, the study was approved by both the Joint Professional Ethics Committee, Penang, as well as by MREC and was registered with the National Medical Research Register as legally required for research undertaken in Malaysian health care settings.

2.7 The Author’s Role in the Research

Another important consideration in the study design related to the author’s role as a potential interviewer. His clinical background in mental health and awareness of the relevant literature would have been potentially helpful in terms of the interview process. On the other hand, his status as “outsider”, as a non-Malaysian, engaging with Malaysian subjects in a Malaysian setting, was anticipated as likely to engender caution and potentially, self-censoring on the part of interviewees. Apart from his unfamiliarity with the local languages, there were several other challenges including: potential sensitivities that might arise in light of his perceived role as an “expert” in mental disorders and the fact that he was employed not within the Malaysian health system but as an academic in a private, foreign owned and operated medical school.

Following discussion with local colleagues, therefore, it was agreed that the best available option would be to recruit a Malaysian junior doctor, employed in a research post within the CRC, to carry out both the individual and focus group interviews while also acting as the CRC research officer assigned to the study. Although this young medical graduate had no post-graduate training or experience in mental health, her status as a Malaysian, familiar with local languages and cultural norms and in relatively junior position within the medical and administrative hierarchy were felt to offer significant advantages, especially in the roles of interviewer and focus group facilitator.

In preparation for her envisaged role in the study, the research officer was supported to complete a short course in qualitative research. Thereafter she was supervised by the author in all subsequent activities. She conducted audiotaped practice individual and focus group qualitative interviews with primary care clinicians and medical students.
who were not involved to the study. These audiotapes were jointly reviewed with the author in order to improve the interview technique as well as to modify the wording of areas covered by the topic guide.

2.7.1 Informal Reflection
One of the recognised strengths of mixed methods research is that the tensions that frequently arise in providing multiple perspectives on a subject can be approached positively, through a process of dialectical discovery. The investigator’s unstructured observations and reflections on the process of planning and completion of the project are incorporated into the report, to add to understanding of the challenges and solutions involved in implementation research. More than that, however, it is argued that self-reflection, during the iterative process, can help to provide new insights into the worldview of others involved in the study, thereby adding to the credibility and integrity of the research (Palinkas, 2014).
Chapter 3: Current Mental Health Service Provision at Two Primary Care Health Clinics in Penang, Malaysia

3.1 Introduction
This chapter addresses study objective 1 and presents a detailed profile of the two primary care settings (HC A and HC B) in which the study was carried out, thereby providing background and context for objective 2, (chapter 4) - description of the operation and utilisation of the PIPC intervention during the 8-month pilot implementation period. This approach is consistent with MRC guidance for process evaluation in terms of the importance attached to providing a rich description of the context in which a complex intervention might be considered (Moore et al., 2015b).

The chapter begins with a general description of the clinics, their setting and the catchment population served, with reference to statistics available for comparison with primary care services at a national level. It goes on to provide details on the functioning of both clinics in terms of patient volume, physical and human resources and general health and social services provided.

Thereafter, mental health service provision at both clinics is described. This includes the reported activities in specific mental health activities including mental health screening and early detection, follow up of patients discharged from secondary care and finally the services for people with common mental disorders.

The latter section incorporates a report on findings from an analysis of a random sample of clinical records of patients attending for general services at both clinics. The chapter concludes with a summary and interpretation of the current status of general health and mental health service provision at both clinics with particular reference to services for people with common mental disorders.

3.2 Objective 1
To outline the current services for people with common mental disorders at two government-operated primary care clinics in Penang, Malaysia.
3.3 Methods

3.3.1 Data collection procedures in relation to clinical services
The research officer requested the senior clinical manager at HC A and HC B to provide documentation on the structures and clinical activities at HC A and HC B. Where necessary, she carried out follow-up telephone enquiries to the medical managers at both clinics to clarify details. The information requested of the medical managers at HC A and HC B included:

- The year in which the clinic was established,
- The clinic’s official classification according to the government’s system
- A description of the catchment served and its demographic feature
- Hours of clinical operation
- Details of general health and social services provided
- Details of mental health services provided
- Available data on mental health service delivery and utilisation.

3.3.2 Data collection procedures on services for common mental disorders
HC A and HC B employed individual filing systems for maintaining patient records. At Clinic A, a sample of records was drawn by the research officer, of all patient records with birth dates between November 1924 and May 1995, choosing patients from months February, May, August and November. At Clinic B, patient records were arranged based on their Identification Card (IC) number. Every 5th record was selected based on the IC number.

3.4 Results

3.4.1 Profile of Health Clinics A and B
HC A serves a new township created in the early 1970s with the aim of providing housing for working parents and their children, adjacent to a newly developed industrial
zone, mainly occupied by assembly plants. As a consequence, the area served has a relatively lower unemployment rate and a relatively higher percentage of young adults, many of whom are inward migrant workers. HC A operates as a designated extended-hours clinic on Monday-Friday (5pm-930 pm) and Saturday (8am-12 noon).

HC B is located in the heart of Georgetown, the state capital of Penang. It is also classified as a Type 3 clinic with a daily attendance of over 500. It serves an older and generally more deprived population with higher unemployment. The primary care service began operation in 1975 and a maternal and child healthcare function was added in 1995. A methadone clinic was established at the clinic in 2010, providing methadone maintenance therapy services to people with heroin dependence in the Georgetown area. The classification, service and operational features of HC A and HC B are summarised in Table 4 below.

Table 4. Classification, service and operational descriptors of health clinics A and B

<table>
<thead>
<tr>
<th></th>
<th>Patient Visits per year</th>
<th>Classification</th>
<th>Catchment Size</th>
<th>Catchment Features</th>
<th>Service User Ethnicity</th>
<th>Hours of Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HC A</strong></td>
<td>89,240</td>
<td>Type 3</td>
<td>69,200</td>
<td>Suburban Township, Industrial Zone, Young Employed Families</td>
<td>Malay 45% Chinese 41% Indian 10% Other 2%</td>
<td>Extended Hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Daily patient Attendance: 300-500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HC B</strong></td>
<td>120,779</td>
<td>Type 3</td>
<td>53,140</td>
<td>Inner City, Deprived Area, Older Residents</td>
<td>Chinese 73% Malay 20% Indian 5% Other 2%</td>
<td>Office Hours</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Daily patient Attendance: 300-500</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.4.2 Health and Social Services Provided
HC A provides a range of services, including an emergency triage system with 3 observation beds for assessing patients, a pharmacy, diagnostic X-ray services, laboratory and ambulance services. HC B has most of the services of HC A except less facilities for emergency presentations it has no radiology services.

Statistics provided from HC A for the period January to June 2014 indicated that 1866 patients attended and were screened for diabetes and 5761 for hypertension. AT HC B, between January to June 2014 there were 9,448 patient attendances for hypertension and 8,335 for diabetes.

The higher number of total patient attendances per year at HC B, the smaller of the two clinics, reflects the fact that this figure includes daily attendance for methadone dispensing, which accounted for 37,400 visits during the six month period January-June 2014.

3.4.4 Psychotropic Medication Formulary
A limited range of psychotropic medications was available for prescription by medical staff at HC A and B including: (a) first-generation anti-psychotic medications chlorpromazine, haloperidol, fluphenazine decanoate and flupenthixol decanoate, (b) one second generation ant-psychotic: risperidone (c) one serotonin re-uptake inhibitor: fluvoxamine and (d) benzodiazepines: diazepam and lorazepam.

3.4.5 Mental Health Reference Materials Available
A list of reference material in the area of mental health that were available in HC A and HC B in 2014 was provided. This included government publications, mental health policies and procedures and clinical practice guidelines.
3.4.6 Health Clinic Staffing

The staffing composition according to professional category is listed in Table 5 below.

Table 5. Staffing (Full-Time Equivalents) by health discipline health clinics A and B

<table>
<thead>
<tr>
<th>Healthcare Profession</th>
<th>HC A</th>
<th>HC B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Medical Specialist (FMS)</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td>Medical Officer</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Medical Assistant</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Matron</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sister</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Staff Nurse (Outpatient Department)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Staff Nurse (Maternal and Child Health)</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Community Nurse (Outpatient Department)</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Community Nurse (Maternal and Child Health)</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>Medical laboratory technician</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Assistant Pharmacist</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Radiographer</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Nutritionist</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80</strong></td>
<td><strong>44.05</strong></td>
</tr>
</tbody>
</table>

3.5 Mental Health Screening

At HC A and HC B, the Malaysian DASS-21 questionnaire (Depression, Anxiety and Stress Scale) is used as a screening tool (Lovibund and Lovibund, 1995). This is administered by nurses and medical assistants, opportunistically, while patients are waiting to enter the doctor’s room. A yearly target is set by the Ministry of Health for the number of DASS-21 questionnaires to be completed at each government health clinic, depending on the patient volume. In 2014, the target for HC A was set at 300 with the
target for HC B set at 240. However, there was no documentary evidence of more specific policy guidance on which patients should be selected nor with regard to the point at which the decision is made to stop screening.

3.5.1 DASS-21 Screening Statistics
At HC A, a total of 1,038 outpatients were screened using the Malaysian DASS-21 in 2014. Of these, 242 patients scored outside the normal range. Subsequently, a total of 14 cases of high scores were referred by the nurses and medical assistants for further assessment and management by the clinic’s medical officers.

At HC B, there were 240 out-patients screened using the Malaysian DASS-21, with 28 scores above normal, but none were reported as referred for further medical assessment. Screening statistics per month for HC A and HC B are presented in Table 6 below.

Table 6. Results and outcomes of DASS-21 administration at health clinics A and B for the year 2014

<table>
<thead>
<tr>
<th></th>
<th>Patients screened</th>
<th>Normal Results</th>
<th>Abnormal Results</th>
<th>Referred for Medical Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HC A</strong></td>
<td>1038 (100%)</td>
<td>796 (76.7%)</td>
<td>242 (23%)</td>
<td>14/242 (5.8%)</td>
</tr>
<tr>
<td><strong>HC B</strong></td>
<td>240 (100%)</td>
<td>212 (88.3%)</td>
<td>28 (11.6%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

3.6 Health Clinic Psychiatric Follow-Up
In 2014 there were 35 patients at Clinic A and 25 at Clinic B registered for Health Clinic follow up. Of these, all were reported as having been referred from secondary or tertiary psychiatric in-patient settings. Details on the psychiatric diagnoses of these patients were not available: in informal communication from the medical manager to the project research
officer, the majority of these patients were felt to have had a diagnosis of schizophrenia. The commonest interventions provided to this patient group were reported as monthly outpatient visits to the clinic’s medical officers and administration of depot anti-psychotic injections by nursing staff.

3.7 Health Clinic Services for Common Mental Disorders

3.7.1 Services for Common Mental Disorders at Health Clinic A
Of 7512 patient records reviewed at HC A, 2 revealed documentation of symptoms suggestive of a CMD (depressive disorder). In one of these files, there was a documented referral to the local government psychiatric service while in the other there was documentation of a prescription for the anti-depressant medication amitryptiline.

3.7.2 Services for Common Mental Disorders at Health Clinic B
From a sample of 6454 patient records, a review of physician hand-written entries using a Case Report Form (Appendix 1) prepared by the author and co-investigators, revealed 4 records in which there were documented symptoms suggestive of a possible common mental disorder (Depressive Disorder). In two of these records, an intervention was documented- the prescription of Chlorpromazine for insomnia in one record and a referral to psychiatry in the other.

3.8 Summary of Health Services at Health Clinics A and B
In terms of the wide range of general health services offered at HC A and HC B, as described, there is an obvious public health orientation, with an emphasis on prevention and screening. Despite having a smaller catchment population, daily attendance statistics were higher for HC B than HC A. Closer examination reveals that this is explained by the large cohort attending at HC B which was are dispensed methadone on a daily basis.

Recorded clinical activity with regard to NCDs as described, reveal large numbers of patients attending for screening for hypertension and diabetes at both HC A and HCB.
The government ministry of health screening requirements for these conditions are demanding. In the case of diabetes, at least once yearly foot examination, fundoscopy, six monthly HBA1C urine protein and patient education are all subject to yearly audit. This is consistent with statements in government reports that government primary care clinics deal with a disproportionate percentage of the country’s chronic disease burden, relative to the private sector (APOHSP, 2013).

3.9 Discussion and Conclusions
It is clear that both HC A and B carried out a wide range of health and social interventions, consistent with the broad remit of HCs as set out in government policy, which extends to such activities as pre-marital health screening. Particularly notable is the extent of community oriented activities and the numbers of staff, especially nurses deployed in various community activities. There is also documentary evidence to support the implementation of policy in relation to the monitoring of clinical parameters for long-term physical conditions such as diabetes and hypertension.

A striking finding emerged from examination of the reported mental health activity at HC A and HC B in relation to the screening and early detection programme. With regard to administration of the DASS 21, the minimum target for the numbers screened was achieved at HC B, with the same number of attenders screened every month, but none of the 11% with abnormal results were referred for further assessment by a physician. DASS21 screening at HC B, therefore, appeared to have been carried out as an end in itself, in order to fulfil a bureaucratic requirement.

In contrast, HC A exceeded the screening target by a factor of three, the number of patients varied every month, the percentage of those patients with abnormal results was considerably higher at 23% and 5.8 % of patients with abnormal results (1.5% of the total screened) was referred for further evaluation by the FMS or MO.

The policy requirement was the same at both clinics, and the screening targets were set lower at the smaller HC B. It seems reasonable to suggest, therefore, that the culture prevailing at HC A, possibly influenced by the permanent presence of an FMS, may
have contributed to the higher quality of implementation of the DASS 21 screening programme.

In other respects, however, the records indicated that there were few differences between HC A and HC B in terms of mental healthcare provision. A very small number of patients discharged from secondary or tertiary care was followed at both clinics, although the patients seemed to have more contact with clinicians other than the MO at HC A than HC B, during their monthly clinic visits.

At both clinics, a large volume of government policy documents and operational guidelines in relation to mental health care was available. A follow-up enquiry to the medical managers, however, suggested that this material was rarely utilised.

The results of the examination of records for evidence of recording of symptoms of, and interventions for, CMDs were remarkably similar also, in revealing a very low level of recorded clinical activity at either clinic. This is perhaps not surprising in that there is no specific performance indicator or operational requirement for HCs to report activity in relation to CMDs, nor any incentives for clinicians to integrate mental health care into the management of other NCDs. It is also apparent that a very limited formulary is available to physicians at both HCs in terms of prescribing medications for psychiatric disorders.

It is interesting to note that the higher quality of DASS 21 screening and follow up at HC A did not seem to result in evidence of a greater focus on CMDs, generally, at that clinic. The DASS screening and early detection programme, therefore, may have been perceived as a compartmentalised activity at HC A and the benefits of its implementation may not have generalised to positively influencing clinician behaviour during daily encounters with patients. This interpretation, however, is subject to the caveat that the recording of clinical activity, in the context of considerable time pressures, may not fully capture or reflect the quality of the actual clinical response to CMDs.
Chapter 4: Pilot Intervention: Planning, Implementation and Utilisation

4.1 Introduction
This chapter addresses study objective 2. The MRC guidance on process evaluation of complex interventions recommends that an evaluation should record what was learned from the planning process, identifying problems that emerge while also reporting on relationships between the various actors involved. The guidance also stresses the importance of clearly describing the intended intervention and the extent to which it was implemented as planned, specifying any departures and modifications that occurred.

The chapter begins by tracing the origins and chronological development of the PIPC project, as a clinical educational and research initiative, from concept to implementation. It describes the planning and negotiation process in detail with particular reference to the engagement and communication with various agencies of Penang State and the Malaysian Ministry of Health, as requisite stakeholders in the approval and governance of the project’s clinical and research components.

A description follows of the implementation of PIPC at the two government-operated primary care clinics assigned the study. The methodology used to report on the operation and utilisation of the PIPC service is then outlined, after which the findings in both these areas are presented.

The chapter concludes with a discussion of the main findings in relation to the planning, implementation and clinical utilisation of the service. This provides a background and context for the subsequent two chapters, which present findings from an evaluation of the PIPC project from the perspective of primary care service providers and medical students respectively.

4.2 Objective 2
To describe the planning, implementation and service utilisation of a pilot primary care psychiatry consultation service (PIPC), provided on-site at the two health clinics.
4.3 Intervention

4.3.1 Intervention Background
The author had been appointed as head of the Department of Psychiatry at Penang Medical College in January 2012, with a primary role in leading the delivery of undergraduate clinical teaching in psychiatry. He had taken sabbatical leave from a substantive post within the Irish health service to take up the PMC appointment on an initial two year contract basis, subsequently extended to three years. His background as a clinician, mental health service manager and medical educator, included experience in consultation/liaison psychiatry in primary care settings in Canada and Ireland, as described in chapter 1. The move to PMC presented an opportunity to deliver primary care consultation/liaison psychiatry as a novel clinical service in a Malaysian context, while also broadening the learning experience in psychiatry of fourth year PMC students.

4.3.2 Internal Stakeholder Engagement
The initial task was to secure internal support within PMC from the two other psychiatrists that made up the teaching faculty and from the Dean. There had been an established orientation towards the community within the department and the psychiatry clerkship already included student visits to observe the activities of community-based NGOs involved in supporting people with mental health disorders and their families. Because of the existing culture, therefore, the suggestion of offering students a clinical learning opportunity in the psychiatry of primary care was well-received by departmental colleagues.

Similarly, the PMC Dean welcomed the proposal as consistent with the medical school’s strategic interest in strengthening links with the Penang community and particularly in contributing to the quality of publicly-funded health services in the local area.
4.3.3 External (Regional) Stakeholder Engagement

Having secured internal support within PMC, the next task involved the identification and approach to the Penang State Health Department, as the primary local external stakeholder, whose remit included the governance and operation of publicly-funded primary care clinics. Following a request from the PMC Dean, the State Director of Health agreed to meet with the Dean and the author, who articulated the rationale for providing specialist expertise and support to primary care clinicians in Penang in the identification and management of CMDs.

The State Director of Health expressed an interest in enhancing primary mental healthcare and offered his personal support for the project. He requested that, in advance of formally approving the project, a written document outlining the proposed programme in detail be forwarded to him. The State Director of Health also nominated a Senior Assistant Director of Health, a public health specialist, as the point of contact for further communication. A written proposal, with details of the proposed operation of the programme was subsequently prepared and submitted.

A period of several months elapsed, during which several attempts to obtain feedback on the status of the proposal were unsuccessful. Informal enquiries revealed that the relevance of the concept of psychiatric consultation/liaison to primary care had been questioned by medical management responsible for overseeing the day to day operation of primary care clinics. The apparent resistance to the proposal appeared to be based on a perception that the contribution of psychiatry, as a clinical specialty, was confined to secondary and tertiary care services for people with major mental illness and consequently, that there was no obvious role for psychiatrists in liaising with or providing on-site consultation to primary care clinicians.

In response, the author prepared a further document entitled “The Case for Managing Common Mental Disorders in Primary Care in Malaysia”. This paper advanced the argument for addressing CMDs in primary care in Malaysia, based on global, regional and national epidemiological research on CMDs and the overlap and interaction with other NCDs. It included reference to the increasing body of global evidence regarding
the effectiveness of interventions at the level of primary care, provided there was access to mental health specialist clinical supervision.

Further requests to the State Director of Health for a response to the proposal were finally responded to with the statement that because of the unusual nature of the proposal, formal approval would be required from the Ministry of Health at a national level and that a copy of the proposal had been forwarded to the relevant section at the Ministry.

4.3.4 National Stakeholder Engagement
The author subsequently received a letter of invitation from the Ministry of Health, Malaysia, to make a formal presentation to a committee made of the National Director of Family Medicine and various other officials at the government offices in Putrajaya, near the national capital Kuala Lumpur.

This presentation was delivered and the committee responded with interest and posed a range of questions on operational details of the proposed service. A key point of clarification, from the Ministry perspective, was whether the model proposed was that of a consultation/liaison service to primary care clinicians or a “shifted out-patient clinic”. The author confirmed that it was the former, emphasising that the PIPC service did not involve the patient’s care being taken over by the PMC consultant psychiatrists. He also clarified that the existing referral pathway between primary and secondary care would not be disrupted and any patient identified as requiring urgent or ongoing specialist psychiatric care would be referred by the primary care clinician, to the local public psychiatric service, based at the Penang General Hospital.

The Ministry of Health officials expressed comfort with the fact that the proposed service was based strictly on a consultation/liaison model and as such, that primary care staff would not be faced with the burden of an additional caseload, in a situation where the collaboration was found to be unsustainable for any reason. This aspect of the proposed project appeared to be pivotal in ultimately securing a favourable response from the committee.
4.3.5 Research Stakeholder Engagement

The Medical Research and Ethics Committee (MREC) is the national agency responsible for oversight, governance and grant funding of all research undertaken in Malaysian government-operated health facilities. Its approval, therefore, was required to formally evaluate the initiative from a clinical and undergraduate educational perspective. Among other conditions that MREC required for grant funding, the Principle Investigator (PI) must be employed within the Malaysian government health system.

Several potential avenues of research collaboration were explored, before a productive relationship was forged by the author and his PMC colleagues, with the medical director of the Clinical Research Centre at Seberang Jaya Hospital (CRCSJH), based in mainland Penang. The CRC is a national agency set up to promote and conduct research and has local centres throughout Malaysia. This collaboration followed a presentation by the author and his departmental colleagues, after which the medical director, an endocrinologist, agreed to the preparation of a joint ethics submission and grant funding request by PMC and CRC SJH.

As part of the research collaboration, the CRC SJH assigned a medical graduate, already employed at the CRC and supervised by the medical director, to assist in the evaluation of the project and who would be nominated as co-principle investigator (PI), along with the author, thereby satisfying the MREC criterion of the PI being government-employed. The required template for the MREC research protocol, ethics submission and the grant application was subsequently completed.

4.3.6 Intervention Project Development

Further discussions took place, meanwhile, between the author, his two departmental colleagues, both of whom were familiar with local health services and the Senior Assistant Director of Health. Logistical issues and details of the configuration of the PIPC initiative were discussed with particular reference to feasibility within the limited physical and human resources available, both at PMC and government primary healthcare settings in Penang.

It was agreed that in view of the constraints of the relatively small teaching faculty, the
student numbers and the time required to travel to and from the PMC campus, that two government health clinics in relative proximity to the College, could be visited by the consultant, accompanied by up to five students, once per week with each visit lasting 4 hours in total.

In light of his previous experience in the consultation/liaison model, the author asserted that face-to-face interaction between the psychiatrists and front-line clinicians was key to the success of the initiative. However, in acknowledgement of the severe time constraints placed on busy primary care clinicians, he suggested that the process would be more time-efficient if the referring clinician briefly discussed the referral, immediately prior to the patient assessment, carried out separately after which the referring clinician would return for joint face-to-face feedback with the patient remaining throughout (direct consultation). Alternatively, the referring clinician could discuss a patient whom they felt could benefit from the psychiatrist’s expertise, but who might not need to be seen in person, or could seek general advice on the mental health aspects of the clinician’s current practice (indirect consultation).

Because of his previous experience with primary care consultation, relative to his two departmental colleagues, it was agreed that the author would accompany the two other faculty psychiatrists on several of the consultations to each HC, especially in the early stages of implementation of the PIPC service. The author also requested that the health clinics make an interview room available consistently and that the senior medical manager in each of the two clinics would support the referral process and ongoing functioning of the service from both a clinical perspective and in terms of the involvement of the fourth year medical students.

The medical student involvement in the PICP service was planned such that they would fulfil a meaningful clinical role while also benefiting from the associated opportunities for active learning. Specifically, it was agreed that small groups of 4-5 students would be directly supervised by their PMC lecturer/psychiatrist and take turns to perform sequential tasks in the consultation process, including the psychiatric history-taking, mental state examination, collateral history-taking and administering the PHQ 9 where indicated. It was also agreed that the limitations of the author, as the only one of the
three psychiatrists involved who did not speak the local languages were such that modifications were required to the normal patient assessment process in the case of patients who were either unable to speak English or who expressed a preference to be interviewed in one of the locally spoken languages. It was planned, therefore, that the students would be asked to pause at intervals to translate the conversation into English so that the author could interpret the patient’s symptoms and guide the students’ line of questioning.

Following these discussions of the details of the service proposed, the Senior Assistant Director of Health considered the suitability of the health clinics in the area, with operational criteria and resource availability in mind and she engaged in separate consultation with the medical managers of several candidate clinics. She reverted with a decision to allocate HC A and HC B to the project: a detailed description of both clinics has been provided in Chapter 3.

4.3.7 Final Project Approval and Configuration

In follow-up to the author’s presentation to the Ministry of Health in Kuala Lumpur, final written approval to proceed with the project was communicated in a letter from the Director, Family Health Division at the Ministry of Health to the Penang State Director of Health in February 2014. The State Director of Health, in turn, communicated the official approval of the project to the medical managers within the two assigned clinics in Penang requesting their co-operation with the project. At around the same time, final written ethical approval and grant funding was also received from the Malaysian Research and Ethics Committee (MREC).

Following receipt of official approval for the project to proceed, two preliminary meetings were facilitated by the Assistant State Director of Health, one at each clinic, between the PMC psychiatrists, the research officer and the respective primary care medical and nursing staff. At these meetings, the consultation/liaison clinical service and the research aims and objectives were outlined by the author and questions were invited.

The clinic staff, from any health discipline, were invited to select current clinic attenders for referral, either for clinical assessment or case discussion, based on a perceived need for specialist mental health input or advice. It was emphasised that the main focus
of the consultation/liaison service was on patients with diagnosed or suspected CMD and not on the existing small caseload of patients with major mental illness who had been already referred to the clinic from secondary care for on-going follow-up.

The options for both direct and indirect consultation, as outlined above, were explained and the role of the research officer in supporting the operation and evaluation of the project was outlined. Clinic staff present were invited to express any concerns they might have about the project or seek clarification on any aspects of the service about which they were uncertain.

The clinic medical managers present at these meetings expressed concerns about implementing the proposed model, in terms of the existing burden on the health clinic staff, while also providing the full range of other services mandated. They proposed an arrangement whereby one medical officer at each clinic be assigned with responsibility for co-ordinating referrals from other clinicians and for ongoing communication with the research officer and the PMC psychiatrists. This arrangement, while less than ideal from the author’s perspective, in terms of limiting the direct exposure of other primary care clinicians to the PIPC service, was agreed as a necessary compromise.

At one of the two clinics- HC A, the FMS also requested that the PMC psychiatrists also contribute to the clinic’s regular continuing professional educational sessions, for all staff, on the mental health aspects of primary care. This was agreed, with the author suggesting that the specific topic be chosen by the frontline clinicians so that the content was relevant to their needs.

4.4 Methodology

4.4.1 Data Collection on Pilot Intervention Activities and Utilisation

The PIPC project implementation team, composed of the author, his two faculty colleagues and the research officer appointed by the PMC, designed a Workflow Sheet to ensure data was collected consistently and in a standard manner across both HCs. A Record of Consultation Process form was developed, recording the primary care staff involved on each clinic visit, the topic of discussion, the medical and psychiatric diagnoses of patients seen, the duration of consultation, and the documented outcomes
or recommendations arising (Appendix 2). A Feedback Form to HC Clinician was added, as a brief handwritten record of the consultation, a copy of which was to be provided by the PMC psychiatrist to the referring clinician immediately following the consultation and filed in the patient's clinical record (Appendix 3). This form comprised a summary description of the presenting problem, recommendations as well as sections for both referrer and patient comments on the recommendations.

A comprehensive electronic PIPC Consultation Report Template (Appendix 4) was also developed which the participating medical students were required to complete in draft form and submit electronically to the psychiatry department within the week following each HC visit, for subsequent editing by the supervising consultant psychiatrist and forwarding to the referring HC clinician.

Information extracted from these three forms provides the basis for the following description of the clinical activity and utilisation of the service at both primary care settings involved, during the pilot implementation of PIPC, from March-November 2014. The workflow procedures developed for managing the PIPC project is presented in Figure 2 below.
Figure 2. Workflow process for managing the PIPC project

PIPC Work Flow

Record of Consultation Process Form
- Completed by PMC Psychiatrist on-site
- Filing by Department

Feedback Form to HC Clinician
- Enter all data EXCEPT Patient I/D No.
- 2 copies – completed up to recommendation by Lecturer during the visit
- Patient & PC Clinician Feedback Sections to be completed at the end of the consultation
- Photocopy at HC. Enter Patient I/D No. ONLY in Original Copy
- File Original Copy in patient’s HC Record

Consultation Report Template
- Completed by Students & Upload on PMC MOODLE by following Monday (5 pm)
- Review & Editing by Psychiatrist/Lecturer involved in HC Consultation
- Forward to HC Referrer
4.5 Results

4.5.1 Pilot Intervention: Service Delivery and Utilisation
Completed Consultation Record Forms were present for the total 51 consultation visits to the HCs (26 at HC A and 25 at HC B). One visit was cancelled by HC B when it was reported that there was no referral required for either direct or indirect consultation.

The Consultation Records revealed that in 53 of 54 direct referrals the agreed process was adhered to, namely: an initial face-to-face briefing of the consulting psychiatrist and medical students by the MO after which the patient was interviewed while the MO continued with their regular clinical duties and was subsequently contacted to re-join the session for subsequent feedback and discussion which also included the patient. In the one exception, at HC B, the referring MO was unable to attend in person, because of reported excessive workload, but took a brief phone call before and after the patient interview.

4.5.2 Service User Feedback
From a total of 54 direct referrals, Feedback Forms were completed on 48 occasions. No information was available to indicate the reasons for non-completion in the case of 6 referrals. In all 48 Feedback Forms completed, the diagnostic findings and recommendations were recorded by the consultant, while in 44 cases referrer’s and patient or family’s comments on the recommendations were documented. The content of these written comments conveyed either acceptance or satisfaction with the recommendations on the part of both the referring clinician and patient or family and no negative comments were recorded.

4.5.3 Psychiatrist Participation
The author accompanied the two other PMC psychiatrists on 8 and 10 occasions respectively on visits to HC A and B. In total, the author was present at 23 of 26 visits to HC A and 20 of 25 visits to HC B. However, he provided a greater number of consultations unaccompanied to HC A, because of logistical considerations in regard to various teaching and other commitments as shown in Table 7 below.
Table 7. Frequency of visits to health clinics A and B by consultant psychiatrists delivering the PIPC service

<table>
<thead>
<tr>
<th></th>
<th>HC A</th>
<th>HC B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author: Total visits</td>
<td>23</td>
<td>20</td>
</tr>
<tr>
<td>Consultant 1+ Author</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Consultant 2 + Author</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Author unaccompanied</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Consultant 1 unaccompanied</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Consultant 2 unaccompanied</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

4.5.4 Primary Care Staff Participation

At both clinics, although all clinical disciplines had been invited to make referrals and participate in the sessions, medical staff participation was far more prominent: nursing staff were present during only 3 visits to HC A and 4 to HC B and no other clinical discipline participated.

With regard to medical staff involvement, a total of 5 medical staff participated at HC A and 7 at HC B, all but two of whom were medical officers (MOs). However, at both clinics the MO who had been assigned in the role of contact person between the clinic and the visiting PMC psychiatrist and who was responsible for ensuring that referrals were made, was present for the great majority of visits (23 of the 25 visits in HC A and 19 of the 25 visits to HC B).

A notable difference between HC A and HC B was that the FMS, on-site at HC A participated on 7 PIPC visits, whereas at HC B, where there was no on-site FMS, there was only one occasion in which an FMS was present for the consultation. Also, while a total of 6 MOs attended the PIPC sessions at HC B in comparison to 4 at HC A, three of the HC B MOs attended only one session. The frequency of attendance at the PIPC sessions at HC A and HC B is summarised in Table 8 below.
Table 8. Frequency of PIPC attendance by primary care clinicians at health clinics A and B

<table>
<thead>
<tr>
<th>Health Discipline / Grade</th>
<th>Number of PIPC Sessions Attended: HC A Total = 26</th>
<th>Number of PIPC Sessions Attended: HC B Total = 25</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMS</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Designated MO</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>Other MO (involving 3 MOs)</td>
<td>6</td>
<td>11 (involving 5 MOs)</td>
</tr>
<tr>
<td>Nursing Sister</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Nursing Matron</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Medical Assistant</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

FMS = Family Medicine Specialist; MO = Medical Officer

4.5.5 Medical Student Participation
The Consultation Records revealed that medical students participated in 20 of 26 PIPC visits to HC A and 18 of 25 visits to HC B. The average number of students at HC A was 4.7 (range 3-6) while at HC B students attended 18 of 25 sessions and the average number present at each session was 5.

4.5.6 Direct Patient Consultations
The predominant clinical service requested by both primary care clinics during the study period was direct assessment of patients by the visiting consultant psychiatrists. Despite the offer of two direct patient consultations at both clinics, the great majority involved one patient: two patients were referred for direct assessment on only two occasions at HC A and 7 at HC B. The relative frequency of direct and indirect consultations at HC A and HC B is summarised in Table 9.
Table 9. Frequency of direct and indirect PIPC consultations at health clinics A and B

<table>
<thead>
<tr>
<th>PIPC Consultation Visits</th>
<th>HC A</th>
<th>HC B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Clinic Visits</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>Direct Consultations</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Indirect Consultations</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

The demographic profile of patients referred for direct consultation was broadly similar at HC A and B, apart from the gender and ethnic profile (Table 10). Patients of Malay ethnicity were in a majority at HC A and those of Chinese ethnicity at HC B.

Table 10. Demographic descriptors of patients seen in direct consultation by the PIPC service at health clinics A and B

<table>
<thead>
<tr>
<th></th>
<th>HC A</th>
<th>HC A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Age (average)</td>
<td>48 years</td>
<td>52 years</td>
</tr>
<tr>
<td>Age (Range)</td>
<td>14-79 years</td>
<td>20-81 years</td>
</tr>
<tr>
<td>Male:Female Ratio</td>
<td>7:20</td>
<td>15:12</td>
</tr>
<tr>
<td>Marital Status</td>
<td>14 married</td>
<td>17 married</td>
</tr>
<tr>
<td>Employment Status</td>
<td>16 unemployed</td>
<td>10 unemployed</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Malay: 12 Chinese: 8 Indian: 7</td>
<td>Malay: 6 Chinese: 16 Indian: 5</td>
</tr>
</tbody>
</table>
With regard to the reasons for referral (Table 11), there was a predominance of referrals for depression at HC A and for insomnia at HC B.

Table 11. Reasons for referral for direct PIPC consultation at health clinics A and B

<table>
<thead>
<tr>
<th></th>
<th>HC A</th>
<th>HC B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insomnia</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Depression</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Psychosis</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Anxiety</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Somatic Symptoms</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Alcohol / Substance misuse</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

More patients at HC A were diagnosed with major depressive disorder (MDD) and anxiety disorder (Table 12) and almost one third of referrals at HC B did not meet criteria for a DSM-5 psychiatric diagnosis.

Table 12: Primary and co-morbid psychiatric diagnoses of patients referred for direct PIPC consultation at health clinics A and B:

<table>
<thead>
<tr>
<th>Psychiatric Diagnosis</th>
<th>HC A</th>
<th>HC B</th>
<th>Co-Morbid Diagnosis</th>
<th>HC A</th>
<th>HC B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Depressive Disorder</td>
<td>9</td>
<td>4</td>
<td>Alcohol Use Disorder</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Sleep Disorder</td>
<td>0</td>
<td>4</td>
<td>Opiate Use Disorder</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>5</td>
<td>0</td>
<td>Agoraphobia</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Psychosis</td>
<td>3</td>
<td>4</td>
<td>Cannabis Use</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>No Psychiatric Disorder</td>
<td>5</td>
<td>8</td>
<td>Generalised Anxiety Disorder</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Psychiatric Diagnosis</td>
<td>HC A</td>
<td>HC B</td>
<td>Co-Morbid Diagnosis</td>
<td>HC A</td>
<td>HC B</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------</td>
<td>------</td>
<td>---------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Alcohol / Substance Use Disorder</td>
<td>2</td>
<td>5</td>
<td>Dysthymia</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Adjustment Disorder</td>
<td>1</td>
<td>1</td>
<td>Sleep Disorder</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

4.5.7 Medical Co-Morbidity
At HC A, all 27 patients seen in direct consultation had at least one co-morbid medical diagnosis while at HC B, 17 patients were recorded as having a co-morbid medical diagnosis and in addition, two patients referred were pregnant and attending the antenatal clinic.

The commonest co-morbid medical conditions at both HC A and HC B were hypertension and diabetes, followed by respiratory disease, other cardiovascular diseases and metabolic syndrome/obesity, renal disease and chronic pain.

4.5.8. Consultation Feedback and Recommendations
The Clinical Report Forms, completed on all 54 assessments revealed that the content of feedback/recommendations was, in order of frequency:

- Diagnostic opinion/ patient & family psycho-education
- Recommendations on self-management/lifestyle
- Advice/recommendations regarding psychotropic medication
- Recommendations for further medical investigations
- Discussion of referral to other community supports
- Recommended referral for psychological interventions
- Suggested collateral history for diagnostic clarification.
- Recommended referral to secondary care psychiatric services.

Of the total 54 patients assessed, 5 required referral to secondary care for further psychiatric assessment and follow-up.
4.6 Indirect Consultations
Requests for indirect consultation was relatively infrequent- 5 in total at HC A and 7 at HC B. Reasons that prompted indirect consultation as listed below in tables 13 and 14.

Table 13. Reasons for referral for indirect PIPC consultation at health clinic A

<table>
<thead>
<tr>
<th>Health Clinic A</th>
<th>Feedback/Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient with schizophrenia &amp; urinary frequency, due to excessive water-drinking</td>
<td>Advised specialist referral in view of complexity of presentation and medical risk</td>
</tr>
<tr>
<td>40 year old married woman with chronic pain- possibly depressed</td>
<td>Case discussion prompted potential areas of inquiry- follow-up by referring MO</td>
</tr>
<tr>
<td>21 year old female with congenital short stature and recent behavioural change</td>
<td>Description strongly suggestive of early psychosis (patient subsequently admitted to psychiatric unit)</td>
</tr>
<tr>
<td>Patient with cannabis use and possible co-morbid depression</td>
<td>Case discussion &amp; recommendations for MO follow up and collateral history</td>
</tr>
<tr>
<td>43 year old female with insomnia unresponsive to hypnotic medication</td>
<td>Case discussion suggested underlying anxiety disorder-offered direct consultation</td>
</tr>
</tbody>
</table>
Table 14. Reasons for referral for indirect PIPC consultation at health clinic B

<table>
<thead>
<tr>
<th>Health Clinic B</th>
<th>Feedback/Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow-up discussion on patient previously seen in direct consultation for Major Depressive Disorder</td>
<td>Discussed options in light of difficulty accessing community supports</td>
</tr>
<tr>
<td>Patient on long-term prednisolone with possible psychotic symptoms</td>
<td>No clear medical evidence for maintaining prednisolone- suggested gradual weaning and follow-up</td>
</tr>
<tr>
<td>Advice on management of threatening behaviour towards clinic staff by a patient with schizophrenia on methadone maintenance</td>
<td>Referring Medical Officer made aware of significant risk issues and need for higher-level managerial involvement in addressing issue</td>
</tr>
<tr>
<td>Pregnant patient, hearing voices- refusing direct consultation</td>
<td>Description strongly suggestive of Major Depressive Disorder with psychosis- options discussed for urgent intervention</td>
</tr>
<tr>
<td>40 year old male insomnia on methadone maintenance</td>
<td>Insomnia likely secondary to concurrent metamphetamine use- advised on options</td>
</tr>
<tr>
<td>26 year old married female with insomnia</td>
<td>Description strongly suggested Major Depressive Disorder- offered direct consultation</td>
</tr>
</tbody>
</table>
4.7 Patient Health Questionnaire (PHQ-9) Administration

The PHQ 9 was administered by the medical students under direct supervision of the supervising consultant psychiatrist when the clinical presentation indicated. The administration of the PHQ 9 was more likely to be carried out at HC A than B. The pattern of responses to administration of the PHQ at HC A and B are presented in table 15 below.

Table 15. PHQ-9 results recorded for patients referred for direct PIPC consultation at health clinics A and B

<table>
<thead>
<tr>
<th>PHQ-9</th>
<th>HC A</th>
<th>HC B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Administered</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Score Range</td>
<td>1-27</td>
<td>3-24</td>
</tr>
<tr>
<td>Score&gt;14</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

4.8 Continuing Medical Education (CME)

Two 2-hour CME workshop on CMDs and their management, facilitated by the author, were arranged- one at HC A on 15/5/14 and one at HC B on 8/8/14. These were attended predominantly by nursing staff. At HC A, feedback was reported informally as positive, but few of the medical staff were available to attend. However, a large number of nursing staff had been approved to attend from other health clinics as part of their CME activity, most of whom had little awareness of the PIPC service. The numbers of attendees necessitated more of a lecture format than a workshop as had been planned.

At HC B, the numbers that attended were smaller with a relatively more medical staff and the session, consequently was more interactive. The content of both sessions involved an overview of CMDs and their management in primary care.

4.9 Discussion

In summary, the findings from this phase of the study were, firstly, that the process of planning and negotiation of the PIPC service with State and National health agencies
proved to be protracted and complicated. However, following approval, there was broad co-operation with the agreed arrangements at both participating clinics. The PIPC service was delivered consistently by the author and his psychiatrist colleagues from PMC, accompanied by medical students in small groups. Similarly, the consultation process at each clinic visit was undertaken as planned, involving face-to-face discussion with the referring primary care clinician before and after the individual patient assessment. Participation on the part of frontline staff at both HCs was limited, especially with regard to nursing and allied health professionals. Direct patient consultations were favoured over indirect and both clinics adhered to the agreement to avoid referral of stable patients with major mental illness long-term follow-up. There were differences between the pattern of referral to PIPC between HC A and HC B, in that more referrals from HC A, where the full-time FMS attended several PIPC consultations, resulted in a formal diagnosis on assessment. However, at both clinics, the intended patient group was referred, namely primary care attenders with CMD symptoms and medical co-morbidity. The symptom of insomnia emerged as a frequent reason for referral. Delivery of CME sessions at both clinics was less than planned, as a result of logistical challenges.

The extent of planning and preparation in advance of the PIPC project, as described, illustrates the scale of the challenge encountered in introducing a novel intervention within a complex health service context. A contributing factor, in this regard, may have been that the PIPC initiative was led by a non-Malaysian psychiatrist from a private, Irish owned medical school who sought collaboration with Malaysian, government-employed officials, health service managers and clinicians, with the inevitable implications for the establishment of mutual credibility and trust. In light of this feature and the many associated bureaucratic hurdles, involving a multiplicity of agencies, it is perhaps unsurprising that the period between introducing the concept and final implementation was almost two years.

Of particular note, in terms of the approval process was that despite an initially positive response to the PIPC proposal at the level of the Penang State Health Directorate, the decision was ultimately escalated to a national level at the Malaysian Ministry of Health. The centralised nature of governance of the Malaysian health system has been
acknowledged in both government-sponsored publications and by academic authors and the apparent reluctance to approve the project at a more local level may have been reflective of this phenomenon (Sebastian et al., 2016).

Notwithstanding these challenges and the associated delays, it was also clear that considerable integrity was demonstrated, at a higher managerial level, by both the State and National agencies in following through on commitments made, to the point of final approval for the project. Indeed, it is arguable that the hierarchical nature of governance may have actually facilitated the project’s implementation in that reservations regarding the project, as evident at the level of the local health service management in communications with the project team, did not impede access to the HCs involved, once the formal instruction to proceed was received from a higher authority.

In another sense however, the apparent absence of clinical autonomy at local senior clinical level may have also impacted the project negatively. A further factor in this regard, may have been the fact that primary care health centres, in the Malaysian government-operated health system, are administered at a State level by medical managers who are public health specialists, rather than those with training as family medicine specialists. In this context, despite the efforts of the author and his departmental colleagues, no government-employed clinical champion of the initiative could be identified, with sufficient influence and motivation to encourage broad engagement across both sites in which PIPC was implemented.

In effect, therefore, the managerial process was largely “top-down” and support for the project at a local managerial level did not extend beyond the provision of access to the HCs, under the strict terms outlined in the official letter of approval. Ultimately, it seems reasonable to conclude that the project was seen through to completion largely due to the persistent efforts of the project team, although genuine enthusiasm and support was apparent among certain individual clinicians, particularly the FMS and the designated medical officer at HC B and this will be addressed subsequently.

The data presented on the operation of the PIPC service indicates that in the main, the operational procedures outlined in the initial project proposal were adhered to at both clinic sites. The author and his faculty colleagues provided consistent weekly
consultation visits during the academic year and did not cancel any visits. In addition, the recorded activity revealed that diversion of busy primary care clinicians from their ongoing clinical duties was minimised by adhering to the practice of requiring the presence of the referring clinician only at the beginning and end of each consultation.

However, it is also clear that the pragmatic compromise agreed by the author in negotiations with service managers, namely, that referrals would be co-ordinated through one designated MO may have contributed to the limited direct involvement of other MOs, as a percentage of the total numbers employed at each HC. However, the consequences of insistence on direct participation on the part of all referring MOs could also have been equally negative and jeopardised co-operation. The role fulfilled by the designated MO at both HCs at least resulted in the regular and ongoing referral of patients at both HCs for either direct or indirect consultation throughout the PIPC’s 8-month pilot implementation.

With regard to the participation of health disciplines other than medicine in the PIPC consultation visits, as envisaged in the proposed model, there was a very low level of representation of nursing staff relative to the numbers working at both HCs and none from any allied health discipline. The limited scope of nursing roles in Malaysian government-operated HCs have been previously highlighted and it seems likely that the initiation of a referral to PIPC by other than a medical staff member may have been perceived as an extension beyond the accepted role. Further elucidation of this phenomenon emerged from the individual qualitative interviews, addressed in the following chapter.

The data presented on the reason for direct referral, diagnostic profile of patients seen in consultation and the presence of medical co-morbidity indicates that the PIPC service succeeded in seeking referral for existing patients with suspected CMDs, as initially envisaged. In particular, it was notable that the small cohort of patients with major mental illness followed up at both HCs was rarely selected for PIPC referral and in the very few instances where such patients were, there was a valid reason.

The evident differences in the referral pattern and diagnostic profile between HC A and HC B is also of interest. Symptoms of depression and anxiety were frequently stated as
the reason for referral and subsequent diagnoses of depression and anxiety were confirmed more often at HC A. At HC B, insomnia featured more prominently as the reason for referral, fewer patients were found to have evidence of a CMD and a greater number of patients were found not to meet criteria for any DSM-5 diagnosis. In interpreting this phenomenon, caution must be exercised in terms of the numbers of patients involved. The fact that HC B patients were also less likely to have a co-morbid medical illness suggests that one possible contribution to the referral pattern was the fact that HC B had a cohort of patients attending for methadone maintenance, some of whom were referred to PIPC. It is also possible that the higher representation of patients with subsequently diagnosed CMDs at HC A reflected a higher level of awareness of CMDs and their presenting symptoms on the part of the full-time FMS at HC A. This hypothesis will be explored further, in the context of qualitative findings presented in the following chapter.

With regard to indirect consultations, this option was taken up on relatively few occasions at both HCs. In part, this may reflect the novel nature of this referral option, the fact that all referrals were channelled through the single designated MO so that other clinicians may have been either unable to avail of the option. It is also possible that the MOs’ general clinical workload was such that indirect mental health consultation was not perceived as a clinical priority.

Despite the underutilisation of indirect consultation, however, in some situations where it was availed of, its clinical impact was notable at the level of individual patient care. One indirect referral for suspected early psychosis, resulted in an acute inpatient admission while in another case the consultation suggested the likely diagnosis of psychotic depression in pregnancy and the recommendation of immediate clinical intervention. On another occasion, indirect consultation identified what appeared to be a significant risk issue, arising from threatening behaviour towards staff and resulted in the immediate recommendation to escalate the concern to senior management at the HC. There were also several interesting referrals for insomnia, one of an older man with caffeine-induced insomnia, as a consequence of the cultural health belief that tea was cooling and could help with sleep. A case report based on the assessment of this patient by one of the medical students was subsequently published in collaboration with the author, in
the Malaysian Journal of Psychiatry (Leow et al., 2015).

The agreement, at the outset to provide CME sessions in mental health at both HCs was followed through but to a limited extent in that one such session was provided at each HC. The reasons for this appeared to relate to the challenges of scheduling a day in which staff could be freed up in sufficient numbers. Interestingly, however, both sessions were well attended by nursing staff, in contrast to the relatively low numbers participating in the ongoing weekly PIPC consultations. It may be that the concept of CME provision by external agencies was more compatible with the established roles, as referred to above. In hindsight, given the apparent acceptance of CME on the part of clinical staff from a range of disciplines, as well as the evidence of limited previous training in mental health, it could have been useful to build it into the project in a more structured format and at an earlier stage in the PIPC project.
Chapter 5: Views and Experiences of Primary Care Clinicians in relation to
Common Mental Disorders and the PIPC Project

5.1 Introduction
This qualitative phase addressed study Objective 3. It was designed to be consistent
with MRC guidance on the process evaluation of complex interventions, namely to build
sequentially upon findings from earlier stages, in an iterative process of data collection
and analysis. The design also makes use of NPT, as a framework to assist in
understanding the factors that could promote and inhibit the embedding of interventions
aimed to improve the identification and management of CMDs in Malaysian primary
care settings.

The author’s experience, therefore, from planning and negotiating the PIPC project with
stakeholders, in combination with quantitative findings from the baseline examination of
the HC service context (Chapter 3) and service utilisation data collected during the pilot
intervention (Chapter 4) informed the choice of subject areas that were explored in
semi-structured interviews with primary care clinical staff.

The chapter begins with a statement of the aim of this phase of the study, followed by a
description of the qualitative method employed. This is followed by a presentation of the
results of a thematic analysis of semi-structured interviews with primary care clinicians
at T1, before the implementation of the pilot PIPC intervention and at T2, shortly after
completion of the 8-month study period.

The chapter concludes with a discussion of the thematic findings from the clinician
interviews, in light of the study’s aims and previous literature. It provides further context
and background for the subsequent chapter exploring of the value of the PIPC project
from the undergraduate medical educational perspective and for the final chapter, which
synthesises the results from all phases of the study.
5.2 Objective 3
To explore the perceptions of primary care clinicians at the two participating health clinics, of their role in relation to services for people with common mental disorders and their experience of the pilot PIPC service.

5.3 Method

5.3.1 Participant Recruitment
The research officer recruited the primary care clinician interviewees, purposefully, from a list of clinical staff provided by the manager at HC A and HC B. A mix of front-line clinicians of different professional disciplines was sought, in order to achieve a balanced representation at each HC, in terms of the number of participants and their professional discipline. It was intended, as far as possible, to interview the same individuals at T1 and T2, so that perceptions elicited before and after delivery of the PIPC service could be compared.

At HC A, the only FMS working in this setting requested that he be excluded from the sample recruited for the individual qualitative interviews. This was felt to be appropriate from an ethical perspective in that, his unique status might have led to difficulties in protecting his anonymity.

5.3.2 Procedures
A topic guide (Appendix 5) was developed by the author, in collaboration with his co-investigators, informed by the study’s aims, relevant published literature and the design principles as described above. The research officer for the study carried out the interviews. She approached each potential interviewee and obtained informed consent. In addition to basic training in qualitative methodology, the interviewer had ongoing guidance and support from the author.

Each audiotaped, semi-structured interview lasted approximately one hour and was held at a convenient time arranged several days in advance, in a quiet room at the respective HC.

At T1, the semi-structured interview schedule explored the PCCs’ perceptions of their
activities in relation to identifying and managing patients with CMDs, their perceived professional roles in this area within the HC, individually and collectively. It also included items exploring clinicians’ needs for support, training and supervision in relation to primary care service provision for CMDs and their opinions regarding the planned PIPC pilot intervention.

At T2, the interview schedule revisited these same subject areas, exploring any changes in perceptions from those elicited at T1. Additional items contained in the interview schedule at T2 included interviewees’ perceptions in relation to quantitative findings obtained from the quantitative analysis of descriptive data, previously collected at each of the two HCs and data on the pattern of utilisation of the PIPC service. The topic guide at T2 also explored clinician perceptions of the manner in which mental health (DASS) screening was conducted at each HC, as well as the experience and the perceived influence on practice arising from the PIPC service. Interviewee views were sought on the referral pattern and clinical profile of patients referred to the PIPC and the perceived roles of different health professionals in mental health care.

5.3.3 Data Analysis

All audiotapes were transcribed verbatim, by a commercial transcribing agency. A thematic analysis was carried out by the author on the semi-structured interview transcripts, at T1 and a separate analysis at T2. At both T1 and T2, the data analysis involved the use of a simple coding framework, based on the four NPT core constructs: Coherence, Cognitive Participation, Collective Action and Reflexive Monitoring. Units of text were categorised using these constructs as headings, following which emerging themes were identified, keeping in mind the study’s aims.

Two other co-investigators, the research officer who conducted the interviews and one of the other the PMC psychiatrists involved in the PIPC service carried out a separate thematic analysis of T1 and T2 interview transcripts, using a similar process. Subsequent discussion between the three co-investigators addressed apparent overlap in themes, areas of agreement and divergence in interpretation, before a consensus was achieved on a final set of themes.

The relationship of the 4 NPT constructs to the implementation process is schematically
represented in figure 3 below, adapted from May et al 2018 (May et al., 2018).

Figure 3. Relationship of NPT constructs to implementation process

Adapted by the author from May et al., 2018
5.4 Results

5.4.1 Participants
At T1, 18 HC staff were interviewed at T1 (pre-PIPC): 9 from a total of 80 staff employed at HC A and 9 from a total of 48 employed at HC B. Of these, 16 staff in total were also interviewed at T2 (post-PIPC). Of the two staff not interviewed at T2, one had been transferred to another clinic while the other was on maternity leave.

Descriptors of participants in the individual semi-structured interviews at T1 and T2 at HC A and HC B respectively are summarised separately for HC A and HC B in table 16 below. The demographic descriptors of study participants from HC A and HC B were similar, while the average duration of participants' employment at HC B was less than at HC A.

Table 16. Descriptors of primary care clinician participants in qualitative interviews

<table>
<thead>
<tr>
<th></th>
<th>Number of Study Participants</th>
<th>Professional Discipline</th>
<th>Gender Ratio F:M</th>
<th>Age: Range and Average</th>
<th>Duration of HC Employment</th>
</tr>
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<tbody>
<tr>
<td><strong>HC A</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1: 9</td>
<td></td>
<td>6 medical</td>
<td>6 F: 3 M</td>
<td>23-45 years</td>
<td>4.3 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 nursing/AHP</td>
<td></td>
<td>Average: 33 years</td>
<td></td>
</tr>
<tr>
<td>T2: 8</td>
<td></td>
<td>6 medical</td>
<td>6 F: 2 M</td>
<td>26-56 years</td>
<td>3.1 years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 nursing/AHP</td>
<td></td>
<td>Average: 34 years</td>
<td></td>
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<tr>
<td><strong>HC B</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1: 9</td>
<td></td>
<td>5 medical</td>
<td>5 F: 4 M</td>
<td>26-56 years</td>
<td>4.3 years</td>
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<td></td>
<td></td>
<td>4 nursing/AHP</td>
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<td></td>
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<td></td>
<td>Average: 34 years</td>
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</tr>
</tbody>
</table>
5.5 Thematic Findings in advance of pilot Intervention (T1)

5.5.1 Construct 1: Coherence

Theme 1: Understanding CMDs

MO interviewees expressed a range of opinions on the identification and management of CMDs. While some made spontaneous reference to the presence of depression and anxiety among HC attenders, others did not appear to conceptualise CMDs as medical diagnoses or identify with the concept of a threshold of symptoms, suffering or functional impairment that would lead them to diagnose “caseness” in an individual patient. Among some MOs also, there appeared to be a perception of psychosocial stress as universal, present to a greater or lesser degree in all patients and strongly associated with social or financial pressures. A general awareness of the prevalence of CMDs as co-morbidities in the presence of long-term medical illnesses such as diabetes or heart disease seemed to be relatively absent.

“Everybody has some sort of psychiatric condition lah- I wouldn’t say illness. Everybody has some form of it. It’s just that it’s a matter how they are handling, they are able to… contain their feelings or they are able to handle it. I think stress is a form of mental condition as well, isn’t it? So everybody goes through it”. Interviewee 6

A sub-theme emerged in terms of what appeared to be a narrow concept that interviews held of a formal psychiatric diagnosis. There seemed be a perception, among some interviewees, that such disorders were not frequently encountered, as suggested by the following response to the interviewer’s question exploring the frequency of mental health presentations:

“Not everyday I see them-lah, maybe once a while only lah. Maybe, sometimes in a week I don’t think I see any of those sorts of patients.” Interviewee 1

A small number of MO interviewees made spontaneous reference to the increased risk of depression and anxiety disorders among patients with diabetes and hypertension.
However, even when this was recognised, they seemed to underestimate the prevalence.

“*We do see about average about 150 outpatients a day lah. Probably you do have 1 or 2, just saying it’s just out patients la. But like within the ones with chronic medical problems, I think there could be a few more la, that kind of thing.*” Interviewee 4

5.5.2 Construct 2: Cognitive Participation

*Theme 2: Holistic Care*

While interviewees appeared not to hold clearly defined positions in relation to CMDs as clinical entities, a consistent theme emerged, in terms of their cognitive engagement with the concept of holistic patient care as a guiding principle. There was a generally expressed willingness to explore patients’ emotional and socioeconomic difficulties as well as their medical symptoms. Their cognitive participation in this seemed to inform interviewees’ clinical approach and to offer a justification for addressing psychosocial concerns during the patient contact.

“*Cos this is a community health, a health clinic, I’m not in a specialty clinic so I have to see every case that comes and see the patient as a whole*”. Interviewee 11

Interviewees also conveyed sensitivity towards patients’ reluctance to disclose mental health symptoms directly. There were several spontaneous references to the value of attending to patients’ body language in prompting exploration of psychosocial issues. Interestingly, several MOs also referred to the complaint of insomnia as a marker of potential emotional distress. These subtle cues were perceived as providing an entrée to follow-up questions exploring potential life stresses, leading, in turn, to advice - an activity which many interviewees termed “counselling”.

“*If the patient knows you for quite some time they will tell you but the new one they might be a bit difficult for them to share their feelings and things like that. So, that would be a bit difficult to pick it up. But overall.. hmm, as I said from my experience and clinic*
itself, usually you would be able to see la from their body language, from their behaviour and things like that, yeah they would tell” Interviewee 6

“Most commonly they are unable to sleep like maybe have a stress lah like the financial so I just say ah you see lah you have any problems we can bring to dicuss lah but I prefer you come at afternoon lah so I have more time so we can discuss more lah”. Interviewee 3

Although the numbers of non-medical interviewees were fewer, their engagement with the concept of holistic care as informing their professional role was no less evident.

“By looking at the person also you will know that the patient is having emotional problem and the way we talk, we can get so many things from them. The way we communicate with the people. That’s why I feel communication is very important. Good communication and also eye contact”. Interviewee 4

5.5.3 Construct 3: Collective Action

Theme 3: Collective Action within Narrow Confiness

Medical officer interviewee responses to questions exploring collective action in mental health care were frequently prefaced by general comments in terms of time pressures and resource limitations. The overall sense conveyed was that the MOs perceived few if any organisational expectations or incentives to engage in collective action in relation to mental health presentations in general and CMD presentations in particular. In the acknowledged absence of key performance indicators that impacted on them directly in the area of mental health care, they acknowledged considerable clinical autonomy in determining their individual response.

MO interviewees, without exception, expressed satisfaction with the fact that advice and support was readily available from the FMS on site or via telephone contact, in situations in which they felt concerned about acute mental health presentations. To this extent, there seemed to be a perception of collegiality and effective integration in the
MO-FMS interaction in mental health care. However, descriptions of the context of such communication suggested that it usually occurred in situations of behavioural risk, where an immediate decision about whether or not to refer to secondary care required the FMS to be involved.

"Usually cases we refer more like the psychotic symptoms, psychotic features lah. Things like they hear voices, then they have this delusion thinking and things like that, then yes we will refer. Then of course, behaviour, very sudden behaviour changes, then we will refer too". Interviewee 11

Responses to questions exploring sources of support in mental health care provision suggested the existence of an informal network among MOs. However, as in the MO-FMS interaction, collective action between MOs seemed to be mobilised in situations involving potential risk or disruption to the functioning of the clinic resulting from a mental health presentation, as illustrated in the following:

"Like sometimes if they see like our colleagues if they see us very long with a patient, they’ll actually come and ask you know anything?. Or any shouting screaming patient—any weird patients. They will just walk over and ask”. Interviewee 7

Examples of collective interdisciplinary action involving medical and nursing staff emerged only in nursing interviewees’ references to the fact that they could request the MO to see a patient with a suspected mental health problem. They seemed generally comfortable with what appeared to be a hierarchical relationship with clear lines of authority in decisions on the need for any subsequent intervention.

"Most probably, I will refer these cases to the doctors, get their opinion and know what to do, and the next step, then they will tell me the next step then I’ll do the next step lah.” Interviewee 10

One interviewee from a nursing background, however, expressed views that were quite divergent in this regard, advancing the broader nursing in this area. She described no hesitation in approaching patients she felt might have mental health problems directly and in providing supportive counselling to them unless they had obvious needs for a more specialist intervention.
While specific questions in relation to the administration of the DASS screening tool at the HCs were not included in the topic guide at T1, it was notable that spontaneous references to its application almost never occurred.

5.5.4 Construct 4: Reflexive Monitoring

Theme 4: Positive Self-Appraisal and Caution towards Change

Exploration of interviewees’ reflexive monitoring of their activities in mental health care revealed a similar pattern to that which emerged under the category of collective action in terms of the dominant narrative of a system under stress. Unsurprisingly, in the context of competing service demands, there were no references to the existence of formal structures or processes for individual or collective appraisal in the area of mental health service provision.

However, when interviewees’ appraisal of their current performance in mental health care was explored, an interesting theme emerged in that, despite the obvious resource limitations, many MOs expressed confidence in their ability to respond to the mental health needs of their patients. They were at pains to convey that they adopted a holistic approach to patient care and took opportunities to support their patients experiencing psychosocial difficulties. They also appeared to accept responsibility, as primary care clinicians, in providing a response to the mental health needs of their patients.

“Hmm, I would actually most of the time what I can do is actually to talk to them, to give a bit of counselling lah.” Interviewee 1

A divergent opinion was expressed by a minority of interviewees who acknowledged that the area of mental health was not a priority, as illustrated in the following response to a question in this area:

“Lack of staff, alright, lack of staff. You know each district the population is increasing ok. ..They want to push the staff to hospital. So we’re having less staff here. So I cannot put most of my effort in dealing with this kind of patient”. Interviewee 7
The imminent introduction of the PIPC service, on-site, received a cautious appraisal, in terms of the potential impact on workload. There was little evidence of overt hostility towards the service from the MOs’, but equally, there was clearly no sense that it was perceived as likely to meet an identified clinical need. Even among the more positive MO interviewees, implementation of the PIPC service seemed to be viewed as a challenge to be met, while less enthusiastic participants voiced concerns that it could place an added burden upon already overstretched clinicians and potentially disrupt existing service provision.

“It's a good programme, they have got our support but err the thing is err we really appreciate if let say err…if it's been done with our load and our…our stress is being considered too lah. That means the days chosen okay we have certain days that we are fairly okay. Most of the days we are in bad shape” Interviewee 9

“Hmm, I think shouldn’t be a problem la.. I think we shall cope in a way that probably if we are very short probably we just call one patient, that kind of thing. So that probably something we can learn, make the best out of one patient la, better than many patients, at one go la I guess, without disrupting the clinic duties.” Interviewee 1

There was a more consistent perception, however, that the clinic could benefit from an on-site counsellor to whom they could refer and whom they could share the burden of patients who needed more time.

“Er we noticed that eh psychiatric patients are actually very attached to us, so it'll be great if we actually have someone like a back-up probably a nurse or a counsellor that we can actually talked to. Because sometimes we can be very busy.” Interviewee 6

A similar pattern emerged in response to exploration of clinicians’ previous experience and training in mental health, in that the medical officer (MO) interviewees felt generally satisfied with their current skill level. Several described that they had benefited primarily from their incremental learning from contact with patients in the primary care setting over time and that they valued this cumulative clinical experience over any formal training in mental health care.

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Responses from the four interviewees from a nursing background, in contrast, revealed obvious differences from those of the MOs, in that they were tentative in appraising their current role in mental health area and appeared less defensive of the status quo, while several openly acknowledged the limitations of their nurse training in the area of mental health. However, in common with the MOs, they showed awareness of non-verbal indicators of patients’ emotional state.

“I think we can look at the way they talk, their behaviours. The way they react to our reaction, we can really know” Interviewee 3

5.6 Thematic Findings at T2

5.6.1 Construct 1: Coherence

Theme 1: Shift in Understanding of CMDs

The post-intervention interviews revealed the thematic finding of a positive impact on the sense-making surrounding CMDs, articulated predominantly, but not exclusively, among those MOs whose participation in the PIPC consultation sessions was relatively frequent and sustained. The perceived benefits among these interviewees included increased awareness of CMDs as medical diagnoses, recognition of the value of the PIPC service on-site as an option for those patients reluctant to accept referral to secondary care mental health services and greater knowledge of community mental health supports offered by NGOs with which the primary care clinicians had been previously unfamiliar.

“I would say it was good in a way that it does help in terms of diagnosing and all these things. And we are actually more confident in treating them and what other options that we have, we are made aware of”. Interviewee 15

“Yeah there was one of my colleagues who attended a session and he was asked to refer the patient to an NGO… this gave me an awareness of those NGOs” Interviewee 7
“The last patient we picked up, they didn’t offer any psychiatry problem, like depression. But we picked him up by looking sad. So we are more aware...usually we’ll just finish their problem and we let them go. Now we actually pick them up.” Interviewee 9

“I think we are more comfortable in treating depression now.” Interviewee 1

Of the nursing and other AHPs interviewed at T2, only two had actually attended the PIPC consultations so that it was not possible to identify obvious evidence of change in their understanding of CMDs. However, one was emphatic in articulating her increased awareness of the association of CMDs and other NCDs

“Now I know that in patients with chronic problems the mental problems and other disease like diabetes, they have some depression problem”. Interviewee 10

In terms of the impact of PIPC participation on the skills of individual clinicians, the opportunity to observe the interview technique modelled by the consulting psychiatrists seemed to be especially valued by MO interviewees.

“I think in terms of communication skills, I would say it would improve my communication skills at the end”. Interviewee 1

“Yah I can see you know because this session that I have attended has really taught me, you know, what to look out for in patients, like to look specifically for the symptom that they are having you know, to diagnose what problem that they are having- so it actually helped me quite a lot.” Interviewee 8

5.6.2 Construct 2: Cognitive Participation

Theme 2: Variable Engagement with PIPC Intervention

Even among interviewees who were relatively more involved in the PIPC service, opportunities to participate in the consultation sessions were seen as limited by time constraints and the relentless demand to maintain patient throughput. Some MO interviewees acknowledged that they had avoided direct interaction with the PIPC service and conveyed this openly, as in the following exchange:

Interviewer: “How many sessions did you manage to join so far”? 
Interviewee: “To be honest, none, because I cannot just leave patients and come. And half the time we were covering other clinics.” Interviewee 6

In this wider service context, there was little sense, therefore, of general buy-in to the PIPC service as an accepted part of the MOs’ work. However, despite the obvious structural barriers to face-to-face contact with the PIPC service, it was also apparent that several MOs managed to attend the consultation sessions on multiple occasions.

A binary pattern emerged in terms of responses from MOs to questions exploring their cognitive participation in the PIPC service: some described concerted attempts to overcome the obvious systemic barriers to engagement while others remained at a distance from the project, explaining that they felt unable to leave their normal clinical duties. There was no spontaneous reference to the prevailing culture, at either HC, in terms of expectations of engagement with the PIPC service or otherwise, as a perceived influence on cognitive participation on the part of individual clinicians.

5.6.3 Construct 3: Collective Action

Theme 3: Implementation, not quite as intended

Analysis of the interview transcripts at T2 strongly suggested that the PIPC was perceived as a service for which suitable cases had to be found, rather than that referrals were readily available. Consequently, the designated MOs reported difficulties in recruiting more than one referral per visit from either their own or their colleagues’ caseloads. It was clearly difficult also, for any of the MOs to attend for the minimum agreed clinician presence at the beginning and end of each consultation session.

“Somehow we managed it lah..we make sure we plan ahead and then make sure we have enough people and even though we go up, we do not stay longer. We just present, we come down then after, at the end, the evaluation session, we go up again”

Interviewee 11

MO interviewees also elucidated why referral was more feasible in the case of patients who were recent attenders. They attributed this referral pattern, in part, to the fact that in
spending relatively more time with new patients in history taking, they could more easily incorporate questions exploring the patient's mental health and therefore consider the option of a PIPC referral.

"New patients we must spend more time lah, to know the patient head to toe. Then the old one, because our previous colleague maybe or last time, we know the likely disease and do a fast judgement without spending more time on history taking." Interviewee 13

The relatively low referral rate for patients with long-term medical conditions was attributed, also, to the added time pressures associated with required monitoring of physical parameters during each patient visit, so that exploring mental health symptoms risked prolonging the patient encounter and causing delays in patient throughput. One interviewee also conveyed a reluctance to explore mental health symptoms for the first time in patients whom she had seen on many previous occasions.

"Because you have to ask them, at the end of the day. Because our chronic diabetes or hypertension appointments come out at at least 50 patients. So it is just getting the HbA1c, blood etc. The problem is we really don’t have adequate time to…yeah, because you ask all these things, then you are opening up a closet of problems" Interviewee 1

With regard to the unanticipated frequency of insomnia as a reason for PIPC referral, some MOs offered the explanation that insomnia was common among clinic attenders as had also been reported at T1. In addition, insomnia, it seemed, was perceived to be a focus of inquiry acceptable to patients and as such, an opportunity to ask follow up questions in the psychosocial area. Others suggested that PIPC referral was seen as an option in addressing the clinical challenge presented by patients requesting sedative medications, the prescription of which is restricted in government-operated health clinics.

“Then some of them are misusing the drugs. They buy them from outside and they get to be dependent on the drugs to make them sleep. So once they actually do not have the drug they cannot sleep, okay, that’s the issue. I mean most of them come to clinic to get the medicine" Interviewee 9
5.6.4 Construct 4: Reflexive monitoring

Theme 4: Balanced Criticism

Medical officer interviewees were unanimous in the perception that the PIPC service, as implemented during the pilot intervention period, was largely incompatible with substantive face-to-face participation on their part, because of the conflict with ongoing service demands. Nonetheless, establishing the pilot implementation appeared, at a minimum, to have had the perceived impact of sensitising the clinicians to the issue of mental health services in primary care and the potential benefits of on-site consultation.

"Most useful thing I would say that emm the treatment part as in a sense like the medication, what medication to use for the patients for specific conditions, and also for non-pharmacological treatment- who to refer to." Interviewee 15

There was an overall sense from the interviews at T2 that the clinicians had developed more fully-formed opinions than at T1, not alone in regard to the operation of the PIPC service but also in respect of mental health care provision, in general.

“So now at least there’s an alternative. Because sometimes there are patients who are rather reluctant to be referred to psychiatry. They just want medication and you know it’s not the right thing to do” Interviewee 16

A wide variety of suggestions emerged on how the organisation and resourcing of the services at both HCs could be modified to improve efficiency, for all clinic activities, while also addressing the ongoing problem of limited availability of MOs for face to face interactions with the PIPC consultation within the working day. Seeing patients by appointment, instead of on a “walk-in” basis was frequently suggested as facilitating continuity of care and greater familiarity with the same patient over time. However, the opinion that this could lead to inappropriate neediness among patients was expressed by a few interviewees.

There was a general perception of the need to recruit more medical staff, including an FMS at HC2. Some MOs also recommended that the PIPC service be scheduled to run at a time other than in the morning, when peak clinical activity occurred, while others felt it would be better delivered as a planned CME activity, completely separate from the
MOs’ views on the shortcomings of the PIPC intervention appeared to be tempered, to some extent, by acknowledgement that the actual clinical service was well organised, that the visiting psychiatrists undertook thorough assessments and there were no major reservations in regard to the participation of medical students. There was also general agreement among interviewees, that the great majority of patients and their relatives seemed to be satisfied with the manner in which they were interviewed, as well with as the quality of diagnostic feedback and management recommendations.

“At least the patients know what they have been having, what is their condition. They have been given proper advice so now they know what to do to get better” Interviewee 11

“When the patient goes off, out the door..smiling coming out..they are happy.."I said are you ok? Do you like the session”..... They say “OK. I’m happy. It’s a good session, that’s what they told me lah..mm.” Interviewee 2

“From the ones that I saw they handle it quite well. They manage to get a lot of history from the patient and they manage to get information but they did it in a way that it didn’t make the patient feel uncomfortable. So the patient willingly told all information and that helped them.” Interviewee 16

Theme 5: The value of mental health screening

While interviewees at T2 appeared to be in favour of mental health screening, in principle, there was broad agreement in relation to the perceived shortcomings in the administration of the DASS screening tool. MOs acknowledged that they rarely administered the DASS during their patient contacts because of lack of time and the perception that the tool was too long. They criticised the practice whereby medical assistants administered the DASS opportunistically until a quota was reached, as part of a standard package of health screening programme for mostly healthy young couples planning to marry.

“I don’t think there should be a quota because when you have a quota you try to fulfil
the quota more than trying to help the patients so I think there shouldn’t be a quota”

Interviewee 8

“Truthfully, we hardly give them out. We give them out during saringan, as in, you know, people coming in for marriage….I think everyone comes back fine.” Interviewee 7

“A random thing, yes, yes but now we are targeting more on those getting married, we get the HIV testing and things like that, then we actually target them first lah. So if there’s enough quota, they don’t target the general population anymore lah.”

Interviewee 2

Interviewees from a nursing background were less forthcoming in expressing opinions about the practice of DASS screening, apart from one, who also acknowledged that MAs selected patients opportunistically until they reached the set quota for the HC and who also felt the DASS was too lengthy to be useful in a primary care setting.

Theme 6: Nurses and allied health professionals underutilised

Perceptions underlying the fact that health professionals other than medical doctors were minimally involved during the PIPC pilot implementation, were explored in the interviews at T2. Among the MOs interviewed, there was an obvious appreciation on one hand for the value of allied health professionals and especially nursing staff, as well as acknowledgement of the benefits to patient care arising from unique aspects of the nurse-patient interaction, as complementary to the medical role.

“I mean some paramedics- I am talking about nurses, they have quite good relationships with the patients. For example they may know the patients in a way you know so… emm especially when- they know the patient in a way. So whatever advice that we give, sometimes we tell the patient they may not get it in a way you know, sometimes lah, they may not get it because err due to a lot of factors lah.. but the nurses can actually translate it in their own way to the patient.” Interviewee 9

However, some MOs also conveyed a sense of frustration regarding the limited number of tasks formally assigned to nurses in mental health care at the HC, which, apart from the DASS administration, included the administration of depot anti-psychotic
medications. There was potential, from the perspective of a number of MOs, for the role of nurses and AHPs generally, to be broadened considerably beyond these circumscribed tasks.

“I think their roles is quite important in identifying this type of patients. I mean doesn’t really go down to doctors only- I think it also relates to other staff like you know the pharmacists, nurses and MAs I think everyone should be more involved in identifying these type of cases, I don’t think it just should be the doctors’ job." Interviewee 15

“Our clinic setting, they don’t play much of a role besides ahh.. because they don’t even do counselling so everything is done by the doctors so staff don’t really do much beside the injections they give.” Interviewee 7

As was evident in other areas explored, non-medical interviewees appeared more accepting of the status quo with regard to their role in general apart from one interviewee who was more assertive in articulating the uniqueness of the nursing role as complementary to the medical contribution.

“We play a very important role also. Because we need to search at the early stages. So, sometime doctor is too busy to detect this kind of thing. Sometime the patient is stressful because waiting too long. So, we should we be the one who should be telling the doctor.. this one, this patient are having some mental issues. So, I think we should playing a proper role lah.” Interviewee 2

The same interviewee was particularly enthusiastic about the PIPC project and felt there should be more of an organised multidisciplinary and programmatic approach to mental health care in the HC, as there was for other medical conditions.

“I think this thing should go on –make it really happen. Because we have so many programmes ok ha! ..so I think mental health should also be there, ha, with multidisciplinary involvement ha!”. Interviewee 2
5.7 Summary of Thematic Findings at T1 and T2

The thematic findings from the primary care clinician interviews are summarised in Box 2 below.

Box 2. Summary of thematic findings from qualitative interviews with primary care clinicians

<table>
<thead>
<tr>
<th>T1</th>
<th>T2</th>
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<tbody>
<tr>
<td>• Lack of clarity in sense-making in relation to CMDs.</td>
<td>• Shift towards increased recognition of CMDs as diagnostic entities.</td>
</tr>
<tr>
<td>• Cognitive engagement with the principle of holistic care.</td>
<td>• Variable cognitive engagement with PIPC.</td>
</tr>
<tr>
<td>• Relative autonomy in mental health aspects of routine practice.</td>
<td>• Collective action with departures from intended PIPC model.</td>
</tr>
<tr>
<td>• Collective action limited to urgent presentations of major mental illness.</td>
<td>• Clinician participation in PIPC limited by ongoing service demands.</td>
</tr>
<tr>
<td>• Positive self-appraisal of current practice in mental health care.</td>
<td>• Criticism of current screening practices in mental health.</td>
</tr>
<tr>
<td>• Caution towards introduction of the PIPC.</td>
<td>• Awareness of potential for expanded nursing/AHP roles in mental health.</td>
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</tbody>
</table>
5.8 Discussion

A range of challenges and opportunities for enhanced identification and management of CMDs in the HC settings emerge from this qualitative phase of the study. The semi-structured interviews, especially those at T2, offered an opportunity to explore in greater depth, clinicians’ perceptions of the PIPC pilot intervention, while also elucidating the reasons underlying the pattern of PIPC service utilisation.

5.8.1 Discussion of Themes at T1, utilising NPT Constructs

With regard to coherence, the first of the four NPT constructs, our thematic finding at T1 that diagnostic concepts of CMDs appeared less defined, is consistent with previous literature suggesting that the diagnosis of mental disorders in primary care is less precise and involves less clearly identifiable clusters of symptoms (Gask et al., 2009a). However, there may be other factors contributing to this finding in that our interviewees, as Malaysians, may be also less disposed to make psychiatric diagnoses because of cultural influences that conceptualise mental health symptoms in terms of spiritual issues or mind-body imbalance, as suggested in a recent review of mental health development in Malaysia from a sociocultural perspective (Chong et al., 2013). The HC clinicians, moreover, may be particularly sensitive to the stigma that a formal label of mental illness carries among all three major ethnic groups that make up the Malaysian population and to the consequent reluctance on the part of patients to report mental health symptoms (Minas et al., 2011).

In this context, it is perhaps not surprising that the second theme that emerged at T1, under the NPT construct of cognitive participation, was that clinicians strongly stated their commitment to holistic care. This endorsement may be interpreted positively, as indicating a lesser propensity on the part of our interviewees towards dualistic notions of mind and body, a recognised barrier to the integration of mental health and general medical care. It may also suggest that Malaysian primary care clinicians may be relatively receptive, in comparison with their western counterparts, to the introduction of patient-centred and whole-system models of care, that address socioeconomic disadvantage as a major contributor to chronic disease, including CMDs (Kennedy et al., 2007).
On the other hand, reluctance to apply diagnostic labels in mental health care within community settings risks under-recognition and as a consequence, under-treatment of CMDs. Depression has been found at a prevalence rate of over 12%, among women attending urban primary care clinics in Malaysia, mainly associated with the stress of financial pressures and domestic disharmony. Similarly the prevalence of anxiety disorders among female primary care attenders has been shown to be similar to that found in western countries (Sidik et al., 2012). However, a national epidemiological survey revealed that only 7% of Malaysians with CMDs, established by a validated diagnostic interview, had been previously diagnosed with a mental disorder by a health professional (Krishnaswamy et al., 2012).

There appeared to be relatively little sense emerging from the semi-structured interviews at T1, of organised activities within the NPT construct of collective action. The fact that a collective response on the part of the MOs appeared to be mobilised, supported and authorised by the FMS, mainly in crisis presentations involving major mental illness was not surprising in light of the service pressures in other areas and the perceived absence of operational demands for clinical services targeted towards patients with CMDs. However, such limited collective action in mental health does seem to illustrate the lag between policy and implementation in Malaysian mental health care, as previously recognised, insofar as the operational policy in government-operated primary care clinics requires a process for the early identification and treatment of mental disorders (MOH, 1998).

Consistent with the thematic findings in relation to collective action, the semi-structured interviews at T1 suggested that most HC clinicians perceived few opportunities to engage in reflexive monitoring in regard to mental health care. The theme that emerged under this construct was one of positive self-appraisal and caution towards the forthcoming introduction of the PIPC service. It has been found that limited consultation time and the experience of excessive workload pressures can make it hard for front-line clinicians to explore new ways of working, resulting in what has been described as a “climate of inertia” (Eaton et al., 2015). This phenomenon may have been reflected in what appeared as a somewhat defensive position with regard to interviewees’ current activities in mental health care and their expressed caution in the face of possible
further demands resulting from the pilot implementation of PIPC.

5.8.2 Discussion of Themes at T2, utilising NPT Constructs
At T2, following the pilot PIPC intervention, the utilisation of the four NPT constructs in the thematic analysis was more salient than at T1, as it facilitated the process evaluation of clinicians' actual experience of the implementation of changes in the response to mental health presentations at both participating HCs.

Under the NPT category of coherence at T2, there was some evidence of movement towards a more bio-medical understanding of CMDs, reflected in interviewees valuing their PIPC participation in facilitating earlier identification of CMDs, especially depression. Our findings in this regard are similar to those of the process evaluation of the MANAS trial of collaborative care for CMDs in Goa, India, where positive impacts on the identification and management of CMDs were described in qualitative interviews with front-line clinicians (Pereira et al., 2011).

In considering the wording of questions and probes contained within the interview schedule, the author and co-investigators were conscious that CMDs are "negotiated labels", especially in primary care and of the risk of influencing interviewees' responses by seeming to impose specific psychiatric terminology, which was therefore avoided where possible (Rogers and Pilgrim, 2009). It was reassuring, in this context, that the MO interviewees expressed confidence in the fact that while many patients referred to PIPC were not found to meet the threshold for a psychiatric diagnosis, those that did were regarded by the MOs as having been diagnosed based on firm diagnostic criteria that were clearly communicated.

The binary pattern of cognitive engagement with the PIPC service, on the part of the MOs, that emerged as a prominent theme at T2 was not unexpected. The author's reluctant agreement to an arrangement whereby only one MO at each HC would be assigned responsibility for PIPC referrals, carried the obvious risk that the desired reach of the pilot implementation to all clinicians at both HCs would be compromised. Variable cognitive participation in collaborative care has been described in previous process evaluations, as a challenge to be overcome in both high income and low and middle-income settings (Coupe et al., 2014, Lund et al., 2016).
The importance of this issue is underscored by evidence suggesting that access to necessary mental health care is shaped to a greater extent by the health care provider than by the patient (Chaney et al., 2011).

However, the extent to which the MOs in our study participated in the PIPC service, under difficult working conditions, suggests an openness to collaboration in mental health care. This could be further enhanced by future implementation of a collaborative care model in which front-line health professionals themselves were directly involved in configuring the service to accommodate the time and other resource constraints within their work environment.

The NPT constructs of collective action and reflexive monitoring at T2 are obviously overlapping in that the service providers’ appraisal of the demands of the PIPC service influenced their collective action and this was reflected, in turn in the thematic findings under both these headings. The MRC guidance on process evaluation stresses the importance of attention to evidence of departures and modifications from the intended implementation of a complex intervention. It was in this area that our thematic findings revealed perhaps the most interesting and important insights.

The first thematic finding in this area was the MOs selected referrals to PIPC based, to a greater extent, on the patients’ availability and acceptance of a psychiatric consultation, rather than their perceived clinical needs. This seemed to result in the over-representation of recent clinic attenders rather than, as intended, patients with long-term medical conditions with a higher risk of CMD co-morbidity.

The second theme, under the heading of reflexive monitoring, related to the time demands for extensive monitoring of physical parameters, especially in patients with diabetes and hypertension, as accounting in part for the lower representation of patients with LTCs among their PIPC referrals. Particular barriers to recognition and management of CMDs have been described in patients with chronic medical co-morbidity, as mental health symptoms may be afforded less priority, because of time constraints or because such symptoms are “normalised” in the discourse between patient and doctor (Coventry et al., 2011). Our findings suggest that the main perceived barriers to referral in the LTC group were the monitoring of physical parameters
although an apparent reluctance to explore potential mental health co-morbidity in patients who were long-term attenders also emerged.

The prominence of these themes illustrates the importance, as articulated in the MRC guidance on process evaluation, of addressing the interaction between the internal service context and the outside environment. In our study setting, there were few indications of implementation of national mental health policy in relation to recognition and early intervention for mental disorders. As found in other studies, in the face of time constraints, the absence of meaningful key performance indicators in mental health and competing service priorities in other areas of health care, the integration of mental health into routine clinical practice risks being marginalised, if not overlooked entirely.

The thematic findings in the category of reflexive monitoring were also important, in relation to interviewee perceptions of mental health screening using the DASS instrument and the perceived role of nursing and allied health professional staff in mental health care. The merits and demerits of the use of mental health screening instruments in primary care settings have received considerable attention in the literature. Screening for CMDs, using a validated questionnaire was perceived as useful to clinicians in the MANAS study, in terms of sharpening their diagnostic skills while providing an opportunity to explore patients’ concerns that might otherwise not be raised during the usual patient-clinician interaction (Pereira et al., 2011). Our interviewees appeared disposed to screening for CMDs in principle and some made spontaneous reference to the perceived benefits of the PHQ 9, as witnessed during the PIPC consultations.

However, the MOs in particular, were critical of the manner in which the DASS instrument was currently administered at the HCs, in terms of the opportunistic targeting of mainly younger and generally healthy clinic attenders. Our thematic findings, in this area, are consistent with previous literature suggesting that the collection of data to meet a bureaucratic requirement, without an identifiable link with improved service performance and quality, is wasteful of professional time and promotes apathy on the part of service providers, rather than empowering them to target care towards patients with the greatest need (Prince, 2018).
It has been recognised for several years that task shifting from medical staff towards health professionals who are available in greater numbers is essential to the scaling up services for mental disorders in LMICs. Our thematic findings in this area are optimistic in the sense that MOs clearly valued the unique relationship that nurses and other AHPs enjoyed with patients, as complementary to the doctor’s role in mental health care. However, there was also clear sense that many of the MOs felt that the potential contribution of nurses and other AHPs was not maximised, in terms of the limited and in some instances unproductive tasks they were currently assigned, notably with regard to the DASS screening. In contrast, most interviewees from a nursing background appeared to be sensitive to the established hierarchy in their relationship with medical staff and appeared generally less than confident in extending the scope of their activities in mental health care, beyond the traditional role of bringing concerns to the doctor’s attention.

Recent literature in theory and practice of planning and evaluation of mental health services in LMICs using the theory of change framework, acknowledges one of the fundamental assumptions in efforts to scale up mental health services in primary care is the willingness of frontline staff to take on new and more challenging roles (Breuer et al., 2016). Our findings support the importance of addressing this issue through ensuring political buy-in, followed by senior clinical leadership in order to deliver the necessary resources in terms of support, training and supervision required in effecting the transition towards an expanded role for nursing and other AHPs in primary mental health care.

5.9 Strengths and Limitations

This qualitative study, to the best of the author’s knowledge, is the first attempt to explore the factors promoting and inhibiting capacity-building in primary care mental health, from the perspective of front-line primary care health professionals in a Malaysian context. In contrast to some previous studies, it achieved a very high level of engagement among participants in both the pre- and post-intervention qualitative interviews. A further strength is the fact that while the two participating clinics were
located in the same geographic area, they represented service catchments with differing demographic profiles. In addition, the quality of findings from this phase of the study are strengthened by the fact that the PIPC project is still operating as a clinical service to date, four years after the study was concluded.

Limitations of the study include the fact that the participating primary care clinics and consequently, the clinicians recruited to the study cannot be assumed to be representative of health clinics or primary care staff from across the entire country. The participating clinics were both larger than average and located in an urban area. However, insofar as over 70% of the Malaysian population live in urban areas and the participating clinics served two catchment populations at different levels of socio-economic development it seems reasonable to assume that they are, at least similar to those located in other urban areas of Malaysia. (Sebastian et al., 2016).

A further limitation is the under representation of interviewees from a non-medical background, relative to the numbers of staff from these disciplines employed at both study sites. Finally, because the pilot intervention employed in this study was confined to a consultation-liaison psychiatry service on site in primary care, clinicians’ direct experience of other components regarded as necessary to the success of collaborative care models, notably the use of mental health case managers, could not be elicited.

5.10 Conclusions
PIPC service utilisation data, collected during PIPC’s pilot intervention period as reported in Chapter 4, revealed broad adherence to the agreed processes, especially with regard to the focus on patients with CMDs. However, departures from the intended implementation of PIPC and unanticipated patterns of utilisation also emerged during the course of the pilot intervention. These included the fact that although there was an option of two patient assessments during each PIPC visit, only one patient had been referred per visit. Also, the great majority of patients referred for direct consultation were relatively recent attendees while those with long-term medical conditions accounted for relatively few referrals. In addition, the frequency with which insomnia was documented as the reason for PIPC referral, was unexpected.
It was in these areas that the qualitative interviews with the frontline clinicians were particularly enlightening in providing an understanding of the reasons behind the pattern of utilisation of the PIPC service. What emerged in the thematic findings was that the primary care clinicians embraced a holistic model of care in which the contribution of psychological distress and consequent support needs arising from socio-cultural and economic factors was an important consideration. However, this did not seem to extend to a general awareness of CMDs as clinical entities requiring identification and treatment in a medical sense. The frontline clinicians’ experience of participation in the PIPC service was generally positive, albeit that their utilisation of and direct participation in the service was limited by severe time pressures in meeting the demands of their daily work.

Even though the added demands of the PIPC service were burdensome, in the context of the clinicians’ existing workload, the experience of the service nonetheless impacted on the participating staff in creating greater awareness of CMDs as clinical conditions for which current service provision was inadequate. Furthermore, they were prepared to express opinions on how this situation could be improved, by reconfiguring the service and expanding opportunities for nursing and AHP frontline staff.
Chapter 6: Medical student perceptions of the value of learning psychiatry in primary care settings

6.1 Introduction
This chapter builds on the findings reported thus far, in addressing the subject of CMDs from an undergraduate medical educational perspective. It explores the future potential for enhanced care for people with CMDs attending general and primary care medical settings who will typically be seen by medical graduates. Specifically the chapter reports on the experience of fourth year medical students at Penang Medical College who participated in the pilot intervention to provide psychiatric consultation to the two government health clinics, as part of their clinical clerkship in psychiatry.

The chapter begins with a statement of the objective of this phase in the research followed by a description of the mixed qualitative and quantitative methods used and the learning activities undertaken by the students within the consultation-liaison service to both participating clinics. It proceeds to report the results of a thematic analysis of four focus groups, held through the academic year in which a purposeful sample of the class participated and an on-line survey questionnaire was sent to the entire class at the end of the year.

This is followed by a triangulation of the qualitative and quantitative results. The chapter concludes with discussion of the findings including the potential impact on the students future attitudes and clinical skills in relation to the recognition and management of CMDs and the future potential for similar initiatives to incorporate primary care experiences as a routine component of the undergraduate psychiatry curriculum.

6.2 Objective
To determine the educational value of the PIPC service from the perspective of fourth year medical students at Penang Medical College (PMC) who participated in the pilot programme as part of their undergraduate clinical posting in psychiatry.
6.3 Methods

6.3.1 Study Design
A mixed method design was chosen for this phase of the study. Mixed methods have been increasingly used in research in complex settings, including health services, where they offer a potential advantage over qualitative or quantitative methods used alone (Robins et al., 2008). Mixed method researchers frequently demonstrate a pragmatic interest in what works in a real world context and often adopt a transformative philosophical position, reflected in a focus on the potential for systemic change (Creswell et al., 2011). As the subject area of medical student exposure to psychiatry in primary care is relatively unexplored in published literature, an exploratory sequential approach was adopted (Creswell, 2014). The qualitative method, involving focus group discussions with a purposeful sample of students, was followed by a questionnaire survey of the entire class, in order to further elucidate issues around the structure and implementation of the program. Findings from both the qualitative and quantitative methods were subsequently integrated and interpreted.

6.3.2 Setting
Penang Medical College (PMC) is owned and operated by two Irish university medical schools in partnership: The Royal College of Surgeons in Ireland (RCSI) and University College Dublin (UCD). PMC students, almost all of whom are Malaysian high-school entrants, spend an initial 2 ½ year period at either RCSI or UCD in Dublin, after which they return to PMC and receive further clinical training in healthcare settings in Penang. Clinical learning in psychiatry is provided within hospital in-patient units and outpatient clinics as well as in community services delivered by voluntary agencies.

6.3.3 Programme Description
During their 8-week clinical clerkship in psychiatry, as part of the PIPC project, up to five 4th year students accompanied one of three supervising consultant psychiatrists/lecturers, in weekly half-day mental health consultation sessions on patients referred from primary care clinicians at HC A and HC B. As 113 students rotated through psychiatry in four successive groups, each student was predicted to
have two opportunities to participate in this service.

The learning outcomes, outlined to students in advance, were:

(a) to conduct a psychiatric assessment of patients referred by primary care clinicians, and

(b) to participate in face-to-face discussion/feedback with the referring primary care physician and the consultant psychiatrist before and after the patient assessment.

Students, most of whom were multilingual, conducted history-taking and mental state examinations, using the standard format as taught in their introductory lectures and small group teaching sessions, in the language preferred by the patient (Malay, Hokkien, Mandarin, Tamil or English). The clinical interviews, during which students made hand-written notes, were directly supervised and guided by the psychiatrist and where necessary (mainly in the case of the one psychiatrist who was non-Malaysian) the students paused at intervals to translate the questions asked and patients’ responses. When clinically indicated, students also administered the PHQ 9. Students had received tutorials on the administration of the PHQ 9, in the several language versions available, as part of their initial introduction to psychiatry. The various tasks involved in the consultation, as described, were divided among the students, in order to achieve a balance in their level of participation. Within the week following each clinic visit, each group of students was required to collectively prepare and submit a case consultation report using the College online educational platform Modular Object-Oriented Dynamic Learning Environment (MOODLE). The report included a diagnostic formulation and management recommendations, as a compulsory but non-graded assignment. The report was then edited by the relevant lecturer and forwarded electronically to the referring primary care physician.

6.3.4 Qualitative Data Collection

Focus group discussions were chosen because of their utility in providing new insights and understanding in poorly understood subject areas and because of their feasibility in the medical school setting, in terms of the accessibility and relative homogeneity of the study participants (Crowe et al., 2015). Focus groups have been used successfully in Asian
medical student evaluative research.

Student participants were recruited purposefully, through the class representative as gatekeeper, in order to achieve a balanced representation of the class as a whole, in terms of age, gender and ethnicity. Four focus groups, each with 9-10 participants, were conducted at the end of each of the four psychiatry clerkships, through the academic year. Students were informed that their agreement or refusal to participate in the study would not impact on their grades. Prospective focus group participants were provided with a study information sheet and a consent form. The information sheet outlined procedures involved in the study, responsibilities attached to participation, potential disadvantages and benefits, sources of funding and the manner in which data collected would be treated.

A focus group topic guide (Appendix 6), informed by the existing literature and by students' learning outcomes, was developed by the investigators. The topic guide included the following subject areas:

- Students’ overall experience of the primary care mental health consultation sessions.
- Students’ views on the similarities and differences with other learning experiences
- The perceived value, from an educational perspective, of learning psychiatry in a primary care setting.

All focus group discussions were conducted in English, in a quiet room at the PMC campus and beverages and light snacks were provided to participants at the end of each session. Each audio-taped focus group lasted approximately one hour and was facilitated by a female research officer who led the discussion and a male research colleague, who annotated observations of the discussion process. Neither the research officer nor the observer had been involved in clinical supervision or teaching of PMC students. The research officer was a recent medical graduate who had completed a basic training program in qualitative methodology but who had no post-graduate clinical experience in psychiatry.
6.3.5 Quantitative Data Collection
At the end of the academic year, all fourth year students were invited to complete an anonymous, on-line survey of their learning experiences, which incorporated feedback on the psychiatry clerkship and a section on students’ participation in the PIPC program. The latter comprised a 20-item semi-structured questionnaire designed by the authors, with the content informed by clinical experience and by existing literature in the area (Table 17 below).

The survey explored students’ ratings of the value of the primary care learning experience relative to other hospital and community placements, their opinions of the time allocation to the primary care sessions and whether this learning experience had met their expectations. It also included open questions on the perceived relative value of the PIPC component and requested students to rank in order the 3 areas in which the primary care placements were most helpful. The questionnaire concluded with items eliciting perceptions of the students’ and primary care clinician roles during the teaching sessions, the level of perceived support from PMC lecturers and ways in which the learning experience could be improved.

6.3.6 Data Analysis
Qualitative analysis of focus group transcriptions employed thematic analysis (TA), an established method for organizing, describing and interpreting qualitative data (Braun and Clarke, 2006). Three of the investigators (VR, AB and CEL) initially read and re-read the transcripts independently, with the research aims and previous literature in mind. The author generated codes, based on units of meaning within the texts and then examined the relationships and meanings within the coded data in order to identify emerging themes. Subsequent discussion among the investigators addressed areas of overlap and divergence in interpretation of the data and a final set of themes was agreed by consensus.

Quantitative data analysis involved the calculation and tabulation of summary statistics from the students’ questionnaire responses. Screening for potential data anomalies and statistical analysis was performed using Stata Version 13. Following separate analysis
of both sets of data, the process of triangulation involved discussion among the investigators of areas of convergence, complementarity and dissonance before reaching a consensus on the meta-themes that cut across the findings from both methods (O'Cathain et al., 2010).

6.4 Results

6.4.1 Focus Group Participants
Demographic descriptors of focus group participants, all of whom were Malaysian, are presented in Table 17 below. These were broadly representative of the demographics of the class as a whole.

Table 17. Demographic descriptors of medical student participants in focus groups

<table>
<thead>
<tr>
<th></th>
<th>Participants</th>
<th>Average Age</th>
<th>Gender Ratio</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focus Group 1</td>
<td>10</td>
<td>24.4 years</td>
<td>5 F: 5 M</td>
<td>5 Malay, 3 Chinese, 2 Indian</td>
</tr>
<tr>
<td>Focus Group 2</td>
<td>10</td>
<td>24.3 years</td>
<td>6 F: 4 M</td>
<td>8 Malay, 2 Chinese</td>
</tr>
<tr>
<td>Focus Group 3</td>
<td>10</td>
<td>24.4 years</td>
<td>6 F: 4 M</td>
<td>7 Malay, 2 Chinese, 1 Indian</td>
</tr>
<tr>
<td>Focus Group 4</td>
<td>9</td>
<td>24.6 years</td>
<td>4 F: 6 M</td>
<td>6 Malay, 3 Chinese</td>
</tr>
</tbody>
</table>

6.5 Focus Group Thematic Findings
A number of overarching themes emerged from the focus group discussions: experience with common mental disorders; active learning and agency; shaping professional identity; working within constrained resources and influence on career
6.5.1 Theme 1: Experiences with Common Mental Disorders

The overall perception consistently conveyed by the students, in all the four focus groups, was that their involvement in the PIPC service was different, in several important respects, not only from other clinical learning placements within their eight-week psychiatry clerkship, but from their previous rotations through other clinical specialties, including family medicine.

A sub-theme emerged here, in terms of the primary care experience as offering students unique challenges and in engendering a sense of heightened anticipation of the clinical encounter. Illustrating the contrast between primary care and other clinical placements undertaken during the psychiatry clerkship, the participants highlighted the unique challenge involved in seeing patients in the health clinics with common mental disorders who had not been previously diagnosed with a mental disorder and where the presence or otherwise of psychiatric co-morbidity was not already determined.

"I think it’s more challenging because we also had a patient who complained of having pain under the arm but actually, after the doctors examined it, she didn’t have anything abnormal about it and showed that’s just the depression". FGD 1: Participant 2

In addition, participants frequently employed the term “freshness” in reference to patients they encountered in the primary care settings. The element of unpredictability in advance of seeing the patient seemed to generate increased interest and a sense of anticipation of the patient encounter and whether a mental health condition (schizophrenia and depression respectively, in the extracts below) might be revealed from their assessments:

"It was interesting because the patient was actually not diagnosed, she was only detected because she had hypertension…..and during the interview she manifested some of the symptoms- like she talks and laughs when alone." FGD 3: Participant 6

"I mean like…we had this one patient, he has been, you know, complaining of insomnia for about a year and he’s been seeking sleeping pills but when we did an assessment, we found that he actually had a major depression". FGD 2: Participant 2
6.5.2 Theme 2: Active Learning and Agency

The second major theme that emerged was that high levels of learning activity and agency were experienced as a consequence of students' participating in the PIPC program. Unique benefits were described from the extent to which students felt they were centrally involved and played a responsible role in the psychiatric assessment process. The following contributions were typical and reflected the broad consensus in this regard:

"I think it’s totally different because ya, when doing family medicine, we went to the GP setting, we were just there to observe the consultation between the doctor and the patient. Basically, we didn’t do anything else besides the observation whereas for psychiatry we were actually asked to interview the patient and being observed by our lecturer and then they will give comments and guide us through the interview. I think it’s a good experience for us". FGD 4: Participant 9

"We were actually given the chance to do it and they actually took what we did like you know… so we felt like it’s not just practicing or pretending, we’re actually doing something and they recorded it. So we were part of the management in this sense". FGD 2: Participant 7

6.5.3 Theme 3: Shaping Professional Identity

In all focus groups, students discussed the impact on their professional identity arising from their participation in the primary care psychiatry consultation/liaison service. These included references to social-cultural influences, confidentiality, the multidimensional professional role of primary health care physicians and the diagnostic complexity that is inherent in this setting.

Students appeared to be particularly sensitised towards the psychosocial context of patients they assessed, while also showing awareness of the socio-cultural implications associated with making a formal psychiatric diagnosis. In all four focus groups, they spontaneously raised the issue of the stigma experienced by people with identified mental illness in Malaysian society, how this had impacted on their own attitudes, growing up in Malaysia and how the primary care experience challenged their
previously held views. In the following exchange between participants, students refer to the pejorative term “orang gila” (translated as “crazy person” in Malay) to illustrate the challenge of stigma faced by people with common mental disorders such as depression:

“Once you have stigma, the slightest problem, everyone will call you a crazy person”. FGD 4: Participant 6

“Orang gila!” FGD 4: Participant 3

“I mean depression as well- they will call you an orang gila and treat you differently” FGD 4: Participant 6

“Even depression, which is very common in this country” FGD 4: Participant 2

There were also several reflective references to the importance of maintaining patient confidentiality and to the professional responsibility not to make a formal diagnosis unless clear and specific diagnostic criteria were met, as illustrated in the following extracts.

“I think the realisation about our heavy responsibility to take care of patients’ confidentiality because like the one experience that we had with patients, when we asked about the psycho-sexual history she actually volunteered very sensitive information”. FGD 2 : Participant 7

Students recognized that on a daily basis, in the primary care setting, psychosocial issues might arise for any patient and consequently, that even where a diagnosable psychiatric condition requiring medical intervention may not be present, opportunities arose for the doctor to be supportive and helpful in a variety of ways, including in an advocacy role.

“In primary health care, you will learn how to help patients in not just in medical way, but to use your authority to do something for this person, by writing letters to the workplace and the authorities, to help to change the situation, instead of just simply prescribing the drugs”. FGD 4: Participant 6

Awareness was also shown by students of the paradoxical situation, whereby clinicians in primary care are often faced with higher levels of diagnostic complexity than those in
specialist settings, arising from sub-threshold mental disorders, the challenges of differentiating normal human distress from illness and the multiplicity of interactions between physical and mental health, as illustrated in the following contribution.

"It's not clear-cut at all, 'cos their problems seem to be less pronounced and only when you take the thorough history can you connect the dots and see". FGD 1: Participant 1

6.5.4 Theme 4: Working with Constrained Resources

Despite the generally positive perceptions of the educational benefits of the primary care experience, an area of relative dissatisfaction was the level of interaction between the students and primary care clinicians. Students were aware of the organizational constraints faced by the consultation service, as relatively few front line primary care service providers had been authorized to become involved in the process. Nonetheless, they expressed frustration with the lack of opportunities to join primary care clinicians during the course of their routine work.

"I think it would be good if we involved the GP in the whole consultation with the patient because during the two sessions that we had they were not involved. They were not there- they are so busy!" FGD 4: Participant 9

However, participants' contributions to discussion in the focus groups on this topic were nuanced and showed awareness of the limitations of the primary care service setting, in terms of the multiple demands placed on the health clinics' frontline medical staff within the government-funded healthcare system. Students acknowledged the many obstacles faced by front-line clinicians, particularly in recognizing co-morbid mental health disorders within the busy, real world context of primary care.

Students' sensitivity to the many challenges presented, however, did not seem to result in their adopting a position of therapeutic nihilism or to perceive that the efforts of primary care physicians in mental health care were not worthwhile or feasible. In formal teaching sessions during the psychiatry clerkship, they had been made aware of opportunities to employ ultra-brief screening questions for depression such as the PHQ 2 and they made spontaneous reference to this, collectively and with obvious enthusiasm, in the following exchange from FGD 4 in which the focus group facilitator
explored the question of screening for depression (Mohd-Sidik et al., 2011).

"I think we have to be realistic about the time. Each patient we only have five minutes, eight minutes and the most the most important thing is to do screening". Participant 10

"Who will be doing the screening"? FGD Facilitator

"The GP!" All participants in unison

"Just two questions". Participant 2

“It’s not hard, just two questions!” Participant 10

6.5.5 Theme 5: Influence on Career Choice and Future Clinical Behaviour

In introducing the PIPC initiative to students, the psychiatry department’s main aspiration was that the experience would exert a positive impact on students’ future clinical behaviour as in general healthcare settings. Responses to exploration of this issue in all four focus groups suggested that participants anticipated that, arising from the primary care experience, they would be more likely to identify and intervene in co-morbid mental health problems in their future practice in primary care and in general medical settings.

"I think you know, depression can lead to medical illness or medical illness can cause some patients to be depressed- so we need to treat the patient as a whole" FGD 3: Participant 6

A divergent view emerged, from one student who was more circumspect and less convinced as to whether their raised awareness in the area of mental health would actually extend into their working lives after graduation.

However, most participants appeared to recognize the potential value to primary care clinicians of access to face-to-face discussion with the consultant psychiatrists, as articulated in the following comment:

"I think it was crucial to see the communication between psychiatry and primary care and that would probably be the biggest impact for us" FGD 2: Participant 8

In contrast, students generally responded to exploration of the appeal of psychiatry as a
career with explicit statements that they were unlikely to choose to work in the specialty following graduation. The following extract is illustrative of the generally expressed views in this regard:

“I’m not gonna become a psychiatrist, that’s for sure, I’m not gonna even think about it, but if let’s say I’m a physician handling a patient with tuberculosis or I’m managing a HIV patient with a lot of medication they might develop depression. So then I would be able to sort of treat this common medical illness up until the point when I think well I cannot do this by myself- then only refer to a specialist psychiatrist”. FGD 4: Participant 4

6.6 Questionnaire Survey Findings

Of the total class of 113 students, 93 (82%) completed the on-line survey. Of these, there were slightly more female (56%) than male respondents. Respondents’ ethnicity was primarily Malay (68%), followed by Chinese (22%), Indian (8%) and others (5%). No statistically significant differences were found with regard to gender or ethnic background between survey respondents and the total class. No statistical correlation was found between student questionnaire responses and either ethnicity or gender. All students attended at least one of the primary care session and sixty students (65%) had attended the PIPC sessions at both health clinics.

Students’ questionnaire responses to questions 1-19 of the survey are presented in Table 17 below.

The great majority of the students provided positive feedback on the PIPC experience: it met or exceeded their expectations (85%) with appropriate time allocation (84%), and it offered additional learning experience in comparison to previous community health settings they had attended (70%-88%).

When asked to rank the three areas in which the PIPC experience was most helpful, from a list of 10 potential benefits listed in the questionnaire, the respondents prioritised

1. “Opportunity to see the type of mental health problems not usually found in hospital psychiatry”

2. “Opportunity to see patients with co-morbid medical and psychiatric illness”
3. “Opportunity to take histories from patients with less severe mental illness”

With regard to the conduct of the primary care sessions, students felt their role was appropriate (91%), that they had sufficient support (90%), active involvement (78%) and that the referral cases were appropriate (89%). This was consistent with 89% expressing the opinion that the primary care program should continue as part of the clinical rotation in psychiatry. Most students (77%) felt the task of submitting a report on the case seen on Moodle was helpful while the majority (56%) expressed the preference that this task not be assigned a formal grade.

The student feedback also highlighted some areas that could be improved: a significant number (37%) felt that their interaction with primary care clinicians (medical officers, GPs, nursing staff) was too little while more than 1 in 4 (26%) reported technical difficulties in preparing their case reports on a Excel template and uploading them to the College website.

Responses to a final open question on how the PIPC learning experiences could be improved (question 20 in the survey), resulted in a variety of suggestions including an increased allocation to the PIPC component during the psychiatry clerkship, greater involvement by primary care clinicians and reduced student numbers participating each HC visit in order to facilitate patient comfort and engagement.
Table 18. Results of Medical Student Questionnaire Survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Item</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>Female</td>
<td>52 (56%)</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>41 (44%)</td>
</tr>
<tr>
<td>2. Ethnic Origin</td>
<td>Chinese</td>
<td>20 (22%)</td>
</tr>
<tr>
<td></td>
<td>Indian</td>
<td>7 (8%)</td>
</tr>
<tr>
<td></td>
<td>Malay</td>
<td>63 (68%)</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>3 (5%)</td>
</tr>
<tr>
<td>3. Did you attend?</td>
<td>HC A</td>
<td>22 (24%)</td>
</tr>
<tr>
<td></td>
<td>HC B</td>
<td>11 (12%)</td>
</tr>
<tr>
<td></td>
<td>HC A &amp; B</td>
<td>60 (65%)</td>
</tr>
<tr>
<td>4. If you attended both HCs, which HC did you feel provided the better learning experience?</td>
<td>HC A</td>
<td>38 (53.5%)</td>
</tr>
<tr>
<td></td>
<td>HC B</td>
<td>33 (46.5%)</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>71 (100%)</td>
</tr>
<tr>
<td>5. Do you feel the time allocation within the psychiatry rotation to the HC sessions was?</td>
<td>About right</td>
<td>78 (84%)</td>
</tr>
<tr>
<td></td>
<td>Too little</td>
<td>12 (13%)</td>
</tr>
<tr>
<td></td>
<td>Too much</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>6. In comparison to the benefits you expected from the HC visits before the start of the psychiatry rotation did the actual experience?</td>
<td>Exceed your expectations</td>
<td>18 (19%)</td>
</tr>
<tr>
<td></td>
<td>Fall short of your expectations</td>
<td>14 (15%)</td>
</tr>
<tr>
<td></td>
<td><strong>Meet your expectations</strong></td>
<td>61 (66%)</td>
</tr>
<tr>
<td>7. In comparison to the other community settings you visited during the psychiatry rotation, did the offers additional learning experiences</td>
<td>No</td>
<td>11 (12%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>82 (88%)</td>
</tr>
<tr>
<td>Question</td>
<td>Item</td>
<td>N (%)</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>8. In comparison to your visits to the KKs during your previous Family Medicine rotation, did the KK sessions offer additional learning experiences?</td>
<td>No</td>
<td>23 (25%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>70 (75%)</td>
</tr>
<tr>
<td>9. In comparison to the other psychiatry hospital/clinic sessions, did the HC sessions offer additional learning experiences?</td>
<td>No</td>
<td>28 (30%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>65 (70%)</td>
</tr>
<tr>
<td>10. If yes, please rank in order (1-3) the three areas in which you felt the HC sessions helped most.</td>
<td>1. Opportunities for supervised history taking and improved communication skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Opportunity to take histories from patients who are not as severely ill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Opportunities to interact with HC staff in indirect consultation</td>
<td></td>
</tr>
<tr>
<td>11. Did you feel the cases referred by the Medical Officers were appropriate to your learning needs?</td>
<td>No</td>
<td>10 (11%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>83 (89%)</td>
</tr>
<tr>
<td>12. Do you feel your own active involvement during HC session was?</td>
<td>Just right</td>
<td>73 (78%)</td>
</tr>
<tr>
<td></td>
<td>Too little</td>
<td>17 (19%)</td>
</tr>
<tr>
<td></td>
<td>Too much</td>
<td>3 (3%)</td>
</tr>
<tr>
<td>Question</td>
<td>Item</td>
<td>N (%)</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>14. Do you feel the role expected of you during the HC visits was appropriate?</td>
<td>No</td>
<td>8 (9%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>85 (91%)</td>
</tr>
<tr>
<td>15. Do you feel the number of students assigned to each KK visit was:</td>
<td>About right</td>
<td>73 (78%)</td>
</tr>
<tr>
<td></td>
<td>Too few</td>
<td>1 (1%)</td>
</tr>
<tr>
<td></td>
<td>Too many</td>
<td>19 (20%)</td>
</tr>
<tr>
<td>16. Do you feel you had sufficient support/supervision in carrying out patient interviews in the KKs?</td>
<td>No</td>
<td>9 (10%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>84 (90%)</td>
</tr>
<tr>
<td>17. Do you feel the task of recording the case/uploading case report to Moodle was helpful?</td>
<td>No</td>
<td>24 (26%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>69 (74%)</td>
</tr>
<tr>
<td>18. Do you feel the task of recording the report and uploading it on Moodle should be assigned a mark?</td>
<td>No</td>
<td>52 (56%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>41 (44%)</td>
</tr>
<tr>
<td>19. Should the HC sessions continue as part of the Psychiatry rotation?</td>
<td>No</td>
<td>10 (11%)</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>83 (89%)</td>
</tr>
</tbody>
</table>

### 6.7 Triangulation of Results

There was considerable overlap, in terms of content, between the questionnaire survey items and the various aspects of student experience of PIPC participation explored in the focus groups. In comparing the responses from both data sets, the questionnaire results revealed a high degree of corroboration of the focus group thematic findings, in terms of the overall endorsement by students of PIPC, as providing added educational value and valued clinical exposure in relation to other clinical placements. In light of the relatively demanding role carried out by the students in patient assessment, it was reassuring that the positive focus group contributions were matched by a similarly positive response to the survey question in this area, indicating that the great majority of students considered that their level of activity in the service was not excessive. A further
important area of corroboration relates to the fact that students perceived the level of involvement of primary care clinicians as too little, although the survey also revealed a high level of satisfaction with the appropriateness of referrals.

While, no areas of discrepancy or disagreement could be identified between the qualitative and quantitative results, the latter revealed useful complementary information in terms of some operational aspects of the PIPC program in which the focus group thematic findings were silent. Most notable, in this regard, was the fact that approximately one quarter of survey respondents felt the numbers of students participating at each HC visit was too high and that a similar percentage had difficulty with the technical aspects of recording and uploading the consultation reports.

6.8 Discussion
In summary, participation in a psychiatrist-led consultation service to primary care, as part of the undergraduate clinical clerkship in psychiatry, provided added educational value, from the perspective of participating fourth year medical students. The principle learning benefit identified was the unique opportunity to see patients with co-morbid common mental disorders, in the context of the other NCDs that present routinely in primary care. We found evidence of perceived benefits in the area of the undergraduates’ professional development, heightened awareness of patients’ socio-cultural and economic circumstances and an increased motivation to sustain an active role in mental health care into the post-graduate years, in primary and general health care settings.

All four focus group discussions revealed the particular value that students attached to the opportunity to assess patients whose co-morbid mental health disorders were previously undiagnosed. Very few doctors within the Malaysian medical workforce, including government-funded primary care clinics, have completed specialist post-graduate training in family medicine (Noh, 2011b). In most instances therefore, patients were selected for referral to the PIPC service by relatively junior medical staff who would have had no post-graduate training in psychiatry. Consequently, there was an element of uncertainty as to whether a patient, chosen for referral, would meet criteria
for a formal psychiatric diagnosis. Because the students elicited mental health symptoms themselves, sometimes in conjunction with the PHQ 9, a brief and easily administered instrument, in patients who had no previous psychiatric assessment, the perceived educational impact appeared to be greater.

It was also evident from both the focus group contributions and the questionnaire responses, that the students’ experience within the primary care psychiatry consultation service was qualitatively different from that of the family medicine rotation, in that it involved a more active and challenging role as well as a more intense focus on the mental health aspects of primary care. The focus group contributions suggested that the PIPC program conveyed the important message to the undergraduates, that psychiatrists can work in settings other than secondary care and can provide useful support and clinical consultation to front-line clinicians. Students’ positive perceptions of the primary care experience seemed to relate, in part, to their awareness that the quality of the consultation service relied, to an unusual extent, on their own history-taking, mental state examinations, administration of a standard depression screening instrument and preparation of a draft report for the referring physician.

While the thematic findings conveyed a sense of engagement with the clinical process on the students’ part, the questionnaire survey results, similarly, revealed that the overwhelming majority of students felt their role was appropriate and well supported. The over-arching theme of perceived agency and activity, therefore, cuts across the findings from both methods. Such a positive affirmation of active learning opportunities in primary care mental health is consistent with previous evidence regarding the feasibility of faculty-supervised student free clinics, in the screening and management of depression within underserviced settings (Soltani et al., 2015). It also supports the suggestion in previous literature that additional educational benefits are gained from active learning and from assigning entrusted tasks, appropriately selected and supervised, which approximate to a level of professional responsibility that medical students will be required to assume following graduation (Mann, 2011).

In planning the PIPC project, the faculty involved were mindful of well-documented high levels of stigma associated with mental illness generally and particularly the cultural
barriers towards help-seeking that have been found to exist within Malaysian population, including among Malaysian healthcare professionals (Yeap and Low, 2009, Minas et al., 2011). The focus group contributions convey students’ sensitivity, often informed by their personal experience and cultural backgrounds, with regard to the manner in which patients and their families were approached.

The students also recognised the potential for advocacy and for the ethical use of the physician’s authority in the primary care setting, in situations where patients appeared disadvantaged by their mental health and socio-economic status. Our experience, in this regard, resonates with that of Walters et al, who found evidence of heightened awareness of the lived experience of patients with mental disorders, arising from a primary care attachment during the psychiatry clerkship, as well as other positive impacts in promoting patient-centred attitudes and countering negative stereotypes (Walters et al., 2007). We also found support for Bogetz and Bogetz’ (2015) proposition, that learning within the silo of secondary care limits the social perspective and that system-based experiences, using collaborative care service models, help to shape the professional identity, challenging the ways in which medical students think about the impact of therapeutic interventions in improving the quality of patients’ lives (Bogetz and Bogetz, 2015).

Although it did not appear to diminish students’ overall positive perceptions of participation in the PIPC project, the focus group contributions revealed some frustration that students had limited time in direct interaction with primary care clinicians during the psychiatric consultation visits. Consistent with this thematic finding, the questionnaire survey found that over one third of respondents felt that the involvement of health clinic staff was too little. However, despite communicating a sense of disappointment regarding the limited time that primary care clinicians were able to spend in face-to-face discussion, the students demonstrated empathy towards the working conditions of these busy clinicians and seemed to gain a valuable exposure to the systemic challenges that are inherent in health service delivery in resource-constrained settings.

It is of interest that the focus group participants appeared to eschew psychiatry as a career option, despite anticipating that they would be positively disposed towards
mental health care in their future practice. Most studies, though not all, have suggested that rewarding experiences during the undergraduate psychiatry clerkship exert a positive impact on the likelihood of pursuing post-graduate training in psychiatry (Korszun et al., 2012, Reddy et al., 2005). However, the views of our students may reflect the reality that, psychiatry remains a career preference for a minority of medical undergraduates.

In addition, any positive impact arising from the influence of their supervising psychiatrists, as role models, may have been offset by students' awareness that neither the service context or the psychiatrist's role was typical of current practice in Malaysian health care settings. It would seem particularly useful, as a future research initiative, to carry out an in-depth exploration of the reasons behind the students' apparent reluctance to consider psychiatry as a career.

The more important finding, however, in terms of their future practice was that our students, while recognising the complexities involved, felt confident and highly motivated to identify and manage common mental disorders. This was particularly gratifying from a public mental health perspective, in a situation where the vast majority of PMC graduates will go on to work in Malaysia and within primary care, general health care settings or in specialist areas other than psychiatry (Lim, 2008b).

6.9 Strengths and Limitations

The strengths of this phase of the study include the number of participants in the focus groups and the fact that the focus groups took place at intervals throughout the academic year and the relatively high level of representation of the total class in terms of the response rate to the questionnaire survey. While the qualitative component was dominant, the mixed method design allowed for the triangulation of data at the interpretation stage. It was reassuring that the anonymous survey, carried out after all four focus groups had been completed, corroborated the focus group findings and revealed valuable complementary information, in terms of some of the logistical and technical difficulties faced by students that could inform future delivery of the PIPC program.

With regard to limitations, the students’ favourable opinions of the benefits of
participation in the primary care consultation service could have been influenced by positive global impressions of their psychiatry clerkship or by their relationships with the supervising psychiatrists. As the study was conducted in a single medical school, similar research in other settings would be warranted. Further evaluation of this type of model, employing measures that objectively assess learning competencies and outcomes, could build upon the findings presented from the student perspective alone.

6.10 Conclusions
In conclusion, because of the ubiquitous challenge of stigma and a multiplicity of other factors contributing to the under-recognition and under-treatment of highly prevalent mental disorders, especially in LMIC countries, preparing medical undergraduates to provide effective mental health care in primary care and general health care settings is of paramount importance. This study appears to be the first Asian evaluation of medical students' active involvement in a primary care psychiatry consultation service, as a structured component of the clinical clerkship in psychiatry. The success of the project, as reported here from the students' perspective, suggests that medical schools, in other geographic areas and in other health systems, could usefully consider a similar initiative.
Chapter 7: Summary of Findings, Synthesis and Conclusions

7.1 Summary of Thesis Findings

7.1.1 Objective 1

The first objective was to profile the current services for people with common mental disorders at the two participating government-operated primary care clinics in Penang, Malaysia.

From the perspective of process evaluation, objective 1 addressed the issue of context, which in terms of the present study, represents the environment currently in place in the two primary care settings and the manner in which this impacts on service provision for people with CMDs.

It was clear that both participating primary care clinics provided a broad and ambitious range of medical and social services, with nursing staff in particular deployed in community roles. The findings that emerged in regard to objective 1 were, primarily, that there was little empirical evidence of the implementation of national policy in relation to the early detection and treatment of mental disorders in primary care and little evidence of integration of mental health care into the service response to these other NCDs.

These findings were not unexpected, in light of the acknowledgement in previous reports and reviews, that government operated primary care clinics in Malaysia are overwhelmed with high patient numbers relative to the staffing complement and that they carried an inordinate burden of care for people with long-term physical conditions.

The lag between policy and implementation with regard to mental health was graphically illustrated by the fact that mental health screening using the DASS 21 seemed to be undertaken largely as a bureaucratic requirement and as an end in itself. However, at both clinics, there was evidence that the KPIs with regard to the regular monitoring of physical parameters in respect of diabetes, hypertension and TB were adhered to. This points towards the influence of the “outer setting” in terms of policy and incentives for front-line clinicians.
The fact that the DASS screening quota was greatly exceeded in HC A and at least some patients with abnormal scores were referred on for medical evaluation is an interesting finding. Studies in the West have suggested that in the face of time pressures and multiple demands placed on primary care clinicians, screening for mental disorders can be relegated to the margins (Coventry et al., 2011). However, in the bureaucratic context of government health clinics in Malaysia, and notwithstanding the deficiencies in the DASS administration currently, there may be greater potential for the use of screening for CMDs if introduced to staff in a more clinically meaningful manner.

7.1.2 Objective 2

The second objective was to describe the planning, implementation and service utilisation of a pilot primary care psychiatry consultation service (PIPC) provided on-site at the two health clinics.

The importance of objective 2 relates to the learning that might result from planning and implementing a pilot complex intervention, that could elucidate the barriers and facilitators to be expected in planning and delivering a full-scale intervention of a similar nature.

The planning process was challenging in that despite a positive response to the PIPC proposal at an early stage and at the highest administrative level within the state of Penang, further progress was stalled until approval was granted by the Ministry of Health. Once approved at a national level, local co-operation followed rapidly. This experience was consistent with references in the literature to the bureaucratic and centralised nature of the Malaysian health system and the absence of autonomy on the part of local service managers (Sebastian et al., 2016). The PIPC planning experience is consistent with previous suggestions that in this type of outside environment, patience and persistence are essential, in addressing bureaucratic hurdles and challenging the received wisdom surrounding perceived roles and ways of working (Gask et al., 2010).

Previous literature suggests also that senior managerial and political support for novel interventions may be more forthcoming if there is a clear rationale, an enthusiastic
programme champion and “enabling relationships” within the system: the planning process of the PIPC project revealed the importance of these factors (Brooks et al., 2011). It required several meetings, the preparation of a paper on CMDs and a formal presentation at the highest level of the Ministry of Health before senior decision-makers were convinced of the rationale for the project. The search for enabling relationships was arduous, because no individual clinical leader emerged in support of the project within the government health system nationally, despite the authors’ approaching several potential candidates.

Ultimately, the key enabling relationship proved to be with the director of the Clinical Research Centre at the Seberang Jaya hospital in Penang, who partnered with the author in the application for a small grant from the Ministry and offered the assistance of a junior doctor whom she co-supervised, to serve in the role of research officer for the PIPC project.

The recent literature in implementation of complex interventions for CMDs in LMICs has emphasised the importance of senior political “buy in” at the outset (Semrau et al., 2015, Lund et al., 2016). The PIPC project was negotiated successfully without this type of backing, but its absence may have been reflected in some of the compromises to the intervention as intended that appeared necessary in securing final approval.

A major learning point from the planning process, therefore, was that approval for PIPC may have been granted on the basis that it was relatively low-risk from a management perspective, in that it entailed no added costs and was minimally disruptive to existing clinical practice. It is difficult to conceive, in a Malaysian context, however, that a larger-scale complex intervention for CMDs would be feasible without an ally within the system with sufficient power to support such an initiative.

Moving on to discussion of the implementation of the PIPC pilot intervention, the MRC guidance on process evaluation draws attention to such issues as the “dose” delivered by the intervention, its reach in terms of impact and the importance of learning from modifications and departures from the intervention as intended.
Perhaps the greatest departure from the ideal consultation-liaison model was negotiated at the outset, insofar as a single designated medical officer was nominated to co-ordinate referrals at both participating clinics. This departure from the author’s previous practice was perceived as a necessary compromise, but nonetheless one that may have limited the reach of the PIPC service and contributed to a lower number of referrals for both direct and indirect consultation than originally envisaged.

However, in the context of limited preparation of frontline staff at the participating HCs in advance, as previous authors have recommended and the pressures on the clinic as described, it is perhaps remarkable that modifications and departures from the intervention as intended were so few. In fact, the quantitative findings in relation to utilisation of the service reveal a high level of co-operation with the pilot intervention as originally conceived. At least one direct referral to the PIPC was made at every PIPC consultation to HC A and HC B, that most referrals were of patients with CMDs and co-morbid NCDs and that the referring MOs adhered to the agreed focus on CMDs by not referring those patients in routine follow-up after discharge from psychiatric inpatient facilities.

7.1.3 Objective 3
The third objective was to explore the perceptions of primary care clinicians at the two health clinics, of their role in relation to services for people with common mental disorders and their experience of the pilot PIPC service.

Objective 3 was addressed at two points in time as primary care clinician interviews were carried out before and after the pilot intervention and in contrast to some previous studies, almost all interviewees who participated before the pilot intervention were also interviewed after it was completed. The second set of interviews also benefited from the use of the MRC guidance for process evaluation, in that the quantitative findings from the pilot intervention partly informed the topic guide for the semi-structured interviews at the second time point.

The baseline (T1) interviews revealed similar findings to those revealed in western studies in regard to ambiguous views on the part of the medical officers towards CMDs as diagnoses and the general struggle with shared meaning in regard to CMDs (Coventry...
et al., 2011). However, in contrast to findings from similar qualitative studies among primary care clinicians in the west, there was little evidence of dualistic concepts of mind and body or of “separators and integrators” as found by Gunn et al (2010), among the Malaysian primary care physicians (Knowles et al., 2015, Gunn et al., 2010). In contrast the MOs in the PIPC study seemed to reflect Malaysian societal attitudes, as revealed in studies suggesting that the social causation of mental disorders is widely embraced and that an integrated model of physical and mental health prevails within the three ethnic groups that comprise Malaysian society (Chong et al., 2013, Swami et al., 2008). Moreover, the MOs strongly espoused a holistic model of care and appeared to value psychological support for their patients. Taken together, these features suggest that some of the attitudinal barriers towards collaborative care among front-line medical practitioners, as revealed in the previous literature, may not be as prevalent among Malaysian primary care clinicians.

In other respects, however, the qualitative findings from the semi-structured interviews with clinicians at T 1, revealed similar barriers to effective care for CMDs to those identified in previous studies: these included time pressures, a lack of confidence and perceived deficit in mental health training on the part of nursing staff, coupled with a tendency to normalise mental health symptoms on the part of the medical staff (Pereira et al., 2011, Wood et al., 2017). Similarly, the absence of reflexive monitoring in relation to mental health care, as evident in the T1 interviews, has been found even in relatively well-resourced western settings (Gunn et al., 2010). There was also a suggestion that, in contrast to the nursing staff interviewees, MOs at T1 may have adopted a defensive position in regard to current practices in mental health care, which was less evident at T2.

The NPT framework employed in the thematic analysis of T2 interviews also helped to elucidate the reasons underlying the modifications and departures from the intervention as intended. The most striking finding here was that the MOs acknowledged that their primary motivation in providing referrals to the PIPC service was to make the programme work, rather than because they identified the need for psychiatric consultation. While this was far from the ideal motivation from the author’s perspective, the impact of the on-site PIPC service appeared, nonetheless, to impact positively on
MOs' awareness of CMDs, especially among those MOs who had participated in face-to-face consultations on a number of occasions. This seems to support previous literature suggesting that the presence of on-site psychiatric consultation involving face-to-face discussion with primary care clinicians, has a positive impact on the level of awareness of mental health issues (Bao et al., 2015).

It also suggests that the relative absence of professional freedom on the part of the PIPC MOs, as expressed in their feeling of being obliged to co-operate, may have been a factor in normalising the service into their routine practice. In a study that explored attitudes to the implementation of collaborative care for depression among mental health workers in a British setting, using the NPT model, Gask et al (2010) concluded that professional freedom could work both for and against the normalisation of collaborative care, as some clinicians may not feel obliged to adopt new ways of working (Gask et al., 2010). Our experience in implementing the PIPC service suggests that this type of barrier to the implementation of collaborative care may be less likely to be encountered in the more centralised and hierarchical context of government operated primary care services in Malaysia.

The primary care clinicians’ exposure to the PIPC programme, revealed at T2, seemed also to raise their awareness of the limitations of some of the established practices within the clinics in relation to mental health care. It was also notable that they appeared less reticent generally than at T1, perhaps as a consequence of familiarity with the PIPC service and the professionals involved, over time.

The interviewees expressed criticism of the quota system for administration of the DASS 21 instrument and the fact that screening was aimed primarily at young people undergoing pre-marital health screening, while several interviewees also commented on the perceived underutilisation of non-medical primary care staff in mental health care. Task-shifting from medical to non-medical and lay health professionals appears crucial to the success of attempts to scale up mental health services in resource constrained settings while negative attitudes to change on the part of front-line staff have been identified as a key barrier (Eaton et al., 2015, Wood et al., 2017). Our interview findings are optimistic in suggesting that notwithstanding the enormous ongoing demands of service delivery, the primary care clinicians are receptive to innovations perceived as rational.
and necessary to achieve improved patient care.

7.1.4 Objective 4

The fourth and final objective was to determine the educational value of the PIPC service from the perspective of fourth year medical students at Penang Medical College (PMC) who participated in the pilot programme as part of their undergraduate clinical posting in psychiatry. This work has been recently published (Appendix 7) (Russell et al., 2018).

The integration of an undergraduate medical educational component into the evaluation of a pilot clinical intervention in primary care consultation liaison psychiatry was perhaps the most unique aspect of the PIPC study, as no similar attempts appear to have been published. The decision to involve medical students was pragmatic, in the sense that the author and his faculty colleagues employed at the medical school were charged to deliver the clinical clerkship in psychiatry as their primary professional responsibility. However, the author’s previous experience of the benefits of medical students and psychiatry trainees joining in on-site visits to GPs in Ireland was also a factor. What emerged, in terms of the evaluation of the medical students experience in PIPC was gratifying, in that the mixed method approach revealed robust evidence of both the educational value and administrative feasibility of involving medical students in collaborative care initiatives.

During the planning phase, in formal presentations to key decision makers whose approval for the project was sought, the author had highlighted the undergraduate medical educational component of the PIPC project. As PMC students are almost all Malaysians, the argument that their future practice could be enhanced by skills in identifying and managing CMDs in primary care and other general health care setting appeared to be well-received.

It also emerged from the qualitative interviews with the primary care clinicians that the participation of the medical students was welcome and several interviewees acknowledged that the students were offered something quite different from the typical undergraduate psychiatry experience. However, the clinicians awareness that the students were always accompanied by one of their lecturers meant that their presence
did not add to the burden placed on front-line staff. The undergraduate clinical clerkship experience for PMC students is quite different to that of their counterparts in Dublin, because of resource limitations in terms of available clinical teachers in government health facilities in Malaysia, PMC faculty are more involved in accompanying students on their visits to clinical teaching sites.

At the same time, the students themselves recognised that their learning benefits derived primarily from their direct assessments of primary care patients, supervised by their lecturers, rather than the interaction with primary care clinicians.

General practice has been found to rank second only to surgery as the most preferred choice in terms of future specialisation among Malaysian medical students (Kumar et al., 2014).

The very positive learning experience of active learning in the PIPC programme, therefore, revealed the potential benefits to future medical practice in mental health care that might arise were primary care psychiatry experiences to be offered as a routine component of the undergraduate clerkship in other Malaysian medical schools. The PIPC experience supports the feasibility of such primary care placements, insofar as the programme has continued during the four years since PIPC was initiated.

However, because of time pressures and teaching resource limitations in Malaysian primary care settings currently, integrating the undergraduate learning experience into a clinical programme for CMDs would need to ensure direct faculty supervision so that it is acceptable to primary care staff and so that the quality of the students’ experience is not compromised.

**7.2 Synthesis of Thesis Findings**

The study, as described, comprised four separate objectives: in summary, a description of the primary care service context for CMDs, a report on the pilot PIPC intervention, an exploration of primary care provider perceptions of CMDs and their experiences of the PIPC programme and an evaluation of the PIPC initiative from the medical student perspective. The adoption of the process evaluation framework and mixed methodology, however, facilitated the integration of quantitative and qualitative findings
from each of these components, building incrementally in addressing the overall study aims. The fundamental question to be addressed in synthesising the results from the separate components, therefore, is what the study revealed, regarding the challenges and opportunities for improving the recognition and management of CMDs in Malaysian government-operated primary care clinics.

In terms of the service context, the outstanding challenge would seem to lie in the outer setting, in terms of the evidence from the study that Malaysia's ambitious policy of early identification and treatment of mental disorders in primary care was not being implemented to any meaningful extent at either of the two participating government health clinics. The lag between policy and implementation in health and especially in mental health is by no means unique and in a Malaysian context, a similar lag has been identified even in regard to the less stigmatised condition of hypertension. Nonetheless, there are also indications of favourable conditions in the wider policy and service context in terms of enhanced care for CMDs. These include the fact that government health clinics have a manifest public health orientation and their clinical staff see relatively higher numbers of patients with long-term NCDs than the private sector. In addition, there appears to be evidence from government reports and national policy documents, of more awareness of the public health impact of diabetes and the urgent need for an effective response in primary care. The opportunity arises, therefore, subject to the proviso of sufficient political will, to integrate efforts to identify and manage CMDs into platforms of care for other NCDs, based on the chronic care model.

At the local service level, the challenges identified by the study reflected the national context as described in previous literature. The extent of the overall service demands on frontline staff emerged strongly from the quantitative findings on the structures and processes in place at both clinics as well as from the qualitative findings from the frontline clinician interviews. The overall sense conveyed was of a system under stress, with unrealistic expectations of overstretched clinicians, each seeing over 100 walk-in patients per day. In this context, as demanding KPIs existed for diabetes and hypertension from the clinicians’ perspective, there was an inevitable finding of marginalisation of mental disorders, unless they presented floridly and acutely.

It was also understandable, in light of the overwhelming service demands, that in the
individual qualitative interviews prior to the PIPC pilot implementation, several interviewees defended current practice in relation to CMDs as being adequate and appeared anxious that the introduction of the PIPC service could add to the existing clinical burden. However, there was a notable shift towards greater understanding of CMDs as valid clinical entities and more openness towards recognising the limitations of current service provision for CMDs, following the clinician experience of the PIPC pilot intervention.

In terms of the recognition of CMDs, there was a particular area of inefficiency in that the DASS 21 instrument was administered primarily to relatively more healthy clinic attenders, to meet a bureaucratic requirement, a practice which the frontline clinician interviewees clearly identified as wasteful. This was perhaps the most graphic illustration of the challenge presented by bureaucratic, “top-down” management of the Malaysian primary care service and of the relative absence of clinical autonomy on the part of the front-line staff.

The paucity of trained family medicine specialists, as clearly illustrated in the minimal allocation to the clinics participating in the study, increases the potential for junior clinical staff to be subject to management diktats, uninformed by awareness of the local service context or by senior clinical expertise and leadership.

A further indication of the challenges of centralised bureaucracy in the wider management structure was that despite their presence in much greater numbers at both clinics, nursing and allied health staff had markedly restricted clinical roles in comparison to their medical colleagues, so that their potential contribution in mental health care was not maximised. The nursing staff interviewees themselves, however, displayed an awareness of their needs for training in the area of mental health care and an appetite to learn, as well as an openness to engaging with the psychosocial needs of primary care patients. Equally, the medical staff interviewees appeared in no way protective of the status quo, voicing frustration that they carried out tasks that could be performed by nurses or other AHPs. In terms of the attitudes of front-line staff therefore, there appear to be opportunities for task-shifting and for an expanded role for non-medical staff, if accompanied by sufficient initial training, preparation and sustained senior clinical support.
The quantitative findings in terms of the utilisation of the PIPC service, taken together with the thematic findings from the clinician and medical student interviews, revealed more facilitators than barriers to enhanced service. Departures from the intended consultation-liaison model were certainly in evidence, notably in the manner in which referrals to the service were generated by the medical staff, which was similar to the pattern of implementing the DASS screening, in terms of co-operating to the extent required by the system. However, there was clear evidence from the utilisation statistics as reported that, over the months of the pilot implementation period, the PIPC service was actually normalised into both participating clinics. Positive comments on the organisation and delivery of the PIPC service in the individual clinician interviews and reported feedback from patients and their relatives suggest that, despite the time pressures and other structural barriers to clinician participation, PIPC provided a credible and consistent service to primary care attenders with CMDs and physical multimorbidity. The qualitative interviews with both primary care clinicians at T2, moreover, convey the sense that participation in PIPC increased their understanding of CMDs and their management.

The triangulated quantitative and qualitative results from the undergraduate educational component of the study provided convincing evidence of perceived educational benefits in the recognition and management of CMDs in primary care, and the potential influence on medical students’ future practice.

7.3 Strengths and Limitations of the Thesis

The fundamental strength of the thesis is that it engaged with front-line staff in the real world setting of publicly funded primary care in Penang, in an effort to address an important aspect of public health that has received little previous clinical or research attention in Malaysia. Particularly relevant considerations, in any LMIC context, are that the PIPC pilot intervention was minimally disruptive to existing services and did not involve additional healthcare funding. The study’s use of mixed methods and an established framework for process evaluation, allowed for comparison with findings from previous published research that addressed similar aims and used a similar methodology.
The scope of the thesis is comprehensive in reviewing the global literature on CMDs and their management in LMIC countries, while also providing contextual background on the Malaysian health system and the service context at a local and national level. Consistent with recommended practice in process evaluation, the research included a detailed description of the intervention and its utilisation and integrated the results from these components with the thematic findings from front-line primary care provider interviewers. The fact that the clinician interviews included almost all participants at both time points, before and after the pilot intervention is a further strength.

The study also appears to be the first of its kind to integrate undergraduate medical educational and clinical service components, thereby extending the potential impact to future as well as current service delivery. In demonstrating the feasibility of a partnership between a medical school and under-resourced primary health clinics, located within the same community, the project serves as an example of social accountability that could be replicated by the many other western universities that have established extended medical school campuses in Malaysia.

In terms of limitations, the most obvious are that the process evaluation was not linked with a clinical outcome study, that the service user perspective was not directly explored and that the modest representation of non-medical primary healthcare providers in the qualitative interviews did not allow for a fuller exploration of the perceptions of nursing and AHP staff.

A related issue is that the model of care used in the pilot intervention was that of primary care consultation-liaison psychiatry, whereas the collaborative care model, incorporating the case-manager role, has the greatest evidence base. These features potentially limit the extent to which the learning derived from the project might be relevant to the future implementation of full-scale collaborative care interventions in Malaysian primary care settings. Nonetheless, the PIPC project involved the implementation of a complex intervention, such that the experience and resultant learning of the process analysis should be of benefit to potential future complex mental health interventions in government operated Malaysian primary care services.

Further limitations are that the study was confined to Penang, which has certain unique...
demographic and socio-cultural features and that the health clinics in which the intervention was delivered were assigned to the study by the Penang State Health Department and were both in urban areas. It cannot be assumed, therefore, that the clinics were representative of government-operated primary care settings across Malaysia. Nonetheless, their size, staffing and the demography of the catchments served at least reflect those of other urban settings.

7.4 Clinical and Research Implications

Thus far, the study findings have been discussed largely in terms of what has been learned about the service context, the pilot intervention and the experience of involvement of primary care and medical undergraduates in the PIPC initiative.

The potential impacts of the thesis in the broader context of health policy and service delivery and the prospects for scaling up the response to CMDs in primary care in Malaysia are addressed in subsequent sections.

However, because the PIPC service, introduced as a pilot intervention, has been sustained as a clinical service and as a regular component of the undergraduate clinical clerkship in psychiatry at PMC, the thesis has direct and local clinical and research implications.

The PIPC clinical utilisation data, as reported for the 8-month pilot study period identified clinical areas of mental health need that may be particularly relevant in Malaysian primary care settings. For example, the prominence of insomnia as a reason for consultation was notable and there was a strong suggestion that the primary care medical officers were particularly challenged by requests for repeat prescription of hypnotic medications. Similarly, the value of non-pharmacological recommendations by the assessing psychiatrist was alluded to in several contributions to the qualitative interviews. Further exploration of the significance of insomnia in primary care as a potential area of unmet clinical need would seem worthwhile, especially with regard to the opportunities for the introduction of an evidence-based programme for this cohort of patients that could involve nursing and AHPs in individual or group-based interventions.

From a more general perspective, it is the author’s understanding that during the period
since it was initiated, the clinical and educational components of the PIPC and the recording of activities in delivering the service have continued without significant change. This is in one sense surprising, as many aspects of the programme appeared to be incompatible with existing service demands, with operational structures at the clinics and particularly with the severe time constraints experienced by the primary care clinicians. However, from another perspective, it confirms the author’s previous experience of sustainability in delivering the consultation-liaison model in Canada and in Ireland, which a reflective commentary in a subsequent section in the thesis will expand upon.

The ongoing provision of the PIPC service, therefore, presents an opportunity to re-evaluate the operational and utilisation aspects with the added benefit of accumulated data, while also revisiting the clinician perceptions of the PIPC service at a later stage in its evolution. It would seem especially useful to explore the extent of ongoing engagement with the PIPC service on the part of the frontline clinicians, whether their perceptions of their role in the recognition and management of CMDs have changed further over time while also exploring the opportunities to reconfigure the service so that it is more efficient, effective and accessible.

A further research possibility would be to evaluate the clinical impact of the PIPC service from the service user perspective, which could involve a qualitative dimension as well as a comparison of patient outcomes between the two participating PIPC clinics and other clinics of a similar size and service configuration offering usual care for CMDs.

7.5 Impacts of the Thesis

7.5.1 Policy Impacts
In all countries, a considerable challenge exists in convincing key decision-makers at the highest political and health service management levels that elevating mental health policy to the same status as physical health policy is worthwhile. This is particularly the case in LMICs which are relatively under-resourced and in which issues of stigma and mental health literacy present additional barriers.
In reporting the present research findings and in assembling literature on the contribution of CMDs to the acknowledged growing epidemic of NCDs in Malaysia, the thesis has the potential to positively influence both health and medical educational policy.

Malaysian mental health policy, dating from 1998, was progressive for its time, including the goal of early identification and treatment of mental disorders in primary care. The research reported in the thesis reveals, however, that the 1998 policy has not translated into practice and it confirms many of the resource-related, structural and attitudinal barriers to implementation as previously identified. However, it also provides new and positive evidence of opportunities to move from a dichotomous to an integrated physical and mental health policy in primary care settings.

An otherwise comprehensive review of progress in addressing NCDs in Malaysia, authored by the Disease Control Division, Ministry of Health Malaysia, contains no reference to the impact of patients’ mental health status on NCDs nor any evident awareness of the evidence base for integrated management of CMDs with conditions such as diabetes (Mustapha et al., 2014).

As in many other countries, therefore, Malaysian mental health policy would appear to face the enduring challenge in occupying a separate silo from physical health policy. In light of the fact that the PIPC service has been sustained from its inception in 2014 to date, despite ongoing structural and resource-related obstacles and that the thesis findings are now written up, it may be timely to re-engage key figures at a state and national level, exploring the potential for a wider-scale initiative in the area. Projecting forward therefore, the ideal policy impact of the thesis would be that it contributes towards the ultimate goal of a revised and integrated mental and physical health policy in Malaysian primary care and that it might also provide evidence to support initiatives on the part of other medical schools to integrate primary care psychiatry into the undergraduate medical curriculum.

7.5.2 Service Impacts

It is important to address the service implications of the study findings in the wider context of current primary care services and the Malaysian health system. Accepting
that mental health disorders in Malaysian primary care settings are not prioritised currently, the greatest prospect for improved recognition and management of CMDs in government health clinics is likely to be one in which the approach to CMDs is embedded within screening and interventions for other NCDs, based on the chronic care model.

Several NCDs that have been identified by the Ministry of Health Malaysia, as requiring an urgent health system response, incorporating health promotion, early screening and intervention. However, diabetes seems to be the condition in which most progress has been made. Screening protocols for diabetes in primary care are in place and a National Diabetes Registry has been established with the goal of monitoring health care targets which include laboratory results, complications and co-morbidities. It has also been acknowledged by the Disease Control Division, in this context, that a stable cadre of the primary health workforce exists in terms of the nurses and medical assistants who could be assigned key tasks in an enhanced multidisciplinary approach to conditions such as diabetes (Mustapha et al., 2014). In addition to these favourable conditions in the wider Malaysian health system, the fact that most research into the integrated management of CMDs and other NCDs has involved diabetes is a further reason for focusing on this condition. Strategically, an "early win" in an already established priority area could be important in pursuing the longer-term goal of providing integrated collaborative physical and mental health services in Malaysian primary care settings.

In considering the existing facilitators in Malaysian primary care settings, while current mental health screening in the primary care clinics appears ineffective, it could be retained as one element within an integrated collaborative care approach to diabetes and co-morbid CMDs. The other ingredients within the chronic care model would also need to be in place, so that mental health screening, preferably using briefer instruments than the DASS 21, is consistently followed by clinical assessment and appropriate evidence-based interventions. This implies, in turn, that sufficient mental health training and preparation is provided to front-line primary care clinicians, as well as support from mental health specialists, systematic patient follow-up and the establishment of a case manager position. However, the efficiency of additional resources required could be maximised by activities including psychoeducation and
lifestyle management that address patients' physical and mental health needs concurrently.

The study's qualitative findings have identified facilitators to collaborative care for both CMDs and co-morbid physical conditions in primary care in that frontline clinicians embrace a holistic concept of patient care and hold positive attitudes to task-shifting to nursing and AHP staff, which is essential in resource constrained settings. It must be acknowledged, however, that the specific recommendations in relation to enhanced collaborative care for diabetes and CMDs have financial resource implications and that ultimately, the decision to approve the necessary funding and senior managerial support is a political one. However, the fact that mental health is now included in the UN's 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) may provide an added impetus to implement policy as it carries the expectation that each member state will report their programmatic activity in mental health to the international community in greater detail (Izutsu et al., 2015).

7.5.3 Educational Impacts

The educational impacts can be considered in a global context and also from the perspective of the particular medical educational challenges in LMICs and specifically in Malaysia.

From the global perspective, the study finding of perceived added educational value resulting from active learning experiences in primary care as a routine component of the undergraduate curriculum has important potential applications. In recent years, a considerable volume of literature has emerged in response to the global crisis in recruitment to psychiatry, addressing the potential for the undergraduate training experience to improve undergraduate attitudes to psychiatry, reduce stigma and especially to increase psychiatry's appeal as a career choice (Kuhnigk et al., 2009, Bharathy et al., 2016, Reddy et al., 2005). There have been various other initiatives in pursuit of these goals, including the production and dissemination of videos promoting psychiatry and also summer schools, facilitating interpersonal contacts between medical students and psychiatrists (Vasudevan et al., 2015, Beattie et al., 2013).

From a global public health perspective, however, the availability of psychiatrists in
greater numbers to support front line clinicians, while important in itself, is likely to have less impact than the improved ability of primary care clinicians themselves to recognise and manage common mental disorders. It can be argued that obvious context for promoting the necessary skills and attitudes, at a medical undergraduate level, is within the family medicine curriculum. However, our findings suggest that active learning of basic psychiatric skills, incorporating the use of brief screening tools for CMDs and face-to-face consultation between psychiatrists and their primary care colleagues may augment the benefits of exposure to the mental health aspects of primary care during the family medicine clerkship. The impact of the thesis in this regard is that it offers a model that could help to create awareness of the potential for academic psychiatry to expand its undergraduate educational interest and research activity beyond the narrow confines of the perception of the specialty and its appeal to future medical graduates.

In considering the potential educational impacts from a regional and national perspective, there has been a massive proliferation of Western medical schools with extended campuses in LMIC countries including Malaysia, arguably driven primarily by market forces and financial pressures (Lim, 2008a, Wong and Kadir, 2017). This development may be seen also as benefiting the country in which the extended campus is established, in facilitating larger numbers of local graduates to meet historic medical understaffing and in other ways, including assistance with the infrastructural costs of hospitals, as teaching sites. However, in a Malaysian context, there are increasing concerns about the associated wide variation in the quality of training and the challenge of accrediting educational standards across over thirty medical schools. There are suggestions, also, that the development, which has taken place in parallel with the rapid rise of private health care and medical tourism, has not significantly impacted on the problem of service inequity and the mal-distribution of doctors within the country, to the detriment of more deprived communities (Noh, 2011b, Sebastian et al., 2016).

In this context, the fact that PMC, as the first Malaysian medical school twinned with a western university, offered medical undergraduates experience within resource-deprived primary care settings serves as an example of social accountability. It represents a commitment to bring benefits to the local community in which the medical school is based and in area of largely unmet clinical need and obvious service
underprovision.

There is a gradual recognition of the wider social responsibility of medical schools in all countries, especially in involving and actively contributing to the quality of health in the communities in which they are based (Woolard, 2006). The thesis findings, in relation to the perceived benefits and ongoing feasibility of government-operated primary care settings, as sites for specialist clinical consultation and the training of future Malaysian undergraduates, could have a significant educational impact, if even some of the many other private medical schools were prompted to attempt similar initiatives.

7.5.4 Societal Impacts

The potential societal impacts of the thesis are difficult to envisage in the absence of prior impacts at the levels of policy and service, because of the predominance of vertical and centralised management structures within the government health system in Malaysia, as already described.

Much of the existing literature, describing historic and current developments in Malaysian health services, tends to be replete with rhetorical claims, often unsupported by data relating to the actual service delivered and its utilisation. Insofar as the thesis engaged at the point of care for service users of government operated primary care settings, its findings offer a grass-roots perspective that has more salience to the wider community, especially for people who do not have the financial means to attend private health services.

In the area of mental health care, the research described in the thesis has shone a light on the conditions in which front-line clinicians are working, from their own perspective, while also exposing the gap between current mental health policy and practice in relation to early detection and treatment of mental disorders in primary care. However, this perspective is balanced by positive findings from the PIPC experience, identifying the opportunities for transformative change and greater equity in service delivery for people with chronic physical and mental health co-morbidity.

Thesis findings also provide insights into the important cultural influences that impact on primary care clinicians perceptions and interpretations of the psychosocial and environmental contribution to clinical presentations, that may reflect broader societal
attitudes that also impact on the pathway to care (Chong et al., 2013, Swami et al., 2008). The societal impacts of these findings, therefore, could be greatly enhanced by a much-needed focus, in further research, on service-users’ experience, preferably with their input into the design of future services.

7.6 Reflective Commentary

Valuable research evidence has emerged from process evaluations highlighting the importance of understanding each setting in which attempts are made to scale up mental health services and the particular challenges that exist in LMICs. The move to live and work in Malaysia has highlighted many differences from the author’s previous work experience and personal background, in terms of governance structures and processes in the wider health system and local clinical setting as well as the powerful socio-cultural, religious and political influences that pervade all aspects of life in Malaysia.

What may be easily overlooked in much of the research identifying the barriers and facilitators to the implementation of systemic change, however, are the benefits that arise from simply maintaining consistent, low-key, human interactions over time with the various actors involved. It was this aspect of the author’s journey in planning and implementing the PIPC project in Malaysia, that was most compelling, as it resonated with his experience of similar initiatives in Canada and Ireland, as illustrated in the following anecdote.

In engaging with management at the two health clinics assigned to the PIPC programme, the author was conscious of not requesting special arrangements that could risk being construed as elitist or overly demanding. No request was made, therefore, for staff parking privileges at either clinic. At one of the clinics, because of the volume of attenders, waiting times and the walk-in nature of the service, many patients arrived up to two hours before the clinic opened, so that the carpark was always full when the author arrived at 8.00 a.m. Anxious to maintain a professional image but having to park on the main road, several hundred metres from the clinic, he repeatedly presented to the consultation room with long-sleeved shirt and tie, wet with perspiration,
because of the heat and humidity.

Meanwhile, although several weeks had passed, there was no indication from management at the clinic on how the PIPC service was generally perceived. However, one morning as he drove past the entrance to the clinic, searching for the nearest parking spot, the clinic’s security guard flagged down the author’s car. The guard proceeded to remove a traffic cone that had been placed in proximity to the entrance and directed the author to park in this space. The same pattern followed on every subsequent visit to the clinic.

There was never any direct feedback from management on how the service was perceived. Equally, the author never enquired as to who had authorised this creative parking arrangement. However, other subtle signs of acceptance became evident as the weeks passed, in warmer greetings from staff stationed at the reception desk, in the gradual rapport that developed with the primary care clinicians and the fact that despite enormous demands for office space, a small but adequate consulting room was always made available.

This parking experience at the health clinic in Penang reminded the author of his initial approach to GPs in rural Cavan 20 years earlier, with the proposal to offer regular and on-site psychiatric consultation-liaison visits. The GPs politely agreed, with the proviso that the author arrived on time and left within an hour so that they could get on with their working day. After a considerable period of punctual attendance and adherence to the agreed conditions, tea and sandwiches began to appear regularly in the room used for the liaison meetings, without any mention of the source of this welcome sustenance. Subsequent collegiality and warm relationships developed and strengthened, incrementally and over time. Similar experiences occurred during the period spent in providing mental health consultation in the very different context of a well-resourced multidisciplinary primary care team in Ottawa in the 1990s.

The point in this reflection is to highlight the basic elements of human interaction and gradual trust building that cut across services and settings and that transcend culture, religion, economics and politics. As applied to efforts to scale up services for CMDs in primary care, this translates as the necessity to invest, not only in administrative
supports and clinical expertise, but in continuous, respectful relationships with the people using and delivering the service. While its evidence-base, to date, may be less than that of resource intensive collaborative care approaches to CMDs, the consultation-liaison model would appear to have particular advantages in facilitating the important ingredient of relationship building, without which the technical components of collaborative care will have little acceptance.

7.7 Conclusions
This thesis is based on a clinical and research initiative that sought to address an area of public health importance, namely the prospects for improving the recognition and management of common mental disorders in government-operated primary care clinics in Malaysia. The research involved a pilot intervention, based on the primary care consultation-liaison psychiatry model, with which the author was previously experienced.

In addressing the study aims, the research used a mixed method and process evaluation framework to integrate descriptive findings in relation to the primary care setting and the pilot intervention, with qualitative findings from semi-structured individual interviews involving front-line clinicians and focus groups with participating medical students.

The consultation-liaison psychiatry model faced challenges in planning and barriers to implementation, arising from the time pressures on frontline clinicians and from uncertainty regarding clinicians understanding of common mental disorders and their management. Nonetheless, the service was broadly utilised as intended, insofar as patients with CMDs were referred and although direct participation of front-line clinicians was limited, those that did participate reported benefits in terms of a greater understanding of CMDs as clinical diagnoses and increased awareness of pharmacological and psychosocial treatment options. Other evidence of facilitators to enhanced care for CMDs emerged in that primary care clinicians embraced a holistic model of care and revealed positive attitudes to task shifting in mental healthcare towards nursing and AHP staff.
The PIPC service was also perceived as providing added educational value by fourth year medical students and as increasing their confidence and motivation to recognise and treat common mental disorders in their future practice.

The conclusions arising from the study findings are, firstly, that there is a wide gap between Malaysian mental health policy and implementation in relation to the early detection and treatment of mental disorders in primary care, in part because of overwhelming service demands on front-line staff, including competing demands to meet key performance indicators prioritising physical NCDs.

With regard to the potential for full-scale implementation of collaborative care for CMDs in Malaysia, the study findings suggest that pre-requisites include clinical leadership adequate numbers of trained family physicians, sufficient training and preparation of frontline staff, the availability of specialist mental health expertise and support from key agents of change at high level in the Malaysian health system.

In terms of immediate recommendations arising from the thesis, an opportunity exists to integrate the recognition and management of CMDs into platforms of care for diabetes, because of recent progress in government policy to prioritise this condition and the fact that case register and a system for monitoring diabetes parameters in primary care are already established.

The educational benefits arising from the involvement of medical students in the primary care consultation-liaison service, suggest also that other Malaysian medical schools could engage in partnerships with primary care settings in their immediate area, with potential benefit to future medical practice in recognising and managing CMDs in primary care.
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APPENDIX 1: CASE REPORT FORM

Study Site:

Inclusion Criteria

☐ 1. Case record of patient seen in both primary care sites aged 18 and above who attended either one of the government health clinic over the previous year.

Exclusion Criteria

☐ 1. Data of patients with previously diagnosed major mental illness (e.g. Schizophrenia, Bipolar Disorder or related psychosis)

Details

Name: 
IC: 

Demographics

Date of birth: (dd- mmm- yyyy)

If unable to enter full date of birth, enter a partial date of birth.

Sex (mark one):
☐ Male  ☐ Female

Ethnicity
☐ Malay
☐ Chinese
☐ Indian
☐ Others Specify: ___________

Marital status
☐ Single
☐ Married
☐ Divorced
☐ Widow/ widower

Living
☐ Alone
☐ With family

Education level
☐ No formal education
☐ Primary
- Secondary
- Tertiary
**Occupation**
- Unemployed
- Private sector
- Self employed
- Retiree

<table>
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<th>Clinical Profile</th>
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### Symptoms categories

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<th>Please tick if present</th>
<th>Symptoms</th>
<th>Considered as mental health problem</th>
<th>Any interventions for mental health problem (If any yes, please proceed to section 'Interventions for mental health problem')</th>
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<td></td>
<td></td>
<td>□ Yes</td>
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<td></td>
<td>Sleep disturbances</td>
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<td></td>
<td>□ Yes</td>
<td>□ Yes</td>
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<td></td>
<td>Change in appetite</td>
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<td></td>
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<td>Frequent headaches</td>
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<td>Frequent MC (medical certificate)</td>
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<td></td>
<td>Non-specific symptoms</td>
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<td></td>
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<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td></td>
<td>Generalized body aches</td>
<td>□ No</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td></td>
<td>Feeling low/lethargic</td>
<td>□ No</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td></td>
<td>Irritability</td>
<td>□ No</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Yes</td>
<td>□ Yes</td>
</tr>
<tr>
<td>Symptom</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<td>---------------------------------</td>
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</tr>
<tr>
<td>Concentration problems</td>
<td></td>
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<tr>
<td>Non-specific palpitations/tremors</td>
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<td></td>
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<tr>
<td>Interpersonal problems</td>
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</tr>
<tr>
<td>Sexual difficulties</td>
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</table>

**Interventions for mental health problems** *(To be completed if information present for any interventions present on the above table)*

<table>
<thead>
<tr>
<th>Symptoms/Diagnosis</th>
<th>Prescribed psychotropic medications for mental health problem (excluding major mental illness)</th>
<th>Other offered interventions e.g. referrals for further assessment/interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Details of referrals made**

<table>
<thead>
<tr>
<th>Visit Number</th>
<th>Symptoms/Diagnosis</th>
<th>Place of referral made to</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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**Co-morbidities**

<table>
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<th>Co-morbidities</th>
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<th>No</th>
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</table>

<table>
<thead>
<tr>
<th>Medical problems</th>
<th>Year of Onset</th>
<th>Status (Current/Past)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
**Concomitant medications**

<table>
<thead>
<tr>
<th>Medication name and dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**Surgical History**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Year</th>
<th>Complication</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

**Social History**

<table>
<thead>
<tr>
<th>Smoking status</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td></td>
</tr>
<tr>
<td>Former smoker</td>
<td></td>
</tr>
<tr>
<td>Current smoker</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol consumption</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td></td>
</tr>
<tr>
<td>In the past</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol/ Substance abuse</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>If yes, further details:</td>
<td></td>
</tr>
<tr>
<td>Drug Name</td>
<td>Event details (Onset, duration, reactions, hospitalization)</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Allergy History/ Adverse Drug Reaction**  □ No  □ Yes
### Appendix 2: Record of Consultation Process Form

Date: (dd- mmm-yyyy)  
Start Time: ___AM/ PM  
End Time: ___AM/ PM  
Location: □ HC A □ HC B

(Name/ Type of Room): □ Doctor's room □ Meeting room □ seminar room □ Others Specify _________

Penang Medical College Psychiatrist Name: □ Prof Vincent □ Dr Bharathy □ Dr Uma

List of primary clinic staff involved in session:

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of staff</th>
<th>Clinical Role Description (e.g. Dr/pharmacist/SN/MA/others- please specify)</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>3</td>
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<td>4</td>
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<td>8</td>
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<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List of fourth year PMC medical students involved (if any):

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Students</th>
<th>Please tick (✓) for group leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Direct Consultation

**Duration:** __Hr____ Minutes

<table>
<thead>
<tr>
<th>Referring: FMS/MO/Others</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reason for referral</td>
<td></td>
</tr>
<tr>
<td>Patient ID</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>□ Male □ Female</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>□ Malay □ Chinese □ Indian □ Other Specify: ________________</td>
</tr>
<tr>
<td>Education Level</td>
<td>□ No formal education □ Primary □ Secondary □ Tertiary</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td>□ Single □ Married □ Divorced □ Widow/Widower □ Separated</td>
</tr>
<tr>
<td>Medical Co—morbidity</td>
<td>□ No □ Yes, Specify: __________</td>
</tr>
<tr>
<td>DSM-5 Diagnosis(es)</td>
<td>1.____________________ 2.____________________ 3.____________________</td>
</tr>
<tr>
<td>Psychiatry C0-Morbidity</td>
<td>1.____________________ 2.____________________</td>
</tr>
<tr>
<td>Recommendations/ Outcome of Consultation</td>
<td>□ Diagnostic Feedback □ Pharmacotherapy Recommendations □ Non-Pharmacological Recommendations</td>
</tr>
</tbody>
</table>

180
Indirect Consultation:
(Discussion of cases or Discussion on any other MH topic) Names of Primary Care Professionals Present at Discussion:
1. ____________________________
2. ____________________________
3. ____________________________

A: Summary of Case Based Discussion:

B: Summary of Discussion on any other topic

C: Recommendations / Outcome of Consultation:
□ Diagnostic Feedback
□ Pharmacotherapy Recommendations
□ Non-Pharmacological Recommendations
Specify: ____________________________
□ Other Recommendations/ Advice
Specify: ____________________________ Prepared By:

_________________________ (Signature)
Full Name: ____________________ Date: __________________
Appendix 3: FEEDBACK FORM TO HC CLINICIAN

<table>
<thead>
<tr>
<th>Referral Source: ______________________</th>
<th>Reasons for Referral: ____________</th>
<th>Date of Consultation: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process of Assessment: ____________________________________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summary of Findings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. __________________________________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. __________________________________________</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. __________________________________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommendations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. __________________________________________</td>
</tr>
<tr>
<td>2. __________________________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Referrers Comment on Recommendations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. __________________________________________</td>
</tr>
<tr>
<td>2. __________________________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient’s Comment on Recommendations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. __________________________________________</td>
</tr>
<tr>
<td>2. __________________________________________</td>
</tr>
</tbody>
</table>
Appendix 4: PIPC Consultation Report Template

<table>
<thead>
<tr>
<th>Name: ___________________________</th>
<th>Age: ______________</th>
<th>Gender: □ Male □ Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital Status: □ Single □ Married □ Divorced □ Separated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation: ______________________</td>
<td>Current Living Circumstances: ______________________</td>
<td></td>
</tr>
</tbody>
</table>

Referring Clinician:
Name: ___________________________
Position at HC: □ Family Physician □ Medical Officer □ Other
Specify ___________________________ Date of first attendance at HC: ___________________________

Reasons for on-going HC attendance:

Reasons for Psychiatric Consultation Request: (as described by referrer in initial briefing)

Patients Reported Problems/Concerns:

Previous Psychiatric History: (including DSH)
Previous Medical / Surgical History: (summary)

Current Medications: (list & comment on degree of adherence)

Drug/Alcohol History:

Forensic History:

Family Psychiatric History:

Summary of Personal History: risk/vulnerability/protective (biopsychosocial) factors & significant life events:

Comment of Premorbid Personality:
Mental State Examination: Summary of positive and relevant negative findings (always include presence/absence of hopelessness & suicidal ideation):

PHQ-9 Score:

Diagnostic Formulation:

Preferred diagnosis:

Co-morbid Diagnosis:

Differential Diagnosis:

Summary of Discussion/Feedback with HC Clinician & Management:

Recommendations: (include follow-up arrangements):
Appendix 5: PIPC Topic Guide for Primary Care Clinician Individual Qualitative Interviews

Introduction
- Introduce self: MO CRC/ no specialization in PSY/ not involved in teaching or clinical work in primary care
- Introduce the study: ‘honest opinion and perception’ / no wrong or rights
- Context of analysis: No identifier/ will all be pooled together for analysis/ will be audiotaped
- Private and confidential

There are several areas needed to cover during this interview. I have a topic guide with areas that I need to get through. There will be the 2nd stage of the interview – post consultation sessions.

Due to the time constraint, I might need to move the conversation on from time to time. Assume that it won’t be more than an hour.

Any stage if want to turn off tape & get a break we can stop the tape at any time, please just indicate

Pre- Intervention Interview Questions

<table>
<thead>
<tr>
<th>Overall Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Current knowledge, attitudes, beliefs and skills in relation to patients</td>
</tr>
<tr>
<td>with chronic mental illness.</td>
</tr>
<tr>
<td>2. Interest in taking on an expanded role in this area.</td>
</tr>
<tr>
<td>3. Perceived needs for support, training and supervision in relation to</td>
</tr>
<tr>
<td>clinical service provision for chronic mental illness.</td>
</tr>
</tbody>
</table>

How often do you see patients with emotional/mental health difficulties in your clinic?

What types of mental health patients or conditions did you see?

What approach do you take to such patients?

What is your view on the doctor’s role and the role of other clinic staff in relation to a patient with a common mental health problem?
If you pick up a patient with CMD, will you tend to do anything by yourself first before referral?
Are there any incentives for seeing patients with common mental disorders?
What supports or resources are you able to access to help in managing CMD patients?
What do you see as the challenges in providing an effective response to people with mental health/emotional difficulties?
How do you feel about the level of care you are able to provide currently for people with mental health problems?

**Post-Intervention Interview Questions**

<table>
<thead>
<tr>
<th>Overall Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Experience of the PIPC Project.</td>
</tr>
<tr>
<td>2. Perceived impact on clinical skills and learning.</td>
</tr>
<tr>
<td>3. Perceptions of future needs for support, education &amp; change in service delivery for CMD patients.</td>
</tr>
</tbody>
</table>

How many consultation liaison sessions have you joined so far?
How has it been so far?
Was there enough opportunity for you to join the sessions?
If not entered, why?
How relevant are these sessions to your setting?
During the sessions, there are relatively few patients referred who have chronic medical conditions and more patients are recent clinic attenders why is that?
There are a number of patients with insomnia referred into the sessions. What do you think about this?
When you were told that you will be joining the consultation sessions, what did you expect?
Did the sessions turn out to be as you expected or was it different?
What actually did happen - what went on during the sessions?
Do you think you have learnt anything new from the sessions? If so what is it?
Do you think the sessions will be of any help in your contact with patients in the future?
What is the most useful thing that you have learned from the sessions?

Were the sessions organized- how do you feel of the process?

Did you feel that you have enough of active role given during the sessions?

Do you think the sessions had any impact on the patients that were seen?

How did you think these sessions will impact on the relationship between doctor-patient? What do you think of the impact on the students?

Have the sessions change the ways of picking up /screening patients with CMDs?

Nurses/MA: You mentioned that you could sometimes pick up indications of emotional/mental problems from patients’ body language, what action would you take? Are you willing to be more actively involved the sessions changed the way/threshold of referring a patient ? How about the way of managing the patient?

How did the PMC lecturers handle the sessions?

What did you think about the interactions between the PMC lecturers- yourselves? Yourself-patient? PMC lecturers-yourself-student?

What are the difficulties that the consultations service faced?

Did the sessions change your perceptions on your views about mental health in general?

Did the sessions change your views on the overlap between physical illness and mental health problems?

Do you think it has changed your views of the roles and responsibility as a primary care staff in response to patients with CMD?

Do you think that there is a need for any specialist to be placed in the clinic? Or counsellor/ psychologist?

Is there a need to have CBT/ trained personnel to provide such training? It is limited, how to improve it?

How is the feedback given from the sessions to you? How about the effect on the patients? Any other suggestions?

Do you think these sessions will make you consider in doing liaison /collaboration in future with psychiatry colleagues?

How has the session affected your current practice? What are the difficulties you faced? How would you want to revamp the session if you have the chance?

Any suggestions to improve time factor/ reduce workload?
How to increase awareness of mental health issues in the clinic?

Should all patients see the same doctor on every subsequent visit?

There is limited access to the availability of psychological medication in the clinic settings, what do you think about this? How about the impact on the patients?

What do you think of the internship system? Is there a lack of feeling of belonging?

How about the interest of the MOs in the clinic?

How frequent is the turnover of MOs?
APPENDIX 6: TOPIC GUIDE FOR FOCUS GROUP INTERVIEWS

Overall Topics

1. Experience gained from psychiatry attachment in primary health care settings
2. Views, perceptions of CMD mx in primary care settings
3. Learning from primary care physician/staffs perspective of mental health care
4. Attitudes towards patients with CMD

Introduction

- Self: not specialized in psychiatry, not involved in teaching/evaluation/clinicals, has no. of diff projects, independent of PMC
- “honest opinion and perception”, no right or wrong
- Will be audiotaped
- No identifier, will all be pooled together for analysis
- Full ethical approval
- There are several areas that I needed to cover during this interview. I have a topic guide that will guide me through. I might need to move the conversation from time to time, if there is time constraint. Assume that it will be less than an hour.
- At any stage you want to take a break, we can stop the tape at any time, just let me know
- Turn off mobile phones
- okay to disagree with one another
- you are always given opportunity to speak out of your own opinions
- one person to speak at a time

Introduction of students

- Name
- Any previous clinical experiences or exposure of psychiatry as student or job, personal experience –(if yes, who and what, how has it affected their attitudes/experiences of psychiatry)

Experience of attachment

“So Person A is very good at sharing his/her experiences. What do you think about it?”

Background

- How long was your psychiatry posting?
- What kind of topics that are taught?
- During this posting, where did you see patients- what type of settings?
- What types of patients or psychiatric conditions did you see most often?
- Apart from hospitals & clinics what other community settings did you visit?
Experience of student - impact on themselves

Interviewer: “I think you all were involved in one session in either KK Macalister or Bayan Baru- is that right?

- Did you find this KK session was like the other settings where you attended or different?
- What would you say were the biggest differences
- Do you think you have learnt anything different from your teaching session in the KK- if so what was it?
- Will it be of any help in your contact with patients in the future?
- What do you think is the most useful that you have learned from that KK session?
- What have you learned from the KK attachment?
- Is it relevant to your future?
- You just had one visit each to the KK- was this enough to make a difference to your learning?

Experience of student - impact of session on patient

- How do you think the consultation to the KK had any impact on the patients that were seen?
- How do you think this will impact on the relationship between the patient and their Dr at the KK?
- Do you have any particular memorable experiences?

Experience of student - impact of session on staff

- What do you think of the impact on the KK staff- will it make any difference?
- What do you think of the interactions between the lecturers? Btw lecturer-staffs?
- What are the practical difficulties that may we may face?

Learning psychiatry in primary care

- In general, what do you think about the idea of learning a specialty like psychiatry in primary care (KK settings) - is it necessary?
- What did you feel about the role of the KK staff in teaching medical students- did you learn anything from them?
- What did you think of the way the sessions were organized and the process?
- Did you feel you were given enough of an active role in the session?
- Are there ways in which your participation/learning could have been better?
- Have you any suggestions to improve your learning experience in the KKs?

Attitudes towards patients with CMD
- Before starting your KK attachment, what do you think about patients with common mental disorders like depression and anxiety disorders?
- Has seeing patients in the KK changed your views about mental illness?
- To what extent did it change your perception of psychiatry?
- How will it affect your management if you practice psychiatry in the community? (here or views of cmd mx?)

The future
- When you were told you were doing this KK attachment, what did you expect?
- Did it turn out to be different?
- What did happen?
- Having experienced psychiatry specialty attachment in primary care, what do you think another specialty to be involved into primary care as well?
- What do you think about continuing this type of teaching?
- Any improvements to course?
- Any comments?
APPENDIX 7

Medical student perceptions of the value of learning psychiatry in primary care settings in Penang, Malaysia

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¹ Royal College of Surgeons in Ireland, Dublin, Ireland
² Penang Medical College, Georgetown, Penang, Malaysia
³ Clinical Research Centre Ministry of Health, Seberang Jaya, Penang, Malaysia

Corresponding Author: Vincent Russell
vincentrussell@rcsi.ie

ABSTRACT

Objective
The study’s objective was to determine the educational value of participation in a consultation/liaison psychiatry service to primary care clinics, from the perspective of Malaysian medical undergraduates.

Methods
A mixed method design was used. Fourth year medical students participated in a consultation/liaison psychiatry service to two government-operated primary care clinics. Each student attended two half-day consultations to the clinics during the psychiatry clinical clerkship. Students joined in discussions with primary care clinicians, performed supervised clinical assessments and administered a depression screening instrument. The learning experience was evaluated through four focus groups, each with 9-10 participants, held throughout the academic year. An end-of-year, anonymous, on-line questionnaire survey was administered to the entire class. Thematic analysis of focus group transcripts was performed and quantitative statistics were calculated (Stata version 13).

Results
Focus group themes included: (a) active learning opportunities in primary care psychiatry consultation had perceived added educational value (b) students benefited from contact with patients with previously undiagnosed common mental disorders (c) students’ primary care experience raised their awareness of societal and professional responsibilities. Of the class of 113 students, 93 (82%) responded to the questionnaire. The survey responses reflected the qualitative themes, with 79 respondents (85%) stating that the learning experience met or exceeded their expectations.

Conclusions
Academic psychiatry has been criticized for its overreliance on secondary care settings in undergraduate clinical teaching. Our findings suggest that undergraduate supervised clinical placements in primary care are feasible and provide added educational value as a routine component of the undergraduate psychiatry clinical clerkship.

Keywords: medical students, consultation-liaison psychiatry, primary care
The combination of common mental disorders, such as depression and anxiety disorders and other non-communicable diseases significantly worsens health outcomes in terms of mortality and morbidity [1]. A large body of evidence has now emerged, suggesting that the management of common mental disorders can be effectively integrated into platforms of care for long-term physical conditions, based on chronic care principles [2]. It is also recognized that implementing such interventions requires a paradigm shift from the traditional acute care model towards one that is systems-oriented, collaborative and community based [3-5]. Because of the high global prevalence of medical-psychiatric co-morbidity, the medical contribution to the diagnosis and management of common mental disorders is mainly reliant on non-specialist physicians, even in high-income countries[6]. In low and middle-income countries (LMICs), where almost three-quarters of the burden of mental disorder lies, the paucity of specialist mental health professionals is compounded by an overburdened front-line healthcare workforce and a range of other economic and socio-cultural barriers to effective mental health care [7]. There is a global epidemiological imperative, therefore, to better equip future doctors with the skills and attitudes they need to respond effectively to common mental disorders as they present in general health and community settings. This issue is particularly relevant to medical students in Malaysia, the location for the present study, where numbers of specialist mental health professionals and vocationally trained family physicians remain relatively low [8].

Recent developments in adult educational theory emphasize that learning is to a large extent a social activity, powerfully influenced by context and by the tools available in a specific setting [9-11]. As applied to undergraduate medical training, this points towards the importance of providing a more holistic view of patient experience, exposure to systems-based practice and situated learning opportunities in settings typical of those in which the future physician will ultimately practice[12]. It is also recognized that professional identity is intrinsically shaped by the context in which future doctors learn [13]. Meanwhile, the dominant locus of undergraduate learning in psychiatry remains within specialist settings and there has been little published literature addressing the question of how to ensure that curriculum content and learning situations are tailored to the needs of the majority of graduates who will not choose psychiatry as a career [14].

From a skills perspective, the challenge therein implies that learning opportunities should be available for medical students in front-line community settings. It has also been suggested that academic psychiatry must accept the responsibility for modifications to traditional undergraduate curricula to reflect a greater emphasis on the teaching of brief assessment and management skills, relevant to physicians working within time-constrained healthcare settings [15]. From an attitudinal perspective, effective management of common mental disorders implies the nurturing of a professional identity in which values of social accountability and interdependence are internalized [10].

Post-graduate mental health learning experiences in primary care settings during psychiatric residency training have been described [16, 17]. Student-run free clinics with close faculty supervision, have also been
found to be feasible and to lead to improved clinical and learning outcomes [18, 19]. Research evaluating medical student learning in psychiatry and mental health care, within primary care settings is less frequent, but the few studies carried out found positive impacts on students learning, in terms of their level of preparedness for working in the community [20, 21]. No published studies, to date, have reported placements within primary care settings in an Asian setting, as a regular component of the undergraduate psychiatry curriculum.

Against this background, the aim of this study was to explore the educational value of participation in a psychiatric consultation service, on-site in primary care, from the perspective of fourth year medical students at a Malaysian medical school.

**Method**

**Study Design**

A mixed method design, defined as the collection, analysis and merging of quantitative and qualitative data in a single study, was chosen as appropriate to the aims and context of the study. Mixed methods have been increasingly used in research in complex settings, including health services, where they offer a potential advantage over quantitative or quantitative methods used alone [22]. Mixed method researchers frequently demonstrate a pragmatic interest in what works in a real world context and often adopt a transformative philosophical position, reflected in a focus on the potential for systemic change [23]. As the subject area of medical student exposure to psychiatry in primary care is relatively unexplored in published literature, an exploratory sequential approach was adopted [24]. The qualitative method, involving focus group discussions with a purposeful sample of students, was followed by a questionnaire survey of the entire class, in order to further elucidate issues around the structure and implementation of the program. Findings from both the qualitative and quantitative methods were subsequently integrated and interpreted.

The authors include three psychiatrists at Penang Medical College (PMC) involved in the clinical consultation service and undergraduate supervision, two of whom were clinicians with considerable experience of working in local mental health services (VR, AB and UV). The other authors included a medical graduate employed in a Malaysian clinical research center (CEL) who conducted the focus group discussions and Irish medical school academic faculty (SMS, MC and EB), one of whom was an experienced qualitative researcher, who contributed to the analysis and write-up.

**Ethical Approval**

Ethical approval for the study was received from the Joint Penang Ethics Committee and the Medical Research and Ethics Committee, Ministry of Health Malaysia.

**Setting**

Penang Medical College is owned and operated by two Irish university medical schools in partnership: The Royal College of Surgeons in Ireland (RCSI) and University College Dublin (UCD). PMC students, almost all of whom are Malaysian high-school entrants, spend an initial 2 ½ year period at either RCSI or UCD in Dublin, after which they return to PMC for further clinical training in healthcare settings in Penang. Clinical learning in psychiatry is provided within hospital in-patient units and outpatient clinics as well as in community services.
delivered by voluntary agencies.

The study was carried out as a component of a larger project, termed Psychiatry in Primary Care (PIPC) and was based at two government-operated health centers (HC A and HC B). Both clinics were assigned to the PIPC project by the Penang State Health Department, following a formal proposal submitted by PMC, to provide a primary care psychiatry consultation service, as a clinical and educational initiative. Administratively, Penang Island (population 1.3 million) is served by 16 primary care clinics, distributed throughout the island. HC A serves a newer suburban township developed within an industrial zone. Consequently, it has a relatively low unemployment rate and a high percentage of working young adults. The older, inner city area served by HC B, has a relatively greater proportion of elderly, unemployed and socio-economically marginalized residents than HC A.

Both clinics provide a range of general health care services as well as antenatal and postnatal care, elderly and child health services. HC A is larger, with a total staff of 80 compared with 48 in HC B and HC A offers extended opening hours, while HC B is operates only during day-time hours. There is limited multidisciplinary staffing at both clinics, with nursing staff and medical assistants (a grade approximating to nurse practitioners in other jurisdictions) present in greatest numbers. Total medical staffing at HC A is 11, comprised of 10 junior medical officers and one family medicine specialist, while at HC B, all 7 medical staff are junior medical officers, supported by a family medicine specialist from another health clinic who visits bi-weekly.

Mental health services provided at HC A and HC B include screening for mental health problems among patients waiting for general services, using a standard instrument, the Depression Anxiety and Stress Scale (DASS 21) and a small number of stable patients with major mental illness are followed up following discharge from in-patient psychiatric facilities. Apart from the family medicine specialist, the medical and nursing staff have limited formal training in mental health care.

Program Description
During their 8-week clinical clerkship in psychiatry, up to five 4th year students accompanied one of three supervising consultant psychiatrists/lecturers, in weekly half-day mental health consultation sessions on patients referred from primary care clinicians at HC A and HC B. As 113 students rotated through psychiatry in four successive groups, each student was predicted to have two opportunities to participate in this service.

The learning outcomes, outlined to students in advance, were: (a) to conduct a psychiatric assessment of patients referred by primary care clinicians, (b) to participate in face-to-face discussion/feedback with the referring primary care physician and the consultant psychiatrist before and after the patient assessment.

Students, most of whom were multilingual, conducted history-taking and mental state examinations in the language preferred by the patient (Malay, Hokkien, Mandarin, Tamil or English). The clinical interviews were directly supervised and guided by the psychiatrist and where necessary (mainly in the case of the one psychiatrist who was non-Malaysian) the students paused at intervals to translate the questions asked and patients’ responses. When clinically indicated, students also administered the PHQ 9, an established screening instrument, based on the DSM 5 diagnostic criteria for major depressive disorder, translated versions of which have been validated in the aforementioned languages. Students had received
tutorials on the administration of the PHQ 9, in the several language versions available, as part of their initial introduction to psychiatry. The various tasks involved in the consultation, as described, were divided among the students, in order to achieve a balance in their level of participation. Within the week following each clinic visit, each group of students was required to collectively prepare and submit a case consultation report, to include a diagnostic formulation and management recommendations, as a compulsory but non-graded assignment. The report was then edited by the relevant lecturer and forwarded electronically to the referring primary care physician.

Qualitative Data Collection
Student participants were recruited purposefully, through the class representative as gatekeeper, in order to achieve a balanced representation of the class as a whole, in terms of age, gender and ethnicity. Four focus groups, each with 9-10 participants, were conducted at the end of each of the four psychiatry clerkships, through the academic year. Students were informed that their agreement or refusal to participate in the study would not impact on their grades. Prospective focus group participants were provided with a subject information sheet and a consent form. The information sheet outlined procedures involved in the study, responsibilities attached to participation, potential disadvantages and benefits, sources of funding and the manner in which data collected would be treated.

An interview guide, informed by the existing literature and by students’ learning outcomes, was developed by the investigators. The topic guide included the following subject areas:

1. Students’ overall experience of the primary care mental health consultation sessions.
2. Students’ views on the similarities and differences with other learning experiences
3. The perceived value, from an educational perspective, of learning psychiatry in a primary care setting.

All focus group discussions were conducted in English, in a quiet room at the PMC campus and beverages and light snacks were provided to participants at the end of each session. Each audio-taped focus group lasted approximately one hour and was facilitated by a female research officer who led the discussion and a male research colleague, who annotated observations of the discussion process. Neither the research officer nor the observer had been involved in clinical supervision or teaching of PMC students. The research officer was a recent medical graduate who had completed a basic training program in qualitative methodology but who had no post-graduate clinical experience in psychiatry.

Quantitative Data Collection:
At the end of the academic year, all fourth year all students were invited to complete an anonymous, on-line survey of their learning experiences, which incorporated feedback on the psychiatry clerkship and a section on students’ participation in the PIPC program. The latter comprised a 20-item semi-structured questionnaire designed by the authors, with the content informed by clinical experience and by existing literature in the area (appendix 1).
The survey explored students' ratings of the value of the primary care learning experience relative to other hospital and community placements, their opinions of the time allocation to the primary care sessions and whether this learning experience had met their expectations. It also included open questions on the perceived relative value of the PIPC component and requested students to rank in order the three areas in which the primary care placements were most helpful. The questionnaire concluded with items eliciting perceptions of the students' and primary care clinician roles during the teaching sessions, the level of perceived support from PMC lecturers and ways in which the learning experience could be improved.

Data Analysis
Qualitative analysis of focus group transcriptions employed thematic analysis (TA), an established method for organizing, describing and interpreting qualitative data [28]. Three of the authors (VR, AB and CEL) initially read and re-read the transcripts independently, with the research aims and previous literature in mind. The first author, (VR) generated codes, based on units of meaning within the texts and then examined the relationships and meanings within the coded data in order to identify emerging themes. Subsequent discussion among the authors addressed areas of overlap and divergence in interpretation of the data and a final set of themes was agreed by consensus.

Quantitative data analysis involved the calculation and tabulation of summary statistics from the students' questionnaire responses. Screening for potential data anomalies and statistical analysis was performed using Stata Version 13. Following separate analysis of both sets of data, the process of triangulation involved discussion among all authors of areas of convergence, complementarity and dissonance before reaching a consensus on the meta-themes that cut across the findings from both methods [29].

Results
Participants
Demographic descriptors of focus group participants, all of whom were Malaysian, are presented in table 1 below. These were broadly representative of the demographics of the class as a whole.

Of the total class of 113 students, 93 (82%) completed the on-line survey. Of these, there were slightly more female (56%) than male respondents. Respondents' ethnicity was primarily Malay (68%), followed by Chinese (22%), Indian (8%) and others (5%). No statistically significant differences were found with regard to gender or ethnic background between survey respondents and the total class. No statistical correlation was found between student questionnaire responses and either ethnicity or gender. All students attended at least one of the primary care session and sixty students (65%) had attended the PIPC sessions at both health clinics.

Focus Group Themes
A number of overarching themes emerged from the focus group discussions: experience with common mental disorders; active learning and agency; shaping professional identity; working within constrained resources and influence on career choice.
Experiences with common mental disorders

The perception consistently conveyed by the students was that their involvement in the PIPC service was different, in several important respects, not only from other clinical learning placements in psychiatry, but from their previous rotations through other clinical specialties, including family medicine. A sub-theme emerged here, in terms of the primary care experience as engendering a sense of heightened anticipation of the clinical encounter. Illustrating the contrast between primary care and other clinical placements, the participants highlighted the challenge involved in seeing patients with common mental disorders who had not been previously diagnosed with a mental disorder.

"I think it’s more challenging because we also had a patient who complained of having pain under the arm but actually, after the doctors examined it, she didn’t have anything abnormal about it and showed that’s just the depression". FGD 1: Participant 2

Participants frequently employed the term “freshness” in reference to patients they encountered in the primary care settings. The element of unpredictability in advance of seeing the patient is reflected in the following extract:

"It was interesting because the patient was actually not diagnosed, she was only detected because she had hypertension…..and during the interview she manifested some of the symptoms - like she talks and laughs when alone." FGD 3: Participant 6

Active learning and agency

The second major theme that emerged was that high levels of learning activity and agency were experienced as a consequence of students’ participating in the PIPC program. Students felt they were centrally involved and played a responsible role in the psychiatric assessment process. The following contributions were typical and reflected the broad consensus in this regard:

"We were actually given the chance to do it and they actually took what we did like you know… so we felt like it’s not just practicing or pretending, we’re actually doing something and they recorded it. So we were part of the management in this sense". FGD 2: Participant 7

Shaping professional identity

In all focus groups, students discussed impacts on their professional identity arising from their participation in the primary care psychiatry consultation/liaison service. These included references to social-cultural influences, confidentiality, the multi-dimensional professional role of primary health care physicians and the diagnostic complexity that is inherent in this setting. Students appeared to be sensitized towards the psychosocial context of patients and the socio-cultural implications associated with making a formal psychiatric diagnosis. They raised the issue of the stigma
experienced by people with identified mental illness in Malaysian society, how this had impacted on their own attitudes, growing up in Malaysia and how the primary care experience challenged their previously held views.

In the following exchange, students refer to the challenge of stigma faced by people with a diagnosis of depression:

“I mean depression as well- they will treat you differently” FGD 4: Participant 6
“Even depression, which is very common in this country” FGD 4: Participant 2

There were several reflective references to the importance of maintaining patient confidentiality and to the professional responsibility not to make a formal diagnosis unless clear and specific diagnostic criteria were met, as illustrated in the following extract.

“I think the realization about our heavy responsibility to take care of patients’ confidentiality because like the one experience that we had with patients, when we asked about the psycho-sexual history she actually volunteered very sensitive information”. FGD 2 : Participant 7

Students recognized that psychosocial issues might arise for any patient in primary care and consequently, that while a diagnosed psychiatric condition might not be present, opportunities arose for the doctor to be supportive and helpful in a variety of ways, including in an advocacy role.

“In primary health care, you will learn how to help patients in not just in medical way, but to use your authority to do something for this person, by writing letters to the workplace and the authorities, to help to change the situation, instead of just simply prescribing the drugs”. FGD 4: Participant 6

Students also showed awareness of the paradox, whereby clinicians in primary care are often faced with higher levels of diagnostic complexity than those in specialist settings, arising from sub-threshold mental disorders, the challenges of differentiating normal human distress from illness and the multiplicity of interactions between physical and mental health, as illustrated in the following contribution.

“It’s not clear-cut at all, ‘cos their problems seem to be less pronounced and only when you take the thorough history can you connect the dots and see”. FGD 1: Participant 1

Working with constrained resources

Despite the positive perceptions of the educational benefits of the primary care experience, an area of relative dissatisfaction was the level of interaction between the students and primary care clinicians. Students were aware of the organizational constraints faced by the consultation service, but nonetheless, expressed frustration with the lack of opportunities to join primary care clinicians during the course of their routine work.
"I think it would be good if we involved the GP in the whole consultation with the patient because during the two sessions that we had they were not involved. They were not there - they are so busy!" FGD 4: Participant 9

However, participants contributions to discussion in the focus groups on this topic were nuanced and they acknowledged the many obstacles faced by front-line clinicians in recognizing co-morbid mental health disorders, within the real world context of primary care. Students' sensitivity to the many challenges presented, moreover, did not seem to result in their adopting a position of therapeutic nihilism. In formal teaching sessions during the psychiatry clerkship, they had become familiar with ultra-brief screening questions for depression such as the PHQ 2 and they made an emphatic reference to this, in the following exchange from FGD 4 in which the focus group facilitator explored the question of screening for depression [30].

"I think we have to be realistic about the time. Each patient we only have five minutes, eight minutes and the most important thing is to do screening". Participant 10

"Who will be doing the screening"? FGD Facilitator

"The GP!" All participants in unison

"Just two questions". Participant 2

"It's not hard, just two questions!" Participant 10

**Influence on career choice**

In introducing the PIPC initiative to students, the psychiatry department hoped that the experience would exert a positive impact on students' future clinical behavior in general healthcare settings. Exploration of this issue in all four focus groups suggested that participants would be more likely to identify and intervene in co-morbid mental health problems in their future practice.

"I wouldn't send everyone to the psychiatrist. So I would have be able to sort of treat this common medical illness up until the point I think I cannot do this by myself. FGD 4: Participant 4

Most participants appeared to recognize the potential value to primary care clinicians of access to face-to-face discussion with the consultant psychiatrists, as articulated in the following comment:

"I think it was crucial to see the communication between psychiatry and primary care and that would probably be the biggest impact for us". FGD 2: Participant 8

In contrast, students generally responded to exploration of the appeal of psychiatry as a career with explicit statements that they were unlikely to choose to work in the specialty following graduation. The following extract is illustrative of the generally expressed views in this regard:
“I'm not gonna become a psychiatrist, that's for sure, I'm not gonna even think about it, but if let's say I'm a physician handling a patient with tuberculosis or I'm managing a HIV patient with a lot of medication they might develop depression. So then I would have be able to sort of treat this common medical illness up until the point when I think well I cannot do this by myself - then only refer to a specialist psychiatrist.” FGD 4: Participant 4

Survey Findings
Students’ questionnaire responses to questions 1-19 of the survey are presented in Table 2 below. The great majority of the students provided positive feedback on the PIPC experience: it met or exceeded their expectations (85%) with appropriate time allocation (84%), and it offered additional learning experience in comparison to previous community health settings they had attended (70%-88%). When asked to rank the three areas in which the PIPC experience was most helpful, from a list of 10 potential benefits listed in the questionnaire, the respondents prioritized:

1. “Opportunity to see the type of mental health problems not usually found in hospital psychiatry”
2. “Opportunity to see patients with co-morbid medical and psychiatric illness”
3. “Opportunity to take histories from patients with less severe mental illness”

With regard to the conduct of the primary care sessions, students felt their role was appropriate (91%), that they had sufficient support (90%), active involvement (78%) and that the referral cases were appropriate (89%). This was consistent with 89% expressing the opinion that the primary care program should continue as part of the clinical rotation in psychiatry.

The student feedback also highlighted some areas that could be improved: a significant number (37%) felt that their interaction with primary care clinicians was too little while more than 1 in 4 (26%) reported technical difficulties in preparing their case reports on a Excel template and uploading them to the College website. Responses to a final open question on how the PIPC learning experiences could be improved (question 20 in the survey), resulted in a variety of suggestions including an increased allocation to the PIPC component during the psychiatry clerkship, greater involvement by primary care clinicians and reduced student numbers participating each HC visit in order to facilitate patient comfort and engagement.

Triangulation of Results
There was considerable overlap in content, between the questionnaire survey items and the students’ experience of PIPC participation, as explored in the focus groups. The questionnaire results revealed a high degree of corroboration of the focus group thematic findings, in terms of the overall endorsement by students of PIPC, as providing added educational value and valued clinical exposure in relation to other clinical placements. In light of the relatively demanding role carried out by the students in patient assessment, it was reassuring that the positive focus group contributions were matched by a similarly positive response to the survey question in this area. A further important area of corroboration relates to the fact that students
perceived the level of involvement of primary care clinicians as too little, although the survey also revealed a high level of satisfaction with the appropriateness of referrals.

While, no areas of discrepancy or disagreement could be identified between the qualitative and quantitative results, the latter revealed useful complementary information on operational aspects of the PIPC program in which the focus group thematic findings were silent. Most notable, in this regard, was the fact that approximately one quarter of survey respondents felt the numbers of students participating at each HC visit was too high and a similar percentage had difficulty with the technical aspects of recording and uploading the consultation reports.

Discussion
In summary, this mixed method study revealed that participation in a psychiatrist-led consultation service to primary care provided added educational value, from the perspective of participating fourth year medical students. The principle learning benefit identified was the unique opportunity to see patients with co-morbid common mental disorders, in the context of medical conditions. We found evidence of perceived benefits in the area of the undergraduates’ professional development, heightened awareness of patients’ socio-cultural and economic circumstances and an increased motivation to sustain an active role in mental health care into the post-graduate years, in primary and general health care settings.

All four focus groups revealed the particular value that students attached to the opportunity to assess patients whose mental health disorders were previously undiagnosed. Very few doctors within the Malaysian medical workforce, including government-funded primary care clinics, have completed specialist postgraduate training in family medicine [8]. In most instances therefore, patients were selected for referral to the PIPC service by relatively junior medical staff who would have had no post-graduate training in psychiatry. Consequently, there was an element of uncertainty as to whether a patient, chosen for referral, would meet criteria for a formal psychiatric diagnosis. Because the students elicited mental health symptoms themselves, sometimes in conjunction with the PHQ 9, a brief and easily administered instrument, in patients who had no previous psychiatric assessment, the perceived educational impact appeared to be greater.

It was also evident that the students’ experience within the primary care psychiatry consultation service was qualitatively different from that of the family medicine rotation. Participation in the PIPC program conveyed the important message to the undergraduates, that psychiatrists can work in settings other than secondary care and can provide useful support and clinical consultation to front-line clinicians. Students’ positive perceptions seemed to relate primarily, to their awareness that the quality of the consultation service relied, to an unusual extent, on their own clinical performance. The over-arching theme of perceived agency and activity cuts across the findings from both methods and is consistent with previous evidence regarding the feasibility of faculty-supervised student-free clinics in underserviced settings [19]. It also supports the value of assigning entrusted tasks, appropriately selected and supervised, which approximate to a level of professional responsibility that medical students will be required to assume following graduation [9].

In planning the PIPC project, the faculty involved were mindful of the stigma associated with mental illness
and particularly the cultural barriers towards help-seeking that have been found to exist within Malaysian population, including among Malaysian healthcare professionals [31, 32]. The focus group contributions convey students’ sensitivity in this area, often informed by their personal experience and cultural backgrounds.

The students also recognized the potential for advocacy and for the ethical use of the physician’s authority, in situations where patients are disadvantaged by their mental health and socio-economic status. Our experience, in this regard, resonates with that of Walters et al, who found evidence of heightened awareness of the lived experience of patients with mental disorders, arising from a primary care attachment during the psychiatry clerkship, as well as other positive impacts in promoting patient-centered attitudes and countering negative stereotypes [21]. We also found support for Bogetz and Bogetz’ (2015) proposition, that learning within the silo of secondary care limits the social perspective and that system-based experiences help to shape the professional identity, challenging the ways in which medical students think about the clinician’s role in improving the quality of patients’ lives [12].

It is of interest that the focus group participants appeared to eschew psychiatry as a career option, despite anticipating that they would be positively disposed towards mental health care in their future practice. Most studies have suggested that rewarding experiences during the undergraduate psychiatry clerkship exert a positive impact on the likelihood of pursuing post-graduate training in psychiatry [33, 34]. However, the views of our students may reflect the reality that, psychiatry remains a career preference for a minority of medical undergraduates.

The more important finding, however, in terms of their future practice was that our students, while recognizing the complexities involved, felt confident and motivated to identify and manage common mental disorders. This was particularly gratifying from a public mental health perspective, in a situation where the vast majority of PMC graduates will go on to work in Malaysia and within primary care, general health care settings or in specialist areas other than psychiatry [2].

The strengths of the study include the number of participants in the focus groups, the fact that the focus groups took place at intervals throughout the academic year and the high response rate to the questionnaire survey. Focus groups have been used successfully in Asian medical student evaluative research [35]. In our study they provided new insights and understanding in a poorly understood subject areas and were feasible in the medical school setting, in terms of the accessibility and relative homogeneity of the study participants [36]. While the qualitative component was dominant, the mixed method design allowed for the triangulation of data at the interpretation stage. It was reassuring that the anonymous survey, carried out after all four focus groups had been completed, corroborated the focus group findings and revealed valuable complementary information.

With regard to limitations, the students’ favorable opinions of the benefits of participation in the primary care consultation service could have been influenced by positive global impressions of their psychiatry clerkship or by their relationships with the supervising psychiatrists. As the study was conducted in a single medical school, results may not be easily generalized, so that similar research in other settings would be warranted. Further evaluation of this type of model, employing measures that objectively assess learning competencies
and outcomes, could build upon the findings presented from the student perspective alone.

In conclusion, because of the ubiquitous challenge of stigma and a multiplicity of other factors contributing to the under-recognition and under-treatment of highly prevalent mental disorders, preparing medical undergraduates to provide effective mental health care in primary care is of paramount importance. Our study appears to be the first Asian evaluation of medical students’ active involvement in a primary care psychiatry consultation service, as a structured component of the clinical clerkship in psychiatry. The success of the project, as reported here from the students’ perspective, suggests that medical schools, in other geographic areas and in other health systems, could usefully consider a similar initiative.

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