Asian-eCHAT: A primary Care-based Programme to Improve Identification and Stepped Care Support of Asians with Mental Health and Lifestyle Issues

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Abstract

The overall aim of this thesis was to tailor Electronic Case Finding and Help Assessment Tool (eCHAT) for New Zealand Asian communities by translating it to Korean and Chinese (Asian-eCHAT) and to assess its acceptability and feasibility within a primary health care setting as a screening tool for lifestyle issues in the Asian population. The Asian population is the fastest growing group in New Zealand today. In 2013, 10.8% of the New Zealand population identified as Asian, and this proportion is projected to increase to 16% by 2026.

eCHAT is a rapid mental health and lifestyle screening tool that has shown to work in identifying issues. It has a 14 years history of development in primary care and has been successfully piloted in primary health care settings. eCHAT yet to be tested in translated version as screening tool amongst the Asian population.

Participants completed the eCHAT screener prior to GP consultation. eCHAT results were reviewed and if appropriate, supports were discussed. Following the consultations, participants completed surveys about their experience with eCHAT. Feedback on the acceptability and utility of eCHAT from the clinician's perspective was collected via interviews and focus groups towards the end of the data collection period.

Quantitative results: A total of 302 Asian patients were invited to participate in the study; 277 accepted an acceptance rate of 95%. Participants represented Chinese (n=123; 49.8%), Korean (n=119; 48.2 %) and other Asians (n=5; 2%). The majority were female (n=175; 70.9%). Among this sample, many screened positive for mental health concerns. For example, 26% screened positive for anxiety and 47% of these requested help, and almost 10% reported some level of depression, with 60% of these requesting help.

Qualitative findings: Asian-eCHAT was well accepted as a screening tool. It helped to identify mental health and lifestyle issues and improved patient's and clinician's knowledge about mental health issues.

The results indicate that Asian-eCHAT is an acceptable and useful tool for screening and supporting Asians with mental health and lifestyle concerns. It has the potential to enable better detection of issues facing Asians who are often reluctant to seek help for mental health concerns. It also has the potential to support clinicians in providing efficient and appropriately directed stepped-care support.

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Abbreviations

CBT	Cognitive Behavioural Therapy
DHB	District Health Board
DSM	Diagnostic and Statistical Manual of Mental Disorders
eCHAT	electronic Case finding and Help Assessment Tool
GAD	General Anxiety Disorder
GP	General Practitioner
MA	Medical Assistant
HDEC	Health and Disability Ethics Committee
HoNOS65+	Health of the Nation Outcome Scales
MH	Mental Health
MOH	Ministry of Health
NGO	Non-Government Organisation
NLAAS	National Latinos and Asian American Study
NRA	Northern Regional Alliance
NZ	New Zealand
PHQ	Patient Health Questionnaire
PHO	Primary Health Organisation
TCMHS	Traditional Chinese Mental Health Services
UK	United Kingdom
US	United States
WDHB	Waitemata District Health Board

Glossary

This glossary defines key concepts used throughout the thesis.

Asian: The definition of ‘Asian’ is based on the category used in New Zealand census (Statistics New Zealand, 1996). This group is made up of people with origins in the Asian continent from Afghanistan in the west to Japan in the east and from China in the north to Indonesia in the south.

South Asian: In this research South Asian refers to the group of people with origins in the Indian subcontinent, including, India, Pakistan, Bangladesh, Nepal, and Sri Lanka.

ASSIST: The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) was developed for the World Health Organization (WHO) by an international group of substance abuse researchers to detect and manage substance use and related problems in primary and general medical care settings(Group, 2002).

PHQ9: The Patient Health Questionnaire (PHQ9) is a multipurpose instrument for screening, diagnosing, monitoring and measuring the severity of depression. The PHQ-9 incorporates DSM-IV depression diagnostic criteria with other leading major depressive symptoms into a brief self-report tool (Löwe, Kroenke, Herzog, & Gräfe, 2004).

GAD7: Generalized Anxiety Disorder 7 (GAD-7) is a self-report questionnaire for screening and measuring the severity of generalized anxiety disorder (Goodwin, Yiend, & Hirsch, 2017).

1 Chapter: Introduction

1.1 The New Zealand Asian population

The Asian population within New Zealand (NZ) is growing fast. Statistics NZ Census 2013 data reported a five-fold increase since 1991 (Statistics New Zealand, 2013). In specific terms, the NZ Asian population increased from 8.5% in 2006 to 11.8% in 2013(Walker, 2014). Studies have further established that Auckland contains the highest population of Asian people within the country. In fact, 'Asian' is the second largest ethnic demographic in Auckland region (behind 'European'), making up 22% of Auckland's population (Walker, 2014). The majority of the NZ Asian population (61%) resides in the Auckland region, 31% of NZ Asians are aged between 15 and 29 years (Statistics New Zealand, 2013). The category 'Asian' consists of many different ethnicities; the three largest ethnicities being Chinese, Indian and Korean.

The term 'Asian' encompasses a diverse group of people who experience a wide range of health-related challenges (Ho, Au, Bedford, & Cooper, 2002). Even though they are a diverse group, there are similarities in their cultural beliefs around understanding of health, help seeking attitudes and a holistic approach to health. It is known that the majority of Asians in NZ (more than 60%) are foreign born and that immigration to a new country carries added challenges (Walker, 2014). For the purpose of this thesis, this study used the Ministry of Health`s definition of Asian: people originating from the East and South of Afghanistan (inclusive). This includes people from Southeast Asia, South Asia and East Asia, but excludes those from Central Asia (the Middle East). However, this study mainly targeted Chinese, Indian and Korean populations.

The term 'Asian' started to appear in NZ health research after the publication of 'The Asian Health Chart Book 2006', and 'Health Needs Assessment of Asian People living in Auckland Region in 2012', the purpose of these publications being to tackle health problems of this population group and the commonalities amongst the individual groups

collectively (Wong, 2015). The use of the term ‘Asian’ is somewhat controversial and may not necessarily apply to all of the ethnicities included in this group, as many people described in this group may not necessarily consider themselves as such (Rasanathan, Kumanan, Craig, David, and Perkins, Rod., 2006)The three main groups, Chinese, Indian and Korean, which make up the majority of the NZ Asian population, have been included under the umbrella term ‘Asian’ (Walker, 2014), even though there are significant differences amongst all three groups and their cultures, religions and languages are far apart. Despite all these differences, there are significant commonalities in relation to health and well being. Their holistic approach to health, importance of family and community for their well being, and utilisation of traditional means of treatment as first port of call are all somewhat similar (Klienman, 1977). Particularly when it comes to mental health there are huge similarities amongst these groups. For example, somatisation of mental health issues are common, mental illnesses carry a huge stigma and discrimination among all Asian groups, and there is a reluctance to seek Western medical help in relation to mental illnesses (Lee, 2017). The commonalities in relation to health and well being amongst these groups suggest a collective approach to researching their needs may have positive implications for the whole population.

1.2 Mental health of Asians in New Zealand

As discussed previously, there are many similarities in the health needs of the Asian population residing in NZ, despite the wide range of ethnic and religious differences amongst the individual groups (Ho, Au, Bedford, & Cooper, 2003). Their collectivism and collaborative approach to health and well being unify them in the group ‘Asian’. There also seem to be similarities in their approach to mental health and addictions. They seem to contain these sensitive issues within the boundaries of their homes or families and present late, or in a crisis situation, to services (Choi & Kim, 2010). The mental health of Asians has been the focus of health researchers and policy makers in recent years (Wong, 2015), although the prevalence of mental disorders in Asians living in NZ has not been researched extensively. Recent studies suggest that the rate and prevalence of mental disorders within Asian people is not much different to that of the host

population (Mehta, 2012). However, it appears that Asians are at greater risk of psychological distress. Identified factors that may contribute to this increased risk include settlement issues, age of migration, inability to speak the host language and separation from family (Ho et al., 2002). It is known from research that the mental health needs of Asian immigrants are more complex and may require more attention when compared to the second generation Asians (Farver, 2002). This raises an important point about the importance of understanding the mental health needs of Asians in New Zealand as we know that the majority, over 60%, are foreign born.

1.2.1 Concept of mental illnesses amongst Asian cultures

Researchers argue that the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) criteria cannot be exclusively applied to Asian patients without an understanding of cultural context, as Asians are more often misdiagnosed (Lee, 2017). The DSM is mainly based on the Western concept of separateness between mind and body as derived from Greek philosophy. Asians on the other hand do not differentiate between the two; the majority of Asian cultures see mind and body as one (Lee, 2017). Hence the theory of somatisation of mental illness amongst these groups has significant relevance when it comes to the mental health of Asians (Klienman, 1977). Asians use somatic symptoms as culturally sanctioned idioms when seeking help for mental distress. They selectively present with their somatic symptoms to their physician, even though they may be fully aware that their emotional/psychological distress may be causing these symptoms (Klienman, 1977). These concepts of mental health and well being drive the help seeking behaviours of Asians. Another significant point to note is the importance of family in health care decision making amongst most Asian cultures. In Asian cultures, any illness of a family member is seen as a threat to the homeostasis of the family, and seeking treatment is considered a family venture (Uba, 1982). Therefore, most Asian patients are accompanied by family members when they present to health services. Here it is important to mention the stigma and discrimination associated with mental illnesses amongst most Asian cultures. It is also important to note that this stigma and

discrimination is not only directed towards the individual but the whole family is involved (Andresen, Oades, & Caputi, 2003; Jimenez, Bartels, Cardenas, & Alegria, 2013). All these issues of different health views, approaches to seeking help and stigma and discrimination against mental illnesses, could have a cumulative effect when Asians seek help from Western health services for mental health issues. A study conducted in the United States (US) found that Asians present at least three years later in the progression of their schizophrenia when compared to European Americans (Andresen et al., 2003). It was also found that in the majority of these cases, the first points sought for help were traditional/cultural methods of treatment.

1.3 Health services utilisation by Asians

Studies from the US and United Kingdom (UK) suggest that, despite increased psychological distress, Asians are less likely to access secondary services, especially mental health and addiction services (Andresen et al., 2003; Sheikh & Furnham, 2000; Stella, Huang, & Singh, 2004a). Even though the NZ Asian population is a relatively newer and smaller population in comparison to the US and UK, the Northern Regional Alliance (NRA) report found that Asians living in the Auckland region had significantly lower rates of access to mental health services than other ethnicities (Mehta, 2012). There could be a wide range of factors contributing to lower access to services amongst individual Asian ethnicities; however, the main reasons identified so far include stigma and discrimination, lack of knowledge about services and barriers such as language and finances.

Studies have shown that mental illness is known to carry huge stigma and discrimination amongst all Asian cultures, and this seems to be a major contributing factors for Asians when seeking help (Abbott, Wong, Williams, Au, & Young, 2000; Ho, 2013). Discrimination can affect both the patients and their family members due to stigma by association (Andresen et al., 2003). Amongst different Asian cultures mental illness is viewed in various ways, for example some view it as a curse on the family, and some as a consequence of family wrong doings (Klienman, 1977). However, the stigma carried by

mental illness is similar amongst all Asians. The low rates of access further suggest that Asian people are delaying seeking health care until they have acute distressing symptoms (Mehta, 2012). This increases the likelihood of serious or prolonged illnesses, with associated unnecessary costs. There may be other factors that affect their views on mental illnesses and services; for example, having bad experiences of mental health services in their country of origin. As shown by research, mental health services are underdeveloped in most Asian countries and people with mental illnesses do not receive fair treatment opportunities (Klienman, 1977).

Being a young community and given that the majority of members of NZ Asian community are foreign born, it would not be unfair to say that their knowledge of mental health and services will be more limited compared to the general population in NZ. Another factor that might contribute to the lack of knowledge about the services is the fact that many Asians, especially Chinese and Korean immigrants, speak very limited English (Leong, 2001). A number of recent initiatives have been taken to increase health services awareness of new immigrants and special attention has been given to Asian communities, for example the general practitioner (GP) enrolment campaign in the Auckland region targeting the Asian communities.

Studies suggest that Asians feel more comfortable to utilise general practice clinics than secondary mental health services in terms of help seeking behaviours for mental health issues (Stella et al., 2004a). This is because most Asian groups favour a holistic approach to health and seek a “one stop shop” for all their healthcare needs. Research also shows that, for Asian people, physical health issues carry less stigma and discrimination than mental health and addictions issues (Wong, 2015). An organised and streamlined approach to healthcare is beneficial, as risky lifestyle behaviours and mental health issues have been found to be inter-related within this population (Andresen et al., 2003).

Other areas of health-related concerns amongst Asians concerning health policy makers in recent years are problem gambling, physical inactivity amongst South Asians in particular, and alcohol and drug use amongst young Asians (Mehta, 2012).

In view of the above facts, primary health care can be used to facilitate access to secondary mental health and addictions services for the Asian population and can also promote access to community based support services (Sheikh & Furnham, 2000). In this way, primary care services play an integral role in preventing chronic diseases that might otherwise over-burden the health system. The ability of general practitioners to facilitate preventative measures for their patients, however, is typically limited by significant time constraints (Goodyear-Smith et al., 2004).

1.4 Dealing with challenges facing Asian health

Health related challenges faced by Asians living in NZ are well researched and are multifaceted; therefore a culturally and linguistically appropriate approach dealing with these challenges will have positive implications for the NZ Asian community. Evidence suggests that the implementation of culturally responsive initiatives result in improved service access, greater treatment satisfaction and better outcomes for ethnic minorities (Griner & Smith, 2006; Wilson, 2009). This has relevance for health policymakers globally, who have long identified a need to improve health service outcomes and responsiveness for ethnic minorities living within their societies (Britain, 2003; King, 2000; Macnamara & Camit, 2016). This need is particularly pressing for NZ officials, in view of the rapid growth of the Asian population within the country and their reduced access to health services (King, 2000).

A Mental Health Commission Report in 2006 identified a range of systemic, cultural and practical barriers that prevent Asian people from accessing secondary services, especially mental health services (K. Rasanathan, Ameratunga, & Tse, 2006). Language is known to be the one of the main barriers for Asians in accessing health information and services. Since the publishing of the report, a number of initiatives have been developed to

improve service delivery to Asians. These include Asian-specific health services at the District Health Board (DHB) and Non-Government Organisation (NGOs) levels, for example the health interpreting service and publication of health information pamphlets in different languages (Ho, 2013).

The increased diversity and changing dynamics of the NZ population has necessitated a shift in the country's focus for health care provision. The development of evidence-based, integrated services has now become one of the Ministry of Health's key objectives. More emphasis has been placed on the integration of primary health care services and secondary services, especially mental health services. For example, co-location of mental health services at primary health care centres is one of the initiatives taken by health policy makers. This is because 'seamless integration' is widely known to increase collaboration between the different levels of health services and lead to improved health outcomes (Cumming, 2011). In addition, this paradigm alleviates resource constraints within the current socio-economic situation.

For Asians living in New Zealand, moreover, the integrated, stepped care model fits well with their 'holistic' approach to health. That is, Asian people feel more comfortable accessing general, primary health care services compared to mental health and addiction services (Mehta, 2012). With the use of appropriate screening tools, however, these primary services can provide an entry point to the wider health system (including secondary services). They can also facilitate the early detection of mental health, addiction and lifestyle issues.

1.5 Aim of this thesis

The aim of this project was to assess the acceptability and utility of applying eCHAT to the NZ Asian population. The project also examined preferences for completing eCHAT in either Korean or Chinese translations and the acceptability of eCHAT as a culturally appropriate screening tool for the ethnically diverse Asian population. The project has

significant implications for improving the health and well being of the Asian population through systematic screening and intervention. The research had three key aims:

1. To explore the acceptability of eCHAT as a screening tool amongst the NZ Asian population.
2. To explore the utility of eCHAT as a tool to: help provide Asians with a means to open up about sensitive issues; help identify Asians in need of support for mental health and lifestyle issues; support help-seeking behaviours of members of Asian communities living in NZ; help clinicians provide more culturally appropriate services to their Asian patients.
3. To translate eCHAT into different Asian languages (specifically Chinese and Korean), and to assess whether completing the form in the native language is preferable for patients.

1.6 Likely benefits of this study

On the patient level, we anticipate that the research will demonstrate that eCHAT is an acceptable and useful method for screening Asian patients in primary care settings. On a systems level, we expected that the programme would enable better detection of issues facing Asians and facilitate more clinically and cost-efficient assessment and stepped care. Use of the eCHAT programme will provide t general practice with a system to better support their Asian populations.

This research aimed to find out whether applying eCHAT to Asian patients can help to effectively identify key problems of substance misuse, problematic gambling, depression, anxiety, sexual orientation / identity, risky sexual behaviour, exposure to abuse, anger management and physical activity, leading to further assessment and effective stepped care intervention among this population. New information regarding the incidence of mental health issues among Asians in a primary care setting, readiness to change, further access to assessment and support, and the utility and acceptability of the screening and

stepped care support tool as applied to Asians was collected, along with suggested improvements to eCHAT in this context.

2 Chapter: Literature Review

2.1 Introduction

This literature review provides a contextual background to the research. The review will focus on the mental health, addictions and lifestyle issues faced by Asians living in Western societies. The review also attempts to explore the help-seeking behaviours of Asians living in these societies, services utilisation and barriers to accessing services.

The literature for this review was sourced by undertaking a systematic review using database searches. The keywords used in undertaking the search were "Asian", "mental health", "addictions", "lifestyle issues", "help seeking behaviours", and "service utilisation". The majority of the literature was sourced from Medline and PsychINFO databases. Google Scholar (http://scholar.google.co.nz) was also used to undertake online searches. The selection process included an initial reading of the title to include the most relevant studies. In the second stage the abstracts of all selected studies were studied to further narrow down the identified studies. Finally, all the selected studies were carefully perused to select the final studies which met the eligibility criteria stated in the following section. In addition, the bibliographies of included studies were also searched to identify further studies.

The following eligibility criteria were followed to include and exclude studies for the literature review:

1. *Types of participants:* Studies where the participants were of Asian origin, or included Asian adults as a subgroup for comparative study. Studies that focussed on Asian children or youth (i.e. under 16 years old) were excluded.
2. *Types of studies:* All qualitative, quantitative or mixed methods studies were included. Book chapters, reviews and non-research articles or policy documents were excluded.
3. *Types of settings:* Any studies that were conducted on Asian populations living as a minority in a foreign society were included. Studies carried out in Asian countries were excluded.

As shown in Figure 1, 17 studies were selected which met the selection criteria and were included in the literature review.

The following PRISMA flowchart represents the steps of undertaking the systematic review.

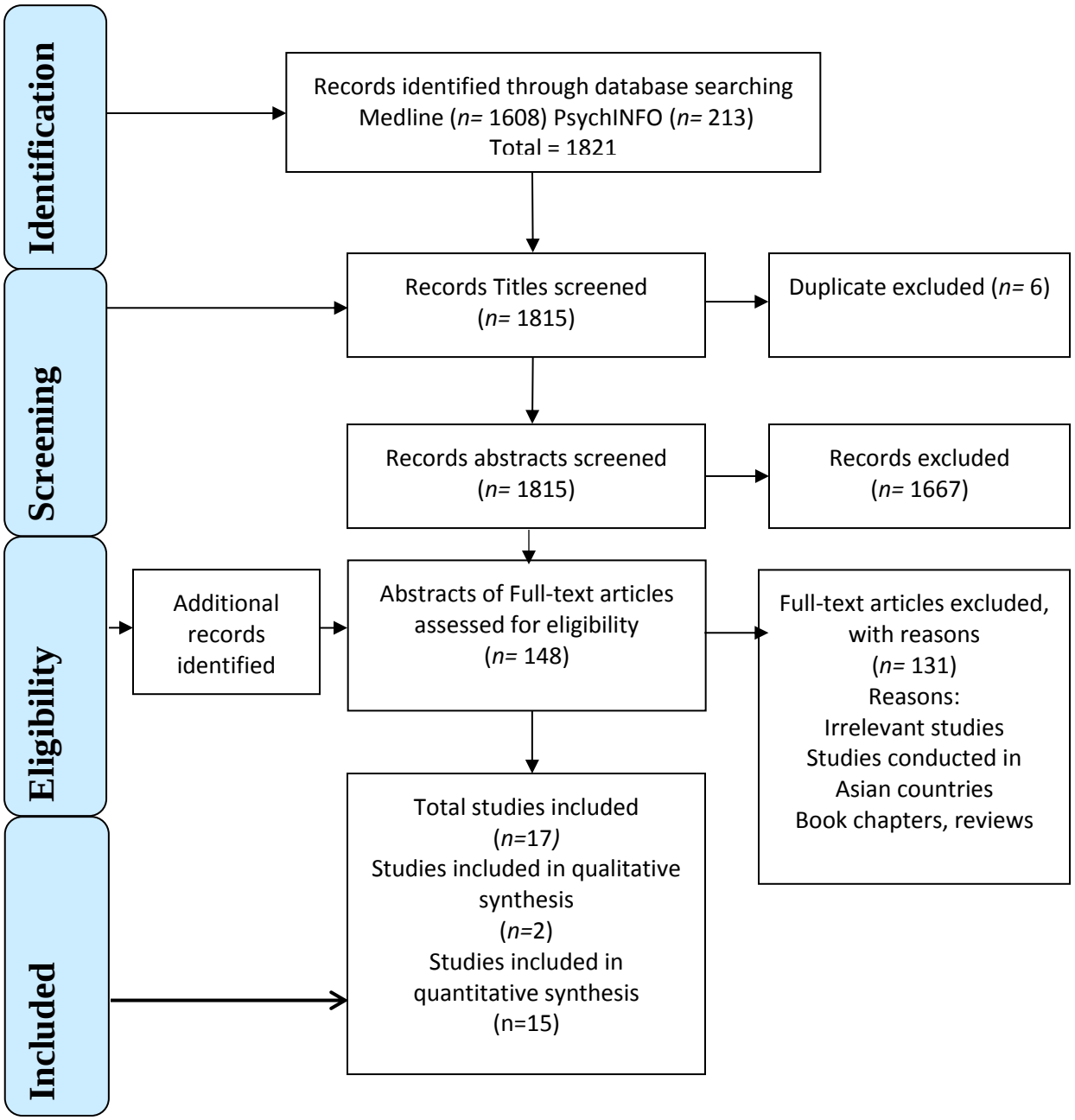

Figure 1: Flow diagram of literature search

2.2 Quality of the studies

Ten out of the 17 studies in the review were of good quality with large sample size, studied more than one group of Asian communities, and also used appropriate methodology to undertake the study (Chang, Natsuaki, & Chen, 2013; Choi & Kim, 2010; Goebert & Nishimura, 2011; Guo, Nguyen, Weiss, Ngo, & Lau, 2015; Jimenez et al., 2013; J. E. Kim, Saw, Zane, & Murphy, 2014; Le Meyer, Zane, Cho, & Takeuchi, 2009; Molina, Alegria, & Chen, 2012; Sung, Mayo, Ko, & Lasley, 2013; Tran, Alisia, Lee, Richard, Burgess, and Diana., 2010). These studies used more than one outcome measure of health or mental health and also used validated tools to test their research question. One of the largest studies (Chang et al., 2013) looked at a wide range of Asian groups and a good cross-section of this community. On the other hand, seven of the included studies were of fair quality, as shown in the subsequent tables (Cheung, 2010; P. Y. Kim & Kendall, 2015; Methikalam, Wang, Slaney, & Yeung, 2015; Syed & Juan, 2012; Tummala-Narra, 2015; E. C. Wong et al., 2006; Wyatt, TrinhShevrin, Islam, & Kwon, 2014). These studies only focused on a subgroup of Asians and most used only one or two measures of mental health.

2.3 Methods for mental health and lifestyle screening

All of the selected papers in this review used validated tools to screen for mental health and lifestyle issues. Some the studies selected used nationally collected ethnicity data from the national database (Molina et al., 2012), others used paper based surveys mailed out to selected participants (Wyatt et al., 2014). The qualitative studies used semi-structured interview formats to interview selected participants working with Asian ethnic minorities (Goebert & Nishimura, 2011; Sung et al., 2013). However, all screening was conducted in English. No translated versions of the screening tools were used in any of the research carried out on Asian populations. Only one of the 17 papers selected used interpreters to limit the language barrier (E. C. Wong et al., 2006). None of the selected studies were conducted at primary health care centres. We know from research that Asians are more prone to presenting with somatic symptoms for their psychological

distress (Klienman, 1977). Hence, conducting mental health research at primary care centres could potentially unveil significantly more mental health issues.

2.4 Mental health, addictions and lifestyle issues: risks and prevalence amongst Asians

2.4.1 Mental health

Out of the 17 studies selected for this review, 5 studies, as shown in , investigated the risks of mental health issues amongst Asians living as minorities in Western societies (Jimenez et al., 2013; Methikalam et al., 2015; Molina et al., 2012; Syed & Juan, 2012; Tummala-Narra, 2015). Overall, these studies found that Asians are at increased risk of developing mental health issues compared to the host population and other ethnic minorities. In particular, migrant Asians are at increased risk of psychological distress compared to members of the Asian community born in the host country, even though they undergo health screening at the time of migration. New immigrants do not go through a mental health screening as such at the time of migration. This may not apply to Asian refugees as they do not immigrate by choice. This healthy migrant effect tends to wear off after the first few years of residing in the host country (Tummala-Narra, 2015). Apart from data on the smoking status none of the studies researched the prevalence of mental health issues amongst Asians living in Western societies. The majority of the studies focussed on factors contributing to the increased risks of mental well being of Asians living in foreign countries.

The studies reviewed identified many factors that could contribute to the increased risk of mental health issues faced by immigrant Asians, such as: settlement issues, stress of job seeking, separation from family, and expectations to succeed (Methikalam et al., 2015; Molina et al., 2012; Syed & Juan, 2012). Risk of psychological distress was also dependent on new migrants' family cohesion and how well they integrated into their new host community. Family and social cohesion, which is an essential aspect of the Asian family system, could potentially have both positive and negative psychological impacts on members of Asian communities (Methikalam et al., 2015; Syed & Juan, 2012). Molina and colleagues found that family cohesion amongst Asian families living in densely

populated areas had a negative impact on their psychological well being. On the other hand, family cohesion had a positive impact on the psychological well being of Asians in less densely populated areas(Molina et al., 2012).

The impact of family cohesion and the density of Asian population in an area could potentially be related to the huge stigma and discrimination mental illness carries amongst Asian communities (Jimenez et al., 2013). The Asian family values and the expectation for members to succeed in highly competitive and stressful environments could have potential adverse psychological effects on the individual family members (Methikalam et al., 2015). An inability to meet familial and societal expectations may also contribute to the stigma and discrimination of mental illnesses (Jimenez et al., 2013). At the same time, mental health issues in the family could have potential adverse effects on the status of the family, thereby contributing to stigma and discrimination carried by the family. One study (Jimenez et al., 2013) found that Asians reported higher levels of shame and embarrassment from having mental health issues compared to other ethnic minorities living in the US. Family discrimination is consistently the highest source of discrimination for individuals experiencing mental health difficulties (Shefer,. Rose,. Nellums,. Thornicroft,. Henderson,, and Evans-Lacko., 2012).

2.4.2 Addictions

Two out of the 17 selected studies presented in directly investigated the issue of addictions amongst Asians. Studies have shown that Asian men are more likely to engage in risky behaviour such as binge drinking, smoking and substance abuse compared to Asian women (Tran, Alisia, Lee, Richard, Burgess, and Diana., 2010). Amongst the individuals of Asian ethnicities, South Asians had the highest smoking rate (11.7%) with at least one cigarette per day among all ethnic groups living in the United States (Molina et al., 2012; Tran, Alisia, Lee, Richard, Burgess, and Diana., 2010). Another study found that men have the highest rate of smoking, with 33.3% of men and 3.8% of women having smoked at some point their lives (Wyatt et al., 2014). South Asians were also the group identified as having the highest number of binge drinking episodes compared to other groups, even though their overall drinking rate was lower than the other groups

(Tranet al., 2010). When it comes to substance abuse, Asians living in affluent neighbourhoods were at an increased risk of substance abuse compared to those living in poverty (Molina et al., 2012).

2.4.3 Other lifestyle issues

Overall, the research indicates that the health behaviours and lifestyles issues of Asians are generally influenced by the environment in which they live, acculturation to the host society, and their family cohesion (Tummala-Narra, 2015). Tummala-Narra's study identified that those Asian communities who live in poor neighbourhoods tend to have less cohesion amongst the members of the community and, hence, are more prone to an increased risk of unhealthy behaviours like smoking, lack of physical activity and binge drinking.

Asian men are more likely to engage in physical activity compared with women (Wyatt et al., 2014). A number of barriers were identified in their study in relation to Asian women being less active, for example lack of culturally appropriate facilities, the family system itself being a factor; where women mostly look after the home. Another factor identified was lack of insight into the significance of healthy behaviours, like physical activity, to overall health and well being.

Table 1 Mental health, addiction and lifestyle issues

Reference	Setting	Participants	Type of study	Aim	Outcome measures	Findings	Quality measures
Jimenez, Bartels, Cardenas & Alegría, 2013.	Clinics across US.	1247 Whites, 536 African-Americans, 112 Asian-Americans, and 303 Latinos.	Quantitative one-way analysis of variance (ANOVA) for continuous Variables. Chi-square analyses for categorical variables.	Differences in attitudes towards mental health and mental health treatment among various racial/ethnic minority older adults with common mental health problems.	Socio-demographic characteristics. SAMHSA Mental Health and Alcohol Abuse Stigma Assessment.	African-Americans, Asians, and Latinos had significantly greater rates of depression than Whites. Rates of anxiety did not differ by ethnicity Whites exhibited greater rates of at-risk drinking 25.9% Asian-Americans felt shame or embarrassment with regard to having a mental illness, highest compared to other groups. Also, 16.9% had greater difficulty engaging in mental health treatment if others knew	Good: Large sample of individuals with MH disorders. Studied all groups of Asians, including South Asians Comparison between US born & foreign born

						Asians felt less comfortable speaking to their GPs about it 50% as compared to 85% for Latino & 73% for White Americans Difficulty seeking mental health treatment in specialty mental health settings (23.2% vs. 12.9%).	More than one measure.
Methikalam et al. 2015.	US, 2015	174 Asian Americans.	Quantitative: Cross-sectional study.	To examine the association among personal and family perfectionism, Asian values, and mental health among individuals of Asian Indian descent in the US.	Almost Perfect Scale-Revised. Family Almost Perfect Scale. State–Trait Anxiety Inventory. Rosenberg's Self-Esteem Scale. Asian Values Scale.	Both Personal Discrepancy and Family Discrepancy of perfectionism were positively associated with depression and anxiety, and negatively associated with self-esteem. Asian value, Family Recognition through Achievement, was the Asian value most strongly associated with both negative and positive dimensions of personal and family perfectionism.	Fair: One group of Asian (Indian) studied. Majority, 63%, were females. Self-report survey.

Molina, Alegría, & Chen, 2012.	US, 2001-2003.	Nationally representative data of ethnic minorities in US (*N*= 13,837)	Quantitative Cross-sectional study	neighborhood characteristics are associated with risk of substance use disorders. Does it remain after adjusting for Individual-level factors. Does it differ by race/ethnicity?	Substance Use Disorders. Individual-Level Variables. Neighborhoods -Level Variables.	For Asians and African Americans living in affluent neighbourhoods is associated with an increased risk for any past-year substance use disorder. Asians are less likely to meet criteria for any past-year alcohol use disorder compared to non-Latino whites. Greater neighborhood concentrated disadvantage was associated with decreased odds of any past-year drug disorder for Asians Rates of illicit drug use among Asian adults living in poverty are lower.	Good: Large Sample. Cross- section comparison. More than one measure
Syed, & Juan,	Household survey of	Asian American	Cross-sectional	Examined the social	Perceived race-related	Perceived discrimination was a significant predictor of	Fair:

2012.	Asian Americans living in U.S. 2002-2003.	*n*= 1,537	study	context as a moderator of the association between perceived discrimination and psychological distress.	discrimination. Social cohesion. Ethnic density. Psychological distress.	psychological distress for Asians. Effects of density and cohesion on distress: In extremely dense areas high social cohesion relates to greater distress. In low density areas high cohesion relates to low distress. (There were however difference between different Asian groups)	Large sample. Single measure. Missing data explained.
Tran, Lee, & Burgess, 2010	Minnesota County, US, 2002.	African-born Black, Southeast Asian, and Latino/His panic adult immigrant	Quantitative Cross-Sectional Survey	Examines the link between discrimination and substance use amongst African-born Black,	Demographic correlates. Perceived discrimination. Substance use behaviours.	11.7% of Southeast Asians reported smoking at least 1/day, highest amongst all ethnic groups. 6.8% of Southeast Asians reported binge drinking in past 30 days, 2nd highest amongst all groups, and greater number	Good: Large sample of ethnic groups. More than one measure. Missing data

		s in the Midwest (*N*= 1,387).		Southeast Asian, and Latino/Hispanic Midwestern adult immigrants.		of binge drinking days than African-born Blacks. 29.6% of participants reported at least 1 discrimination in the last year, South Asian were the second highest of this group at 32%. Discrimination while dealing with the police was particularly high among African-born Blacks (61.4%) and Southeast Asians (37.9%). Poverty was associated with both smoking and drinking for all ethnic groups.	clearly explained
Tummala-Narra, 2014.	9th & 10th Grade Public high	Asian, Latino & African American	Quantitative Cross-sectional survey	Examined the relationship between ethnic identity and	Ethnic identity. Perceived social support. Depressive	No differences in the degree of depressive symptomatology between U.S.-born and foreign-born adolescents.	Fair: Large enough sample to compare the

	school students in US.	students.US born *n*=200 & foreign born *n*=141,total *n*=341		depressive symptoms, perceived social support and depressive symptoms, socio-demographic factors (ethnicity, gender, and socioeconomic status) and depressive symptoms, among a culturally diverse group of adolescents.	symptoms.	Youth seemed most likely to seek help from friends and family members and less likely to seek help from adults at school and mental health professionals. Youth with higher levels of ethnic identity reported fewer depressive symptoms. Findings support previous research concerning the protective role of ethnic identity in mental health among immigrant adolescents.	different ethnicities studied More than one measure.
Wyatt,	REACH	Foreign	Quantitative	Examined the	Health-Related	Men were significantly more	Fair:

et al., 2014.	U.S, New York US, 2009-2012	born Chinese American 65 +. *N*= 805.	Survey.	health related quality of life behaviours amongst older Asians living in NY city	Quality of Life. Physical Activity (PA). Cigarette Smoking. Fruit and Vegetable Intake. Socio-demographic variables included gender, age, education, and English language spoken at home.	likely than women to be current and former smokers. Only a third engaged in sufficient weekly PA, and men were significantly more likely than women to engage in sufficient PA. Women were more likely to report poor mental health, poor physical health, and limited activity days than men. 14.8% of men and 1.3% of women were current smokers, and 33.8% of men and 3.8% of women were former smokers.	Studied the largest group of Asian population. Less validated tools of assessment were used. More than one measures

2.5 Help seeking behaviours of Asians living as minorities in western societies

Four out of 17 of the selected studies presented in Table 2 directly researched the help seeking behaviours of Asian populations in Western countries (Cheung, 2010; Goebert & Nishimura, 2011; Guo et al., 2015; Kim & Kendall, 2015), with other studies addressing help seeking as secondary aims (Jimenez et al., 2013; Tummala-Narra, 2015). Results showed that help seeking behaviour is associated with level of education, family cohesion, and experience and understanding of the health system in their home countries (Jimenez et al., 2013; P. Y. Kim & Kendall, 2015). The first 'port of call' for Asians to seek help is often from within their own family or close friends, especially when it comes to seeking help in relation to mental health or addictions issues (Guo et al., 2015; Kim & Kendall, 2015), even though their studies found that Asian-American students are at significantly more risk of psychological distress compared to their European counterparts. Also the perception of shame and embarrassment attached to mental illness or drug and substance issues tends to impact help seeking behaviours (Jimenez et al., 2013). Studies have found differences in help seeking behaviours amongst different generations of Asians living in foreign societies. It is known that the second and third generation of Asians tend to seek help more readily compared to new immigrants or first generation. Additionally, Asian families who acculturate easily and quickly to their host societies tend to seek professional help more so than those who do not acculturate easily (Tummala-Narra, 2015).

A number of factors are associated with increased help seeking for Asians in a particular society. For example, their rate of presentation to services and their willingness to seek professional help determines their help seeking attitudes. These can be identified by the rate and source of referrals to mental health and addiction services, Asians tend to present late and to the acute end of services as compared to the host population (Cheung, 2010). For example, (Goebert & Nishimura, 2011) found that more than 80% of Asian patients were presented to the alcohol and drugs treatment programme by way of the legal system recommendation or because of an ultimatum given by the family as compared to self or voluntarily presentation of members of other ethnic groups. Asians do not self present to

mental health services unless they are in acute need and advised by their family or legal system to seek help.

Table 2 Help seeking behaviours of Asians

Reference	Setting	Participants	Type of study	Aim	Outcome measures	Findings	Quality measures
Cheung, 2010.	Mental Health Services for Older People (MHSOP) Auckland Region , 2008	Chinese = 22 Non-Chinese= 22 Services users	Quantitative Study Cross-sectional analysis.	To describe the profiles of Chinese service users in a community-based old age psychiatric service.	Health of the Nation Outcome Scales for 65+ (HoNOS65+)	Rate of referrals= Chinese 0.8 % & Non-Chinese 1.2% Referral source= no difference Diagnostic profiles= no difference Medication use= no difference Referral reason= physical aggression Chinese 22% & Non-Chinese 9% Use of MHA= Chinese 14% & 5% Non-Chinese	Fair: Small sample size. Unclear whether test conditions were similar. Less than two measurements.

						Inpatient treatment= Chinese 23% & 1% Non-Chinese	
Guo et al. 2015.	11th& 12th Grade students from 4 US schools, (Mean Age 16), 2015.	Asian & European American students, *n*=169	Quantitative: Multinomial logistic regression analyses.	How cultural values are related to help seeking among adolescents from 2 distinct racial/ethnic groups.	Emotional and behavioural symptoms. Stressful life events. Family obligation values. Emotional restraint values. Help-seeking behaviour.	Seeking help for mental health needs: 11% from no one 30% peer support 50% adult support 7% formal support Asian Students reported: Significantly higher level of psychological distress than the European Americans. They also reported higher level of family obligation and emotional restraint values	Good: Good sample size. Missing sample were handled appropriately. More than two measures.

Goebert, & Nishimura, 2011.	Residential treatment programme Hawaii, 2011	Asian Americans (*n*=26) & Native Hawaiians (*n*=76), Euro American (*n*=70). treatment programme participants.	Qualitative: semi-structured interviews	To understand the treatment preferences, source of referrals into Alcohol & Drugs (A&D) residential services amongst Asian Americans, Euro-Americans and native Hawaiians.	Treatment preferences amongst different participants	<u>Ultimatum given by Family for treatment:</u> Asian Americans = 53% Euro-American*n*= 29% Native Hawaiians = 24% <u>Recommended by legal system:</u> Asian Americans = 80% Euro-American*n*= 71% Native Hawaiians = 44% Asians were less likely to have used GP or MHS for substance abuse. Statistically no	<u>Good:</u> Good sample size. Independent measures. More than 2 measures.

			significant differences in treatment preference for counselling sessions led by ethnic-specific counsellors. Asian American clients were significantly more likely to prefer a change in environment, relaxation, self-control training and educational lectures and film. Asians & Hawaiians were more than twice as likely to prefer seeking help from a minister, priest or

						rabbi	
Kim, & Kendal 2015.	4 institutions from Pacific Northwest region of the US.	232 Asian American college students (159 females & 72 males, mean age 21 years old)	Quantitative.	To identify the help seeking attitudes of Asian Americans from professional's perspectives.	Emotional self-control. Help-seeking attitudes. Willingness to see a counsellor. Biological and spiritual beliefs.	The demographic variables significantly correlated with help-seeking attitudes were: age, school year and prior counselling experience. Emotional self-control was significantly correlated with help-seeking attitudes. Significantly correlated with willingness to see a counsellor. Biological causal beliefs were related to favourable help-seeking outcomes	Fair: Targeting only college students. Unbalance representation of gender in the study.

		among those from an Asian cultural background. The acceptance of spiritual meaning behind psychological suffering can play a facilitative role in help-seeking.

2.6 Health services utilisation by Asians

Utilisation of health services, especially mental health and addiction services, by Asians living in Western countries has long been the attention of health researchers and policy makers (Chang et al., 2013; Le Meyer et al., 2009). Studies presented in Table 3 demonstrate the issue of utilisation of health services by Asians living as minorities in Western societies. (Chang et al., 2013) found that 18% of Asians from their surveyed population (*n*=2095) have diagnosed mental health problems and only 20% of these had used mental health services in their lifetime. They also found that Asian immigrants aged 13 to 17 years, or more than 35years at the time of immigration, are at increased risk of under-utilisation of services. Even though significantly lower compared to the host population, the rate of service utilisation is almost double for the second and third generation of Asian immigrants. A significantly higher number of Asians prefer to see their GP for mental health concerns rather than going to secondary mental health services (J. E. Kim et al., 2014). Studies have also identified that Asian patients mostly present to the acute services and have a lower previous treatment history (Le Meyer et al., 2009). These findings are consistent with the previous research on delayed help- seeking for Asians with mental health concerns (Guo et al., 2015). Le Meyer et al., 2009, found that amongst all participants with diagnosable mental health problems only 28% of Asian participants accessed health services directly for their problems, compared to 54% of the general population.

Table 3: Health services utilisation by Asians

Reference	Setting	Participants	Type of study	Aim	Outcome measures	Findings	Quality measures
Chang et al. 2013	US, 2002-2003	Asian Americans *n*= 2095 Latino Americans *n*= 2554	Quantitative Study. Epidemiological study of mental health Secondary data analysis.	Family cultural conflict & cohesion variation by generation status in Asian & Latino Americans	Lifetime service use (SU). Family cultural conflict (FCC) Family cohesion (FC). Immigration-related characteristics (IRC).	SU: • 30% Latino & 20% Asians • 13% Latino GP & 9% Mental Health Professionals (MHP) • 9% Asians visited GP & 6% MHP • 31% Latino & 18% Asians diagnosed with mental health (MH) problem in lifetime (59% seek help) FCC:1st G Asians	Good: Large sample of individuals with MH disorders. Studied all groups of Asians, including South Asians. Comparison between US born & foreign

						reported higher FCC 3rd G Latino reported Higher FCC No difference for 2nd gen FC: Latinos: highest 3rdG compared to 1&2 2nd, Asians: highest 1st G compared to 2&3 IRC: Asians: adolescents 13-17 YO or 35+ at time of immigration - increased risk of underutilization of services.	born. More than on measure.
Kim et al,	Non-profit	129 Asian	Quantitative	Racial/ethnic	What types of	Asian ethnicities	Good:

2014.	psychiatric hospital Massachuset, March 2009 and March 2011	American and 198 White American psychiatric inpatients	systematic chart review	disparities in mental health treatment utilisation amongst MH inpatient service users.	Asian American patients utilise inpatient treatment? How Asian American patients utilise inpatient treatment. Why Asian American patients utilise inpatient services.	included: Chinese 39.5 %, Korean 15.5%, Vietnamese 7% Japanese 7% & Filipino 4.7%. Majority (56.5%) were born foreign born. For Asian there was as average of 1.2 admissions per patient, whereas for American 1.9 per patient. Mean age: Asians 31.5 White Americans 41.2. Marital status: 7% Asians divorced,	Good sample of most Asian ethnic groups. More than one measure. Missing data mentioned.

				separated. 18.7% , & 36.4% Asians fulltime students vs. 11.6% for White Americans. Treatment: Prior Hospitalization; Asians patients 48% vs. 75.3% White. Diagnosis: Asian American patients were hospitalized for schizophrenia spectrum and other psychotic disorders vs. White Americans for substance-related disorders. No difference in

						length of stay or level of impairment.	
Meyer et al. 2014.	National Latinos and Asian American Study (NLAAS). May 2002and December 2003.	368 Asian Americans.	Quantitative Study Epidemiological Survey	Utilisation of MH services by ethnic minorities in US and the factors contributing.	Use of specialty MH services. Use of primary care services. Use of alternative services. English-language proficiency.	U.S.-born Asian Americans were more likely to be diagnosed with a substance abuse disorder. Utilised specialty MH services at a rate almost double that of immigrants (40% vs. 23%). All participants with diagnosable MH disorders 28% used specialty MH services, 16% used primary care	Good: Large sample size. Studied all groups of Asians, including South Asians. Comparison between US born and foreign born.

				services, and 11% used alternative services, compared with non-Asian American with same disorders 54%. Individuals who used primary care services were almost 15 times more likely to use specialty MH services (OR = 14.85; 95% CI = 2.90, 76.06). Individuals with poor or fair English-language proficiency were less likely to use specialty MH services.

				Individuals with good or excellent English-language proficiency, the odds of using MH services were almost seven times greater for individuals also using alternative services. Primary care use was overall positively related to MH service use (OR = 13.27; 95% CI = 2.69, 65.41). The older the individual at time of immigration the lower the likelihood

						of using MH services.	
Choi, & Kim, 2010.	NLAAS, 2002–2003	Asian Americans=2095	Quantitative: cross-sectional analysis. Epidemiological survey of health services utilisation.	Examined the prevalence and correlates of the use of complementary and alternative medicines (CAM) and traditional/conventional mental health services (TCMHS) for MH problems amongst Latino and American Asians.	Diagnosis of Mental Disorder. Complementary Alternative Medicine Use. Traditional and Conventional MHS Use. Socio-demographic Characteristics. Nativity Health Status English-	14% had mental disorder in the preceding 12 months meeting DSMIV criteria: 27.9% used CAM 21% used TCMHS 60% didn't use any service Those who didn't meet DSMIV criteria: 8.7% used CAM 3% used Traditional Chinese Mental Health Services (TCMHS) TCMHS users:	Good: Large sample size. Studied all groups of Asians, including South Asians. Comparison between US born and foreign born.

	Language Proficiency.	1st accessed GP. Then Psychiatrist/psychologist multinomial logistic regression analysis shows: CAM use; only significantly positively associated with females income-to-need ratio, perceived frequency of discrimination, and a probable DSM-IV diagnosis. Negatively associated with 21+ years in the US. TCMHS use:

			positively associated with Vietnamese ethnicity, number of chronic illnesses, English proficiency, and a probable DSM-IV diagnosis negatively associated with having lived 11–20 years in US.

2.7 Barriers for Asians to accessing health services

The studies presented in Table 4 indicate that, for members of the Asian communities living in Western countries, stigma and discrimination are the most important barriers to seeking help and accessing services (Sung et al., 2013; E. C. Wong et al., 2006). As mentioned, Asian patients usually seek help within their family or hide their mental health issues due to fear of discrimination (Sung et al., 2013). Research suggests that Asian patients may also feel more comfortable seeking help for their physical health, and are likely to somatise their mental health issues. For example, (Sung et al., 2013) found that Asian patients feel more comfortable using terms related to physical rather than mental health or emotion-related terms. Other barriers to accessing services include high cost of services, language problems and knowledge and understanding of available services (E. C. Wong et al., 2006).

Table 4: Barrier for Asians in accessing health services

Reference	Setting	Participants	Type of study	Aim	Outcome measures	Findings	Quality measures
Sung, et al. 2013.	US, California, Minnesota, Indiana, and Georgia.	8 MH professionals with experience of working with Asian patients.	Qualitative: Snow-ball sampling	Examines how characteristics of collaborative care facilitates accessibility to MHS among the Asian community in the US.	Barriers to following up with physician's referral to therapy services. Characteristics of collaborative care in facilitating accessibility to mental health services.	Stigma is one of the most influential factors in Asian patients seeking MH services. Asian patients do not want to let others know that they are seeking help for MH issues. Colocation was one of participants' most frequently reported characteristics of collaborative care. Accessing MH	Good: Snow ball sampling can facilitate collective participant's bias. Small sample of MH professionals only, no patients interviewed.

			services through GP helps reduce anxieties of meeting a stranger for stigmatising concerns. The participants indicated that using words that are more physical-health related, rather than emotion-related words can be less frightening and more familiar to Asian patients. Colocation of services suits the Asian cultural value of collectivism.

Wong et al, 2006.	Long Beach California, 2006.	Cambodian American Refugee. *n*= 490.	Quantitative Survey	To examine of the extent of structural and cultural barriers to the utilisation of MH services amongst Asian refugees in US.	Socio-demographic information. PTSD and major depression. Alcohol use disorders. Treatment barriers.	Participants reported high cost of services (80%) and language problems (66%) as reasons for not seeking Western MH care. The next most commonly reported barriers involved difficulties with knowing where to obtain services (25%), transportation (24%), and discrimination (15%). Fewer than 6% reported concerns about stigma, greater confidence in	Fair: Studied a smaller sub-group of Asians. Study only focused on refugees, different needs to general Asian communities.

			indigenous treatments, lack of confidence in Western health care, and discouragement from family.

2.8 Discussion

Some research has been conducted investigating the health and well being of Asians living in Western countries, including help seeking behaviours, health services utilisation and barriers to accessing services. Although the 17 research papers reviewed here varied in their research methods, outcome measurements and settings, the themes of their findings are similar. Mental health and addictions are a significant issue facing Asian communities living in Western societies. There is underutilisation of secondary health services by Asian consumers, and Asians are reluctant to seek help. None of the 17 studies reviewed have directly researched the prevalence of mental illnesses amongst this group. In terms of life style issues physical inactivity, particularly amongst Asian women, risky health behaviours, such as binge drinking and smoking amongst Asian men were discussed in this review.

2.8.1 Prevalence of mental illnesses amongst Asians

Despite considerable attention being given to studying the mental health needs of Asians research to date has not been able to estimate the prevalence of mental illness among this group. Due to the changing demographics, and being a relatively small group, the mental health prevalence of Asians living in New Zealand has also not been researched. However, the limited research literature suggests that the levels of mental illnesses do not differ from those of the general population (Ho et al., 2003). Some research conducted in the US even suggests that Asians are more at risk of developing mental health issues than the general population (Farver, 2002). Factors contributing to this could be related to socioeconomic status, acculturation to the new host society and conflicts amongst families. Regardless of the lack of clarity around prevalence rate amongst this group, the late access to secondary mental health and addiction services and the lack of timely access and underutilisation of services has concerned researchers and policy makers (Ho et al., 2003). A number of reasons have been identified through this review for the late access and underutilisation of services. Seeking help within the family, lack of knowledge about services, language barriers and stigma and discrimination are some of the important ones (Sung et al., 2013). Even though the selected studies in this review

have enhanced our understanding of mental health and addictions issues faced by Asians living in Western societies, these studies seem to lack taking a culturally appropriate methodology to overcome some of the barriers to conducting mental health research amongst this population.

2.8.2 Understanding mental health needs of Asians

The selected studies in this review have somewhat explored the mental health needs of Asians living in Western societies. However, there seem to be gaps in adapting a culturally appropriate approach towards understanding their mental health needs and their help seeking behaviours in particular.

Two main theories emerge from these studies that try to explain the reasons for this unclear understanding. One is the reluctance of Asian communities in expressing their psychological distress to health professionals, and second is the culturally embedded barriers that prevent them from accessing services.

A number of reasons could explain the reluctance of Asians to express their psychological distress, for example, language barriers their lack of knowledge about mental health and services in their new country, the attitude of general populations towards mental illnesses and their willingness to integrate or level of integration into the new host communities. This could be further affected by the culturally embedded barriers within Asian communities towards mental health; some examples may include but not be limited to, stigma and discrimination of mental illnesses in these communities, social pressures of success amongst families, utilisation of cultural methods of treatment as the first point of help seeking. All these factors are known to contribute to the lack of help seeking behaviours of Asian living in Western societies. These factors are explained in detail in the subsequent sections of this chapter.

2.8.2.1 Help seeking behaviours

The help seeking behaviours of Asians living in Western societies can be understood from the perspective of their access to services. Their underutilisation of services can be explained by two factors (1) barriers to initiation mental health services and (2) barriers to persisting with services. Studies have shown that Asians have been found to be more resistant to accessing mental health services and those who come to the attention of services can be difficult to follow up (Leong, 2001).

Studies in this review have clearly demonstrated that one major influence on help seeking of Asians is their acculturation to the host society (Farver, 2002; Tummala-Narra, 2015). Those Asians who are more highly acculturated have more positive attitudes towards seeking psychological help in dealing with mental health issues. In contrast those Asians who are reluctant to acculturate to the host society, and particularly those who live in the low socioeconomic areas, have less positive attitudes towards help seeking (Tummala-Narra, 2015). Studies even suggest that Asians who are highly acculturated to the host society have similar help seeking behaviours to those of the host society (Tracey, Leon & Glidden, 1985).

Understandably, conducting mental health and addictions related research amongst Asian communities can be challenging. However, the studies selected in this review did not appear to have used techniques to overcome these challenges. For example, none of the studies used translated versions of their screening tools or questionnaires. Language issues are a known barrier in providing care to Asians and are likely to present a barrier to research with this population. This is a significant gap when it comes to assessing the health needs of Asians living in Western societies (Guo et al., 2015). Another known factor is a general reluctance on the part of Asians to discuss sensitive issues, such as mental health concerns. These barriers aside, studies also show that Asians do feel comfortable discussing distressing issues with their GPs (Farver, 2002). However, none of the selected studies has conducted research at primary health care level. This clearly suggests that, primary care centres could potentially be used to research the mental health needs of this community (Stella, Huang, & Singh, 2004b). Also, none of the studies

reviewed used an Asian specific screening tool for screening and support of mental health, addictions and lifestyle issues.

2.8.3 Lifestyle issues amongst Asians living in Western societies

Few of the studies reviewed here discussed lifestyle issues amongst Asians living in Western societies, for example physical inactivity, smoking and binge drinking. All of the issues are known cardiovascular risk factors, and we know from research that Asians, especially South Asians, are at increased risk of developing cardiovascular diseases. The majority of the Asian immigrants had a better health profile compared to the host population at the time of immigration. However, this "healthy migrant" effect tends to wear out after residing for few years in the new country (Tummala-Narra, 2015). Studies also suggest that those Asian immigrants above 20 at the time of migration tend to have worse health outcomes after living for few years in the new country compared to those below 20 at the time of migration (Chang et al., 2013).

2.8.4 Importance of using culturally appropriate means of research

Some of the selected studies in this review have attempted to use culturally appropriate means of researching the mental health needs of their Asian communities. For example, the study by (Sung et al., 2013) recruited participants who either were from Asian background or had experience of working with members of Asian communities. Another study used a translator to conduct their research surveys with one particular Asian community. These are undeniably encouraging attempts to have a culturally appropriate method of researching the needs of these communities. However, it would not be untrue to say that these methods were far and apart and using more culturally appropriate means of research could have positive effects on these studies. The most significant barrier for Asians to understanding and accessing health services in Western countries is "language". As stated earlier, none of the selected studies used translated versions of their surveys or interview questionnaire to research the needs of these communities.

Another important factor identified in this review that could potentially have had significant effect on the overall outcomes of these studies is the fact that none of these studies targeted Asian communities at the primary care level except the study done by (Jimenez et al., 2013). This is despite the fact that studies have identified that Asians feel more comfortable discussing their psychological distress with their general practitioners. This could be due to their holistic approach to health and non-differentiating approach between physical and mental health.

Overall this review highlights a few important points when it comes to mental health, addictions and lifestyle issues amongst Asian communities. It emphasises that the Asians are more vulnerable to developing mental health issues compared to the host populations. It also gives an insight into the need for more research and understanding of these needs and tackling them in a way that initiates positive steps towards reducing inequalities and improving service delivery to these communities. Asian-eCHAT has the potential to fill these gaps and contribute towards the health outcomes of Asian communities living in New Zealand.

3 Chapter: eCHAT

3.1 eCHAT

The Electronic Case-finding and Help Assessment Tool (eCHAT) is the electronic version of the primary care Case-finding and Help Assessment Tool (CHAT) which screens for multiple risk behaviours (smoking, drinking, recreational drug use, gambling, exposure to abuse and physical inactivity) and mental health issues (depression, anxiety, difficulty with anger control). eCHAT is one approach that circumvents time constraints within GP services (Goodyear-Smith, Warren, & Elley, 2013). It aims to identify areas of patient need and streamline access to services. Using the eCHAT tool, patients answer a number of mental health and lifestyle screening questions electronically (Goodyear-Smith, Warren, Bojic, & Chong, 2013). This method is less 'threatening' for the patient than answering face-to-face questions. Once concerns are identified, clinicians can then use the appointment time to support patients in understanding their experiences and in accessing appropriate interventions (including secondary or community social services and/or further assessment). eCHAT may also assist clinical staff with decision-making and serve as a means of assessing change in outcome over time. This is particularly useful for issues such as depression and anxiety (via repeated measures of the PHQ9 and GAD-7) (Goodyear-Smith, Arroll, Coupe, & Buetow, 2005; Goodyear-Smith et al., 2006; Goodyear-Smith, 2011; Goodyear-Smith, Arroll, & Coupe, 2009; Goodyear-Smith et al., 2013; Goodyear-Smith et al., 2013).

eCHAT is a validated tool with its acceptability and feasibility tested at 41 general practices in New Zealand amongst 2543 patients of diverse ethnic and socioeconomic backgrounds (Goodyear-Smith et al., 2008). eCHAT has been identified as being an effective screening tool for depression and anxiety as well as to some extent for other issues such as gambling, alcohol and drugs etc. (Goodyear-Smith et al., 2008). Already implemented in multiple general practice centres and well accepted amongst different ethnic groups, including Māori, Pacific Island people and Asian students, eCHAT has the potential to make a difference in early detection and identification of mental health and

lifestyle issues amongst the NZ Asian population, as well as improving access to community and secondary health services through a stepped care approach (Goodyear-Smith et al., 2005).

As demonstrated in Figure 2 below, eCHAT uses a stepped care approach to support patients to identify any lifestyle and mental health issues and then access appropriate support.

The stepped care support of eCHAT follows a simple pathway of accessing support and these steps are explained below:

Step1: Once the enrolled patient completes the eCHAT questionnaire, the clinician receives a summary of their results.

Step2: The clinician then discusses any identified issues with the patient during the consultation.

Step3: With patient consent the clinician then discusses the possible support options available and recommends the most suitable.

Step4: The clinician provides self help support options to the patient depending on the level of support required and gives advice on accessing these services.

Step5: The clinician provides clinical management, if required, for the identified issues, for example NRT for smoking cessation or antidepressants for depression.

Step6: The clinician either provides details on accessing community and social services, like community support groups, NGOs support services, or provides support with making referral to these services.

Step7: Depending on the severity of the Problem, the clinician provides further information and offer help with referral to secondary services, for example secondary mental health, or addiction services, dietician or diabetic clinics.

This stepped care approach has the potential to improve access to services and provide a platform for raising awareness about these services.

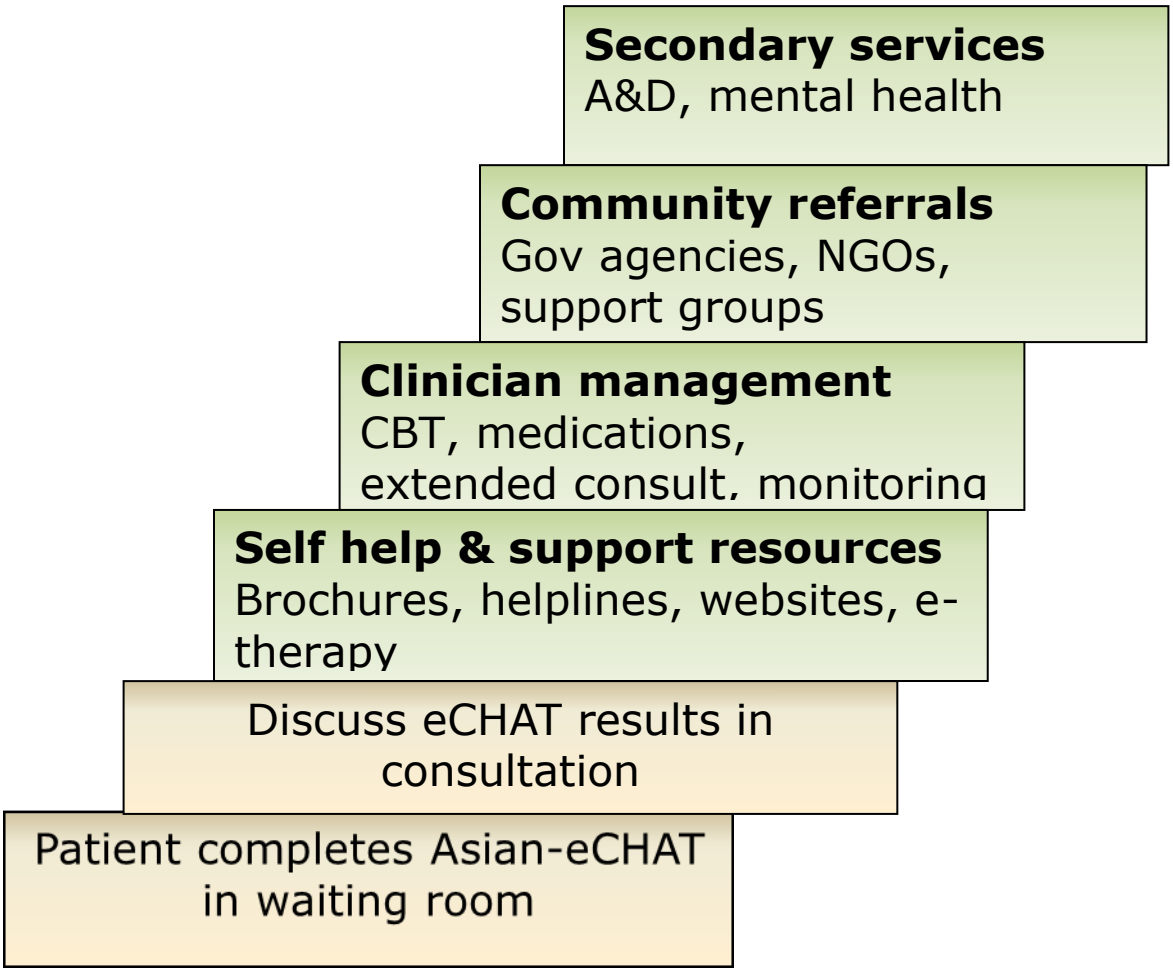

Figure 2 Stepped care approach of eCHAT

3.1 Asian-eCHAT

There is currently no known Asian-specific screening tool for the early detection and identification of preventative measures to improve the health outcomes of Asian populations and their access to community based support services. Asian-eCHAT aims to address this deficit by providing an access pathway (translated into Chinese and Korean languages). Importantly, the eCHAT tool has been well-received during trials with Asian students from three language schools (Goodyear-Smith, Arroll, & Tse, 2004).The feedback indicated that eCHAT allowed clinical staff to offer an 'Asian friendly' screening platform. The screening tool was also found to be useful in identifying lifestyle

issues amongst the students. These findings highlight the general acceptability of the eCHAT process for Asian populations. However, given the language barrier for many Asian migrants to New Zealand, translated versions may provide an important mechanism for identifying Asian mental health and lifestyle concerns in the primary care setting.

3.2 How Asian-eCHAT will fill the gap

Discussing mental health and lifestyle issues may be challenging for both patients and practitioners. GP/primary care practices have the added stress of time constraints, and patients often bring their own specific objectives to a consultation (Goodyear-Smith et al., 2008). Research has shown that this is particularly the case with Asian patients where the issues of stigma and discrimination, cultural sensitivity and language barriers make it more difficult to address these issues (Guo et al., 2015). Since eCHAT is a validated tool and well accepted in a wide range of ethnic groups tested in multiple GP practices (Goodyear-Smith et al., 2009), it seems that this could be a culturally appropriate screening tool for the Asian population living in NZ. Translated into Chinese and Korean, Asian-eCHAT will eliminate the gap of language barrier and also aims to facilitate the issue of discussing sensitive problems. It will also help to reduce the time constraints and difficulty faced by practitioners in addressing these issues in a culturally appropriate manner. The added validated tools of Population Health Questionnaire (PHQ9), Generalised Anxiety Disorder (GAD7) and Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) will give specific data about the prevalence of depression, anxiety disorder and substance misuse. Patients completing Asian-eCHAT and participating in the process will also help towards promotion of mental health and life style issues amongst this vulnerable group of the NZ population.

In summary, Asian-eCHAT will help to initiate the process of close collaboration and enhance integration amongst primary, community and secondary health services. Asian-eCHAT will not only act as a screening tool for identification and early detection of preventable illnesses but will also provide the necessary steps towards addressing these

issues at an early stage. The stepped care approach of eCHAT will act as a ‘one stop shop’ for Asian patients and practitioners to deal with these distressing issues and ultimately help to reduce the costs to the health service. Also the co-design research methodology will allow for a collaborative approach to ensure any issues in implementing this screening tool are dealt with in a timely manner. This will ensure positive outcomes for both the practice and their Asian consumers.

4 Chapter: Methodology

4.1 Study design

The current acceptability and utility study used a mixed method, co-design approach in which Asian patients and health clinic staff had input into the research design and conduct. This ensured that research methods, such as the timing and location of patient screening, fitted with the unique settings and that end-user feedback could be input into subsequent phases of the research (i.e. data from research activities can be assessed and utilised to improve the implementation of the on going project). Quantitative data included a survey delivered to all Asians participating in the screening programme to assess their perceptions of program acceptability and utility, as well as eCHAT screening data. Qualitative research includes semi-structured interviews with health clinic staff on the utility and acceptability of the programme.

4.2 Mixed methods approach

Mixed methods approaches have gained significant currency in empirical studies nowadays. Mixed methods is an approach for collecting, analysing and mixing quantitative and qualitative data at some stage of the research process within a single study in order to understand a research problem more completely (Dörnyei, 2007). Since both qualitative and quantitative methods of data collection have their strengths and weaknesses, in a mixed method approach the strength of one method can be used to overcome the weakness of the other. Another advantage of a mixed method approach is that it offers multi-layered analysis that can help to better understand a complex phenomenon. This is achieved by converging precise details from qualitative data and statistical trends from quantitative data. “Words can be used to add meaning to numbers, and numbers can be used to add precision to words” (Dörnyei, 2007). This links a mixed methods approach to triangulation, an approach that applies multiple methods to help validate findings.

4.2.1 Quantitative and qualitative research methods

Typically, quantitative research collects statistical data through instruments such as closed questions or multiple choice responses on a questionnaire. Quantitative researchers then try to examine the data empirically and objectively using statistical techniques, and let the numerical results verify or disapprove a hypothesis. The aim of a quantitative study is to generalise results from a sample to a large population.

A qualitative approach to research gives in-depth descriptions and explanations of the phenomenon studied rather than collecting and analysing numerical data. This approach allows researchers to capture the individual's point of view, examine constraints of everyday life and secure rich descriptions of the social world. Likewise, some qualitative research is grounded, meaning that theory is generated from data rather than being imposed on it, and it is exploratory in nature, expansionist, descriptive and inductive (Dörnyei, 2007).

4.3 Setting

The study was conducted at the Apollo Medical Centre, one of the largest primary health care clinics in the Waitemata District Health Board area (WDHB), with almost 20,000 enrolled patients, 44% of whom are of Asian origin. Apollo Medical Centre employs both clinical and non-clinical staff from diverse cultural backgrounds to meet the cultural needs of its enrolled population.

4.4 Consultation and ethics

Health and Disability Ethics Committee (HDEC) and institutional ethics approval was obtained prior to the start of the research project. Apollo Medical Centre was approached and agreed to the implementation of the eCHAT programme. After consultation with the GP clinic the project team developed a tailored eCHAT implementation package for use.
The package included:

- The technology platform to enable eCHAT screening in English, Korean and Mandarin languages.

- A resource booklet which included the stepped care approach to the management of issues identified during completing eCHAT. This included self-management support tools, support options provided by clinicians, available community resources and secondary health services. The resource booklet was compiled as a joint venture by Apollo staff and the eCHAT team.
- A template for a stepped care pathway, populated with appropriate local services (including any services catering to Asian populations, as shown in Figure 2).

4.5 Participant recruitment

Asian patients enrolled in the general practice under the two doctors (one Chinese, one Korean) who were participating in the study were invited to participate in the research. Inclusion criteria were:

- Patients identify themselves as Asian;
- Adults aged 16 and above; and
- Attending the study setting.

The Medical Assistant (MA) invited two consecutive patients per clinic of both Asian doctors to participate in the study either by a phone call a day before their booked appointment or in person on the day of appointment in the waiting room. Patient Information Sheets (PIS) in the three eCHAT languages were provided in order for the patient to give informed consent. Patients who agreed to participate in the study were provided with a consent form and PIS forms. The MAs offered help if any patient required assistance. Paper based surveys were offered to patients who participated in the study to gain their feedback on Asian-eCHAT and on completion of the questionnaire.

4.6 Study measures

There were three sets of study measures used in this study to achieve the aims of the research; the details of these measures are presented below.

4.6.1 Asian-eCHAT and its added tools (PHQ9, GAD7, ASSIST)

Asian-eCHAT used to assess the prevalence of mental health and lifestyle issues amongst Asian populations. eCHAT as described in Chapter 3 is an online screening tool for mental health, addictions and life style issues. eCHAT 10 domains (depression, anxiety, difficulty with anger control, problematic smoking, drinking, recreational drug use, gambling, exposure to abuse, physical inactivity). After consultation with the two doctors involved in the project eCHAT domains like anger control and exposure to abuse were not included in this study due to the un-availability of appropriate support resources as well limitations of time. A 5 to 15 minutes screening questionnaire eCHAT ensures to screen for all of the above mentioned domains of a person` s life. If a participant scored positively for any of the above domain in the initial brief questionnaire it activated the embedded detailed screening questionnaires for example PHQ9 for depression or GAD7 for anxiety. Data of each completed eCHAT was automatically stored into the system with no identification information included. There data were then extracted upon the completion of data collection for analysis purposes.

4.6.2 Patient acceptability and utility survey

The acceptability and feasibility of Asian-eCHAT assessed via the feedback surveys completed by participants. Patient feedback surveys included mixed questions as described earlier, it ensured to capture participant`s feedback about the acceptability of Asian-eCHAT as a culturally sensitive screening tool as well as the usability of eCHAT in identifying mental health addictions and lifestyle issues. The feedback surveys included 10 questions mixed of Likert scale “yes, no” and written feedback questions. It aimed to be completed in 5-10 minutes ensuring capturing instant feedback from the participants about their experience of using Asian-eCHAT. The main purpose of the Patient Survey tool was to get Asian patients’ feedback about the acceptability and utility of Asian-eCHAT as a culturally suitable screening tool. A paper-based survey (refer to Appendix X) was provided to all patients following completion of their Asian-eCHAT screening and GP consultation. It included measurement of items such as acceptability of response options included Likert scales (e.g. “agree” to “disagree”), “yes” or “no”, and open-ended (free text) fields.

4.6.3 Semi structured clinician interviews

These interviews were conducted with the clinic staff to assess the implementation and utility of Asian-eCHAT at Apollo Medical Centre. The interview questions were targeted to capture clinicians, medical assistants and managers feedback about the implementation of Asians-eCHAT as a mental health and life style screening tool. The questions included aimed at collecting their feedback around the pros and cons of using Asian-eCHAT as a screening tool. For example, the opening question of the interview asked; "What do you think are the benefits of your patients using the eCHAT on the iPad before their visit with you?". Similar question was asked about their feedback on the negatives/downsides of using Asian-eCHAT as a screening tool. Other questions included in the interview asked about their feedback on, how their patients found Asian-eCHAT as a screening tool, did it facilitated conversations about difficult issues, did it help identified any issues, and the use of Asian-eCHAT on long term basis. Since the interviews were semi-structured these questions were mainly used to guide the interviews. Each interview lasted for approximately one hour and all of the interviews were recorded with notes taken.

4.7 Procedure

Asian-eCHAT was implemented at Apollo Medical Centre from May 2016 to November 2016 following translation of eCHAT (into Chinese and Korean), and programming, as well as field testing in December 2015 and January 2016.

A workshop was organised by the project team with Apollo Medical Centre staff including the two clinicians, medical assistants and the managers, to teach them about the use of Asian-eCHAT. Any concerns or questions were answered during the workshop and it was also agreed to have quarterly reporting done by the staff regarding any issues or concerns, which were then addressed in the course of data collection. A separate workshop was organised with clinical staff to discuss the support options and discuss what support they already utilise and what can be provided. Based on the second workshop a stepped care recourse booklet was compiled to support the two doctors in providing stepped care support to those patients who requested help.

Once the clinic staff was educated about eCHAT use, the eCHAT project IT support then worked with the Apollo Medical Centre`s IT staff to integrate Asian-eCHAT into their system. Following this each staff member who participated in the research was provided login details to test and trial all the versions of Asian-eCHAT (English and translated). Once the system integration was completed Apollo Medical Centre was provided with two iPads which were connected to the Centre's WIFI. Also, the Medical Centre was provided with PIS, consent forms and project details along with paper based surveys, all of these documents were translated into Chinese and Korean languages as well as in English.

Patient screening took place in the practice waiting room while patients waited for their appointments. Each participant who consented to participate in the study was provided with a tablet to complete the screening questionnaire. Once seen by their doctors the participants were requested to fill out a quick feedback survey.

As agreed with the participating doctors, two patients per day were recruited into the study. As has already been said, eligible patients were approached by phone call or in person with a view to participation prior to attending the clinic for their appointment or on their arrival at the clinic. The PIS and consent form in Chinese and Korean were provided to each participant who agreed to participate in the research. Patients who did not wish to participate in the programme either declined to participate or opted out at any stage by exiting from the survey. For those who participated, screening scores were available immediately through secure messaging to MedTech via the HealthLink server. HealthLink is an electronic portal used by GP clinics to share patient information and reports confidentially.

Practice staff could quickly review scores to identify patients in need of immediate help (e.g., triggered a self-harm alert) and/or who scored positively for issues measured by eCHAT (e.g., substance abuse) and who wanted help. Clinicians followed up patients who wanted help using the stepped care support booklet provided together with the

eCHAT programme. Clinicians and patients engaged in shared decision-making on the level, type and timing of support.

The paper based survey was provided to patients immediately following their GP consultation and completed in the waiting room. This survey was collected by health clinic staff and delivered to the researchers monthly. Data were entered on on-going basis. A progress report on the process of Asian-eCHAT, number of patients approached and number accepted was collated by the Medical Assistants and provided to the researcher via email on a weekly basis.

Near the end of the data collection period, group interviews with clinicians, Medical Assistants and managers were conducted. Standard informed consent processes were undertaken for the interviews and, with consent, all interviews were audio recorded and confidentially transcribed. The interview notes were then rewritten, referring to the audio recording as necessary for reference.

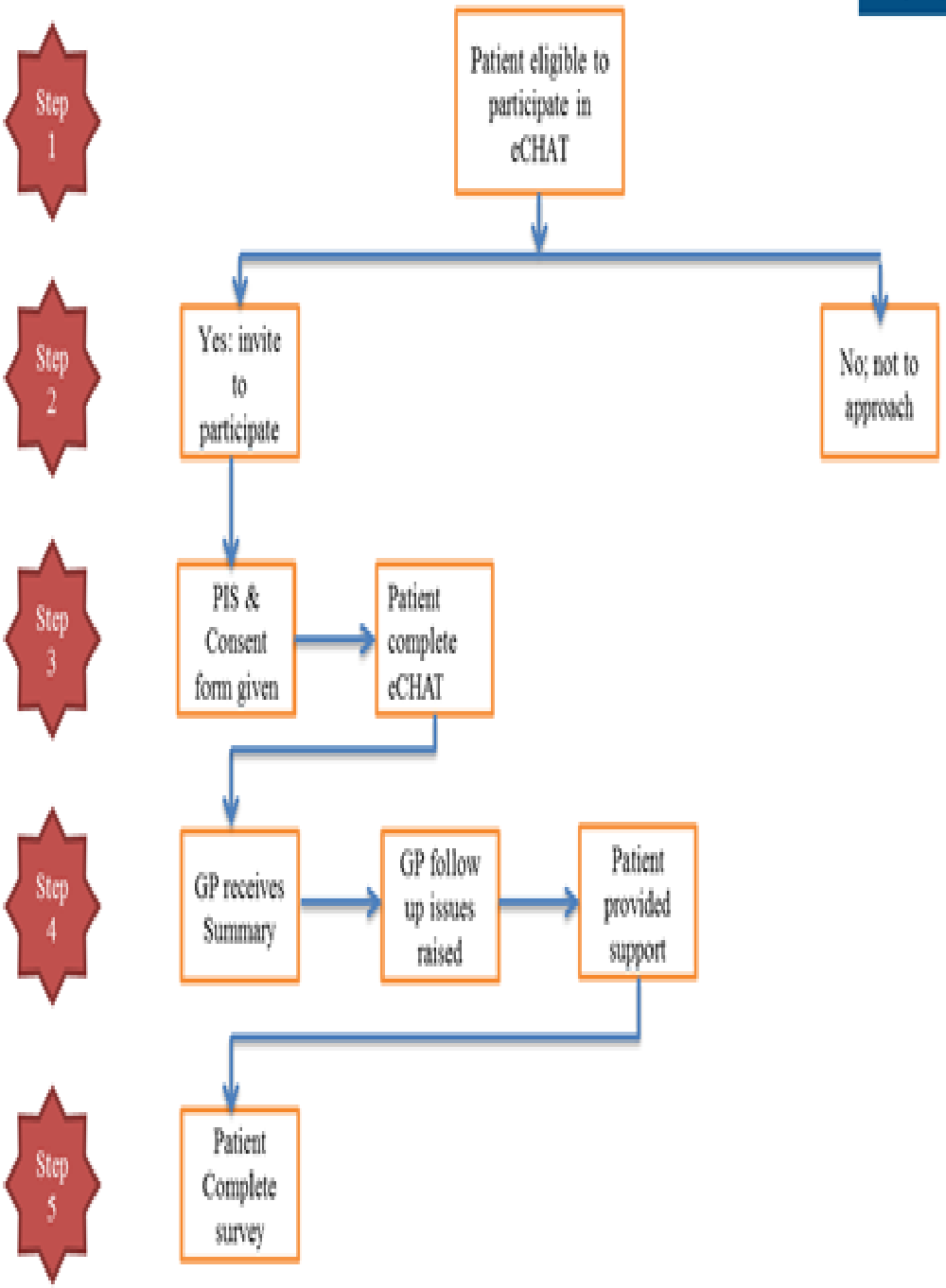

Figure:3eCHAT process

4.8 Data analysis

4.8.1 Quantitative data analysis

Quantitative data were analysed using Microsoft Excel and SPSS Statistical Software Package, version 23 (SPSS). Analyses included basic descriptive statistics (e.g., number of patients screened; eCHAT summary data; number of targeted assessments completed; demographic characteristics of the sample; number of survey responses; frequencies and means of survey responses, etc.). SPSS was used to conduct the statistical analysis of quantitative data.

4.8.2 Qualitative data analysis

Qualitative data were analysed using a general inductive approach with collated text analysed to identify emerging themes. Themes were then independently coded by KS and then checked by AC with consensus reached by adjudication.

While coding the data in the first stage, a sentence or phrase was highlighted if it was considered to be related to the research goals. A proper name or label was given to a code or theme found for the first time. In the second stage, patterns were looked for by clustering various labels and themes into categories. While doing so, the names of some themes were changed, removing others and adding new ones if required. Also subthemes emerged during analysis that had commonalities to the main theme but needed to be categorised as a subtheme due to the commonality amongst all interviews and their importance. These subthemes are presented as subheadings in the results section under the main umbrella theme they came under. The final stage involved interpretation of qualitative data and arriving at conclusions.

5 Chapter: Results from patient participants

5.1 5.1 Introduction

This chapter presents results for the patients who completed Asian-eCHAT during the study period, as well as the findings from the survey completed by patients after their consultations. Chapter 6 reports the findings from the thematic analyses of focus group interviews with practice staff.

5.2 Asian-eCHAT results

5.2.1 Description of participants

A total of 302 Asian patients enrolled at Apollo Medical Centre were invited to participate in the study. From these, a total of 277 patients agreed to participate (92% acceptance rate). The characteristics of these 277 patients are presented in Table 5 below.

Table 5: Characteristics of 277 Asian patients who participated in study

Characteristic	n	(%)
Age in years		
<25	12	4.3%
24-44	122	44%
45-64	117	42.2%
65+	26	9.4%
Gender		
Male	84	30.3%
Female	193	69.7%

5.2.1.1 Patient demographics

Age and sex

The screening questionnaire captured participants' age group and sex. The largest number of patients who participated in the study were the age group between 24 and 44 years old (*n*=122, 44%), followed by the age group of 45 to 65 (*n*=117, 42.2 %). Only a small

proportion of recruited participants were either below 25 years old or above 65 years old (*n*=12, 4.3% &*n*=26, 9.4%respectively). The numbers of female participants were greater than the male participants (*n*= 193; 70%)

5.2.2 Results of Asian-eCHAT screening questions

Results of the Asian-eCHAT screening questions, as presented in Table 6, are themed under three sub groups:1) mental health and gambling, 2) alcohol other drugs, and lifestyle issues 3) Youth health. The responses are captured on the basis of participants clicking ‘yes’ for any of the screening questions which took them to further scored assessments.

Table 6: Results of screening Questions

Domain			Positive responses, want help		
	No n (%)	**Yes n (%)**	**No n (%)**	**Not today n (%)**	**Yes n (%)**
Smoking	257 (92.8)	20 (7.2)	9 (3)	8 (3)	3 (1)
Drinking	246 (88.8)	31 (11.2)	29 (10.5)	2 (0.7)	0
Other drugs	277 (100)	0			
Gambling	263 (95)	1 (0.4)	1 (0.4)	0	0
Depression	255 (92.1)	22 (7.9)	8 (2.9)	9 (3.2)	5 (1.8)
Anxiety	208 (75.1)	69 (24.5)	36 (13)	26 (9.4)	7 (2.5)
Physically inactive	138 (49.8)	127 (45.8)	80 (28.9)	28 (10.1)	19 (6.9)

5.3 Mental Health issues and gambling

5.3.1 Depression

PHQ9 was used to assess for depression amongst the participants. Participants who screened positively on depression questions triggered PHQ9 for detailed screening. Twenty-two participant's (8%) screened positively for problems with depression. Of those participants who scored positively for depression 1.4% (*n*=4) had severe depression, 1.4% (*n*=4) had moderately severe, 0.7% (*n*=2) had moderate and 4.2% (*n*=12) had mild depressive symptoms. As shown in Table 7 of all those who scored positively for depression, 3.2% (*n*=9), wanted help with their depression but at another time,1.8% (*n*=5) wanted help on the day of presentation to GP, and 2.9 % (*n= 8)* wanted no help. Table 7 below presents the severity of depression based on the results from PHQ-9scoring.

Table 7: Results of scored PHQ2/PHQ9 for depression

Depression	No n (%)	Mild n (%)	Moderate n (%)	Mod severe n (%)	Severe n (%)
	255 (92)	12 (4.2)	2 (0.7)	4 (1.4)	4 (1.4)

5.3.2 Anxiety

A total of 24.5% (*n*=69) of the participants screened positively for problems with anxiety as presented in Table 8. Out of those who screened positively for anxiety 11.9% (*n*=33) requested help with their anxiety. Participants who screened positively for issues with anxiety triggered GAD-7 questionnaire and 5.1% (*n*=14) were identified to have Generalised Anxiety Disorder.

Table 8: Results of scored GAD-7 for anxiety

General anxiety disorder	No n (%)	Yes n (%)
	263 (94.9)	14 (5.1)

5.3.3 Gambling

Ninety five percent (*n*=263) of the participants responded negatively for issues with gambling and only one ticked yes for problems with gambling, but wanted no help.

5.4 Smoking, alcohol and other drug misuse

5.4.1 Smoking

The majority of 277 participants 92.1% (257) screened negatively for smoking, only 7.2% (*n*=20) selected positive response for smoking as presented in Table 9. Only 4% (*n*=11) requested support with their smoking, but not on the day of presentation to GP.

Out of the 20 participants who screened positively for issues with smoking 19 completed ASSIST for smoking. 6.5% (*n*=18) were considered at risk and 0.5% (*n*=1) high risk as presented in Table 9.

5.4.2 Drinking

Eleven percent (*n*=31) of participants indicated problems with drinking as presented in Table 9. Of these, only two (1%) wanted help, but not on the day of presentation. Total of 4% (*n*=11) completed the ASSIST tool for detailed screening as shown in Table 9, 3.5% (*n*=10) were identified to be at risk and 0.5% (1) high risk. Seven percent (*n*=20) chose not to complete the ASSIST tool to further assess their drinking problem.

5.4.3 Other drugs

None of the 277 (100%) participants answered positively for issues with other drugs.

Table 9: Results of scored ASSIST tool for Smoking, drinking, other drugs

	No / low risk n (%)	**At risk n (%)**	**High risk n (%)**
Smoking	257 (92.8)	18 (6.5)	1 (0.5)
Drinking	246 (88.8)	10 (3.5)	1 (0.5)
Other drugs	277 (100)	0	0

5.5 Youth sexual health

Twelve participants (2%) came under the youth category and triggered the screening questionnaire for sexual health. Half (n=6) of the participants who completed sexual health screening questionnaire screened positively for issues with their sexual health, and all 6 of them requested help.

5.6 Results from patient surveys

Out of the 277 patients who participated in the study, 88% (*n*=244) agreed to complete the feedback survey 5% (*n*= 30) refused to complete the survey. As shown in Table 10, the breakdown of participant's characteristics is almost similar to what is presented in the previous section. The only additional information obtained via the surveys is the participant's individual ethnicity. Fifty percent (*n*=123) of participants were Chinese and 48.2% (*n*=119) of Korean origin. Two percent (*n*=5) selected their ethnicity as other Asians.

Table 10: Characteristics of 247 participants who completed survey

Characteristic	n	(%)
Age in years		
<25	10	4
24-44	109	43.8
45-64	110	44.2
65+	18	8
Gender		
Male	72	29.1
Female	175	70.9
Ethnicity		
Chinese	123	49.8
Korean	119	48.2
Other Asian	5	2

5.6.1 Acceptability of Asian-eCHAT as screening tool

As presented in Table 11, the majority of the participants rated Asian-eCHAT as an acceptable screening tool. Out of 244 participants, 243 completed the translated version of eCHAT survey; only one patient completed the English version. Seventy one point six % (*n*=176) of the participants found Asian-eCHAT extremely easy to use and felt extremely comfortable completing the online questionnaire. Forty four % (*n*=111) of the participants stated that Asian-eCHAT helped them identify issues related to their mental health and lifestyle, and 30.4% (75) requested help related to their issues.

Table 11: Asian-eCHAT as a screening tool

Answers 1-5	**1**	**2**	**3**	**4**	**5**	**Missing**	**Mean**	**Std dev**
	n (%)	**n (%)**	**n (%)**	**n (%)**	**n (%)**	**N (%)**	**n**	**n**
Easy to use	0 (0)	5 (2)	21 (8.5)	43 (17.4)	176 (71.3)	2 (0.8)	4	.733
Comfortable completing	0 (0)	1 (0.4)	26 (10.5)	42 (17)	176 (71.3)	2 (0.8)	4.60	.69
Identified areas of support	15 (6.1	24 (9.7)	95 (38.5)	50 (20.2)	61 (24)	2 (0.8)	3.48	1.14
Wanted help	73 (29.6)	40 (16.2)	56 (22.7)	33 (13.4)	42 (17)	3 (1.2)	2.72	1.454

5.6.2 Usability of Asian-eCHAT

The majority of participant 88% (*n*= 219) who completed Asian-eCHAT survey were amongst the 24 to 64 age group, only 8% (*n*=18) of those who completed the survey were at the age group of 65+ and 4% (*n*=10) below the age of 25. Amongst the participants who completed the survey 29.1% (*n*=72) were male and 70.9% (*n*=175) were female. Overall the majority of the participants expressed positive feedback about using Asian-eCHAT and 53.4% (*n*=132) said that they will recommend Asian-eCHAT to other people. As one participant stated that he will promote Asian-eCHAT amongst the new migrants and stated:

> *"Very supportive of promotion to help new migrants solve their psychological issues, reduce their stress and to help family members become more positive."*

Fifty-one percent (*n*=126) said they liked completing it, and 36% (*n*=88) stated that Asian-eCHAT helped them identify issues they were having. For example, one participant stated:

> "*I was not previously aware of this problem*."

Thirty eight percent (*n*=94) of participants indicated that completing Asian-eCHAT helped them change their thinking in a positive way about issues they might have been struggling with. Additionally, 24.3% (*n*=60) of participants reported that completing Asian-eCHAT helped them by informing their doctors about the issues they were facing. Furthermore, 31.2 % (*n*=82) felt safe completing Asian-eCHAT.

A preview of the complete responses is presented in Table 12 as below.

Table 12: Participants views about using Asian-eCHAT

Response	n	%
Helped to think change	94	38.1
Takes too long to complete	9	3.6
Made plans to address concerns	18	7.3
Questions were difficult	17	6.9
Helped inform my doctor re concerns	60	24.3
Worried about privacy	11	4.5
Brought up difficult conversations	60	24.3
Helped with issues identification	88	35.6
Liked completing	126	51
Felt safe	82	33.2
Questions too personal	4	1.6
Felt embarrassed	0	0
Felt being judged	0	0
Will recommend eCHAT	132	53.4
Too difficult to use	0	0
Did not relate to me	24	9.7

5.6.3 Difficulties with answering questions

Relatively few participants found any of the questions difficult to answer as presented in Table 13, ranging from only one (0.4%) for smoking, drinking or gambling, four (1.6%) for physical inactivity, nine (6.5%) for anger control, three (1.2%) for other drugs, five for abuse questions, to 13 (5.3%) for anxiety and 16 (6.5%) for depression.

Table 13: difficulty with answering questions related to

eCHAT Domain	n	%
Smoking	1	0.4
Depression	16	6.5
Anger	9	3.6
Alcohol	1	0.4
Worrying	13	5.3
Exercise	4	1.6
Drugs	3	1.2
Sexual issues	3	1.2
Gambling	1	0.4
Being hurt	5	2

When asked how helpful they found Asian-eCHAT in supporting discussions between patients and doctors about challenging behaviours or feelings, participants gave a mean rating of 4.3 (SD = 2.2; range = 1 – 9) responses ranged from 1 to 9 with a mean of 4.27 and standard deviation of 2.2.

6 Chapter: Results from staff focus group interviews

6.1 Introduction

This chapter presents results from the thematic analysis and interpretation of practice staff interviews.

6.2 Staff participants

This study involved three semi-structured group interviews with Apollo Medical Centre staff. Participants were grouped as follows:

Group 1: Doctors whose patients were recruited into the project.

Group 2: Medical Assistants who provided support with recruitment and the process of completing Asian-eCHAT.

Group 3: Practice Managers who were involved in the overall implementation and progress of Asian-eCHAT.

Table 14 participants of Focus group interviews

Identification	Designation	Gender	Ethnicity	Role in the implementation of eCHAT
A	Doctor	F	Chinese	Responsible clinician
B	Doctor	F	Korean	Responsible clinician
C	Medical Assistant	F	Chinese	Recruitment support
D	Medical Assistant	F	Korean	Recruitment support
E	Practice manager	F	NZ European	Overall management
F	Clinical director	F	NZ European	Overall management

6.3 Results of interview analyses

Participants described a range of experiences using Asian-eCHAT. The following six meta-themes emerged from the interviews and are grouped as follows:

- Useful screening tool
- Well accepted amongst Asian patients
- Barriers in implementation of Asian-eCHAT
- Suggested improvements to the implementation of Asian-eCHAT
- Increased knowledge and improved insight
- Beneficial for targeted population in the long term

Some of the meta themes are further divided into subthemes which denote narratives emerging within meta-themes. The six meta-themes represent content relevant to each of the three group interviews. A summary of emerging themes and subthemes arising from thematic analysis is provided in Figure 4.

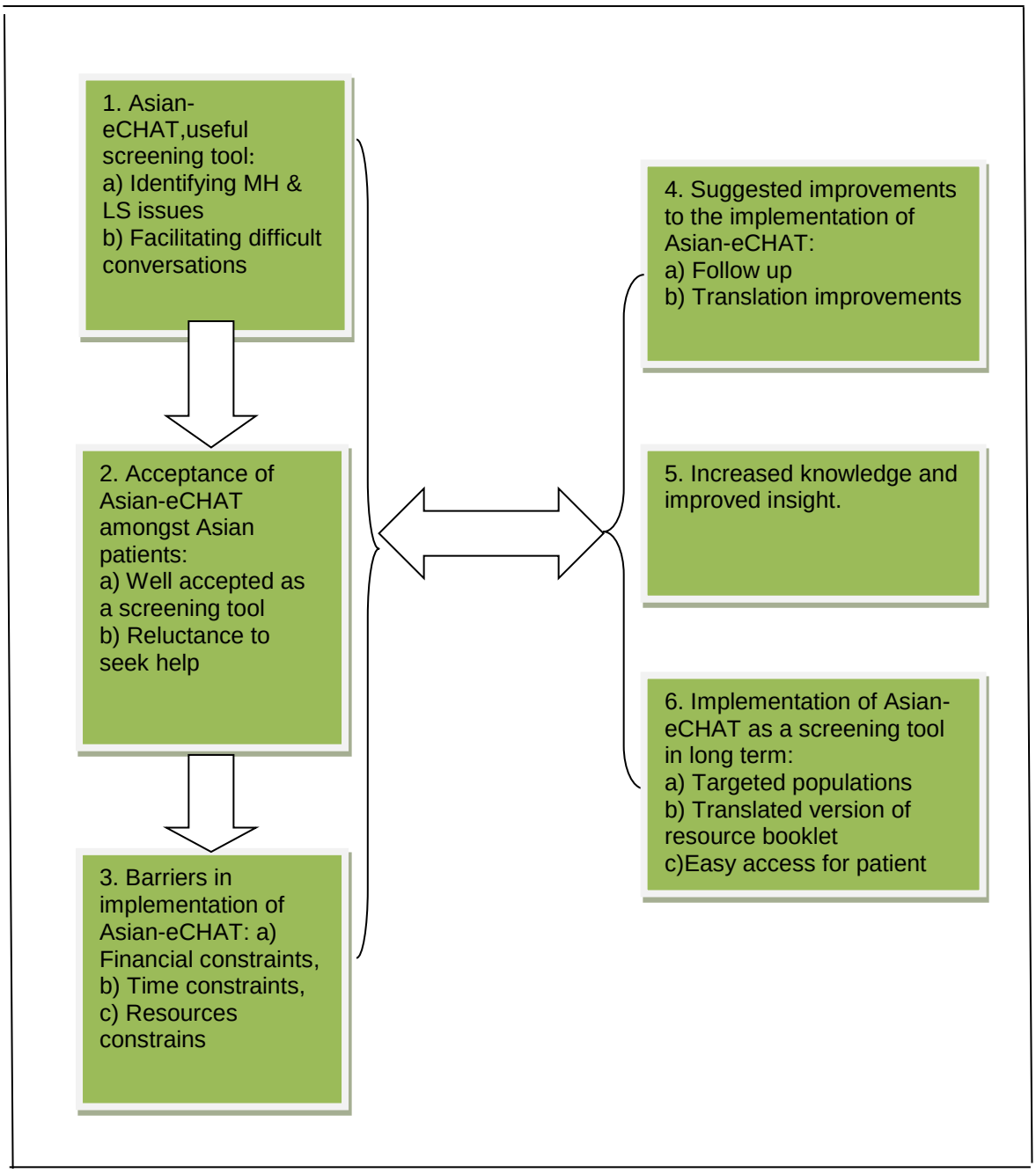

Figure 4: The six meta-themes and subthemes arising from thematic analysis

6.4 Asian-eCHAT: A useful screening tool

6.4.1 Identifying mental health and lifestyle issues

While sharing their experiences about the process of implementing Asian-eCHAT during the project, all participants described it as a useful screening tool for early detection and identification of mental health and lifestyle issues. The two doctors participating in the project found Asian-eCHAT useful in uncovering mental health and lifestyle issues that might not have been uncovered otherwise.

> *"Definitely a useful tool. Smoking is something that we need to ask about anyway so it helps us asking those questions, also it is good to know whether my patient is physically active or not".*

> *"Really helpful tool, Asian people usually quite shy and not willing to disclose things, by doing the screening we could disclose some underlying problems".*

The doctors expressed that they uncovered many mental health issues among their patients through the use of Asian-eCHAT.

> *"I had a patient who came all the time, but never mentioned before that she had depression, but only found out that she was struggling with depression through using eCHAT. She really appreciated that this tool gives her a chance to talk about it".*

> *"I think I uncover a lot of anxiety problems"*

The Medical Assistants who helped in recruitment of patients described Asian-eCHAT as a "*very good tool*" for identifying issues that are otherwise missed. These issues impact on patients' lives but usually they do not feel comfortable talking about it.

> *"I think this kind of programme is very good to pick up any problems. For us (Asians) we don't normally talk about these problems to our doctors."*

"Like in China especially if you go and see a doctor for mental health issue then people will see you like someone different or like a mental person".

"Amongst Asian group they go to see their doctor for physical problems but not for mental health problems, they don't know how to check if they have any mental health issues"

Overall the Medical Assistants described their experience as being very interesting they thought it was a really useful tool for picking up on problems that affect patients but which they normally don't feel comfy talking to others about them. The MAs also reported that some patient took longer to complete the questions and this gave the impression that they were struggling with certain issues in their life.

"One of the patients took more than 15 minutes to complete the whole process; I think she was thinking a lot about herself, looking at those patients it was very interesting."

"I had one patient in his early 20s and he took so long to answer the questionnaire, and once I checked the questionnaire there were some red flags, I think he recently tried to hang himself and he had severe depression and anxiety, I think, it was very good that he completed the questionnaire before seeing the doctor."

6.4.2 Facilitating difficult conversations

The doctors explained that having their patients complete the questionnaire facilitated the initiation of discussion around difficult issues. It also helped the patients to think about these issues while waiting for their appointments.

"Asian patients struggle how to talk about their mental health or behavioural issues and Asian-eCHAT allow them an opportunity to discuss these issues."

"It is good for the patients to do the screening before the consultation because if it picks up something like depression then we can discuss this in our session."

"Good tool, good use of the time while they are waiting for an appointment."

"I used to mention that the eCHAT identified this issue and then will discuss it."

"I think it is very useful tool for this, the online questions pick up the problems."

The doctors also expressed that it was good to know that this tool was available for their patients, as it was helping with screening for mental health and lifestyle issues.

"eCHAT was like an extra helping hand as far as we are concerned, that by having this tool we know that there is an opportunity for our patients outside the consulting room to respond to those questions related to anxiety and depression, so it is quite nice".

Similar views were shared by the managers about the usefulness of Asian-eCHAT as a screening tool for mental health and lifestyle issues at primary health. They acknowledged the importance of such screening, especially amongst the vulnerable groups.

"This tool as many other tools in primary care add enormous value and are valued by clinicians … another way of identifying needs in the patients."

Overall, all clinic staff said that Asian-eCHAT adds value to their patients and practice in terms of early detection and identification of mental health and life style issues.

6.5 Acceptance of eCHAT amongst Asian patients

6.5.1 Well accepted as a screening tool

All clinic staff said that Asian-eCHAT was well accepted amongst their Asian patients. The majority of patients participated in the study opted to complete the translated version of the tool. The practice staff said that no-one complained about the tool, and almost everyone found it very easy to use. Feedback indicated that completing the screening on the iPad was easy and a less intimidating way of approaching mental health issues.

> *"I think it is very good to do it on iPad and most people are interested in doing it."*

> *"No one complained about any of the questionnaire, I got very positive responses from the patient I approached."*

The MAs shared their personal experiences as well by expressing that Asian people usually find it difficult to discuss mental health and lifestyle issues face-to-face, and that completing Asian-eCHAT online is more comfortable for them.

> *"For us we don't normally talk about the problems to our doctors. This screening tool helps with identifying issues that can be dealt with easily and then the person can live his/her life positively. Online questions pick up the problems a lot."*

6.5.2 Reluctance to seek help

The doctors reported that even though many patients reported some kind of mental health issues, many indicated that they did not want help.

> *"Mostly patients ticked want no help today even though they identified issues through the screening."*

The MAs also indicated that they noticed some patients will identify certain issues through the questionnaire, but they will not ask for help with these issues.

> *"We identified some issues because of the assessment, but most of them did not want any help… we identified gambling, smoking, alcohol use in some patients due to this screening, but they want no help."*

The doctors explained that due to time limitations they found it difficult to pursue it further with the patients who identified issues through questionnaire but did not want any help.

> *"Due to time constraints, we could not go into details of those issues identified."*

6.6 Barriers in implementation of Asian-eCHAT

From the experiences shared by the interview participants it became apparent that there are number of barriers to the long-term implementation of Asian-eCHAT. The main barriers are:

- Financial constraints
- Time constraints
- Resource constraints.

6.6.1 Financial constraints

Financial constraints were the key theme of the managers' interviews when it comes to the long-term implementation of any screening tools like Asian-eCHAT. The current tough financial situation and funding gaps put pressure on privately run primary health care practices to optimise their time and maximise the use of their resources. Population-based screening tools, even though they may "add enormous value", put extra pressure on an already tight financial situation. When referring to implementing Asian-eCHAT on long term basis the managers said:

"The difficulty is rolling it out long term and implementing it, is squeezing it into very tight financial situation. The extra time it takes doesn't actually bring any financial return for us."

"We do get paid for 15 minutes, but not included for extra tools like this."

The managers acknowledged the long term benefits such screening tools could bring to the patients. However, it is not really achievable to implement such screening tools without any added funding.

"It adds advantage to patient, but patients are not prepared to pay for it, and there is no other funding."

"When we look overall as business profitability over the last 10 years the dollar return versus dollar spent is getting smaller, and we want to do more, we keep pushing on to do more but it's not sustainable and at some point, in time they may have to stop."

"The thing about population screening is that very small number will require further intervention. But there is quite a lot of investment in a sense, like CVS screening."

6.6.2 Time constraints

Unlike the barrier of financial constraints, time limitation was a key theme across all three groups. Doctors raised the concern that despite being a good screening tool, limited availability of time with a patient is the main barrier in taking full advantage of Asian-eCHAT.

"Two patients per clinic were manageable, we will struggle with time if we increase the numbers of patient per clinic."

"If time allows it is a very useful tool to continue."

"I think for the future if we are going to open up this tool for every patient the time management will be an issue."

The doctors said that having the Medical Assistants doing all the administrative work made it easy for them to use Asian-eCHAT with their patients.

6.6.3 Resource constraints

All the participants acknowledged that Asian-eCHAT is a good tool and adds value to patients; however, it puts extra pressure on limited available resources. For example, the managers specifically expressed that;

"This is a good thing and I support it, but it's an extra pressure on our resource like our MAs they are very busy and this is an extra burden on that resource."

The managers expressed that if we have to take advantage of this resource in long term, it may need to be implemented in a way that it does not take the limited available resources from routine work.

"It can take up significant amount of resources, when you are dealing with on-going long term screening, no one will deny the value of uncovering these conditions but how do you effectively work it so it doesn't take resources away from day to day clinical work".

The managers also stated that their currently available resources are already stretched, especially when it came to caring for patients of Asian origin.

"In our practice 40% of our patients are Asian, but not 40% of our staff, whatever we do is try to get this gap narrowed, and the receptionists already struggle with communicating with Asian patients".

6.7 Suggested improvements to the implementation of Asian-eCHAT

6.7.1 Follow up

The doctors suggested that a follow up pathway for those patients who identified issues, but did not ask for help, would be very beneficial in the long term.

> *"You need someone like a lifestyle person or a well being coordinator to follow up on these minor issues and it will be very beneficial for our patients"*

One of the practice managers indicated that this was possible.

> *"We currently have lifestyle coordinators who could definitely touch base on these issues and get them in touch with the community resources"*

The doctors said that at times when completing Asian-eCHAT some patients got emotional and it was helpful to have the MAs to:

> *"Sit with them and chat with them for a bit and encourage them in case it brings up some emotions***".**

They also suggested that it might be helpful for the patients to have a private space while completing the screening tool as:

> *"Mental health questions can be emotional and sometimes it is not good to be done in public place, if they have a little room where they can complete the questionnaire".*

6.7.2 Translation improvements

The MAs stated that some of the questions may need to be re-worded in the translated version as the patients struggled to understand the meaning of the questions.

> *"For example do you want someone to help with exercise; they find it a bit strange "how someone is going to help them exercise? They take the question literally".*

"Usually the older age group and they do have trouble understanding questions and sometimes I used to sit with them and explain it to them".

6.7.3 Use of mental health terminology

The Korean MA reported that she initially had many declines when she approached patients and used the words mental health when describing the research.

"When I was using the mental health word I found that male patients were more declining than female, I was trying to get more age groups and genders, but I found that younger patients were declining saying that I am fine".

She further reported that once she changed the wording to "well being" after discussing the issue with researchers, she started to receive more positive responses and the decline rate decreased considerably.

6.7.4 Increased knowledge and improved insight

The MAs reported that by being involved in the process of Asian-eCHAT implementation and reading the questionnaire it increased their knowledge of mental health and also improved their insight into their own mental well being.

> *"Myself as an Asian as well, and I didn't care about my mental health issues either, it was really interesting, really interesting that people have mental health issue and they hide it. I thought oh I do have some issues as well and I started to see my doctor as well after studying eCHAT questions. It was really good experience".*

The MAs also reported that participating in the study contributed to the mental health knowledge and awareness of their patient completing the questionnaire. One of the MA reported that one patient appreciated the tool and said:

> *"One female Korean patient in her 50s was very grateful that there are people out there caring about the mental well being of Asian patient, she mentioned that she has friends and friends of friends that suffer from depression like symptoms but can't seek help, even though they have depression issues and anxieties but they don't know where to go. She was very grateful that you guys are doing this work and she thought that this will be a great help".*

The MAs also reported that by participating in the study enhanced their knowledge of mental health issues and improve insight into their own mental health.

The managers expressed similar views and said that

> *"I suspect the doctors who are using the resources and the program obviously, there is a shift in their knowledge and understanding of these issues, Similarly for MAs as well, I can see that it is definitely useful for their understanding of these issues, and looking forward even without using eCHAT they will have a different perspective on these issues, I can see that it has been useful".*

6.8 Implementation of Asian-eCHAT as a screening tool in the long term

6.8.1 Targeted populations

Despite resource, time and financial challenges, clinic staff saw potential for Asian-eCHAT in additional settings within their practice. Some of the suggested setting by the clinic staff where Asian-eCHAT could potentially contribute towards health outcomes for Asians:

a) **Screening for postnatal depression at 6 week check-ups for babies:** The doctors suggested that this tool might be very useful in screening for postnatal depression for mothers attending clinic for 6 week check-ups for their babies.

"This could be a very good tool to target certain populations like screening for postnatal depression at six-week check, we do have 6 weekly babies check, but not for mothers and it could have potential benefits to use this as screening tool for postnatal depression".

""I had a patient who attempted suicide and later I found out that she had postnatal depression and I never picked it up".

b) **Screening of 45 and older female patients**: The MAs said that they had noticed that females aged 45 and over took much longer to complete the questionnaire and were noted to be taking the screening more seriously.

"The Chinese patients probably like the older 45 females they always have a little bit problem, you can see that from the time they spend on completing the eCHAT they take longer than those younger people, I think their health problem may have changed their thinking and will take longer time than younger people, and will ask me questions, I think we should focus on this group in future and they might be potentially hiding their problem, so it's a good way to target this age group".

c) **Screening of parents who come with children:** The managers said that it might be useful to target parents who attend with their children for appointments, concerned that it is the parents' anxiety which is driving appointments for their children.

"We can use the tool for patient with targeted populations for example sometimes parents come with children and sometimes they presents with lots of anxieties".

6.8.2 Improving resource booklet to meet the needs of Asian patients

The doctors said that they did not refer to the resource booklet as much as they were aware of the majority of the resources available. Also the self help resources were not in translated version therefore not very helpful for patients:

"The booklet is very good but I did not end up referring to it as most of the resources I already knew"

"I found it very difficult to find counselling for my patients especially the patient who is struggling with depression. Especially those who are not ready to take medications"

The MAs also said that most of the Asian patients will benefit from the translated version of the resource booklet so they can optimise the use of any available resource. Most Asian patients in their 50s and 60s struggle with English.

"I really wanted to tell you that it will be more useful if those patients who are in their 50s and 60s, they would benefit from the translated version of the resources, as language is a big barrier. I found with this one patient that she was glad that she could get some helpful, but all what she got was a website address and she was kind of disappointed and wasn't happy about the support she got".

6.8.3 Easy access for patients

The manager said that if Asian-eCHAT is made easily available for patients without the use of extra resources then it might be more sustainable.

"If there can be a button on the patient portal for eCHAT, which could be useful".

‘‘They currently use the portal for making an appointment, looking at their blood results or requesting a prescription’’.

7 Chapter: Discussion

7.1 Introduction

This research explored the usability and utility of the translated version of eCHAT in early detection and identification of mental health, addictions and lifestyle issues amongst Asian populations residing in NZ. It also investigated the acceptability of Asian-eCHAT as a culturally appropriate screening tool amongst this group of the NZ population. This study also explored issues with implementation of Asian-eCHAT as a screening tool into a busy medical practice with predominantly an Asian population.

This chapter highlights key findings from the qualitative and quantitative research in relation to available literature relevant to mental health, addictions and lifestyle issues faced by Asians living in NZ. The acceptance of Asian-eCHAT as a screening tool amongst members of this community in early detection and identifications of these issues is also discussed here. Finally, the impact this tool could potentially have in improving access to mental health and addiction services is elaborated.

7.2 Results from quantitative study

7.2.1 Acceptance and usability of Asian-eCHAT

A total of 277 (92%) out of 302 patients who were approached, agreed to participate in the study. This is a high acceptance rate for Asian patients who are typically reluctant to talk about their mental health and addictions issues and participate in related studies (Abbott et al., 2000). The majority (*n*= 193; 70%) of those who agreed to participate in the study were female, which could be due to high numbers of Asian females enrolled at general practice centres compared to Asian males. The results from patient surveys showed that approximately 50% of eligible Chinese and Korean patients agreed to participate in the study. All of these chose to complete eCHAT in their respective languages, whereas a small number of those who identified as from "other ethnicities" chose to complete the survey in English. This indicates that using the translated version of eCHAT and surveys improves accessibility. Language is known to be a key barrier for Asian living in Western societies in terms of accessing health related services, especially

mental health and addictions services (Griner & Smith, 2006). The above results highlight two very important points. Providing the opportunity at a less threatening environment i.e. Primary health centres, which is also known to carry less stigma and discrimination, Asian patients may feel more open to addressing their mental health issues (Farver, 2002). Also the high acceptance rate of this study demonstrates that Asian patients, particularly Chinese and Korean, were more likely to choose the translated versions of health-related screening questionnaires as shown by the results.

Overall, participants found Asian-eCHAT to be an acceptable means of sharing their mental health concerns. Seventy-one per cent (n=176) of the participants indicated that Asian-eCHAT is an easy to use tool, and the same number of participants said that they felt comfortable completing the screening questionnaire. Completing the screening questionnaire in their own time, at their own pace, in a non-threatening environment, using the iPad could potentially have played a key role in this high acceptance rate. Twenty-four per cent (n=61) of those who completed Asian-eCHAT stated that they identified areas of their life with which they needed support, and 17% (n=41) requested help with their issues. Comparing this to the general population there are minor variations in the numbers of patients requested help with their issues, for example in this study 11.9% requested help with their anxiety where as in a study done on main stream population had 9% requested help with their anxiety problems. Similarly 3.8% of participants requested help with depression in this study as compared to 7% for mainstream population (Goodyear-Smith, et al. 2013a).

Similarly, many participants indicated that Asian-eCHAT is a user-friendly and effective tool that stimulated thoughts about issues they were having in their lives. Majority of participants responded positively when asked about the usability of Asian-eCHAT as a screening tool. Fifty one per cent (n=126) stated that they liked completing eCHAT, and 53% (n=132) said that they would recommend eCHAT to other people. None of the participants indicated that they felt embarrassed, or found eCHAT difficult to use. A small number of participants 4.5% (n=11) expressed worry about their privacy, and 6.9% (n=17) responded that the Asian-eCHAT questions were difficult to answer. This is the

first research of its kind to identify a user friendly and acceptable tool for the Asian population. Based on the previous research Asian patient does not feel comfortable in engaging with any mental health related research/service and these studies identified number of factors to be contributing to this (Ho, 2003). Language and setting are found to be important factors out of these factors. This study adopted tools to meet the cultural needs of the Asian population to ensure improved engagement of Asian patients. Similarly to the eCHAT study done on mainstream population Asian-eCHAT was well accepted amongst the Asian patient and they found the tool easy to use (Goodyear-Smith et al. 2013a). There were however some participants who found answering some of the question difficult to answer. As mentioned in the results sections despite the high acceptability and being a culturally acceptable tool some participants indicated that some of the questions especially related mental health and addictions issues were difficult to answer.

Overall, results imply that Asian-eCHAT is an acceptable tool amongst this vulnerable group within the NZ population, whose mental health needs are not yet fully explored. Asian-eCHAT as a screening tool could potentially improve the early detection and identification of mental health and addiction issues amongst this group. This in turn could have a positive impact on help seeking behaviours and access to mental health and addictions services for Asians living in NZ. The stepped care model embedded in the Asian-eCHAT screening tool will also ensure the timely delivery of appropriate support to Asian patient in need.

7.2.2 Identification of mental health and addictions issues amongst the study population

7.2.2.1 Anxiety

A high number of participants, 24.5% (*n*=69), screened positive for problems with anxiety. Forty-eight per cent of these (*n*=33) requested help with their anxiety. Research has shown that Asians living in Western countries are vulnerable to increased psychological distress for a number of reasons. For example, separation from family and friends in the home country, employment and financial stressors, social adjustment and

settling into a new culture (Farver, 2002) may all trigger anxiety. This in turn could have serious implications on the mental well being of these groups of people, as studies suggest that early symptoms of anxiety double the risk of developing depressive symptoms (Reinherz., Giaconia, Pakiz., Silverman, Frost., & Lefkowitz., 1993). Identifying and tackling anxiety or anxiety provoking issues at an early stage could have positive outcomes for Asian patients presenting to their GPs for physical health concerns. This could potentially promote early presentation to secondary health services amongst Asian communities and avoid delaying seeking help for those who need specialised support. It will also provide an opportunity to tackle these issues at the primary care level using the stepped care support model. Asian patients presenting to secondary mental health services at a very late stage or in acute crisis is a significant issue facing the Asian populations living in western societies, or not receiving appropriate help on time (G. Cheung, 2010; Griner & Smith, 2006). The results of this study suggest that Asian-eCHAT could play a key role in the early identification and support of those who are struggling with anxiety.

As Asians are more likely to present to GPs and present their distress in a somatic form (Klienman, 1977), primary clinics provide a good opportunity to discuss mental health concerns with Asians and our research suggests that eCHAT is an acceptable way of bridging the discussion. As this study indicates that Asians are willing to address and seek help for these issues if they are provided with the right resources. Asian-eCHAT in this study provided them with the opportunity, as well as the right resources, to discuss these issues; hence the results show that they were open to addressing these distressing issues. Primary health care provides ample opportunities for promoting mental health and early access to support services for Asian-New Zealanders.

7.2.2.2 Depression

Almost 10% of those who answered the PHQ9 screened positively for depression; 4.7% (*n*=13) of whom had mild to moderate depression, 2.8% (*n*=8) had moderately severe to severe depression, and 5% (*n*=14) asked for help with their depression. Comparatively these numbers are almost similar to the study conducted on mainstream patients (Goodyear-Smith, et al. 2013a). They are encouraging in terms of early detection of mental health issues amongst Asian patients. As in contrast the research tells us that, the number of Asians accessing secondary mental health services are relatively low as compared to the mainstream populations (Cheung, 2010). Depression is known to be a debilitating psychological condition that not only affect a person`s life but has serious implications for the whole family (Chang et al., 2013). This is particularly true for Asian families who have migrated to Western societies, as acculturation and pressures to succeed in the new country can make them more vulnerable to this condition (Farver, 2002). Studies have also demonstrated that Asians, particularly Chinese, present their depressive symptoms in a somatic form and may have little insight into their psychological distress (Klienman, 1977). It is a known factor that Asians present depression symptoms in somatic forms like, poor appetite, indigestion and gas (Leong, 2001).

This present study has demonstrated that screening for mental health disorders when Asian patients present for physical issues can bring severe mental disorders to the surface. The results indicate that almost 10% of the patients screened, reported some form of depressive symptoms, whereas their presentation to their GP was solely for physical health concerns. Screening for mental health issues at primary care centres could potentially help to bring to the surface severe mental health issues, even when patients are reluctant to present with these or have little insight into their existence. Moreover, GPs usually have very limited time with their patients, and Asian-eCHAT enables screening for mental health related issues prior to their 15 minutes' consultation time.

7.2.2.3 Smoking, drinking and other drugs

The results of screening questionnaires for addictions and lifestyle issues may not have represented the true reflection of these issues amongst Asian communities living in New Zealand. Approximately 7% of participants indicated smoking was an issue for them, around 4% reported issues with drinking alcohol and none of the participants reported issues with using drugs. These results are relatively lower as compared to the study done on the Asian population living in United States, where there report indicated that the rate smoking for Asians was highest amongst all other ethnic groups living in the US. Similarly Asians were more at risk of binge drinking than other ethnicities (Tran et al., 2010).

Interestingly none of these participants requested help with these issues. These results clearly indicate that either the participants were reluctant to seek help in regards to their smoking and drinking problems or they may have not been acknowledging these problems to be significant enough to warrant help. This could also be due to the low numbers of Asian men represented in this study, as studies have shown that Asian men are more likely to adopt risky lifestyle behaviours compared to Asian women (Wyatt et al., 2014). Thirty percent of Asian men were either current or ex-smokers as compared to 3.8 % of Asian Women (Wyatt et al., 2014).

7.2.2.4 Gambling

Only one male participant screened positively for problem gambling, but did not want help, which points to either reluctance to accept issues with problem gambling or reluctance to seek help. Research has clearly shown that when it comes to problem gambling Chinese men are reluctant to accept gambling as a problem and to seek help. When they do seek help they usually utilise Chinese cultural or community services (Loo, Raylu, and Oei, 2008).

7.3 Findings from the qualitative study

Based on analysis of interviews with the clinic staff, the following themes related to the use of -eCHAT were identified. Asian-eCHAT was considered acceptable and useful as a screening tool. However, perceived resource constraints contribute to concerns about the viability of implementing Asian-eCHAT over the long term.

7.3.1 Asian-eCHAT acceptance and usability as a screening tool

There was consensus across groups interviewed that Asian-eCHAT is a culturally acceptable screening tool, which can be utilised to facilitate difficult conversations about mental health, addiction and lifestyle issues with Asian patients. Additionally, doctors indicated that Asian-eCHAT helped to uncover issues that could otherwise have been missed. One of the doctor reported that one of his patient had never mentioned any issues with depression until she completed the Asian-eCHAT. The doctor further reported that the patient acknowledged that Asian-eCHAT helped her express her feeling about the issue. This indicates that Asian patient does not feel comfortable to express their mental health issues and may avoid discussing it unless the issue has been brought up by the clinician. This may also reaffirm that Asian patient may present their mental health symptoms in somatic form (Klienman, 1977).

Feedback also indicated that having a screening questionnaire on an iPad before seeing their doctors may have helped patients to explore issues in their lives that they would have normally struggled to discuss with their doctors. Studies done on general populations have identified that e-screening is a novel and acceptable approach to detect lifestyle and mental health issues (Goodyear-Smith et al., 2008). Asian-eCHAT is first of its kind in New Zealand to be trailed on the Asian communities, and the results of this study suggest that it is an acceptable screening tool for this community. This was also confirmed by one of the medical assistants who stated that:

> *"I think this kind of programme is very good to pick up any problems. For us (Asians) we don't normally talk about these problems to our doctors."*

"Amongst Asian group they go to see their doctor for physical problems but not for mental health problems, they don't know how to check if they have any mental health issues".

7.3.2 Barriers to implementation of Asian-eCHAT on long term basis

The three main barriers to the implementation of Asian-eCHAT identified were:

- Time
- Resources
- Financial constraints

GPs and Medical Assistants reported "time" as the most significant barrier in implementing the Asian-eCHAT on a long term basis. Even though the GPs appreciated the fact that it helps them identify/discuss issues that they would normally not discuss in a normal consult for physical health issues, they expressed concerns about time. On a long-term basis, they would struggle to screen everyone, especially if the Medical Assistants were not able to continue to assist with screening and follow up.

As well as time, the managers mentioned resources and finances as the key barriers in implementing Asian-eCHAT. The practice managers reported that all of the screening programmes usually add value to the over all patient care, however it is very difficult to implement them due to the limitation of resources. This is similar to the implementation of any screening tool at primary care centres. Any validated and evidence based screening programmes are known to have positive implication towards early detection and timely management of chronic diseases, however the implementation of these programmes are much more challenging (Klabunde, et al., 2007). Understandably the implementation of these screening programmes requires resources that are in extreme shortage in current economic environment. Implementation of such screening programmes requires system change and proactive leadership that are wiling to implement this change in order to improve quality of care for their patients. In the case of Asian-eCHAT the leadership and clinical practitioner at Apollo medical canter are open and willing to find ways to affect this system change to affectively implement Asian-eCHAT.

7.4 Extending findings to the wider literature

In this section, findings from this study are discussed in relation to existing research in the field of Asian mental health and help seeking. Recent research conducted in New Zealand shows that there are ethnic inequalities in terms of prevalence of depression and anxiety and its diagnosis amongst Asian and Pacific communities living in New Zealand. Mental health problems in these communities are more likely to be missed; however studies suggest that Asians are more at risk of psychological distress as compared to their European counterparts (Lee, 2017). Lee (2017) suggests that findings for differences in identified prevalence of mental health conditions reflect ethnic inequalities in access to services, and style of communication and expectations of health care providers.

The findings of Asian-eCHAT study suggest eCHAT may be the way to facilitate discussion and may be more culturally appropriate. It indicates that at least some Asians are willing to discuss their mental health concerns if they are provided with culturally appropriate tools and an environment where they feel safe and comfortable to discuss these issues. This section discusses findings from the Asian-eCHAT study in light of some of the key themes running through research on the mental health and help seeking of Asians.

- Asian patients feel comfortable discussing their mental health issues with their primary health care providers as opposed to seeing mental health services.
- Asian-eCHAT can help with early detection and identification of mental health issues and improve access to secondary services.
- Addressing mental health and addiction issues at primary health care centres can potentially reduce stigma and discrimination attached to these issues.
- Problem gambling amongst Asians and its denial
- Health concerns of Asian youth

These issues are discussed in the light of current and past research.

7.4.1 Asian patients feel comfortable discussing their mental health issues with their primary health care providers

Recent research and policy makers have focused on improving culturally appropriate service delivery of secondary mental health and addiction services to Asian populations living in New Zealand (Ho et al., 2003). These are positive steps towards delivering culturally appropriate mental health and addiction services to this vulnerable population. However, there has been little attention given to the early detection and identification of these issues, or about how this works in practice. Research has also shown that Asian patients present more readily to their general practitioners as opposed to other secondary health services (Walker, 2014), and that help seeking from a GP for mental health related concerns is less anxiety provoking than seeing a mental health professional (Sung et al., 2013).This study supports the findings of this current study that providing the right approach and environment Asians can feel comfortable discussing their mental health and addiction issues at primary health care level. Studies have been undertaken either locally or internationally to ascertain the prevalence of mental illnesses amongst Asian populations living in NZ or other Western countries. Research has clearly shown that immigrant Asians are more at risk of psychological distress than the host population (Lee, 2017; Methikalam et al., 2015) .

The current study clearly demonstrates that Asian patients are willing to discuss and address the issues that are causing them psychological distress, with their GPs, if they are provided with the opportunity in a culturally appropriate way. These psychological distresses could potentially have grave consequences in the long term (Farver, 2002). Asian-eCHAT has the potential to bridge this gap and improve early access to and utilisation of secondary mental health and addiction services.

7.4.2 Asian-eCHAT can help with early detection and identification of mental health and addiction issues and improve access to secondary services

As discussed previously, Asian-eCHAT can help with early identification and detection of mental health, addictions and lifestyle issues in a safe way that is suitable for this population. Research has identified two main barriers to seeking help in regard to mental health and addictions issues amongst Asian communities living in western countries:

(a) Stigma attached to these issues affects the help seeking attitudes of Asians living in Western societies (Sung et al., 2013), this is shown by the low access rate to secondary mental health and addiction services. When they do present, they mostly present at a late stage of their illness (G. Cheung, 2010).

(b) Language is another key barrier that affects Asian's ability to seek professional help for their mental health and addiction issues (E. C. Wong et al., 2006). Asians, especially immigrant Asians, find it difficult to express their negative feelings or emotional difficulties in a foreign language.

In their study (Sung et al., 2013) also indicated that Asian patients find using language that correlates more to physical health like "well being" more comfortable and less stigmatising than using mental health terminology. This also shows their reluctance to access secondary mental health services. Asian-eCHAT as a tool translated into Asian languages and conducted at primary care centres, has the potential to contribute positively to both these issues by raising mental health awareness at primary care (less stigmatising environment), using languages understood by Asian patients, and providing opportunities for early access to secondary services at primary care level with a stepped care approach.

Studies have shown that Asians do not associate emotional difficulties and negative feelings with mental health problems. Their concept of mental health issues is at the more severe end of spectrum, like psychotic, dangerous or disruptive behaviours, and, hence, do not seek professional help at an early stage until it becomes a problem (Leong, 2001). This attitude towards the aetiology of health problems shapes people's attitudes towards help seeking.

A study conducted by (Szczepura, 2005) indicates that for a health care service to be culturally competent in its service delivery to the ethnic minorities, it needs to be well equipped with cultural specific tools. These tools include cultural awareness, linguistic competency, and an understanding of the health beliefs of the patients. The health care experience of an ethnic minority patient needs to be in an environment as close as possible to the patient's natural environment. The Asian-eCHAT project took positive

steps towards meeting all these needs of Asian patients. Some of the steps included, translating all project documents into Asian languages, both clinical and non-clinical staff participating in the project included members of Asian communities. The success of the project is demonstrated by the high recruitment rate of Asian patient into the study and high acceptance rate of Asian-eCHAT as a screening tool.

7.4.3 Addressing mental health and addiction issues at primary health care centres can potentially reduce stigma and discrimination of these issues

As discussed previously, it has been shown that Asians feel reluctant to access secondary mental health and addiction services due to fear of discrimination and the stigma around these issues (Chang et al., 2013; G. Cheung, 2010; Sung et al., 2013). Mental illnesses are seen to be a curse on the person or family in many Asian cultures, and therefore individuals and families keep their mental health issues within the family. Hence, at times Asians present very late to mental health services. On the other hand, it is known that Asians feel more comfortable accessing primary health care centres for their health concerns. GPs can potentially play a key role in promoting mental health awareness, ultimately leading to earlier access to secondary mental health and addiction services. This will reduce stigma and discrimination of these issues amongst these communities. Asian-eCHAT can potentially play a bridging role by initiating conversation about these difficult subjects in a non-threatening, confidential way. As the results demonstrated, Asian-eCHAT helps GPs to initiate these conversations which are often omitted either due to time limitations or reluctance of the Asian patients to discuss these issues face to face.

Furthermore, Asians may present their mental health issues in somatic forms, and at times accessing their GP with physical complaints may actually be a cry for help with addiction or psychological issues (Klienman, 1977). Asian-eCHAT provides Asian patients with the opportunity of expressing their mental health concerns by completing the questionnaire. This is strongly supported by our results that the majority of the participants felt comfortable and safe completing Asian-eCHAT.

7.4.4 Problem gambling and its denial

Gambling is very common amongst Chinese communities around the world and can be seen as a cultural norm during festive seasons, despite being banned in mainland China (Loo, J., Raylu, N., & Oei, T., 2008). Gambling when used as a form of entertainment and not affecting a person`s life, is usually seen as harmless. However, studies have shown that gambling can adversely affect not only a person`s life but the life of the family as well.

The DSM-5, describes pathological gambling as behaviour leading to clinically significant levels of distress affecting individuals as well as their family's lives. Problem gambling has been compared to the new "opioids" as problematic gambling is causing significant concerns in mainland China itself. However, studies suggest that most members of Chinese communities either do not see or deny that gambling causes any distress in their lives. Therefore, they are usually reluctant to seek help in relation to their gambling (Loo, Raylu, & Oei, 2008).

In this study, none of the participants scored positive for issues with gambling. This is unusual given prevalence rates reported previously. It could be that the sample of participants in this study truly had no issues with gambling, or that they might have been unaware, or in denial, of their problem. Research suggests the former of these possibilities (Loo, Raylu, & Oei, 2008)It is possible that by answering screening questions, over time, Asian-eCHAT could help to raise awareness about problem gambling for individuals.

7.4.5 Asian youth and their health concerns

A small number of Asian youth participated in this study n=12, however 50% (n=6) raised concerns about their health and well being. Mainly these youth screened positively for issues with their sexuality and sexual orientation. It was out of the scope of this study to explore this in detail. However it seems to be a significant issue that would definitely need further exploration.

7.5 Strengths of the study

7.5.1 Study setting

The current study was conducted at Apollo Medical Centre; one of the largest primary health care centres in the WDHB region, with 44% of its enrolled patients being of Asian origin. Apollo Medical Centre has multicultural clinical/non-clinical staff to cater for the cultural needs of enrolled patients. Use of this setting enabled testing of the tool during consultations which took place in either Korean or Mandarin. Apollo Medical Centre employs Medical Assistants from Asian backgrounds who offer support to patients presenting to see their GPs. The assistance of these Medical Assistants made a huge difference, ensuring all patents were well informed and their concerns addressed before agreeing to participate in the study. The Medical Assistants also offered help to participants who were struggling with certain questions or having emotional difficulties relating to emotionally provoking questions.

7.5.2 Study design

Another main strength is the co-design method of participatory science research. Having the Apollo Medical Centre staff involved with project implementation and making collaborative changes during the research phase, contributed positively in terms of patient recruitment and implementation of the tool. The clinical team also contributed population-specific resources to augment the generic stepped care package provided by the programme. This process allowed the Asian-eCHAT program to be tailored to the target population.

7.5.3 eCHAT validated screening tool

The current study used an existing, validated screening tool (eCHAT) to screen for mental health, addictions and life style issues at a primary care centre. Mental health and addiction issues have been identified as being some of the key issues faced by the NZ Asian population, however, similar studies have not been conducted to screen for these issues at primary health care level using validated tools. eCHAT has already been trialled and tested at multiple primary care settings, as well as in schools, and covers many aspects of physical and emotional well being. The flexibility of eCHAT to be easily

translated into Asian languages to make it easily understandable for participants made it excellent for mental health and lifestyle screening amongst Asian populations. This is supported by the results of this study, where 73% of the participants indicated that they will recommend Asian-eCHAT to other members of Asian communities.

7.5.4 Culturally appropriate methods of research

Having translated versions in Korean and Mandarin of both the tool and the study documents is one of the strengths of this study. It was identified from the systematic review in Chapter 3 that minimal attention is usually given to ensure that either study materials are translated into the languages spoken by participants or that trained translators are available. One out of 17 selected studies in the systematic review used translators to conduct the study (E. C. Wong et al., 2006), whereas it is well known that language is a key barrier for many Asians living in Western societies (Leong, 2001). This study ensured that these barriers were mitigated with the study carried out in a culturally and linguistically suitable environment. All the materials used (namely eCHAT screening questionnaire, patient survey, Patient Information Sheets and consent forms) were all translated into Chinese and Korean. Both the doctors and the Medical Assistants who participated in the study were of Asian origin and could speak the language spoken by participants.

7.6 Limitations of the study

7.6.1 Limitation of resources

Due to limited resources, the research was conducted at only one medical centre. Although Apollo has a relatively high enrolment of Asian patients, NZ Indians are not well represented. As such, findings of this study may be limited in their representativeness. Both monetary and resource constraints limited our ability to conduct the research at other centres. Future work should look to trial eCHAT in multiple medical centres with more diverse Asian patient populations Conducting future research at multiple centres would give access to large cross section of Asian community, which could potentially provide a superior data to assess the prevalence of mental health issues amongst these communities living in New Zealand.

7.6.2 Time constraints

Time has been the second key factor that limited the ability of the project to fully explore the prevalence of mental health issues, help seeking behaviours and accessing of services amongst Asian New Zealanders, along with assessing the acceptability and usability of Asian-eCHAT as a screening tool. Due to limitation of time, the data collection was only done for 6 months and only enrolled two patients per clinic day of each of the two doctors participating in the study.

7.6.3 Lack of funding

Asian-eCHAT, like many other screening tools, is a good tool to screen for mental health and lifestyle issues at primary care level as indicated by this study. However, there are limited funds available for researchers, as well as primary care centres, to fully adopt such measures of screening and prevention. Due to limited availability of funding the stepped care module of eCHAT could not be translated into Asian languages, doing so could have potentially better outcomes for providing better support to those who requested help.

7.6.4 Participants' response bias

A total of 277 (95%) of the participants accepted to complete the feedback survey upon completion of the Asian-eCHAT screening, however 30 (5%) refused to complete the feedback survey. Hence it is a limitation in the sense that mainly those participants completed the feedback survey who may have positive experience and may have mainly given positive feedback.

7.6.5 Lack of data on stepped care model

Due to time limitations for GPs the progress reports on stepped care model was not able to be completed and the project was unable to fully assess the effectiveness of stepped care model. Also GPs did not find the current version of stepped care model user friendly for Asian patients as most resources were in English. Due to resource and time limitations

the resource booklets were not translated into Asian languages. Translating the stepped care model could have potentially contributed positively to the data collection on improving access to services.

8 Chapter: Conclusion

8.1 Introduction

The current study investigated the acceptance and usability of Asian-eCHAT as a screening tool for early detection and identification of mental health, addictions and lifestyle issues amongst Asians living in New Zealand. The results of this study revealed that Asian-eCHAT is an acceptable, culturally appropriate screening tool at primary health care centres and can potentially contribute to early detection of mental health issues and improve access to community and secondary health services. Asian-eCHAT can have positive implications not only with respect to clinical practice but can also contribute towards the Ministry of Health`s goal of "seamless integration" of health services. More research is needed with regard to smoothing its implementation into practice so that the full benefit in researching the prevalence of mental health issues and help seeking behaviour of Asians can be realised.

8.2 Implications with respect to clinical practice

8.2.1 Early detection of mental illnesses and reducing burden of chronic mental health conditions

The current research aimed at improving clinical practice by early detection and identification of mental health and addictions issues at primary care and translates research into policy and clinical practice. This can be achieved through providing an evidence base to support implementation of initiatives in reducing health inequalities. Asians are one of the vulnerable communities when it comes to mental health needs and appropriate supports. Primary health care plays an integral role in terms of early detection, prevention of mental illnesses and improving access to secondary mental health services. A number of initiatives are currently underway in New Zealand to increase collaboration between primary health care and secondary mental health services to tackle the increasing demand and burden of chronic mental illnesses. Asian-eCHAT can contribute to these by supporting clinical practice and contributing towards timely treatment of mental health issues. In turn, this has the potential to help reduce the burden of long term and chronic mental illnesses as well as related physical illnesses.

Globally, mental health has been neglected in medical and public health practice to the extent that persons with mental health disorders are seen as different or incurable (Ustiin, 1999). This has resulted in health professionals trivialising the issue of mental illness, which has served to increase the burden of mental illnesses and has caused significant stress on health care services. Depression is projected to be the second leading factor in disease burden for all populations by 2020 (Ustiin, 1999). This study has shown, albeit on a very small scale, that Asian-eCHAT can have positive effects on clinical practice and can contribute towards reducing the burden of mental illness in New Zealand.

Research shows that Asians are at high risk of missed diagnosed with depression and anxiety compared to their European counterparts (Lee, 2017). Number of factors could be contributing to this miss diagnosis i.e. somatisation of mental health issues, stigma and discrimination. Another important factor that could be contributory is the lack of awareness of primary care clinicians about mental health issues and to certain extent lack of confidence in screening for mental health issues when Asian patients presents for physical health issues (Cheung, 1982; Lee, 2017). The clinicians participating in Asian-eCHAT stated that working on the project "improved their knowledge of mental health issues", this could potentially have positive impact on their attitude towards treating mental health issues. As usually medical professionals other than mental health professionals are often reluctant to ask about mental health issues if they do not feel equipped to provide the right supports or think that it will take too much of their time.

8.2.2 Improving access and eliminating barriers

The findings of this study demonstrate that given a suitable environment and opportunity, at least some Asians are willing to discuss their mental health needs with their physicians. Similar findings are reported by (Cheung, 1982) who found that Asians, even though presenting their mental health distress in somatic form, are aware of and willing to seek help for their mental health issues. There needs to be an understanding on the physician's part that the reason for presenting in somatic form may not be solely due to stigma and discrimination, the Asian health view of mind and body being one could also be a contributing factor. Asian-eCHAT not only provides a culturally acceptable screening measure but is also compatible with the Asian health view, by relating their somatic

distresses to their mental and emotional well being. This will not only improve early access to secondary services, but will also help tackle some of the barriers that impact the help seeking behaviours of Asians. Firstly, by translating eCHAT into Chinese and Korean languages helps eliminate the language barrier. Secondly, conducting the mental health screening at primary care centres will help with de-stigmatisation. Since Asian-eCHAT provides a one stop shop of screening mental health, addictions and life style issues, it is in keeping with the Asian health view of seeing mental and physical health as one and will help with timely diagnosis of these issues. The stepped care model will also allow opportunities to improve access to services. Another important point to mention here is that, in respect to the New Zealand health system it is well known that mental health services are under enormous pressure and the number of patients exceeds the resources available. Asian-eCHAT will not only improve access to community and secondary services but via the stepped care model also tackle some of the issues at primary care level and at an early stage which could potentially contribute to lowering the burden of chronic mental illnesses on secondary mental illnesses.

8.3 Implications for policy

The importance of early detection and prevention of long term chronic conditions, such as depression and other chronic mental illnesses, not only affects the individual but the whole family, (Chang et al., 2013). The New Zealand health strategy acknowledges this and states that:

The NZ Health Strategy 2016 states that:

> *"By focusing on preventing illness and by making healthy choices easy, we can help people either to avoid developing long-term health conditions or to slow the development of those conditions. An important part of this focus involves providing universal health services and public health initiatives that cover the whole population. In addition, tailored approaches are needed for some individuals and population groups so they can access the same level of service and enjoy the same outcomes as others". (Minister of Health, 2016)*

8.3.1 Programmes to improve the health status of Asian communities

Current health policy in NZ is focused on improving the health status of vulnerable communities and improving access to health services (Minister of Health, 2016). In line with New Zealand Government Health Targets and Ministry of Health *Rising to the challenge*, the Asian chapter of Waitemata DHB five years plan presents a range of actions to eliminate barriers and improve responsiveness to mental health services from Asian communities across the continuum of care (primary, secondary and community care (Mental Health Commission., 2012) The Waitemata DHB CALD (Culturally and Linguistically Diverse) cultural awareness course, and the services provided by Waitemata DHB Asian health services is a prime example of this. Asian-eCHAT has been included into WDHB Asian work stream action plan as part of the DHB's Asian chapter 5 years plan. Asian-eCHAT could work alongside these other initiatives and potentially fill the gap of "early detection of mental health issues amongst Asians, improve early access to secondary services", and most importantly "improve integration of primary and secondary health services Hence, Asian-eCHAT has the potential to contribute positively to improving the health outcomes of Asian New Zealanders.

Public health research has emphasised the importance of preventative measures in reducing the burden of long term chronic disease globally. Similar screening programmes add enormous value to the clinical practice by early detection of such illnesses, providing early treatment and preventing long term hospitalisations. All these measures are proven to reduce public health costs, for example the cardiovascular disease risk screening and emplacing preventative measure has been known to reduce costs and prolong life (Anand et al., 2000). It is known that mental illnesses like depression will be one of the leading causes of death in the world in the next decade or so (Lee, 2017). Therefore, taking measures now could contribute towards reducing the costs of these illnesses and could potentially reduce disease burden.

8.3.2 Enhancing collaboration amongst services

In line with the guiding principles of the New Zealand health strategy, Asian-eCHAT has the potential to improve collaboration amongst services at all levels of care. The stepped care approach of Asian-eCHAT can potentially contribute toward *"Collaborative health*

promotion, rehabilitation and disease and injury prevention by all sectors" (Minister of Health, 2016). By early detection and identification of psychological or emotional distress amongst Asian patients presenting to primary care centres, Asian-eCHAT can not only contribute towards prevention of developing severe mental illnesses but can also help improve access to secondary mental health and addiction services. Asian-eCHAT and its stepped care programme can help clinicians to make appropriately targeted referrals i.e. those patients who screen positively for certain issue can go on to complete diagnostic tools. The severity of their issue can guide referral to the level of care needed.

8.4 Implications with respect to further research

There is currently a lack of research in understanding the perspectives of different Asian groups with regard to their mental health and lifestyle issues. Research is especially lacking with regard to Asian's cultural values and beliefs about mental health and mental illness, how these values shape their own and their family's reactions to these issues, and what implications these hold for their help-seeking behaviours. Such an understanding is imperative to improving access to services. Asian-eCHAT provides an opportunity for clinicians to initiate a conversation about these sensitive issues, raise awareness of mental health issues and improve access to services by early interventions using a stepped care approach when required.

Asian-eCHAT can potentially provide a platform for further research into the prevalence of mental health issues amongst Asians living in New Zealand and hence provide an insight into the extent of mental health issues amongst this Population. Research in this area is required to provide an evidence base to inform the development and/or improvement of access points and an integrated approach to care of Asians with mental health and lifestyle issues.

Asian-eCHAT demonstrates that, given a culturally sensitive opportunity, Asians are open to expressing their mental health issues and to seeking help for these issues. It also provides an opportunity for trust building in relation to mental health research, which in turn may help with the de-stigmatisation of mental illnesses amongst these communities.

8.5 Recommendations

8.5.1 Prevalence of mental illnesses amongst Asians

This study recommends further research on the implementation of Asian-eCHAT at the GP centres with mainly South Asian catchment areas. And assessing the usability of eCHAT stepped care approach along with the screening tool in promoting access to community and social resources, for example, Green prescription, cultural exercise or cooking groups and secondary health services.

Asian-eCHAT, along with its stepped care support model, could also provide insights into the help seeking behaviours of Asians if implemented on a larger scale. This study gives glimpses of the help seeking behaviours of Asians in the sense that we know from the results of this study that Asians feel comfortable expressing their mental health concerns in their own language. Feedback indicated that mental health issues were identified among some patients who were only presenting for physical complaints and that a couple of participants expressed that eCHAT helped to raise their awareness of issues.

8.5.2 Early detection and prevention of cardiovascular risk factors amongst South Asians

Through assessment of lifestyle issues, eCHAT could also help to provide early detection of issues that may contribute to CVD such as smoking and physical activity levels. It is evident from research that South Asians have the greatest risk of developing cardiovascular diseases amongst the other ethnic minorities living in Western societies (Anand et al., 2000). Asian-eCHAT can also play an integral role in the early detection of risk factors such as smoking, physical inactivity and in the provision of timely support to tackle these issues. Similar studies in the UK identified South Asians as having the highest incidence of cardiovascular diseases amongst ethnic minorities (McKeigue, Shah, & Marmot, 1991). The commonly known modifiable risk factors for these diseases are smoking, hypercholesterolemia and obesity. Smoking cessation, exercise and healthy diet

are the most effective ways of limiting, or reducing, the risks of developing these illnesses (Anand et al., 2000; McKeigue et al., 1991). This study recommends research into the implementation of Asian-eCHAT as a screening tool in assessing CVD risks amongst south Asian communities living in New Zealand.

8.5.3 Screening for postnatal depression

As recommended by the two clinicians who participated in this study, Asian-eCHAT can potentially play a role in the early detection of postnatal depression amongst Asian mothers who present to their GPs for the 6 week baby check. Since these mothers usually do not have an appointment to see their GPs, it is recommended that the results of their screening questionnaire be followed up by either the staff nurse or life style coordinators employed at the GP practices. Currently there is a pilot study underway to assess the benefit of using eCHAT as a screening tool for patients and midwives of pre and post natal screening in Auckland District Health Board (ADHB). Similar pilot study could be conducted for Asian patients as well using the translated version of eCHAT.

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Appendix A: Participant information sheets

English Version

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Patient Participant Information Sheet

PROJECT TITLE:	Acceptability & utility of the electronic Case-finding and Help Assessment Tool for Asian populations in primary care
RESEARCHERS:	Khalid Shah, Dr Arden Corter & Prof Felicity Goodyear-Smith

Invitation

You are invited to participate in a research project aimed at identifying and supporting Asians who want help to improve their psychological well being and lifestyle.

A short electronic questionnaire has been developed to identify areas where patients are having trouble and want support, and to help GPs get to know their patients better and identify any aspects of patients' lifestyles that might be contributing to health problems.

The screening programme is called eCHAT (electronic Case-finding and Help Assessment Tool) and has been developed in NZ and extensively researched under the leadership of Felicity Goodyear-Smith, the principal investigator of this current study. eCHAT asks patients about problems around smoking, drinking alcohol, using recreational drugs, gambling, troubling moods, abuse, anger control, sexual abuse/identity and physical inactivity.

What is involved?

Asian patients are invited to participate in the eCHAT programme, which consists of completing the eCHAT screening and then completing a short paper-based survey following consultation with the GP/practice nurse. The survey will focus on participants experience of using the eCHAT programme including their likes and dislikes, preferences for translated or English versions and its usefulness and will take approximately 10

minutes to complete. Participants may also volunteer to take part in a small group discussion (focus group) focusing on how they feel about the eCHAT programme for Asians, including discussion of its usefulness and its acceptability. Please note that we do not want to discuss your answers to the eCHAT screener but rather your thoughts on the acceptability of the types of questions that are asked and whether it provides a useful tool to support discussion with the GP.

The focus group would take no more than one hour. You do not have to answer all the questions, and you may stop at any time. If there are any issues raised during the discussion that you would like help with, please discuss this with the researchers and/or your GP/practice nurse. A small koha in the form of supermarket vouchers will be provided to focus group participants.

Confidentiality & privacy
No material that could personally identify you will be used in any reports on this study.

Compensation
In the unlikely event of a physical injury as a result of your participation in this study, you may be covered by ACC under the Injury Prevention, Rehabilitation, and Compensation Act 2001. ACC cover is not automatic, and your case will need to be assessed by ACC according to the provisions of the Injury Prevention, Rehabilitation, and Compensation Act 2001. If your claim is accepted by ACC, you still might not get any compensation. This depends on a number of factors, such as whether you are an earner or non-earner. ACC usually provides only partial reimbursement of costs and expenses, and there may be no lump sum compensation payable. There is no cover for mental injury unless it is a result of physical injury. If you have ACC cover, generally this will affect your right to sue the investigators. 'If you have any questions about ACC, contact your nearest ACC office or the investigator. You are also advised to check whether participation in this study would affect any indemnity cover you have or are considering, such as medical insurance, life insurance and superannuation.

Any questions?
If you have any queries or wish to know more please contact the principal investigator, Professor Felicity Goodyear-Smith, f.goodyear-smith@auckland.ac.nz, Department of General Practice and Primary health care Care, University of Auckland, Tel 09 923 2357.

If you have any questions or concerns about your rights as a participant in this research study you can contact an independent health and disability advocate. This is a free service provided under the Health and Disability Commissioner Act. Telephone: (NZ wide) 0800 555 050 Free Fax (NZ wide): 0800 2787 7678 (0800 2 SUPPORT) Email (NZ wide): advocacy@hdc.org.nz

Thank you very much for your time and help in making this study possible.

Felicity Goodyear-Smith on behalf of the research team

Chinese Version

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患者参加信息表

项目题目:	在初级医疗中亚洲人群接受和使用电子病例查询和评估工具 (eCHAT)
研究人员:	Khalid Shah, Dr Arden Corter, Prof Felicity Goodyear-Smith & Dr Amy Bird

邀请函

你被邀请参加此科研项目，目的是确定和支持那些需要帮助的亚洲人，以此改善他们的心理健康和生活方式。

用一份简短的电子调查表来确认患者有问题，需要支持帮助的方面，也可以帮助家庭医生更好地了解他们的患者，鉴别患者生活方式的某方面可能与其健康问题有关。

该筛查程序叫做 eCHAT (电子病例查询和评估工具：electronic Case-finding and Help Assessment Tool)。是新西兰自主开发的，在课题负责人 Felicity Goodyear-Smith 教授地带领下进行了深入的研究。eCHAT 询问患者一些问题，主要是围绕吸烟，饮酒，吸毒，赌博，情绪问题，虐待，发怒控制，性虐待/性别取向和缺乏运动。

涉及哪些方面?

亚洲患者被邀请参加 eCHAT 程序, 包括完成 eCHAT 筛查，然后在咨询家庭医生/护士后填一份简短的调查表。这份调查表主要是患者使用 eCHAT 程序的经验总结，包括他们喜欢与否，偏好翻译版还是英文版，它的实用性，将大概需要十分钟左右的时间完成。参与者也可自愿参加小组讨论（重点小组），主要是针对于他们觉得 eCHAT 程序会对亚洲人有何帮助帮助, 包括讨论它的使用和接受度。请注意我们不想讨论你对 eCHAT 筛选者的看法，我们只看重你对问题类别的接受度以及该程序是否可成为支持与家庭医生讨论的有用工具。

集中小组讨论不会超过一个小时。你不需要回答所有问题，你可以在任何时间停止。如果你愿意帮助在讨论中产生的任何问题，请和科研人员和/或你的家庭医生/护士讨论。参加重点小组的人员将会得到小额超市购物券。

保密和隐私权
课题的任何材料都不会公布你的名字。

赔偿
由于你参加该课题而引起身体伤害的情况微乎其微，你可以依据 2001 年伤害预防，康复和赔偿法而得到赔偿。ACC 不是自动赔偿，你的这个案例需要由 ACC 依据 2001 年伤害预防，康复和赔偿法进行评估。如果 ACC 接受你的赔偿申请，你仍有可能得不到赔偿。这依赖于许多因素，例如你工作与否。ACC 通常仅提供部分报销成本和费用，而且可能不会有全额赔偿。除非是由身体伤害而引起的精神损伤，否则不会得到赔偿。如果你有 ACC 赔偿，一般情况下会影响你上诉课题负责人的权利。如果你有任何关于 ACC 的问题,请联系离你最近的 ACC 办公室或课题负责人。你也应该查明参与此课题是否影响你现有的或正在考虑的赔偿，例如医疗保险，寿险和养老金。

任何问题?
如果你有任何问题或想要知道更多，请联系课题负责人, Felicity Goodyear-Smith 教授, f.goodyear-smith@auckland.ac.nz,奥克兰大学医学院公共卫生学校，全科医疗以及初级医疗系（Department of General Practice and Primary health care Care, University of Auckland）, 电话 09 923 2357.

如果你有任何关于你参加该课题的权利问题或疑虑，请联系独立的健康和残疾人代言机构。该机构会在健康和残疾专项法范畴内为您免费提供帮助。电话: (新西兰) 0800 555 050 免费传真（新西兰): 0800 2787 7678 (0800 2 SUPPORT)，电子邮件(新西兰): advocacy@hdc.org.nz

非常感谢您在百忙之中的参与，而使此课题能够成为可能。

以 Felicity Goodyear-Smith 为代表的科研组

Korean Version

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Patient Participant Information Sheet

환자참가자들을위한안내서

프로젝트제목:	1 차진료기간에서의아시안인구들을위한전자식사례발견 (Electronic case-finding)과보조평가도구의수용성과유용성
연구자:	Khalid Shah, Dr. Arden Corter & Prof Felicity Goodyear-Smith

Invitation screening test (스크리닝검사의참여)

당신은정신건강과삶의방식을향상시키기위해도움을원하는아시안들을파악하고 지원하는것을목적으로하는연구프로젝트에참여하게되었습니다.

환자분들이가지고있는어려움이나도움을원하는분야에대해알아내고, 또한가정의가환자들을더잘인지하고건강문제의원인이되는환자들의생활방식의 모든측면을밝혀내기위한간단한전자식설문지가개발되었습니다.

이스크리닝프로그램은 eCHAT (전자식사례발견과도움에관한평가도구) 라고불리우고뉴질랜드에서개발되었으며, 현재이연구의주연구자인 Felicity Goodyear-Smith 의지도하에광범위하게연구되고있습니다. eCHAT 는환자들에게흡연, 음주, 기분전환용마약 , 도박, 감정문제, 학대, 분노조절, 성적학대,
성의정체성그리고신체적비활동등의문제들에관련된질문을드릴것입니다.

What is involved? (포함된내용)

아시안환자들은 eCHAT 스크리닝을작성하는것과가정의나실무간호사와의상담(진찰) 후에간단한서면질문지를작성하는것으로구성되어있는 eCHAT 프로그램에참여하게될것입니다.
이설문지는참가자들이 eCHAT 프로그램을이용한경험즉, 이프로그램에대해좋았던점과좋지않았던점,
번역본을선호하는지아니면영어버전을선호하시는지,
그리고이것의유용성에관한것들에중점을두고있으며, 작성하시는데는대략 10 분정도소요될것입니다.

참가자들은또한, 아시안들을위한 eCHAT 프로그램에대해어떻게느끼시는지와이프로그램의유용성과접근성에대한의논을 포함한소그룹토의 (포커스그룹)에자발적으로참여하실수도있습니다
참가자들은 eCHAT 검사원이당신의대답에관해의논하기를원하는것이아니라, 당신이받았던질문유형들의적합성에대한당신의생각과이것이가정의와의상담에 서도움을줄수있는유용한도구로써제공되어질수있는지에대한의논을원한다는것 을알아주시길바랍니다.

포커스그룹은 1 시간이상소요되지는않을것입니다.
당신은모든질문에대한답을하실필요가없으며언제든지중단하실수가있습니다.
만일의논중에도움을필요로하는문제가발생하게된다면, 연구자또는, 당신의가정의나간호사에게상의해주시기를바랍니다.
포커스그룹참가자에게는소정의슈퍼마켓상품권이제공되어질것입니다.

Confidentiality & privacy (비밀/ 개인정보)
이연구와관련된어떠한리포트에도개인의신상을알릴가능성이있는자료는사용되어지지않습니다.

Compensation (보상)
이연구참여로인해드물게일어날수있는신체적부상은 ACC 의부상방지, 재활그리고보상에관한조항에의거해보상을받을수있을것입니다.
ACC 보상은자동적으로보장받는것이아니라부상방지, 재활그리고보상에관한규정의의거에따른 ACC 의심사를받으셔야합니다.

만일당신의청구(claim)가받아들여지더라도당신은여전히보상을받지못하실경우도 있습니다.
이것은당신의수입여부와같은여러가지요인들에의해좌우되어질수있습니다.

ACC
는일반적으로단지부분적인치료비및관련비용의변제에대한것을지급하며일시불보 상금은지급하지않을것입니다.또한신체적부상의결과로초래된것을제외한정신적 부상에대한것은보상하지않습니다. 만일 ACC 보상을받게된다면일반적으로이것은당신이연구자들을고발할수있는권리에영향을 끼칠것입니다.
ACC 에관한질문이있으시다면가까운 ACC 사무실이나연구자에게연락을해주십시오.
당신은또한이연구의참여가당신이소유하고있는또는고려되어지는보상금보장, 예를들면의료보험,
생명보험그리고노후연금등에영향을줄수있는지확인해보시기를권해드립니다.

Any questions? (그외의질문들)

만약어떠한질문이나더알고싶으신사항이있으시면주연구자인오클랜드대학 General practice and primary health care care 부서의교수 Felicity Goodyear-Smith (이메일주소 f.goodyear-smith@auckland.ac.nz) , 연락처: 09 923 2357) 에게연락주시길바랍니다.

만약이연구참여자로서의당신의권리에대한질문이나우려되는사항이있으시면당신 은독립된환자장애자권익보호옹호자에게연락하실수있습니다.
이는뉴질랜드의환자,
장애자권익옹호위원회법에의거하여무료로서비스를받으실수있습니다.

시간을할애해주시고이연구를가능할수있게도와주신점에대해진심으로감사드립니 다.

Felicity Goodyear-Smith on behalf of the research team
.

Appendix B: Consent forms

English Version

Department of General Practice and Primary health care Care

THE UNIVERSITY OF AUCKLAND
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Patient consent to participate in research

This consent form will be held for a period of ten years

PROJECT TITLE:	Acceptability and utility of the electronic Case-finding and Help Assessment Tool (eCHAT) for Asian populations in primary care
RESEARCHERS:	Khalid Shah, Dr Arden Corter, Prof Felicity Goodyear-Smith & Dr Amy Bird

I understand that this study involves screening and support for mental health and life-style factors. I understand that my involvement is for the purpose of assessing the acceptability and utility of the screening programme (eCHAT) for use with Asian populations. I understand that if I choose to participate, I will be asked to complete a short survey after my clinic consultation and may also opt to participate in a focus group at a later date.

I have read and I understand the information sheet dated 21/09/2015. I have had the opportunity to discuss this study. I am satisfied with the answers I have been given and I have had time to consider whether to take part in the study.

I understand that my participation in this study is confidential and that no material which could identify me will be used in any reports on this study and that this consent form will be stored separately from the research papers and files.

I understand that taking part in this study is voluntary (my choice) and this will in no way affect my future health care or treatment in the clinic**.** I know whom to contact if I have any questions about this study.

I _____ (full name) hereby consent to take part in this study.

Date: _____

Signature:	
Full names of researchers:	Khalid Shah, Dr Arden Corter & Prof Felicity Goodyear-Smith
Contact phone number for researchers:	09 923 2357
Project explained by:	

Chinese (Mandarin) version

Department of General Practice and Primary health care Care

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患者参与课题的知情同意书

此知情同意书将被保存 10 年

项目题目:	在初级医疗中亚洲人群接受和使用电子病例查询和评估工具 (eCHAT)
研究人员:	Khalid Shah, Dr Arden Corter, Prof Felicity Goodyear-Smith & Dr Amy Bird

我明白该课题包含精神疾病和生活方式因素的筛选和支持。我明白我的参与是用于评估亚洲人群接受和使用 eCHAT 的情况。我明白如果我选择参与课题，在临床咨询之后，我要填一份调查表，也可能在以后会参加一个重点小组。

我已经阅读并且明白此信息表（立于 21/09/2015），并且有机会讨论该课题。我对我所得到的答案很满意，而且我会有时间考虑是否参与该课题。

我明白我参与该课题是完全保密的，而且此课题的任何报告都不会公布我的名字。该知情同意书将与科研文章和文件分开而被单独保存。

我明白参与该课题是自愿的（我自己的选择），而且完全不会影响我今后在诊所的医疗和治疗。我知道如果我有任何关于此课题的问题，我应该去联系谁。

我 _____ (全名) 特此同意参加此项研究。

日期:	
签名:	
研究人员的全名:	Khalid Shah, Dr Arden Corter & Prof Felicity Goodyear-Smith
Contact phone number for researchers:	09 923 2357
Project explained by:	

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Patient consent to participate in research
연구 참여에 대한 환자 동의서

이 동의서는 10 년동안 보관되어집니다.

프로젝트 제목:	1 차진료기간에서의 아시안 인구들을 위한 전자식 사례발견 (Electronic case-finding)과 보조 평가도구의 수용성과 유용성
연 구 자:	Khalid Shah, Dr Arden Corter, Prof Felicity Goodyear-Smith & Dr Amy Bird

본인은 이 연구가 정신건강과 생활양식 요인들에 대한 검진과 지원을 포함하고 있다는것을 이해합니다.
본인은 이 연구에 대한 본인의 참여가 아시안 인구를 위한 검진 프로그램의 수용성 및 유용성에 대한 평가를 목적으로 하고 있음을 이해합니다.

본인이 만일 이 연구에 참여하기로 결정했다면 본인의 진료상담후에 간단한 설문조사를 요구 받을 수 있다는것과 추후에 포커스 그룹에 참여할 수도 있다는것을 이해합니다.

본인은 2015 년 9 월 21 일자 연구 설명에 대한 정보를 읽고 이해합니다. 이 연구에 대해 의논을 할 기회를 가졌고 본인이 한 질문에 대한 충분한 답변을 들었으며 이 연구에 참여할지의 여부에 대해 고려할 충분한 시간을 가졌습니다.

본인은 이 연구의 참여가 비밀이 보장되며 이 연구의 어떠한 보고서에도 본인의 개인신상이 알려지는 자료가 사용되지 않을것이며, 이 연구 동의서가 논문 및 관련자료와 별도로 보관될 것이라는것을 이해합니다.

본인은 자발적으로 이 연구에 참여하고 있음을 알고있고 이것이 추후에 본인의 의료적인 건강 관리와 치료에 영향을 받지 않을것임을 이해합니다.
본인은 이 연구에 대한 질문이 있을 시 누구에게 연락을 취해야 하는지를 알고 있습니다.

Appendix c: Question proforma (semi-structured interview)

Asian-eCHAT
Interview schedule for Apollo staff

Hi, as we agreed at the beginning of this study, I would like to conduct a short interview with you about how you have found the implementation of eCHAT in your practice.

Just a reminder that this interview will be audio recorded and confidentially transcribed (pause) and I am switching on the digital recorder now.

SWITCH ON RECORDER

Now that the recorder is running, do you consent to participating in this study and having this interview audio recorded? Are you aware the interview will take about 15 minutes? Thank you.

First Name: **Last Name**: **Ethnicity** :

Role at Apollo: Manager / clinical lead / MA / GP

1. What do you think are the benefits of your patients using the eCHAT on the iPad before their visit with you?
2. What do you think are the downsides of your patients using the eCHAT on the iPad before their visit with you?
3. Did your patients object to any of the questions?
4. If Yes, which ones? (*Prompt if necessary*: Smoking; Drinking alcohol; Using other drugs; Gambling; Depressed or low; Worrying; Physical inactivity)
5. How useful was it to have your patients self-administer a health behaviour assessment prior to the visit?
6. How useful was eCHAT in helping you uncover behavioural health problems in your patients that you weren't necessarily aware of?
7. How useful was eCHAT in helping you identify whether patients are ready to make changes in their behaviour?
8. How useful was eCHAT in helping you initiate a conversation with your patient about these issues?
9. How useful was eCHAT in helping you initiate appropriate interventions for your patients?
10. How acceptable do you think it is to discuss the behavioural health issues raised in eCHAT with your patients?
11.
12. If eCHAT was available to you to use regularly, how likely is it that you would use it?
13. What difficulties do you see in implementing this into your regular practice?
14. Did you find the resource booklet helpful in relation to accessing stepped care approach for your patients?

15. How did you find using the resources booklet? Was it helpful towards stepped care approach?
16. Do you have any other comments or suggestions?

Many thanks for your time.

RESOURCE BOOKLET
DR KHALID SHAH, DR ARDEN CORTER, PROF FELICITY GOODYEAR-SMITH, DR AMY BIRD

Resource list for Apollo Medical Centre for each eCHAT domain

Sections are organised by the eCHAT domains of: smoking, alcohol, other drugs, depression, anxiety and physical

Within each section, interventions are structured in a stepped-

self- ⇨ primary care ⇨ community ⇨ secondary care

bol

Within each section, specific Asian services are

Contents

SMOKING

8.6 Self Help

Printable Handouts	
Benefits of Quitting.	**English** http://www.quit.org.nz/file/infoSheets/04BenefitsOfQuitting.pdf **Chinese:** http://www.quit.org.nz/file/publications/BenefitsOfQuitting_ASC_Chinese.pdf **Korean:** http://www.quit.org.nz/file/publications/BenefitsOfQuitting_ASC_Korean.pdf
Smoking effects of second-hand smoke on children	**English:** http://www.quit.org.nz/file/infoSheets/04SecondHandSmoke.pdf **Chinese:** http://www.quit.org.nz/file/publications/Second-handSmoke_ASC_Chinese.pdf **Korean:** http://www.quit.org.nz/file/publications/Second-handSmoke_ASC_Korean.pdf
The Quit Book	http://www.quit.org.nz/file/new-quit-book.pdf
NRT	http://www.quit.org.nz/file/infoSheets/05NicotinePatches03.pdf
Other Resources	
Quit Line	0800 778 778 http://www.quit.org.nz/
Quit support blog	http://www.quit.org.nz/blog/
Cost Calculator	http://www.quit.org.nz/21/reasons-to-quit/money-benefits

8.7 Primary Care Interventions

Apollo Medical Centre	Life style nurses
ABC Smoking Cessation	http://www.smokefreenurses.org.nz/ABCQUIT+CARDS.html
Medications	Nicotine replacement; Nortriptyline; Bupropion (Zyban); Varenicline (Champix)

8.8 Community Support

WDHB Comprehensive Care Limited- Asian Smoke Free	**www.comprehensivecare.co.nz**http://www.comprehensivecare.co.nz/services-and-programmes/quit-bus/	Christina Lee, 09 448 0475, 027 359 6880 (**Korean**) Zhou mo Smith 027 357 1800 (**Chinese**) Prashant Suratwala 021 904 306 (**Hindi**)
WDHB Comprehensive Care Limited- Mainstream		Telephone: +64 9 415 1091 Fax: +64 9 415 1092 Building A, 42 Tawa Drive Albany, Auckland 0632

ALCOHOL / PROBLEM DRINKING

8.9 Self Help

	Online Tools	
Is your drinking ok?	http://alcohol.org.nz/help-advice/is-your-drinking-ok/is-your-drinking-okay-test/thetest	
How much are you drinking	http://alcohol.org.nz/help-advice/is-your-drinking-ok/tool-how-much-are-youdrinking/the-tool	
	Other Resources	
Alcohol Self-Assessment Tool	http://www.carenz.co.nz/alcohol-self-assessment/	
Alcohol & Drug Help Line	http://alcoholdrughelp.org.nz/problem/	Helpline: 0800 787 797
Alcoholics Anonymous NZ	www.aa.org.nz	Helpline: 0800 229 6757
Health promotion	www.hadenough.org.nz	

Agency

8.10 Primary Care Interventions

Motivational interviewing	GP motivational interview techniques to assess patients' readiness to change

8.11 Community Support

Care NZ: online self-referral form	http://www.carenz.co.nz/self-referral-form/	Phone: 0800 682 468
Salvation Army Bridge Programme	http://www.salvationarmy.org.nz/needassistance/addictions/alcohol-and-drug-support	Phone: 0800 53 00 00

8.12 Secondary Health Services

CADS Asian Counselling Service	**http://www.cads.org.nz/Asian.asp**	Phone: 4423232 (Language line **Chinese, Korean** only)
CADS (mainstream) service: brochures printable	http://www.cads.org.nz/PDFs/Brochures_Service/Bro_CADS_Generic.pdf http://www.cads.org.nz/PDFs/Brochures_Service/Bro_CADS_Abstinence.pdf	Phone: 8451818

OTHER DRUGS

8.13 Self Help

Online Resources	
Are drugs a problem?	http://www.drughelp.org.nz/are-drugs-a-problem/test-your-drug-use
Information about different drugs	http://www.drughelp.org.nz/a-bit-about-drugs http://na.org/admin/include/spaw2/uploads/pdf/litfiles/us_english/IP/EN3107.pdf
Narcotics Anonymous NZ online brochure	

8.14 Primary Care Interventions

Motivational interviewing	GP motivational interviews techniques to assess patients' readiness to change

8.15 Community Support

Narcotics Anonymous NZ	http://www.nzna.org/contactinformation/ www.adanz.org.nz	Phone:0800 628 632
Alcohol and Drugs Helpline	http://www.salvationarmy.org.nz/needassistance/addictions/alcohol-and-drugsupport	Phone: 0800 787 797
Salvation Army		Phone: 0800 53 00 00

8.16 Secondary Health Services

CADS Asian Counselling Service	**http://www.cads.org.nz/Asian.asp** http://www.cads.org.nz/PDFs/Brochures_Servi	**Phone: 4423232 (Language line Chinese, Korean)**

CADS (mainstream) service: brochures printable	ce/Bro_CADS_Generic.pdf http://www.cads.org.nz/PDFs/Brochures_Service/Bro_CADS_Abstinence.pdf	Phone: 8451818

GAMBLING

8.17 Self Help

Online Test: Problem Gambling	http://www.pgfnz.org.nz/Gambling-Self-Assessment-Test/0,2745,14532,00.html
Gambling Helpline	http://www.gamblinghelpline.co.nz/Home_452.aspx Helpline 0800 654 655; txt 8006
	Printable Resources
Asians and gambling	**http://pgfnz.org.nz/wp-content/uploads/2016/02/FS10-Asians-and-gambling.pdf**
What is problem gambling?	http://pgfnz.org.nz/wp-content/uploads/2013/01/FS02-Problem-Gambling.pdf
Social impacts of problem gambling	http://pgfnz.org.nz/wp-content/uploads/2013/04/FS05-Social-impacts-of-problemgambling.pdf

8.18 Community Support

PGF Asian Family Services	**http://pgfnz.org.nz/**	**Asian Helpline 0800 862 342**
Problem Gambling Foundation (PGF)	http://pgfnz.org.nz/ http://www.salvationarmy.org.nz/needassistance/addictions-problem-gambling	Phone: 0800 664 262

Salvation Army – Addiction & Problem Gambling	

DEPRESSION

8.19 Self Help

Online Tools	
Self-test	http://depression.org.nz/depression/self+test
Self-help	http://depression.org.nz/waythrough/self+help
Stay well	http://depression.org.nz/staywell
Beating the Blues	http://www.beatingtheblues.co.nz/
SPARX (for youth)	https://www.sparx.org.nz/
Printable Resources	
Managing depression	http://depression.org.nz/ContentFiles/Media/PDF/Managing_depression_and_relapse.pdf

8.20 Primary Care Interventions

Psychological interventions	Problem-solving, psycho-education, CBT
Medications	First-line SSRI Alternatives tricyclics; moclobemide
Other Resources	
National Depression Initiative (NDI) network	www.ndi.org.nz (*connects people who are working in the field of mental health and depression)*
Managing depression in primary care	http://www.mentalhealth.org.nz/assets/ResourceFinder/bpjse-adult-depmanage-pages13-17.pdf
GP prescribed medication	http://depression.org.nz/waythrough/your+doctor/medication

8.21 Community Support

Chinese Lifeline	**http://www.lifeline.org.nz**	**Phone: 0800 888 880**
Chinese Positive Aging Charitable Trust [NGO]	**https://cpacharitabletrust.wordpress.com**	**Phone: (09) 624 1368 Mobile: 021 052 0930**
Private Counsellor	**Gus Lim (Korean)**	**Mobile: 021 240 9577**
Depression Helpline	http://depression.org.nz/waythrough/help+service	Phone: 0800 111 757
The Low Down	https://thelowdown.co.nz/	Free txt 5626

8.22 Secondary Health Services

Asian Mental Health Service Waitemata DHB	**www.amhcs.org.nz**	**Phone: 09 4868920 ext. 7321 Mobile: 021-2409584 Fax: 09 487 1317 Email: kelly.feng@waitemataDHB.govt.nz**
Mental Health NGOs Mainstream and Asian *(4 hours or less community support for patient with mild-moderate mental health issues)*	**www.connectsr.org.nzwww.equip.net.nz**	**Connect Phone: 09 4433700 Equip Phone: 9 4770338** **GP Referrals only

ANXIETY

8.23 Self Help

Phobic Trust of New Zealand	www.phobic.org.nz

Anxiety Support	www.anxietysupport.org.nz
The Panic Centre	www.paniccenter.net
Calm	www.calm.com
SPARX (for youth)	https://www.sparx.org.nz
OCD Action	http://www.ocdaction.org.uk/support-info/do-i-have-ocd
Beyond Blue	http://www.beyondblue.org.au/index.aspx?link_id=103.883

8.24 Primary Care Interventions

Psychological interventions	Problem-solving, psycho-education, CBT
Medications	First-line SSRI Alternatives Benzodiazepines, Buspirone

8.25 Community Support

Chinese Lifeline	**http://www.lifeline.org.nz**	**Phone: 0800 888 880**
Private Counsellor	**Gus Lim (Korean)**	**Mobile: 021 240 9577**

8.26 Secondary Health Services

Asian Mental Health Service: Waitemata DHB	**www.amhcs.org.nz**	**Phone: 09 4868920 ext 7321 Cell Phone: 021-2409584 Fax: 09 487 1317 Email: kelly.feng@waitemataDHB.govt.nz**
Mental Health NGOs Mainstream and Asian *(4 hours or*	**www.connectsr.org.nzwww.equip.net.nz**	**Connect Phone: 09 4433700 Equip Phone: 9 4770338** **GP Referrals only

fewer community support for patient with mild-moderate mental health issues)

PHYSICAL INACTIVITY

8.27 Self Help

Heart Foundation	www.heartfoundation.org.nz
Ministry of Health	http://www.health.govt.nz/yourhealth-topics/physicalactivity/choosing-activity http://www.health.govt.nz/yourhealth-topics/physical-activity/tipsgetting-active
HealthEd	https://www.healthed.govt.nz/resource/be-active-every-day-physicalactivity-adults
Sport Waitakere – Push Play	http://www.sportwaitakere.co.nz/Programmes-Resources/GetActive/Push-Play

8.28 Primary Care Interventions

Green Prescription	http://www.health.govt.nz/our-work/preventative-healthwellness/physical-activity/green-prescriptions
Green Prescription resources for health professionals	http://www.health.govt.nz/our-work/preventative-healthwellness/physical-activity/green-prescriptions/green-prescriptionresources-health-professionals

8.29 Community Support

Chinese Women's Wellness Group	**www.wons.org.nz/Nursing/chineseservices.asp**	**Betty Ling** 09 846 7886 0210566118

Diabetes Self-management course (Hindi & Mandarin)		**Sanny Chan** Phone: 09 636 0351 **Wayne,** Phone: 379 4022 Email: wayde@aucklandpho.co.nz

8.30 Secondary Health Services

Asian Health Services: Diabetes Support Group (Waitemata DHB)	**http://www.asianhealthservices.org.nz**	**Asian Health coordinators (**09) 486 8314 or (09) 488 4663, ext 2314 or 3863
Diabetes Support Group Asian Health (WDHB) Chinese & Korean		**Grace Ryu (WDHB):** Phone: 486 8920 ext. 2239 **Connie Zhang:** Phone: 486 8314