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Betty E. Koka
University of Wollongong

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**AN EXPLORATORY STUDY OF MENTAL HEALTH
PROBLEMS AND TYPES OF TREATMENT USED IN
PAPUA NEW GUINEA.**

A thesis submitted in partial fulfilment of the
requirement for the award of the degree of

DOCTOR OF PUBLIC HEALTH

from

UNIVERSITY OF WOLLONGONG

by

BETTY ETAMI KOKA

Diploma of Applied Health, College of Applied Health Sciences, Madang,
Master of Science - Mental Health, University of Wollongong.

GRADUATE SCHOOL OF PUBLIC HEALTH
September 2004

THESIS CERTIFICATION

I, Betty Etami Koka, declare that this thesis, submitted in partial fulfillment of the requirements for the award of Doctor of Public Health, in the Graduate School of Public Health, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Betty Etami Koka

6th September 2004

**RELEVANT MANUSCRIPT AND CONFERENCE
PRESENTATION IN THE COURSE OF THE
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ABBREVIATIONS

APO:	Aid Post Orderly
AUSAID:	Australian Assistance for International Development.
CHW:	Community Health Worker
DSM-IV:	Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (American Psychiatric Association, 1994)
EM:	Explanatory Model
GP:	General Practitioner
HEO:	Health Extension Officer
ICD-10:	The ICD-10 Classification of Mental Disorders. Diagnostic Criteria for Research (WHO, 1993)
MONAPH:	Medical Officers, Nurses and Allied Health Professionals.
MP:	Medical Practitioner
NDOH:	National Department of Health
NO:	Nursing Officer
PNG:	Papua New Guinea
PNGNDOH:	Papua New Guinea National Department of Health
SPSS:	Statistical Program for Social Science (SPSS Inc. Chicago, Illinois, 2000).
WHO:	World Health Organization

ABSTRACT

Papua New Guinea (PNG) is culturally diverse with an estimated 800 distinct languages and a population of 5 million people. These diverse cultures and languages influence help-seeking behaviour, expressions of illness, presentation of symptoms, diagnosis and treatment decisions. In addition to the complex influence of cultural-linguistic factors on mental health and illness, inadequate resources limit PNG's specialist mental health services. PNG has one psychiatrist per million people and one registered psychiatric nurse for every 70,000 people. As a result, the bulk of mental health care is provided by general health workers in various types of health care facilities in the community.

Little is known about the types of mental health problems and treatment approaches adopted by health workers in the field. There is evidence from studies in other developing countries that general health workers lack understanding and knowledge in mental health issues and this limits their ability to make appropriate diagnoses and deliver appropriate treatments. Earlier studies in Papua New Guinea (PNG) have described mental health problems seen by psychiatrists. However, the types of mental health problems and treatment approaches used by general health workers have not been assessed. Therefore, this study aimed to explore the types of mental health problems and treatments that general health workers work with in PNG. The study also sought to assess general health workers levels of knowledge and confidence in understanding and managing mental health problems. The study recruited 209 general health workers including, health extension officers (HEOs), nursing officers (NOs) and community health workers (CHWs) from a range of health care settings.

This study used a three-part questionnaire that included a combination of structured questions written in both English and Neo-Melanesian (*Tok Pisin*). Part 1 assessed health workers knowledge and confidence in diagnosis and treatment of mental disorders. Part 2 asked them to provide a detailed review of the three most recent mental health cases they had managed. Part 3 involved pre-post workshop assessment of knowledge and skill using participant responses to three video case vignettes that were role-played in *Tok Pisin*.

Data was collected from the four regions of PNG at four 5-day long regional mental health-training workshops. Pre-post training measures were collected to evaluate the difference of training at improving diagnosis and treatment approaches suggested by participants in response to the video-case vignettes.

The results showed that general health workers had received little training in mental health issues and that they tended to lack confidence in identifying and managing mental health problems. Respondents provided data on 282 patients and results indicated that patients on their caseloads frequently received both western and culture specific diagnoses. The most common diagnoses were schizophrenia, depression, substance use disorder, sorcery and spirit possession. The most common treatment approach used was medication. Medication use appeared to be based on what was available rather than effectiveness and appropriateness. Those diagnosed with a culture specific disorder were almost twice as likely to receive traditional treatment and even half of those who did not receive a culture specific diagnosis went on to receive some form of traditional treatment. Psychological treatment (counselling) was also commonly used as part of the treatment process.

Pre-training measures assessing video case vignettes had high numbers of “don’t know” responses suggesting a lack of confidence and knowledge regarding diagnosis and treatment planning. At the post-training assessments the number of “don’t know” responses decreased suggesting increases in confidence, but there were also increases in the provision of the “correct” diagnosis and more appropriate treatments for some cases.

The implications of these findings are discussed in relation to training needs of general health workers and the provision of culturally appropriate treatment approaches. Specifically, suggestions are made for better integrating policy recommendations regarding the implementation of traditional treatment of mental health problems with western mental health approaches.

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Dedication

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CHAPTER ONE

Introduction and Overview of the Study

This is a three-part descriptive study that explores mental health problems and treatment approaches used in managing people with mental illness in Papua New Guinea (PNG). Each part of the study is further discussed towards the end of this chapter and in detail in chapters five (part 1), six (part 2) and seven (part 3).

Studies in PNG and many other developing countries have shown there are major physical health problems amongst the populace but that economic problems result in a scarcity of available resources. The studies indicate that limited resources are then prioritised to combat the major physical health problems that cause high mortality and morbidity. As a consequence of such prioritisation, mental health services tend to take lower precedence in developing countries. A WHO (2002) worldwide study revealed that there is a shortfall of all resources in mental health. The need for mental health care exceeds the number of specialist services available. For example, in Ethiopia's population there is but one psychiatrist for every 10 million, while India has one psychiatrist for every 300,000 people (Sartorius, 1997). The limited specialist mental health care in developing countries is concentrated on secondary care in urban centres. The majority of the population in developing countries is rural with no or limited access to specialist western mental health care. Therefore mental health care is usually integrated into general health care and provided by general health workers at the rural or primary health care level in communities (WHO, 1982).

In developed countries where more adequate specialist mental health services exist, the majority of the people with mental health problems tend to seek help from general health workers, such as physicians and general practitioners (WHO, 1982; Sartorius, 1997). For example, in the United States of America, at any one time 15% of the population need mental health services but only 3% of Americans actually get to use specialised mental health services. Only 12% are

assessed and treated by general health practitioners (United States President's Mental Health Commission, 1978). Thus, in both developing and developed countries such as the USA, people with mental health problems are frequently treated by general health workers in general health care facilities.

Several studies indicated that general health workers lack training and understanding of mental illness yet they manage many people with mental health problems (WHO, 1982; Sartorius, 1997; Tobin & Norris, 1998). One of the aims of this study was to assess how much time is devoted to training and preparing general health workers to deal with mental health issues in PNG. Due to the lack of knowledge of different types of mental disorders by general health workers, many mental health problems may go undiagnosed and untreated or are treated with inappropriate and expensive medications. Similar situations in other developing countries were found to exist by the WHO (1982) which reported that 40 million men, women and children suffer from serious mental illness due to erroneous diagnosis and treatment.

Help sought from general health workers is influenced by people's religious and cultural beliefs concerning the causes of mental illness. In both developing countries and in developed countries among ethnic migrant groups, religion, culture and language shape and influence beliefs concerning health, illness, causes and experience of illness. Cultural beliefs and languages also influence people's help-seeking behaviour and presentation of symptoms. The cultural beliefs concerning causes of mental illness, and the types of treatment sought, are inseparable. The type of treatment approach used is influenced by the belief held concerning the cause of the illness (Burton-Bradley, 1973; Hamnett & Connell, 1981; Frankel, 1986; Stavovy, 1996; Phan & Silove, 1997; Tabassum, et al., 2000).

Making a clear psychiatric diagnosis is complicated by presentation of somatic bodily complaints amongst different cultural groups (Sinclair, 1957; Burton-Bradley, 1973; Kleinman, 1980; 1988; Stavovy, 1996; Phan & Silove, 1997). Traditional treatment is usually sought prior to western treatment, which is seen as a last resort (Decock et al., 1997). Western treatment (e.g. medication) is also

sought for relief of symptoms, while traditional treatment is seen as the cure for the cause of the illness (Hamnett & Connell, 1981; Frankel, 1986). Therefore in developing countries, and in developed countries among ethnic migrant groups, there is use of both western and traditional health care and treatment. The western health care system is based predominantly on the biomedical model. The traditional system is based on strongly held cultural and religious beliefs on causes of illness and has led to the use of traditional and alternative treatments. However, there is a paucity of research related to general health worker training, in respect to their ability to identify and diagnose based on western diagnostic systems (e.g. International Classification of Mental Disorders, Diagnostic Criteria for Research, ICD-10, World Health Organization, 1993 and the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, DSM-IV, American Psychiatric Association, 1994). It is unknown how general health workers manage these problems and types of treatment approaches they apply.

A number of studies in Papua New Guinea have identified and reported that people's belief in sorcery, spirit possession, witchcraft, magic, poisons, envy of achievements of others and violation of cultural norms and taboos, are thought to cause both physical and psychological illness. For centuries, people have passed down from generation to generation a traditional cultural mental health care system in which they look after those with mental health problems. Despite the introduction of a western health care system, people continue to consult traditional healers and diagnosticians regarding their illness and use traditional treatments prior to western medications. Some even use medication in combination with traditional treatment.

PNG specialist mental health services are very limited and as in many developing countries the limited specialist services are based in the urban centres, while the majority (82%) of the population live in rural areas and have extremely limited access. There were five qualified full time practising psychiatrists in PNG at the time of the present study, a ratio of one psychiatrist for every one million people and one registered psychiatric nurse for every 70,000 people. A large proportion of this workforce is located in Port Moresby (the capital city) and as a consequence, generic health workers are called upon

to provide the vast majority of mental health care in provincial areas. Little is known about the types of mental health problems or approaches to treatment used by these health workers in routine practice. The frequency of Western (e.g. DSM-IV or ICD-10) and traditional culture specific diagnoses are unreported from a range of general health care settings such as hospitals, district hospitals/district health centres, health centres, health sub-centres and aid posts. Previous PNG studies have reported cases seen in the general population and psychiatric hospital, provincial hospitals and psychiatric clinics (Sinclair, 1957; Hoskins 1969; Pulsford & Cawte, 1972; Robin, 1979; Burton-Bradley, 1969; Stavovy, 1996; Noble, 1997; Johnson, 1990). However, none of these studies have focused on the abilities of general health workers who provide the bulk of the mental health care. One study (Johnson, 1990) reported on a number of mental health problems referred by specialist medical officers in Port Moresby General Hospital. However, that study was concentrated in one local area (Port Moresby) where specialist mental health and other specialist services are easily accessible. Further, that study did not include the three categories of health workers covered in the current study all of whom tend to work at the primary health care level. An interesting study by Ashwell (1993) reported on the competency level of community health workers in making appropriate diagnoses and provision of treatment for general health problems. Again, Ashwell's study does not indicate competency in diagnosing and treating mental health problems.

Therefore, the present study seeks to identify the gap left by previous studies in exploring the types of mental health problems seen and treated by general health workers. That is, the mentally ill patient population cared for by general health workers in the community without specialist care. The types of medication and traditional treatment approaches used by general health workers are also unknown. This is the first study to explore and report such findings in PNG. Also none of the previous studies have conducted and reported on how adequately the general health workers are trained and prepared to identify diagnose and manage mental health problems. Therefore the present study is the first to explore general health workers' level of training, understanding and confidence in dealing with mental health issues.

The aim of this study, as briefly stated at the beginning of this chapter and in detail in chapter two was to explore the types of mental health problems and types of treatment approaches used by general health workers in a range of general health care settings in PNG. General health workers' levels of confidence in identifying, diagnosing and applying treatment approaches were also assessed. The study also tested three hypotheses that are described in detail in chapter six.

The level of mental health training health workers receive in basic training is assessed and their need for training discussed. The outcome of the study provides new information on the types of mental health problems and treatment approaches used in PNG by general health workers. The results gained from the study provide information, which has the potential to be used for service planning, resource allocation and improving the health information system (to include mental health information). The outcome of the study will also assist in improving the training of general health workers in preparing them adequately to deal with both western and cultural mental health issues.

The current study focuses on three categories of general health workers:

1. Health Extension Officers (HEOs),
2. Nursing Officers (NOs) and
3. Community Health Workers (CHWs).

These three categories of health workers also made up 97% of the general clinical workforce in PNG at the time of the present study. These three categories of health workers also provide the bulk of PNG's mental health care at the primary level, where the majority of the rural population (82%) live.

The thesis has nine chapters; chapter one (this chapter) provides the introduction and overview to the thesis. Chapter two presents background information on the western health care system, including mental health care system in PNG. The purpose of the chapter is to describe the study context and the type of specialist western health care systems available. From reading chapters two and three the

reader gains an understanding of both traditional and western mental health issues that contribute to the complexity of physical and psychological health care in PNG.

Chapter three reviews literature on cultural beliefs and practices in mental health in PNG. These Papua New Guinean cultural beliefs and practices are also reported in the context of other developing countries and migrant ethnic groups in developed countries. Chapter three also highlights the importance of general health workers knowing and understanding people's cultural beliefs/perceptions and practices, in order to provide effective and culturally appropriate mental health care. Papua New Guinean general health workers were raised in their own particular cultural-linguistic groups and have learnt various cultural beliefs and practices by being part of these diverse cultural-linguistic groups. However, they have been educated and trained in educational institutions and training colleges by people with western perceptions of health and illness. Thus, PNG's mental health care system is complex based on a theory of western policies and services, but in practice people still tend to use the traditional cultural systems when working with mental health problems.

Chapter four presents the overall method used in collecting data for this study. The data collected were analysed in three parts. The three parts of the study are presented in chapters five, six and seven. Chapter five (part 1) focused on health worker training, knowledge and confidence in identifying, diagnosing and treating mental health problems. Chapter six (part 2) provides aims and details of specific methods used in this part of the study. The focus of this part of the study is on description of 282 recent patients with a mental health problem seen by the participants in their communities. Part 2 also tests three hypotheses based on previous research in PNG and other countries. These hypotheses are discussed in detail in chapter six. Chapter seven (part 3) focuses on pre and post training knowledge change by assessing participant's response to the three video case vignettes before and after training. Results of each of the study parts are presented and discussed separately under each of their respective chapters. Chapter eight integrates the findings across all three studies and links the aims of the study and background literature. Chapter eight also presents the

limitations of this study. Chapter nine concludes the study and provides recommendations of particular relevance to the Papua New Guinea National Department of Health (PNGNDOH) and its Social Services and Mental Health Services section.

This study originated from the researcher's identification of a need for such an inquiry. The researcher is an indigenous person who is part of a PNG's cultural-linguistic group, speaks English as a third language, and has an understanding and knowledge of the diverse cultural-linguistic beliefs and practices regarding mental health and other health issues in PNG. The researcher received undergraduate training in one of the PNG health training institutions and postgraduate education in Australia. The researcher also worked in both the rural and urban health settings in PNG for close to 20 years. These experiences highlighted the need to better understand the influence of training and role of general health workers in mental health care in PNG.

CHAPTER TWO

Background: The Health Care System in Papua New Guinea.

2.1. INTRODUCTION

This chapter presents background information on Papua New Guinea's health care system. The types of health care facilities are discussed including the patient referral system and clinical workforce and their training. This chapter also covers a brief history of mental health services in PNG and refers to current mental health services. The types of psychotropic medication available in the public health care system are also discussed. The presentation in this chapter provides a snapshot of the formal health care system in PNG. Challenges in the delivery of health care services are discussed.

2.2. DEMOGRAPHY AND TOPOGRAPHY

PNG is situated off the northern coast of Australia within the tropics at latitude of 14 degrees south of the equator (see map, Appendix 5). It comprises the eastern half of the island of New Guinea with a total landmass of 462,840 square kilometres (land: 452,860sq km and water: 9,980 sq km) and over 1400 islands with a population density of 6.5 per square kilometre (Mai, 1997). PNG shares its borders with Indonesia to the west, Nauru and Solomon Islands to the east, the Federal States of Micronesia to the North and Australia to the south.

Geographically, PNG is mostly mountainous with coastal lowlands and rolling foothills, fast running rivers, dense rain forest and has one of the world's largest swamps along the southwest coast. The country is prone to natural disasters such as tropical storms, earthquakes, mudslides, tidal waves (such as tsunami) and active volcanoes due to its location along the Pacific "Rim of Fire". It is also not unknown to be affected by droughts and in the highlands by severe frosts, both of which may lead to famine. In addition it is a highly malarious country especially on the coast and in the warmer lowlands of the highlands.

To assist administration of this geographically difficult nation, the country is divided into 20 provinces (Appendix 5) and 4 administrative regions (Southern, Highlands, Momase and New Guinea Islands). There are few major roads linking the main towns and districts while the National Capital District, Port Moresby, has few road links to some parts of the adjacent Central and Gulf Provinces. The main highlands highway “Okuk Highway” links the five highland provinces to the coastal towns of Lae (PNG’s second biggest city) and Madang. The rest of PNG’s 11 provinces are not linked by road and are accessible only by air and sea. As a consequence, PNG remains essentially a rural country (Stavovy, 1996).

These geographical restrictions make it difficult for government and other agencies to provide vital services such as education and health to rural and remote areas. Even where structures are provided it is difficult for people to access them. Many services are accessible only by foot, boat/canoe, associated modes of transport such as four wheel-drive vehicles or small aircraft, are generally too expensive for local inhabitants (PNGNDOH, 2000).

Apart from geographical difficulties, other challenges in providing health care in PNG include: patients and families often see health care settings as places of death (*ples bilong man indai*), where someone who is ill goes to die, alone, away from their loved ones and far from home. This creates fear that if one dies when they are away from home, his/her spirit will roam in a strange alien environment and be unable to find his/her way home and to find rest. It is also costly for families to bring a body home for burial, as most people expect, on tribal land.

Strongly held cultural beliefs about the causes of the illness are also likely to stop people from seeking help from health care settings. Patients may be reluctant to access health care due to language difficulties; their language may be different to that of the health care provider or of the local area where the health care facility is established. Concerns for safety of the patient and their carer(s) who have to travel with the patient is a major concern for the family, relatives and even the whole tribe. Concerns derive from having to leave home

(as *ples*) and travel a distance often through unfamiliar and tribal enemy territories (*ples bilong birua*).

The latter two challenges may also affect the health worker who is required to work in another cultural-linguistic area, different to that of his/her own. The health worker may also be isolated from support services and experience difficulty in getting even basic medical supplies and with no specialist referral services to manage difficult cases. As a consequence general health workers rather than specialists are often the only contact persons for health problems, including mental health problems, and are expected to perform their best in all areas of health care.

Other factors that challenge health care include limited supplies of medications and equipment. There are also limited numbers of general and specialist health workers, who are unevenly distributed throughout the country with concentrations in some locations. There are insufficient health workers to provide health care for the general population. Not only are there limited health workers but also due to inadequate funds not many Papua New Guineans are being trained to become health workers. Apart from training of health workers, the lack of funding also constrains the implementation of health care activities.

PNG is one of the most cultural-linguistically diverse countries in the world. Culture and tradition differ significantly among the different cultural-linguistic groups, between provinces and among regions, which creates a continuous challenge for health care providers. Approximately 800 distinct indigenous languages are spoken in PNG with Pidgin or *Tok Pisin* being widely used as a common unifying language throughout most parts of the country. In Papua (Southern Region), Motu is the preferred language while English is the official language of trade, education and government.

PNG has an annual population growth rate of 2.43% with a total population of 5,049,055 (July 2001 est.) and an age structure of 0-14years: 39%, 15-64 years: 58% and 3% aged population of 65 years and over. The annual birth rate is 32.15 births/1,000 population and death rate of 7.88 deaths/1,000 population.

Infant mortality rate is 58.21 deaths/1,000 live birth but this varies widely and is much higher in rural areas that have limited access to primary health care. PNG has a total fertility rate of 4.3 children born/woman and life expectancy at birth for the total population is 63.46 years (male: 61.39 years; female: 65.64 years). The literacy rate for the country is 72% (PNGNDOH, 2000).

The above data indicate that PNG's population is young and growing with high birth, morbidity and mortality rates and relatively low life expectancy. Such data illustrates real health care challenges. There are major health problems that cause morbidity and mortality. These are shown on the following table.

Table 2.1. Five Major Causes of Morbidity and Mortality

Source: PNGNDOH, 2000

2.3. THE HEALTH ADMINISTRATIVE STRUCTURE

The causes of morbidity and mortality are major health concerns for the National Government. Thus, the PNGNDOH in its 2001 – 2010 National Health Plan prioritised its resources towards combating these problems at the district and primary health care levels. The health plan has an overall goal of improving significantly the health status of Papua New Guineans. The PNGNDOH aims are to provide effective health care services targeted at prevention of illness and promotion of health for the rural majority (National Department of Health, 2000). These health priorities and aims are based on the National Government's Organic Law of 1972 and on the National Health Administration Act of 1997.

The Organic Law is a set of laws that were passed to decentralise powers and responsibilities from the national government to the provincial and local level

governments. In other words, the Organic Law emphasises empowering provincial and local governments to organise and implement statutory services. The National Health Administration Act supports the Organic Law and re-oriented its policies to accommodate this. The Act “defines how health services are administered by the National, Provincial and Local level Governments in accordance with the principles of the decentralization contained in the Organic Law” (PNGNDOH, 2000). Since 1978 most of the central health functions of the National Department of Health, Port Moresby have been decentralised to the provincial and local level governments. The Organic Law and The Health Administration Act dictates the powers, roles and responsibilities for all levels of government in delivering an effective, efficient and accessible health care service to the general population. The roles and responsibilities of the different levels of governments are indicated in Appendix 1.

The PNGNDOH controls and monitors the central functions of Social Changes and Mental Health Services, Health Training, Drugs and Pharmaceutical Services and Oral Health Services. Other functions of PNGNDOH include the development of Strategic National Health Plans for provinces to use as a guide to produce their own provincial implementation plans. The department also provides policy, technical assistance/advice, maintenance of standards and assistance with the monitoring and evaluation of health programmes provided by the provincial health services. The NDOH then reports back to the National Health Board within the department, which in turn reports to the National Minister for Health. Almost all health care functions such as the day-to-day management, supervisory, finance and personnel responsibilities are decentralised to provincial and district level governments. This has major implications for delivery of health care including mental health care (i.e., provision by provincial and district level general health care workers).

Funding for programme implementation comes through the National Government under the aegis of the provincial grants. In each province, the Provincial Health Advisor and the Provincial Health Board are responsible for all provincial health services. While at the district level, the District Health Officer and District Health Committee are responsible for district health

services except for the Provincial Hospitals, which are managed by hospital boards.

The hospital boards report to the National Health Minister and were recently established, primarily to raise extra revenue to meet the shortfalls in the government's annual allocation to hospitals. Hospitals operate under the Public Hospital Act and are responsible for:

- Providing clinical services
- Assisting local authorities to provide community health education
- Supporting rural health services
- Conducting investigations into outbreaks of disease and epidemics
- Conducting in-service training for hospital staff
- Entering into agreement with private health care providers
- Delivering health services

(PNGNDOH, 2000)

Provincial hospitals and urban clinics are classified as urban health services, while district hospitals, district health centres, health sub-centre and aid posts are classified as rural health services.

2.3.1. The Health Care Delivery System

The health care delivery system is established in a hierarchical system as outlined in Appendix 2. At the apex of the pyramid is the Port Moresby General Hospital, which functions as a district hospital for the national Capital District; a provincial hospital for Central Province; a Regional Hospital for Southern Region; a teaching hospital for the Medical Faculty of the University of PNG and a National Referral Hospital. Most of the general medical practitioners and specialists are based in Port Moresby General Hospital including all of the country's psychiatrists.

Next on the pyramid are the Provincial Hospitals, three of the provincial hospitals also serve as regional hospitals: Nonga Hospital in Rabaul for New Guinea Islands Region (See Appendix 5 for location); Angau Hospital in Lae

for Momase Region; Goroka Hospital in Goroka for Highlands Region (see photo below), excluding Port Moresby General Hospital. The provincial hospitals have a smaller number of specialists and general medical practitioners who provide general and specialist care for their respective regional and provincial population.

Gokoka Base Hospital, Eastern Highlands Provincial Hospital and Highlands Regional Hospital. The Highlands province's only acute psychiatric unit is located in this hospital. Photograph: Courtesy of Bill and Sharon Bieber, 2003.

District health centres, some of which have been upgraded recently to district hospitals or rural hospitals, such as the one on the photo on the next page are placed below provincial hospitals on the pyramid. A few larger district hospitals or district health centres are likely to have one general medical practitioner while most have no medical practitioners. Health Extension Officers (HEOs), Nursing Officers (NOs) and Community Health Workers (CHWs) mainly staff district hospitals/district health centres.

Kainantu District Health Centre: The bulk of mental health services are provided in general health services such as this district hospital/district health centre. Photograph: Courtesy of Bill and Sharon Bieber, 2003.

Health centres take the next place on the pyramid, below District Hospital/health centres followed by health sub-centres. Health care at the health centres and health sub-centres are provided by a few HEOs but mostly NOs and CHWs. HEOs usually manage Health Centres and health sub-centres. In the absence of a health extension officer, a nursing officer plays the managerial role. After health sub-centres, at the base or the foundation of the pyramid are the health aid posts in the villages.

Although placed last on the pyramid, aid posts are the most important foundations of the hierarchy of the health care delivery system. The village aid post plays a vital role in primary health care and is designed to be a general access point for the health care system in the community. Aid posts are the first point of contact for western health care for most people in the rural and remote communities. Photo of a typical village health aid post below illustrates what most aid posts look like.

A typical village health aid post managed by a CHW. The first point of contact for modern health services by the community. Photograph: Courtesy of J Ipram.

The aid post is managed single-handed by an aid post orderly or community health worker who is the front line of care in the health care system. The CHW or aid post orderly is required to perform primary health care, health promotion and illness preventative tasks, whilst at the same time reporting epidemics and outbreaks of illness to the health centres. The amount and types of medicines and dressings available in an aid post is limited (See Appendix 3 for medical supply allowed in an aid post). Whilst an aid post principally serves the rural population, an urban clinic serves the urban population in settlements and suburbs. Nursing Officers and Community Health workers provide health care at urban clinics.

The overall number of hospitals, health centres, health sub-centres, aid posts and urban clinics as detailed in Table 3.2 include: 18 public provincial hospitals; 1 private hospital; 136 public health centres; 53 private health centres; 108 public health sub-centres; 211 private health sub-centres; 36 public urban clinics; 13 private urban clinics and a total of 1765 aid posts. One should note however that Enga and Central Provinces have no public hospitals. These health care facilities or services are also required to provide for the mental health needs of

the population they serve. Therefore mental health care is an integral part of these facilities as the specialised services are limited.

Table 2.2. Health Care Facilities in PNG 1998

Source: PNGNDOH, 1998

- Note:
- District Hospitals were counted as health centres, as there was no clear definition at the time the study was conducted.
 - There was also no distinction between private and public aid post at the time so all aid posts are grouped together. During the period of the study a total of 758 aid posts were closed due to lack of trained manpower, a shortage of drugs and social conflicts.
 - Health facilities on Bougainville are excluded from this data due to the Bougainville crisis regarding independence.

In addition, private hospitals, health centres, health sub-centres and aid posts controlled by other non- government organisations, provide 60% of health care services to Papua New Guineans (PNGNDOH, 2000). These health care facilities are run privately with funding assistance in the form of subsidies from the National and Provincial Governments. These private services are required to work in unison with public health services for the benefit of the population they serve. The private health services are also responsible for providing services according to the standards and directives issued by the NDOH.

2.3.2. The Patient Referral System

The patient referral system takes a bottom up approach in the hierarchical health care system when referral for further management of difficult cases is needed or

where specialists care is required. Patients discharged from hospitals or from specialist care are discharged back to the original health facility from where the referral originated in order to facilitate continuity of care. Patients can also be discharged back into the community taking a top down or inter-hospital approach on the referral pyramid (See Appendix 4).

The aid post orderly or community health worker from the village health aid post is permitted to refer patients for further management to the health centres and health sub-centres, whilst an urban clinic worker can refer patients to provincial hospitals. Patients requiring further management are then referred from the health sub-centre to the district hospital/district health centre. From the district hospital or district health centre, further referrals of complicated cases are made to the provincial hospitals. From the provincial hospitals, patients requiring specialist care are directed either to the regional hospitals, if a specialist is available, or to Port Moresby General Hospital. Patients are also referred between hospitals and from private practitioners to public hospitals and vice versa (PNGNDOH, 2000).

The inter and intra referral system is also dependent on the availability of resources such as workforce, medical supplies and equipment. In the higher levels of the hierarchical pyramid, a better prepared workforce and health care facilities are available. For example, Port Moresby General Hospital has modern diagnostic facilities, more specialists and a considerable number of health workers. The provincial hospitals have fewer specialists, fewer medical practitioners and the general health workers and facilities are also limited. The more numerous and remote health care services (e.g. aid posts and health sub-centres), have greater difficulties with staffing. Further, these facilities are provided fewer resources. For example, as indicated in Appendix 3, the village health aid posts have limited basic supplies. As shown in the photograph of the Health aid post (p.16) facilities are small and most need maintenance of the buildings and facilities. Most of these aid posts have also been closed due to lack of resources and their remoteness.

One benefit of this established referral system is that it helps to control the flow and overcrowding of patients in different health facilities. The system also allows patients to be primarily managed and cared for closer to their homes. The referral method also helps in providing continuity of care closer to patient's place of origin. For example, a patient is often referred back to the first contact health facility after an appropriate diagnosis and management has been established. The return to the first contact facility would be accompanied by documentation outlining a management plan from the discharging hospital or health centre (PNGNDOH, 2000).

2.3.2.1 Referral of Persons with Mental Health Problems

Referral of any person with mental health problems requiring specialist mental health care is also encapsulated in the previously detailed referral system. Patients requiring long term care and forensic patients are further referred to Laloki Psychiatric Hospital from Port Moresby General Hospital (See Appendix 4). All five full time practising psychiatrists are based at Port Moresby General Hospital therefore patients considered to be requiring further specialist care are referred to Port Moresby General Hospital. Referral to Laloki Psychiatric Hospital is made after assessment by the psychiatrists at Port Moresby General Hospital. Not all cases are referred to Laloki; most are treated and referred back to their original referral health care institution for follow up and continued care. The success of this subsequent care, provided by the original referral health care institution, is heavily dependent on the training and understanding of mental health problems by the staff at the original institution. An examination of such staff training and understanding forms part of the aim of this research.

The difference between referring a psychiatric patient and other non-psychiatric cases is that there is communication between the referring and accepting centres prior to referral or discharge. Attempts are made to keep the patient at the provincial or regional hospitals under the care of an internal medicine specialist (physician, in consultation with the senior psychiatrist in Port Moresby). This is to reduce costs and to keep the patient closer to their local community. However, if the patient cannot be managed under the physician's care, then a

mental health worker always escorts the person from the province to Port Moresby General Hospital.

The patient is discharged with a discharge plan and escorted back to the province of origin by a mental health worker who briefs the physician or general health practitioner on the patient's care plan. The escort spends up to a week with the provincial mental health or general health worker in providing care for the patient. Together they meet with the patient's family and community and educate them on the person's illness and how to care for the individual. The nearest health facility also becomes the point of medication supply for the patient and for any future needs that might arise during the care process. If the patient is being cared for at the district level, a medical practitioner from the appropriate provincial hospital provides follow up visits during district support visits. The visiting specialist psychiatrist also makes follow up visits for known cases and new cases during their provincial clinical specialist visits.

Although the system appears appropriate, persons with mental health problems do fall through gaps in this system. These gaps can be due to lack of knowledge in mental health issues by general health workers or due to lack of funds to provide the appropriate care procedures recommended. Geography is also a major problem, and constrains patients from being referred to specialist care, or prevents the supply of medication reaching the patient in a timely fashion. Nevertheless, the referral method is relatively effective, given the different types of health care challenges mentioned earlier.

Another major problem in caring for patients in the community is that there are no government support systems in place to assist the patient's families and relatives. In PNG the bulk of community care is provided by the family and through the community's extended family social support system without help from the government. This community support system becomes strained and less effective as the patient's illness progresses and long-term care is needed. The community cannot continue to support one individual when others in the community are identified as also needing help. The government is required to establish some form of social support system to assist the community support

and prevent patients being left on their own to become vagrants in their own community.

2.4. CLINICAL HEALTH WORKFORCE AND TRAINING

There are four categories of clinical health workers in PNG. The four categories consist of Medical Practitioners (MPs), Health Extension Officers (HEOs), Nursing Officers (NOs) and Community Health Workers (CHWs). The latter (CHWs) also include a category of health worker previously known as Aid Post Orderlies. According to the National Department of Health (2000) there are a total of 275 MP, 277 HEO, 2841 NO and 5714 CHW in PNG. In the context of population and geographic characteristics of PNG these resources are meagre. Further, the limited resources are diminished in some areas because of an uneven distribution of health care workers. For example, in 2000, there were 275 medical practitioners, in both private and public services for a total population of approximately 5 million. Of the 275 medical officers 226 were located in urban centres while only 49 were located in rural areas.

Some provinces had more medical practitioners per head of population while others had less (See Appendix 5). For example, Central Province with a population of 170,938 had no medical practitioner because the province did not have a provincial hospital. But Central province is in the vicinity of Port Moresby thus patients had and still have access to Port Moresby General Hospital. Gulf Province with a population of 73,776 had four medical practitioners, a ratio of 1 medical practitioner per 18,444 people, Sandaun Province also has 4 medical practitioners but the province had a population of 171,900. Thus, the ratio was 1 medical officer per 42,975 people, a considerable number when compared to Western Province. Western Province had 7 medical practitioners for a population of 155,458. Part of the disparity between Sandaun and Western Provinces is due to the Ok Tedi mining in Western Province. The mining company has a hospital that pays and maintains medical practitioners while Sandaun does not have a mine and the medical practitioners are the responsibility of the public health care services. (PNGNDOH, 2000).

Similar disparities and uneven distribution applies to all other categories of health workers. This is a major problem nationally and it appears that it will continue to be the situation in the near future. In PNG there is a current economic crisis and the government of the day is working towards reducing the number of public servants to make cost savings. The reduction of public servants will affect the provision of health workers. According to a press release, the Head of NDOH, Dr Mann stated that population growth is accelerating while current health services have not increased proportionately (The National, 2003). This will result in creating even greater service demand that may overwhelm already over-stretched health services. The current researcher has experienced, and observed, that due to factors such as lack of funds and staff, health workers are overworked and over-stretched in the provinces.

Of the four categories of clinical health workers, most of the medical practitioners are located in the urban health services while the bulk of the rural majority's health care is provided by HEOs, NOs and CHWs. Table 2.3 indicates the distribution of the four categories of clinical health workers between urban and rural health services.

Table 2.3. Distribution of Clinical Health Workers in Rural and Urban Health Services.

Category of Health Worker	Rural	Urban	Total
Medical Practitioners	49	226	275
Health Extension Officers	194	83	277
Nursing Officers	1604	1237	2841
Community Health Workers	4372	1342	5714

Note: Community Health Workers Include Aid Post Orderlies

The four categories of health workers identified in Table 2.3 are trained in public and privately run health-training institutions to enable them to practise in a range of health care settings. Medical Practitioners (MPs) are trained at the Medical Faculty, University of PNG. Most of the medical practitioners practise in the hospitals while a few function as both clinicians and academics in the

health training institutions. Medical practitioners also practise in the private sector while a limited number are located at administration and management levels in health offices.

The College of Applied Health Sciences, Madang, trains HEOs in a three-year program (followed by a year of internship). Entry requirement for the college is completion of Year 12 with distinctions and the minimum requirement of credit in English, Maths and Science. The HEOs are trained in skills to enable them to practise in rural areas where medical practitioners are not available. HEOs have more extensive basic training than nurses but less than medical practitioners. The HEOs were known as Assistant Medical Officers during the Australian Administration of PNG but later the name was changed to HEO. HEOs are employed at supervisory level at health centres and sub-centres and at management level in NDOH, provincial health office and district health offices. The HEOs perform clinical, management and community health duties. Some HEOs are also employed as academics in health training institutions and hospitals in specialised areas. Such appointments are made after the completion of relevant post-graduate training programs.

The Schools of Nursing (both private and public) conduct training in nursing and community health work. For entry to nursing schools educational requirements involved completion of Year 10 with credits in Maths and English. This entry requirement was raised to Year 12 during the 1990s. The nursing officers (NOs) have three years of basic training in nursing and they are employed in hospitals, health centres, and health sub-centres and urban clinics. Some NOs have taken up management responsibilities at the national, provincial and district levels of health administration.

Community Health Workers (CHWs) have two years of basic training in the community health worker training and nursing schools. Initially the basic level of education for entry into the community health worker training schools was Year 6 but this was upgraded in the middle of the 1990s to Year 10 level. Some CHWs received on-the-job training during the Australian Administration of PNG. CHWs are trained to work in health aid-posts in villages with limited

facilities. The CHWs are primary health care workers who identify common illnesses and refer patients to health centres or health sub-centres for further assessment and management. The CHWs play a vital role in the early detection and intervention of common illnesses. Some CHWs are employed in hospitals, health centres, health sub-centres and urban clinics.

With regard to postgraduate training, the University of PNG has specialised training programs in paediatrics, surgery and psychiatry for medical practitioners who choose to specialise in these fields. The university, through the College of Applied Health Sciences, Port Moresby, has specialist postgraduate training in Nursing Management, Mental Health, Midwifery and Paediatrics for nurses. However, interest in postgraduate psychiatry, or mental health courses for nurses and medical practitioners, has generally been low. There are no postgraduate courses in mental health for any other health professionals.

Other postgraduate training programmes, including mental health are principally conducted in Australia under the auspices of AUSAID (Australian Assistance for International Development) and MONAPH (Medical Officers, Nurses and Allied Health Professional) training programmes. Such programmes are funded by the Australian Government's international aid funds. The future of training in specialist postgraduate programmes is not promising particularly in regard to the current economic crisis in PNG.

There is a clear need for more training of health professionals in both basic and postgraduate programs in mental health in order to provide an effective and quality mental health service to serve the total population of PNG. The length of time allocated for mental health during basic and postgraduate training for each of the three categories of general clinical health workers namely HEOs, NOs and CHWs was assessed in the present study. The findings are discussed in both Chapter five and Chapter eight.

2.5. MENTAL HEALTH SERVICES

This section presents a brief history relating to the introduction of formal mental health services in PNG and leads to a consideration of the current mental health care service delivery system. The section also includes a reference to some of the challenges faced at present in the delivery of mental health services. Several of the challenges pertaining to cultural issues related to mental health services in PNG were also identified in Chapter two.

2.5.1. A Brief History

PNG has a dual mental health care system and like many other developing countries PNG has an ancient health care system that is not documented but has been passed down from generation to generation as an integral part of the indigenous culture. The western health care system is often viewed as an alien system and is likely to be resisted. The traditional health care system of the differing PNG societies is a system for preventing disease and health related conditions and designed to treat those with illness through the use of traditional healing methods. People afflicted with ill health are approached as a total person with an affliction and not just as a particular body of illness. The traditional health care system includes prevention of mental illness as well as care and alleviation of those with mental illness. This traditional system of mental health care differs within culturally linguistic groups. Traditional healers are the general practitioners and specialists in the traditional health care system and are the precursors of the formal western mental health care system (Burton-Bradley, 1990).

The first report of this culturally based mental health system was recorded at the turn of the century (PNG Health Department Archives, in Stavovy, 1996:11) and referred to as “*the indigenous practice of local communities dealing with those considered mad*”. Several aspects of the traditional mental health care system were discussed in Chapter two.

According to Stavovy (1996) the Australian Administration in 1912 introduced an Insanity Ordinance to deal with those who were mentally unwell. This edict was not a practical aid but merely an administrative formality. There was thus a general lack of interest in the mental health of the indigenous people of the then Territory of PNG. But several medical officers and Dr. Gunther, Director for Public Health in the 1950's, raised a growing concern in regard to mental health. As a result of this concern the "Bomana Asylum" for the mentally insane located 15 kilometres inland outside Port Moresby was built in 1950. The Bomana Asylum was later renamed the "Mental Asylum for Criminally Insane" and was managed by a medical assistant in the absence of a psychiatrist (Stavovy, 1996). The buildings of the asylum currently serve as the PNG Correctional Services Training Centre.

A three-month field psychiatric clinical survey investigating the mental health of the indigenes of the Territory was commissioned by the Australian Government and conducted by the Victorian Psychiatrist, A.J.M. Sinclair in 1957 (Sinclair, 1957). Based on the report of the field study, a formal mental health service was established in 1959. Sir Burton-Bradley was appointed PNG's first Psychiatrist and was also an anthropologist. Burton-Bradley continued to provide care at Bomana Asylum supported by a small number of psychiatric nurses whom he had trained. At the same time he was overseeing the establishment of Laloki Psychiatric Hospital.

The building of Laloki Psychiatric Hospital came about as a result of the Bomana Asylum's unhygienic conditions (Stavovy, 1996). The photo below shows part of the Laloki Psychiatric Hospital.

Photograph: Courtesy of Dr. M. Mai

Obtaining support from the Health Department Administration was at that time, a constant struggle for Sir Burton-Bradley (PNGNDOH Archives, in Stavovy, 1996). Despite adversities he continued to head and oversaw the development of mental health services in PNG from 1959 until PNG independence in 1975. He travelled throughout the country providing specialist care. Sir Burton-Bradley made a significant contribution to mental health services in PNG through his single-handed assessment and treatment of patients; through the training of PNG health workers in the field of mental health and writing prolifically on mental health in PNG (Stavovy, 1996).

What is clearly evident is that there has been a struggle from the very beginning in the different developing stages of PNG mental health services (Stavovy, 1996). Over the years mental health services expanded slowly to the various provinces with the establishment of acute psychiatric units in different provincial and regional hospitals. Where there are no acute psychiatric units, services and bed allocations have been provided in general medical units. But five acute psychiatric units have been closed due to lack of funding or the shortage of professionally trained mental health workers according to current researcher's observation supported by Mai (1997) and Noble, (1997).

The photograph beneath shows a provincial hospital acute psychiatric ward with a mental health worker.



A typical provincial hospital acute psychiatric unit and mental health officer.
Photograph: Courtesy of Bill and Sharon Bieber, 2003.

2.5.2. Current Mental Health Services

The mental health service has recently been renamed Social Changes and Mental Health Services (PNGNDOH, 2001). It remains a national function coordinated by the National Department of Health from Port Moresby. The office of Social Changes and Mental Health Services, Port Moresby, provides minimum standards, strategic planning, monitoring evaluation and technical assistance to the provinces.

Laloki Psychiatric Hospital functions separately under the leadership of the Chief Executive Officer (CEO) who reports to a Hospital Board. The Hospital Board then reports to the National Minister for Health. The provincial psychiatric units are supervised by the administration of the respective hospitals. At the provincial and district level, general health workers provide the bulk of

the mental health services. Mental health care is an integral part of the general health care system. It should be noted that the renaming of the mental health services has not resulted in significant increased funding, nor any structures to improve the training of mental health workers.

The national goal of mental health services is to “improve the health of Papua New Guineans through protection and promotion of mental health and social wellbeing, prevention of substance abuse and domestic violence and access to quality care and effective rehabilitation” (PNGNDOH, 2000). The main objectives are:

1. “ To have improved access to mental health services at provincial and district levels by 2010”
2. “To have improved capacity at community level to support and maintain patient treatment and rehabilitation by 2010”.

To achieve these aims and objectives, all mental health care functions have become an integral part of the general health care system but still remain as a central functioning organization.

Mental health is not included as one of the national priority health problems, yet there are preventable mental health problems often associated with social issues such as domestic violence, tribal warfare and alcohol related violence. According to NDOH 2000 data on morbidity and mortality, accidents and violence are the fourth cause of morbidity and the seventh cause of mortality in total for all age groups (PNGNDOH, 2000). Policies related to mental health should also address these issues. Some of the consequences of mental health being viewed as a relatively low priority health area include:

- The poor and insufficient resources allocated for mental health services. Each year limited resources and funding are allocated to mental health services. Lack of finance results in planned activities not being implemented and objectives not achieved.

- Generalists often lacking sufficient training largely deliver mental health services. There is also a limited specialist mental health workforce due to the lack of funding allocated to train and employ specialist mental health workers.
- There is little being done towards positively promoting, identifying and preventing or minimising factors which may occur or contribute to the development of mental illness in a family or in a community.
- Current mental health facilities built during the Australian administration days are on the verge of collapse (Noble, 1997). Lack of forward planning has resulted in insufficient funding to maintain and rebuild facilities.
- The current mental health system is not socio-culturally suitable for Papua New Guineans. The country's typical western model of mental health care established in 1959 and based on the 1957 Sinclair Report is not accessible by the rural majority. Stavovy (1996) has argued that PNG's mental health care system is applicable to the institutions of the 1950s, so it is unlikely to be able to meet the needs of Papua New Guineans in 2004. The current researcher would agree with Stavovy's view. Apart from Laloki Psychiatric Hospital, specialist mental health services are provided in only 5 provincial hospitals, while 13 hospitals have allocated beds in medical units for acute psychiatric care. These limited and culturally inappropriate specialist services are located away from the rural majority. They are in urban centres and patients are thus always isolated from their social environment and family when they are referred and sent away from their home environment.
- There is no formal data collection system for mental health problems; hence the incidence and prevalence of mental illness are unknown. The National health information system does not make provision for mental health related problems to be reported by health workers attending to these problems. Thus, the current study is significant in exploring and

identifying the types of mental health problems treated by health workers. Such problems too often go unreported.

- There is very limited medication available in the public health system to treat persons with mental health problems. The availability of these limited medications in the rural and remote areas is too often non-existent. Most people continue to use traditional health care system and methods of treatment despite the introduction of medication and western health care system (Lepowsky, 1990). Due to lack of resources and funding, no studies have been conducted to report the types of traditional treatment used or who administers these traditional treatments. Similarly there are no studies indicating whether the clinicians are competent in either identifying the illness, or administering a suitable treatment. Whether there is liaison between the traditional healer and the health workers in treating persons with mental illness is also unknown. The present study is thus significant in exploring and reporting on the types of treatment approaches used in PNG in dealing with individuals who suffer from mental health problems.

Specialised mental health care is provided through Laloki Psychiatric Hospital and 5 provincial hospitals acute psychiatric units (Port Moresby, Popondetta, Goroka, Lae, Wewak) while 13 hospitals have acute psychiatric beds in general medical units (see Appendix 5 for location of specialist services). Most of the hospitals do not have professionally trained mental health workers and general health workers are required to manage patients with mental illness. Thus, mental health care is integrated into the general health care delivery system. Psychiatrists from Port Moresby provide provincial clinical support by visiting provinces during specialist clinical visits. During these provincial visits the psychiatrists see new cases as well as review known cases and conduct training seminars for provincial health workers. However, these seminars are of brief duration and provide relatively little lasting benefit to workers.

Families and relatives largely provide the care for those with mental disorders in the communities with no support from the government (WHO, 2002). This

community situation is possible only because of a traditionally strong social support network system. Patients are always admitted to hospital with a relative or carer and the photograph below shows a typical inpatient ward scene with patients and carers (Pulsford & Cawte, 1973)

A typical inpatient ward scene, where patients are admitted to hospital with a relative or a carer. Photograph: Courtesy of Bill and Sharon Bieber, 2003.

Admission with a family member as a guardian also enables health care professionals to concentrate on technical care (Roth, 1972). The guardian helps with auxiliary duties such as feeding, bathing and the general care of the patient. Similar carer patterns exist in Japan (Ohnuki-Tierney, 1984), and also in India and other developing countries (Kirkpatrick, 1981; Nunley, 1988).

2.5.2.1. Mental Health Workforce

A small workforce, comprising five fulltime psychiatrists, one part time psychiatrist and one senior registrar provide specialist mental health service in PNG. This represents a ratio of one treating psychiatrist per million people. All psychiatrists are located in Port Moresby, which is remote from most of the country. Alongside the psychiatrists there are approximately seventy-four

trained psychiatric nurses, a ratio of one psychiatric nurse per 67,567 people. However, only thirty-three or less than half of these psychiatric nurses provide services in the provinces along with 19 community health workers in consultation with physicians (where physicians are available) and general medical practitioners in provincial hospitals. Seven mental health nurses are based at Laloki Psychiatric Hospital and assisted by 10 general nursing officers and 24 community health workers.

Laloki Psychiatric Hospital is an 85 bed hospital with only 7 psychiatric nurses. Most of the time there are approximately 60 inpatients. This means there is a ratio of approximately eight to nine patients per qualified psychiatric nurse who can be assisted by general nursing officers and community health workers. A further 34 psychiatric nurses have either been retrenched/retired due to age or have found employment elsewhere (where perhaps wages or conditions are better and the work environment is less stressful).

There are three HEOs (2 involved in clinical duties while the third is the chief executive officer involved in the overall management of the hospital). The HEOs do not have any further postgraduate training in mental health. There are also four social workers working with a medical practitioner responsible for rehabilitation and psychological medicine. All the social workers are located in Laloki and Port Moresby.

The number of mental health workers is inadequate in providing comprehensive mental health care for Papua New Guinea. With limited specialist mental health care facilities and an undermanned workforce, general health workers across a wide range of health care settings perform the bulk of mental health assessment and treatment. Medical practitioners and specialist physicians with or without the assistance of psychiatric nurses provide services in the hospitals (only 5 hospitals have acute psychiatric units-See Appendix 5) while HEOs, NOs and CHWs provide services at the district and village levels.

It is therefore imperative to know the types of mental health problems general health workers see and manage in their routine practice. The aim is to explore

the types of mental health problems and treatment approaches they use in treating persons with mental illness. This is particularly important given the limited availability of medication and the ongoing influence of traditional treatments. The health department recognises the use of traditional medicine in PNG but what traditional medicine techniques are being used by the health workers or indeed if these are used in treating those with mental health problems is not known in the absence of formal reporting, monitoring and other information gathering.

2.5.2.2. Mental Health Information System

The Health Information System is one of the components of the National Information Management and Research Unit of the National Department of Health (PNGNDOH, 2000). Any information on mental health issues is an integral part of the National Health Information System and the responsibility of developing processes for collecting mental health data and statistics lies within the unit with input from Social Changes and Mental Health Services. However, there is no provision for mental health data collection in the NDOH's reporting forms (WHO, 2002). See Appendix 14 for copy of reporting form.

The National Department of Health's provincial and district health profile on outpatient attendances, admissions and reported deaths does not include mental health problems. While the PNGNDOH's information system does not contain any report on mental health problems (PNGNDOH, 2000).

The current researcher's experience and evaluation of current mental health information indicates a significant lack of information on coverage of mental health programs. Accessibility and utilisation of mental health services by the general population are unknown. There is no process to measure standard outcomes and there is a lack of established processes for collecting data from the range of health care settings within the community. Inpatients statistics are limited and kept in the health care institutions. There is no linkage between patient statistics and use of coded International Classification of Disorders nor do they provide data on culture specific diagnoses and traditional treatment

approaches used. Vital clinical and epidemiological mental health data that could be useful for service planning and resource allocation are simply non-existent. There is a great need for a mental health information system to be in place and the need for an epidemiological study on mental health in PNG is obvious.

2.5.2.3. Government Approved Psychotherapeutic Medications Available in the Public Health Care System.

The National Pharmaceutical Services within the National Health department is responsible for planning, budgeting, purchasing and distributing all drugs, medical equipment and supplies throughout the country. An annual budget is prepared by the Pharmaceutical Services for psychotropic medication. These are then purchased for Mental Health Services using a Standard Medical Store's Catalogue. The catalogue is approved by the National Executive Council to allow standard drugs for use in the public health system and to monitor government's expenditure on drugs and equipments purchased (PNGNDOH, 1996).

Psychotherapeutic medications are classified with full descriptions of generic names, dosage form, strength and the category of health worker permitted to order and use the medications. There is limited psychotherapeutic medication available in PNG preventing the use of optimum treatments. Psychotherapeutic drugs in the catalogue are used in conjunction with the standard treatment manuals of the PNGNDOH (1989). Table 2.5 indicates the standardised catalogue of psychotherapeutic drugs available in PNG health services system.

Table 2.4. List of Psychotherapeutic Drugs Available in PNG

Item/Category	Description
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Source: PNG NDOH, 1996

All drugs available in the public health system are listed under six different categories. The six drug categories are based on the different categories of health workers and their qualifications that allow them to order and prescribe medications in the public health system (PNGNDOH, 1996). All categories of health workers cannot use all categories of medications.

Table 2.5. Drug Categories and Health Worker Eligibility to Order and Prescribe.

Source: PNGNDOH, 1996

A number of hospitals, health centres, health sub-centres and aid posts were visited at the time of this study. During the visits it was found that there were expired and out of date psychotropic medications kept at some of the health centres and aid posts. While some of the hospitals had a range of psychotropic medications donated by overseas organisations these were not categorised in the PNGNDOH Drug Catalogue. Therefore, these medications could not be used and some of the medical officers were reluctant to start patients on the donated medication. There was no way of continuing these medications when the donated supplies ran out unless the patients were willing to purchase these themselves, which generally is not possible due to the costs. Inconsistent access to psychotropic drugs likely leads to inconsistent and less than maximally therapeutic administration. Such factors are likely to have an effect on patients and their families' attitudes toward medications as a treatment.

Traditional treatment is seen to play a vital role in complementing western approaches of treatment by the National Government of PNG. A new policy on promoting traditional medicine has been developed and is in place for the PNGNDOH to implement (See Appendix 13). The policy excludes any treatment practices related to sorcery and witchcraft, labelling them as dangerous (PNGNDOH, 2000). The rationale for this decision is based on the perception that they are inherently dangerous practices and should not be given legitimacy (PNGNDOH, 2000). However, there are inadequate data to

distinguish between dangerous and non-dangerous forms of sorcery and witchcraft practices.

The strength of sorcery/witchcraft beliefs will likely make them highly resistant to change. It is important to consider the use of traditional medicine when caring for persons with both psychological and physical illness. People will continue to practise sorcery/witchcraft as part of the traditional treatment despite the policy. An aim of the present study is to explore what types of traditional treatment approaches are being used to treat persons with mental health problems. This data will allow more refined recommendations regarding integration of traditional culturally based treatments with western approaches.

CHAPTER THREE

Background: Cultural Beliefs and Their Influence on Mental Illness and Treatment

3.1. INTRODUCTION

This chapter provides background information on cultural beliefs about causes of mental illness. A number of studies have reported that cultural beliefs influence the experiences of illness and presentation of symptoms, leading to difficulty in making a psychiatric diagnosis. Little is known about the impact that diverse cultural-linguistic beliefs have on culture specific diagnoses, traditional treatment and management of mental illness in PNG. People continue to use traditional treatments despite the introduction of western health care services (Lepowsky, 1990).

Traditional treatment is usually sought based on cultural beliefs about the cause of illness prior to utilization of western health care services. Medication is seen as a last resort and as a symptomatic treatment while traditional treatment is seen as the cure for the cause of the illness (Hamnett & Connell, 1981; Frankel, 1986; Decock et al, 1997; Stavovy, 1996). Some people also use both types of treatment at some stage of their illnesses. The cultural issues already indicated are not adequately covered in predominantly western classification systems such as ICD-10 and DSM-IV. Thus there is a clear need to improve general health workers' understanding of cultural/western dichotomy and the impact of such in the diagnosis and treatment of mental illness.

Little is known about how confident general health workers are in dealing with complex cultural issues among people with mental health problems. This chapter highlights the complex environment in which general health workers practise. The chapter also shows why it is important to assess the general health worker's level of confidence in dealing with mental health issues in a dual (traditional and western) system. The types of mental health problems general health workers manage in the community and their need for adequate

knowledge in both cultural and western mental health issues are necessary for the effective provision of mental health care.

3.2. CULTURAL BELIEFS REGARDING CAUSES OF MENTAL ILLNESS

Anthropological and psychological reports suggest that people's beliefs concerning causes of psychological and physical illness vary across cultures (Edman & Kameoka, 1997; Kleinman, 1980; Narikiyo & Kameoka, 1992; Edman & Koon, 2000). It is commonly believed that some forms of supernatural agents are responsible for causing illnesses.

In Malaysia, people believe in black magic, spirit possession, supernatural agents and religious causes (Kinzie & Bolton, 1973; Chen, 1970; Knappert, 1980; Massard, 1988; Osman, 1989; Laderman, 1991; Kashim, 1997; Edman & Koon, 2000). In Africa, the Malawi people believe in witchcraft and jealousy of achievements (Maclachlan et al, 1995). The Swahili people of Kenya believe in supernatural and spiritual causes (Beckerlag, 1994), while the Ulanga people in Southern Tanzania believe illnesses are caused by social relationships with other people and spirits (Ngubane, 1977; Feierman, 1985; Caplan, 1997). Similar patterns exist among the Yoruba people of Nigeria (Oyebola, 1980; Jeiyebola, 1988) and other parts of Africa (Roberts, 2001). In India, epilepsy, schizophrenia and other forms of mental illness are perceived to be caused by karma, demons and spirits (Banerjee & Banerjee, 1995; Banerjee & Roy, 1998). A similar pattern of causal beliefs exists in the Middle East (Al-Krenawi, et al, 2001).

It is not only in developing countries that different cultural and ethnic groups have diverse beliefs. This is also the case between different ethnic migrant groups in developed countries. For example, in Australia, Vietnamese refugees have been found to have their own causal beliefs in supernatural agents (Phan & Silove, 1997). The Aborigines also believe illnesses are caused by spirits (Wake et al., 1999). In the United States of America, several studies of ethnic American students and other migrant ethnic groups (White American, Japanese

American, Filipino American, Caucasians and Koreans) have demonstrated differing cultural beliefs about causes of mental illness (Kuo, 1984; Suan & Taylor, 1990; Narikiyo & Kameoka, 1992; Urdaneta, et al., 1995; Edman et al., 1999). In the United Kingdom, similar types of beliefs were described among ethnic migrant groups (Hussain & Gomersall; 1978; Dein, 1997; Tabassum et al., 2000).

In Papua New Guinea, most people who received limited formal education generally have limited knowledge of micro-organisms, infection, germ theory, or chemical imbalances in the brain or other scientific definitions and classifications of illness (Pulsford & Cawte, 1972). People's beliefs of causes of both psychological and physical illness are generally centred on spirit possession/supernatural agents, sorcery, violation of cultural/social taboos, or social norms, or envy of achievements of others (Sinclair, 1957; Rodrique, 1963; Burton-Bradley & Julius, 1965; Langness, 1965; Salisbury, 1968; Pulsford & Cawte, 1972; Burton-Bradley, 1973, 1990; Lewis, 1975; Robin, 1979; Hamnett & Connell, 1981; Sharp, 1982; Frankel, 1986; Lepowsky, 1990; Stavovy, 1996; Schieffelin, 1996; Connell, 1997; Epstein, 1999).

Burton-Bradley (1975; 1990) reported that one quarter of the world's languages are spoken in PNG and associated with the languages, there is a considerable diversity of cultures-linguistic groups. " Each group has its own pattern of psychiatry, its own mental health system for dealing with disturbed people and its own categorisation, nosologies and definitions of illness" (Burton-Bradley, 1990:51). Although there are differences in beliefs and practices among different cultural-linguistic groups, beliefs in sorcery and spirit possession appear to be common and widely held among all groups (Sinclair, 1957; Burton-Bradley, 1990; Stavovy, 1996).

3.2.1. Spirit Possession and Sorcery

Sorcery and witchcraft known as *Sanguama* in *Tok Pisin* are the most widely practiced and feared traditional practices that are believed to cause both psychological and physical illness and form the basis for most traditional

treatment (Sinclair, 1957; Burton-Bradley & Julius, 1965, Burton-Bradley 1965; 1973; Pulsford & Cawte, 1973; Frankel, 1986; Stephen, 1987; Lepwosky, 1990, Stavovy, 1996; Epstein, 1999). For example, Stavovy (1996) found that patients suffering from schizophrenia believed sorcery and spirit possession were the cause of their illness.

Sorcery and witchcraft beliefs and practices are feared for their powers even among some educated Papua New Guineans. For example, a study by Burton-Bradley (1990) found 84 percent of 110 tertiary education students believed sorcery practice had the power to cause illness. A similar finding was reported by Callan et al., (1983) in a study between 144 Australian and 133 Papua New Guinean high school youths on their perception of mental illness. The PNG youths more frequently alluded to witchcraft and sorcery as the cause of mental illness. These findings indicate that even in the 20th century people still strongly believe in sorcery. The strength of these culturally established beliefs, and their high resistance to change are important considerations for persons caring for people with both psychological and physical illness. Stephen (1987) warns “to ignore beliefs in sorcery and witchcraft is to ignore an important dimension in any problem” (Stephen, 1987:1).

The following sections (3.2.1.1 and 3.2.1.2) provide examples of some common beliefs in spirit possession and sorcery. The sections are followed by a brief discussion on preventive approaches in the treatment of mental illness where such beliefs are present. The beliefs described are part of the narrative findings from the present study, however, they are presented in this chapter as examples to support background information regarding the two common mental illness causal beliefs (sorcery and spirit possession) in PNG.

3.2.1.1. Spirit Possession

Spirit possession is usually perceived to be evil spirits or ghosts, spirits of deceased enemies and family members or ancestors (Salisbury, 1968; Sharp, 1982; Schieffelin, 1996; Stavovy, 1996). There are many beliefs about spirit possession in different cultural linguistic groups. However, there are four common beliefs about the reasons for possession. These are:

1. possession for not fulfilling socially required obligations such as not looking after one's parents when they are sick or need help;
2. possession by spirit as a result of violating social "norms" or "taboos" such as trespassing into restricted areas (cemetery, swamps, rivers, lakes, caves *and* jungles where ancestral spirits and evil spirits are believed to dwell (see example 2);
3. possession by a deceased enemy's spirit as a form of punishment for a crime such as murder;
4. possession as a result of a sorcerer commanding spirit(s) to possess a person due to envy. The sorcerer can personally become envious or can be contracted by envious persons to perform the practice on another. People who are possessed by spirits can also become a sorcerer or witch and cause death and harm to others (Sharp, 1982).

Example 1 below is a common belief that if a person has not been good to his or her parents while they were living, then the spirits of the dead parents would possess the offspring and make him/her mentally unwell as a punishment. In PNG it is required by culture and society that offspring look after their aged parents. There are no nursing homes or aged home facilities in PNG. It is a family responsibility to care for the aged.

Example 1: Possession by deceased parents, family and relatives' spirits.

A person is believed to become mentally ill if she/he has not taken care of his/her parents, family, relatives while they were living, especially when they were ill or in need of some form of help as required by his/her society.

Preventive measure: Good care of parents, other family members and relatives' needs (most importantly parental care by their children).

Treatment: A pig must be killed and sacrificed to appease the spirit/ghost of the deceased. To stop spiritual attacks a mediator who is usually a traditional practitioner, is paid to negotiate between those concerned.

Note: This belief can also be related to violation of cultural obligations or "norm"

Example 2 illustrates beliefs regarding trespassing into restricted areas where spirits are thought to live. People believe they share the world with spirits who concern themselves with human events. Thus it is considered that everything (people, plants, animals, rocks, lakes and rivers) possesses power or has spiritual power (Sharp, 1982). Further people accept that these spirits and supernatural agents are likely to cause illness and misfortune if they are angered or displeased. Intrusions into these restricted areas are viewed as a violation of cultural taboos because the restricted areas have been recognised by generations of people in the community. To trespass is considered disrespect to the community, as well as the spirits.

Example 2: Spirit Possession by spirits from restricted areas

A person is believed to become mentally ill if she/he goes to a restricted area such as a cemetery, certain part of swamps and dense jungle or certain caves where different types of spirits *masalai*, *tewel*, or *yama* (types of spirits) live.

Preventive Measure: Avoid going to the restricted place.

Treatment: (In one cultural group). An animal sacrifice is made, usually of a pig. The blood is collected and sprinkled at the entrance of the restricted area by the traditional healer and the ruling spirits are asked for forgiveness and request that the spirit of the person be returned and the spirit possessing the person be removed.

(In another cultural group) If a couple have sexual intercourse in the restricted area, the *masalai* is believed to have collected sexual fluids and the possession of the fluids enable both, or one of the couple involved to become mentally ill.

Treatment involves: heating a bamboo over open fire and popping it in front of the sick couple or person. It is believed the loud noise made by hot air exploding when the bamboo is popped will frighten and chase the possessing spirit away.

(In one other cultural group) The elders go to the restricted area and talk to the spirit and ask for forgiveness on behalf of the person concerned. They then use herbs, juices from a bush vine and bark of a certain tree to treat the person.

Note: This belief is also related to violation of cultural taboo.

The following example (3) regarding spirit possession, concerns being possessed by spirits of deceased persons killed either during tribal wars or having been murdered. The belief is found to be common in most of the highland provinces of PNG.

Example 3: Spirit of the murdered possesses the murderer for revenge.

The spirit of an enemy, or person killed, is believed to return to possess his/her murderer.

Preventive measure 1: The murderer is taught by the elder men (warriors) of the clan/tribe not to go back to the village via the normal route to the village but take a new route to fool the spirit of the dead person. The spirit is believed to be following him to take revenge. The murderer then has to go to a fast flowing river and wash: his whole body must be covered by water. The washing has to be done with special (magic words) spells being chanted. This process sets the murderer free from the pursuing spirit of the murdered person.

Preventive measure 2: The elder men of the clan teach the younger men to become warriors and how to protect themselves from their enemies. Some cultures even have magical chants that are taught to make the person invisible to their enemies.

Treatment in one cultural group: The magician draws water from a flowing river in bamboo and then uses a particular type of leaf to sprinkle the water all over the affected person. A pig is killed and much of the pork is fed to the person affected. Words of encouragement and security are provided and the person usually recovers.

Treatment in another cultural group: Failure to take the preventive measure will lead to the person and his family and future generations being inflicted by mental illness or other forms of illness. Therefore, to treat the person, compensation must be paid to the enemy or the murdered person's family/clan/tribe. Apologies must be made in public; peace must be restored between the tribes.

Note: The treatment regarding compensation is also required by the traditional tribal laws of the land to maintain peace among different tribes.

3.2.1.2. Sorcery

Sorcery beliefs are strongly held and widely feared in PNG (Stephen, 1987; Burton-Bradley, 1990; Stavovy, 1996). Each cultural-linguistic group has specific terms and descriptions for sorcery. However, in *Tok Pisin* language sorcery is also synonymous with poison. There is no clear definition for sorcery in *Tok Pisin*. Sorcery is used for both good and bad purposes. A positive benefit of sorcery is that it is commonly used to explain the cause of illness and thus used as a method of treatment for illness believed to be caused by sorcery. Sorcery practice can also be performed for prevention and protection from illness and other misfortunes caused by sorcery. Other positive beneficial uses of sorcery practice include making of love potions, matchmaking, abundant crop production, and success in business, fishing and hunting. It is also thought to be used in contemporary sports such as football. A disadvantage of sorcery is that it has harmful effects on people emotionally, psychologically and physically thus impairing health. Most people fear sorcery and believe that if they talk about it they will become ill or some misfortune will transpire. Thus, people generally do not talk about sorcery.

A sorcerer or witch may conduct sorcery. A sorcerer may also be a traditional healer, but not all traditional healers are sorcerers. Therefore, if a person is believed to be ill as a result of sorcery, a traditional healer who is not a sorcerer may further refer the person to a sorcerer. The art of sorcery practice and how it is believed to have been performed by the sorcerer or a witch varies among individuals and cultural-linguistic groups (Stavovy, 1996). For example, in some cultures it is believed that the sorcery or magical ritual may occur directly by the administration of certain types of poison in drinks or food. Sorcery may also be performed using body parts of the victim such as hair, or scraps of food left over by the victim. The victim's clothing may be buried in cemeteries where dead spirits can have access to its garments and make the victim mentally ill (*longlong in Tok Pisin*). Mental illness caused by sorcery and witchcraft is thought to be related to frustrations, envy of others, insults and resentment leading to revenge (payback). Some sorcerers are believed to be possessed by

spirits and are considered to have certain powers to control spirits and direct them to do good or harm. Sorcerers can be paid to perform sorcery and spirit possession by others. There is an overlapping of beliefs in spirit possession and sorcery in PNG.

Example 4 provides a belief associated with sorcery. The victim was said to present with acute signs and symptoms of mental illness.

Example 4. “Aivo Kiyoena” longlong posin - Sudden onset of mental illness

In this situation it is believed that sudden onset of mental illness is caused by sorcery. Others never take the affected person to a health care facility for fear that by such action they too may be affected by the power of the sorcery that is present.

Preventive measure: protective sorcery practice is performed if one suspects a sorcery attack.

Treatment: the traditional healer, who knows how to reverse the sorcery, is called and he uses the bark of a certain tree (*skin diwai*) to reverse the sorcery, or makes peace with the sorcerer on behalf of the affected person, and the sorcerer removes the sorcery.

Example 5 demonstrates a common belief that existed among different cultural-linguistic groups in the highlands for generations. The belief is associated with making peace and living in harmony and is recognised as part of the traditional laws of the land. Example 5 is also an example of the likelihood that sorcerers can be paid to do harmful sorcery on others by directing spirits to possess a person as revenge, in cases of envy, murder or other crimes (Epstein, 1999). Peace has to be restored by paying compensation to prevent sorcery.

Example 5: Sorcery by enemy “*posin bilong birua*” (Charm of hostility)

It is a taboo for a person (usually a male) to befriend someone from the enemy tribe and partake in meals with him or her without the peace payments or compensation. If the person ignores this cultural taboo and becomes mentally ill, it is believed that a sorcerer from the rival tribe has put a spell on him. The other perceived cause of the person’s illness would be that he has angered the spirits of those who have died in a tribal war between two rival tribes. The spirit takes possession of him and makes him ill.

Preventive measure: Avoid members of a rival tribe

Treatment: A traditional practitioner (who may also be a sorcerer) makes a diagnosis. If the cause of the illness is sorcery then, the traditional practitioner neutralizes the spell or poison. If it is spirit possession, then a pig is killed to make peace with and appease the possessing spirits.

Example 6 detailed below, is widely practiced in PNG and is the main cause of local people not being able to engage in business. This belief also hampers progress in personal achievements and development. People who can progress are considered to be those who have had protective sorcery performed by a sorcerer from an area where sorcery is strongly believed and practiced. Others from areas where sorcery practices are not widely believed decide to ignore sorcery and progress. However once they become ill, people quickly attribute the illness to sorcery. A number of people who do not believe in sorcery are committed “born again” Christians, who believe in the power of Jesus Christ to protect them (“power in the blood, He shed on the Cross”). The Christian belief is symbolic of sacrifice and is akin to the traditional sprinkling of animal blood for healing and protection. This was a common healing practice in some parts of Enga Province.

Example 6: Jealousy of achievements

It is believed that someone who is successful in life, such as business, education, career or other achievement, can develop either a physical or mental illness or even both as a result of being poisoned by a sorcerer. The sorcerer can be envious or some other person may be envious. For example, a business rival can be envious of the successful person and hire a sorcerer to cause harm.

Preventive measure: Be careful not to make enemies. A sorcerer can perform protective sorcery and committed Christians usually just ask their pastor to pray and bless their properties and themselves as a means of protection.

Treatment: Seek treatment from traditional specialists and have the sorcery removed.

Peace is made with the person who is deemed to have a grudge by means of compensation payment and peace is sealed with a *sekhan* (shaking of hands between the two parties) as a sign of reconciliation and peace.

3.2.2. Other Cultural Beliefs

Other cultural beliefs in PNG concerning causes of temporary mental illness include such things as “mushroom madness” and “the pandanus nut madness” (Reay, 1960; 1965, Stavovy, 1996). These conditions are believed to be seasonal illnesses that occur during the mushroom and pandanus nut seasons. Signs and symptoms include excessive self-decoration, laughing, singing and dancing. There was also tendency of aggression and violent behaviour outburst if provoked. Families and the community tolerate such behaviour and care for the individuals. There is no stigma attached to temporary mental illness (Salisbury, 1968). It is believed that the illness is temporary and the affected person usually recovers after the mushroom and pandanus nut seasons are over. Individuals afflicted usually do not require any treatment. The different beliefs illustrated as examples are a few typical examples of those thought to cause mental illness. These belief systems are likely to influence help-seeking behaviour processes when an individual is thought to have a mental health problem.

3.3. THE INFLUENCE OF CULTURAL BELIEFS ON HELP-SEEKING BEHAVIOUR

Cultural beliefs and perceptions related to causes of mental illness, have been found to influence illness experiences, presentation of symptoms, help-seeking behaviour and the course of treatment approach used in many cultures (Kleinman, 1977; 1987; Lewis-Fernandez & Kleinman, 1995). For example, Indian patients with epilepsy, who believe in supernatural agents as the cause of their illness, tended to consult traditional healers prior to seeking western treatment. Others, who did not believe in supernatural causes, sought western treatment as a first priority (Barnerjee & Barnerjee, 1995). Camion and Bhugra (1997) found that 48% of Indian patients sought alternative treatment prior to seeking psychiatric help. Other studies among Indians with a diagnosis of schizophrenia also show similar patterns of seeking traditional treatment as precedence (Barnerjee & Roy, 1998; Chadda, et al., 2001).

Studies in countries such as Africa (Oyebola, 1980; Jeiyebola, 1988; Roberts, 2001), Asia (Kinzie & Bolton, 1973; Superno, 1983; Osman, 1989; Razali & Najib, 2001; Zhang, 2001) and the Middle East, (Al-Krenawi, et al., 2001) all describe similar patterns of consulting traditional healers and using traditional and alternative treatment prior to using western health services. Urdaneta et al., (1995) reported that in the United States of America, Mexican Americans' cultural beliefs about causes of illness also influenced their help-seeking behaviour which led them to consult traditional healers and use traditional treatment prior to consultation with health workers. Flaskerud (1986) and Kim et al., (2002) presented similar findings on other migrant groups seeking traditional and alternative treatments prior to western treatment. In Australia, a similar pattern was also reported for Vietnamese refugees (Phan & Silove, 1997). Jorm et al., (1997) reported that the general public in Australia preferred lifestyle changes and diets to professional treatment. The researchers reported that treatments overwhelmingly rated most helpful by mental health clinicians were rated as harmful by the public. Strongly held mental illness causal belief systems appear to dictate the seeking and use of treatment approaches.

A number of the studies cited occur across cultures among indigenous and migrant ethnic groups in both developing and developed countries. They report traditional treatment as being most commonly sought and used prior to western treatment. The use of traditional treatment appears to be based on underlying cultural beliefs about causes of mental illness (MacLachlan et al., 1995; Kennedy & Olsson, 1996). For example, Razali and Najib (2000) found that 69% of 134 Malay psychiatric patients consulted traditional healers prior to consulting psychiatrists for their present illness. Brodwin (1992) pointed out that both traditional and western methods of treatment could be used, either separately or in combination with medication. However, in several cultures, medication is seen and used as a symptomatic treatment, while traditional treatment is used as a cure for the cause of the illness (Wexler, 1976; Banerjee & Banerjee, 1995; Edman & Koon, 2000). Studies of different cultures across 26 countries found that rural communities in particular relied very little on psychotropic medication and regularly used alternative community healing techniques (Jablensky et al., 1992; Sartorius et al., 1996). This was especially the case in India and Africa.

In PNG, family members often try to determine the cause of the illness with the assistance of a traditional healer or sorcerer who may be seen as a diagnostician. Family members try to establish why the person is sick. Who is responsible for the illness? Who and what have brought this misfortune upon the person or the family? Traditional treatment is then applied once the cause is established (Burton-Bradley & Julius, 1965). The traditional healer determines the type of traditional treatment method to be applied. The traditional treatment prescribed by the traditional healer is invariably, sought and applied prior to western treatment (Decock et al., 1997). Papuan New Guineans also use both western and traditional treatment either alternatively or combine for treatment of symptoms and traditional treatment for curing the putative cause (Frankel & Lewis, 1989, Stavovy, 1996, Hamnette & Connell, 1981, Lepowsky, 1990). In *Tok Pisin* this is commonly expressed as *sik bilong ples marasin bilong waitman ino nap helvim* meaning “for our sickness western medicine is insufficient”. *Sik bilong ples* is a concept of sickness caused by sorcery or spirit possession (Hamnett & Connell, 1981).

Some individuals and groups seek western treatment at the same time as maintaining their cultural beliefs. They believe western treatment will cure the symptoms while traditional treatment can cure the cause (Hamnett & Connell 1981; Frankel, 1986). The importance of the role of traditional medicine is such that it has been recognised in PNG by the nation's formal health care system. The health care system has a policy in place to promote the co-operative use of both western and traditional treatments (PNGNDOH, 2000).

3.4. MAIN TYPES OF TRADITIONAL TREATMENT APPROACHES USED

Traditional treatment in PNG involves four main types of healing processes: the medicine, the spell, the ritual and counselling (Stavovy, 1996). The medicines used include a range of herbal plant parts such as leaves, stem, roots, flowers, seeds and barks. Animal sacrifices in part or whole are also included as a form of medicine (Rodrique, 1963). The spell is a form of words repeatedly chanted. The ritual involves a traditional specialist (who can also be a sorcerer) using the medicine and the words of the spell or magic during the healing process. The spell is chanted at the same time as the sprinkling or rubbing of sacrificed animal blood or plant product or even dirt from a sacred location. The whole healing process is known as the ritual. The fourth type of treatment involves counselling the concerned individual and others who may be seen as contributing to the problem by either the head of the family, elders or the leader of the clan or group. The outcome of the counselling session usually ends with the counsellor directing the client(s) on what to do (i.e., solve the problem).

The traditional treatment in PNG is group oriented and holistic. It considers, environmental, physical, social, mental and spiritual aspects of the person as well in the healing process, i.e. traditional healer sees a person with an illness rather than an illness in a person as most often done in the western health care system. It addresses the cause of the illness, alleviates the psychotic signs and symptoms and prevents further attacks of mental illness. Andres (2003) reported similar group oriented traditional healing methods across the African continent.

Traditional specialists are described as precursors of contemporary mental health workers. They perform healing practices rising from a culturally based mental health system (Burton-Bradley, 1990). These traditional practitioners have earned their status in society in similar ways as western medical practitioners, that is, by the number of successes in their diagnosis and treatment of cases. There are specialists in sorcery, magic, spirit possession and surgery (Sharp & Cooke, 1980; Sharp, 1982; Burton-Bradley 1990). There are sorcerers who perform positive sorcery for healing, prevention of illness and misfortune and for prosperity. Traditional healers often identify cultural definitions for causes of illness based on people's belief system and their presentation of bodily complaints, which are influenced by the causal beliefs. Treatments are logically directed at curing the cause of the illness.

3.5. THE INFLUENCE OF CULTURAL BELIEFS' ON PRESENTATION OF BODILY SYMPTOMS.

A number of investigations indicate that patients in many developing countries and among ethnic migrant groups in developed countries present with symptomatic complaints such as weakness/pain in parts of their body in a manner that is consistent with their cultural beliefs/perceptions, experiences and cultural orientation to illness (Rack, 1982; Lloyd, 1986; Mumford, 1993; Mumford et al 1997; Chee, 1997). Some examples relating to presentation of somatic complaints with underlying cultural beliefs are given in the following paragraphs. In some cultures, bodily complaints are descriptions that communicate distress and are related to conditions such depression and anxiety rather than psychosis (Kleinman, 1980; Kleinman, 1988 in Stavovy 1996; Keyes & Ryff, 2003). These somatic complaints are cultural points of reference for illness in different cultures with underlying cultural causes (Tseng & McDermott, 1981; Lau et al., 1983 in Helman, 2000; Ots, 1990 in Helman, 2000). Phan and Silove (1997) commented that psychiatric diagnosis is complicated by presentation of somatic symptoms, which results in difficulty in knowing the exact prevalence of mental illness in developing countries.

In PNG, physical or somatic symptoms tend to be the initial presenting complaints before any onset of psychological symptoms (Sinclair; 1957; 1964; Burton-Bradley, 1973; Stavovy, 1996). Presentations of somatic symptoms are based on varied underlying cultural beliefs and psychosocial problems. Stavovy (1996) for example found that 74% of 23 PNG patients with schizophrenia had somatic complaints while they had mental illness. A typical example of somatization involved, a woman who presented at a general health clinic with a chronic headache, tiredness and sleep problems. When referred to the psychiatrist, she stated her bodily complaints “had been just something to say, her real problem was she was married for the second time and had not had a child yet and was worried that her husband might be losing interest in her” (Ben-Tovim, 1990:12).

Observations of typical somatic complaints include, head ache (*het i pen*), or heavy feeling in the head (*het i hevi*), back ache (*baksait i pen*), dizziness (*ai i raun*), epigastric pain (*bel i pen*), breast pain (*susu pen*), weakness, cold and numbness of extremities (*kol na leg han indai*). The sites of the bodily pain are also significant in the many languages of PNG (*tok ples*) again expressing underlying beliefs. For example, a headache could mean a person is thinking a lot or cannot think properly. An epigastric pain or pain in the belly could mean that the person has pain in his or her spirit or soul as that is where the spirit or soul is believed to reside. Breast or chest pain could refer to being unloved and feeling rejected (see case 1 under section 3.5). All the above somatic complaints are examples of the physical expressions of psychological distress. Burton-Bradley (1990) reported that presentations of somatic complaints by Papua New Guineans complicate clinical psychiatric assessment and diagnosis.

Diverse cultures and languages in PNG influence presentations of symptoms such as those mentioned in the prior paragraph. These somatic complaints relate to culture specific diagnoses such as sorcery, magic and spirit possession, identified by previous PNG studies (Sinclair (1957, 1964; Burton-Bradley, 1963; 1973; 1990; Pulsford & Cawte, 1972; Frankel, 1986; Hamnett & Connell, 1982; Stavovy, 1996). There are also substantial differences in the reliability of the classification systems related to culturally specific disorders and western

systems of diagnosis. For example, the common culture specific “diagnoses” identified in the present study, overlap considerably with beliefs concerning the causes of both mental and physical illness.

The cultural diagnoses may not be seen as diagnoses in the same way as that defined by western classification systems. With culture specific mental illnesses in most instances there is little distinction between causes and “diagnosis”. Thus, the conceptualisation and classification, particularly of culturally specific mental health problems are greatly influenced by culture, language, and beliefs (Sinclair 1957; 1964; Burton-Bradley, 1963; 1973; 1990; Burton-Bradley & Julius, 1965; Stavovy, 1996). The causal beliefs and the culture specific diagnoses determine the type of traditional treatment to be applied. Therefore, the belief regarding the cause of the illness, the presentation of somatic symptoms by the person with the illness, the establishment of a culture specific diagnosis and the type of traditional treatment prescribed either by the traditional healer or the general health workers are all entwined.

The somatic symptoms described previously and the culture specific diagnoses found to be common in PNG formed the basis for structuring part of the questionnaire used in the present study on types of complaints and culture specific diagnoses managed by general health workers in PNG. These items are described further in chapter 4, the method section.

For general health workers dealing with mental health problems, an understanding of, cultural norms, abnormalities, beliefs, and the presentation of somatic symptoms leading to culture specific diagnoses is vital. The workers require both knowledge and clinical judgement when looking beyond the presenting somatic complaints. The understanding of these cultural issues will assist in making an accurate diagnosis and appropriate treatment decisions. It is imperative that in every clinical encounter the patient’s culture and perceptions be considered by the health workers (Jacobs & Giarelli, 2001) Failure to understand the cultural issues may lead people with mental health problems to be treated for the physical complaints and not the underlying psychological problems. In other words lack of cultural and western mental health knowledge

and understanding would lead to misdiagnosis and inappropriate treatment (WHO, 1982). A typical PNG case example is provided in the following case of depression (case 1). Case 1 is an actual case with patient's name changed withheld to maintain confidentiality.

Case 1: Depression

For more than six months a 35-year-old Papua New Guinean woman was treated on numerous occasions with painkillers for a complaint of breast pain. She even had a biopsy done to rule out breast cancer and had other pathology tests done as well to rule out other possible physical causes. All tests proved negative. The painkiller tablets did not improve her pain. She was eventually referred to a psychiatrist who prescribed a course of antidepressants. The woman told the female psychiatrist, that she was the first doctor to have given her medication that cured her pain. The psychiatrist identified that the patient's symptoms had developed after her husband married a second wife. The patient felt rejected and unloved. The breast being part of the sexual and reproductive system was the site of a psychological pain. The patient could not object to the second marriage of her husband, or talk to anyone about her feelings nor express her feelings freely because her culture permits polygamy. To go against this tradition would alienate her from her community. However, in such cases there are traditional healing methods used in alleviating such problems. For example, some form of payment (compensation) could be made to her or when the husband pays bride price for the second wife, he has also to make some payment to the first wife. The use of cultural knowledge could help to resolve the depression or grief state.

Case 1 is an example of a patient who suffered a grief reaction or a reactive depressive illness or an unrecognised "cultural idiom of depression" as described by Stavovy (1996). The case was initially diagnosed and treated as a physical ailment and only as a last resort referred to a psychiatrist when this approach did not succeed. Similar reactive and unrecognised cases have been commonly reported in PNG (Johnson, 1990).

3.5.1. Other Cultural Phenomena That are Likely to Complicate Psychiatric Diagnosis Making

There are certain cultural phenomena in different cultural groups that can sometimes be mistaken for symptoms of mental illness. These symptoms are sure to complicate psychiatric diagnosis if cultural norms and abnormalities regarding these symptoms and phenomenon are not understood. The normal becomes abnormal only when it exceeds the standard boundaries set by the concerned cultural-linguistic groups. Given here are two common phenomena:

1. Aggression and violent behaviour found to be common throughout PNG;
2. Having dreams and visions, which are common in some cultural groups and can be mistaken for hallucinations and delusions.

Aggression and violence are found to be common presentations of psychological disorder in PNG (Sinclair, 1957; Burton-Bradley, 1973; Robin, 1979; Stavovy, 1996). Many cultures encourage aggression amongst male members of the community (Stavovy, 1996). Therefore, the extent of aggressiveness needs to be assessed by interviewing family members and relatives of the patients to rule out what is encouraged as appropriate aggression from aggression considered being abnormal. Patients are usually brought to the health care setting or to the police lock-up, only after their aggression has exceeded what is considered the normal aggression boundaries, they have become violent or they have committed a crime. Generally, the person concerned can no longer be managed in the community. Aggressive and violent patients are locked up either in a secure acute psychiatric ward or in a police lock up if a secure psychiatric unit is not available. Papua New Guineans generally appear to be tolerant of those who have mental illness with some aggression and violent behaviour in their communities and care for them (Sinclair, 1957; Burton-Bradley, 1968; 1973; 1990). However, the management of male aggression appear more difficult compared to females. Aggression was also reported to be a significant symptom among other somatic symptoms by Pakistani groups (Tabassum et al., 2000).

The other cultural phenomenon's in PNG concerns having dreams and visions. These are particularly encouraged in the Engan culture in PNG. Young men are taken through initiations of purity (known as *Sangai or Sandalu*) and taught to have dreams and visions for their tribe and clan. Because this experience is valued, a person who has dreams or visions is recognised as a “gifted person” or “a prophet”. The prophet is said to be able to predict both prosperity and danger. The prophet is equivalent to what people refer to as psychics in western countries. These prophets are recognised and valued within their cultural-linguistic groups. These beliefs and behaviours are considered normal within the concerned cultural groups but may be seen as subthreshold symptoms of schizophrenia or schizotypy within the developed countries. For example dreaming and visions can be mistaken for delusions and hallucinations and may complicate diagnoses such as schizophrenia where delusions and hallucinations are prominent diagnostic criteria.

The above paragraphs describe how males may more frequently present with aggression or dreams and visions that might in turn bring them more frequently than females to the attention of those providing mental health care. There are other possible gender differences in the presentation of mental health problems in PNG.

3.5.2. Gender Differences in Mental Health Problem Presentation

There are gender differences in presentation of mental health problems between male and female patients. The last section described how males may more frequently present with aggression and may even become violent. It is perceived in some cultures in PNG that sometimes being aggressive attracts attention of other family members when one can no longer cope with psychosocial problems and needs assistance from other family members. Based on these factors the present study hypothesised that (1) the most frequent presenting complaint for males will be aggression and violence.

Previous PNG studies have found aggression and schizophrenia to be common among male patients (Sinclair, 1957; Burton-Bradley, 1969; 1990; Robin, 1979;

Johnson; 1997; Stavovy, 1996). Therefore, this study also hypothesised that (2) the most frequent mental illness among male patients will be schizophrenia. On the other hand females are less aggressive and may more often present with sadness, crying, belly pain and headache. Some cultures in PNG do not allow females to be outspoken or show that they have psychosocial problems. When the female cannot cope with the problem anymore, they start to present at health facilities with headache, belly pain or crying. This means that females are most often diagnosed with depression, since crying and sadness are key symptoms for depression according to DSM-IV. Headache and Belly pain are often associated with depression in PNG based on cultural beliefs, which are explained in the next section. It is hypothesised that (3) depression will be the most common mental disorder identified in female patients. The hypotheses introduced in this chapter and the relevant results are further described in chapter five (part 1) and six (study part 2).

Apart from the most common gender differences mentioned above both males and females present with bodily complaints based on underlying cultural beliefs concerning causes of mental illness as mentioned earlier. The bodily complaints complicate the process of making a psychiatric diagnosis and making treatment decisions (Burton-Bradley, 1973; 1990; Stavovy, 1996, Phan & Silove, 1997). Another major factor that complicates psychiatric diagnosis is the issue of language.

3.5.3. Language and Terminologies Describing Mental Illness

In the different languages in PNG, there are no specific descriptive terminologies for signs and symptoms of mental illness. There are also no terms or definitions to describe different types of mental illness or terms that are equivalent to descriptions of different mental illnesses. In *Tok Pisin* all forms of mental illness are classified as *longlong* while all other PNG languages have their own single general term that applies to psychosis or insane manifestations. For example, *Kiakaenge* in Enga, *Mekakare* in Kerema, *Kavakava* in Hanuabada, *Awa'awa* in Marshall Lagoon, *Veuari* in Kivori Poe, *Lungalunga* in Rabaul (Burton-Bradley, 1975). These general terms are imprecise, as they

describe simply a range of behaviour ranging from mere immaturity to serious mental illness such as schizophrenia. Further, in certain situations these varied general terms can be used as insult, thus complicating their use further. Is the person merely being abused or is she/he being described as mentally affected?

There is a lack of terminology in different languages to describe mental illness such as schizophrenia and anxiety. However, depression seems to be better identified as *wori* (worry) in *Tok Pisin*. The term is applied if a person becomes ill after some depressing life events, such as divorce, moving away from home, or loss of a loved one. However, it is important to note that family and relatives apply the term *wori*. The ill person commonly does not present *wori* (depression) as a complaint or even admit that there may be an underlying psychological problem. In most cases, the ill person may present his/her problems as *bel i hevi* (feeling of heaviness in the heart), *bel i sori*, (feeling sad), or *bel nogut* (having a grudge). *Bel* can refer to heart or mind or to the seat of emotions. It is up to the health worker to identify depression by interviewing not only the concerned person but also the family and extended family members. However, a health worker's ignorance regarding particular cultural beliefs can affect the diagnosis of the illness. Proper patient care can only take place when health workers develop an understanding of their patient's beliefs about the cause of their illness. In other words see the illness of the patient through the patient's eyes (Balswick, 1971; Sensky, 1996; Jacobs & Giarelli, 2001).

The lack of specific terminology for mental health problems means cultural descriptions of mental illness often refers to the term to describe it and the explanation for the cause. From a PNG cultural perspective mental health problems are instead often spiritual, social, or interpersonal problems. However, when the framework cannot define the problem, those who share these characteristics will tend to utilise general health services and do not see the need to use a specialised mental health service. In other words, the majority of the PNG population have not been exposed to, or introduced to western terminologies such as depression, anxiety, schizophrenia and other allied terms used to define a variety of mental health problems. Therefore general health services are utilised rather than the limited specialist services.

3.6. UTILISATION OF GENERAL VERSUS SPECIALIST HEALTH SERVICES

Razali and Najib, (2000) and Edman and Koon, (2000) argued that use of both traditional and western health care services and treatments indicate “deep seated” religious and cultural beliefs and practices concerning the cause of mental illness. These deep-seated cultural beliefs and values are likely to inhibit the utilisation of western health services in both developed and developing countries. This under utilisation of western health care services has been documented among the urban Pakistani community in the United Kingdom (Tabassum et al., 2000). Similar studies have been reported among Asian immigrant communities (Hussain & Gomersall, 1978), among Vietnamese refugees in Australia (Phan & Silove, 1997), amid Asian and Mexican immigrant groups in the United States of America (Kuo, 1984; Suan & Taylor, 1990; Narikiyo & Kameoka, 1992; Edman et al., 1999; Urdaneta et al., 1995) and in developing countries such as Malaysia (Edman & Koon, 2000).

In the developed countries, there is a gap in the need for specialised mental health services and number of people utilising specialised services. For example, in the United States of America, 15% of the population was found to need specialist mental health services at any one time but only 3% of Americans actually used specialised mental health services (United States President’s Commission on Mental Health, 1978 in Stefl & Prosperi, 1985). Although no specific reference was made to the reason for under utilisation, it is possible that this was due, in part, to the religious and cultural beliefs and values noted above, or to stigma and affordability. WHO (1982) reported that in developing countries 13.9% to 20% of persons with mental health problems utilised general health services. These reports indicated that people with mental health problems in the general population utilise general health services, which serve as the primary source of mental health care rather than the specialised mental health services (Regier et al, 1978; Mechanic, 1980). Greenley and Mechanic (1976) found that only those with a high risk of mental health problems utilised

specialised services while most people were comfortable utilising general services.

The under utilisation of specialist services is due to variety of reasons. For example, in the former Soviet Union these included, rude and humiliating attitudes of mental health workers towards the patients, services were often authoritarian, and patients had mixed fear and distrust of the psychiatrist for fear of being labelled (Roth, 1994). Once hospitalised with a psychiatric diagnosis, the person was labelled, branded and considered incompetent and dangerous. People fear being stigmatised and labelled. Stigma related to a diagnosis is often a primary contributing factor for under utilization (Stefl & Prosperi, 1985). Employment and relationships with other people are often difficult once labelled (Reddaway, 1991; Roth, 1994).

In the United States of America, issues of racial and ethnic disparities can contribute to under utilization of specialist services as seen among African American and Hispanics. General health services were seen to provide a safety net for some mental illness. The difference in health insurance cover and social economic status was another reason for under utilisation of mental health services by African Americans and Hispanics. (Stefl & Prosperi, 1985; Cooper-Patrick et al., 1999).

In an Australian study it was reported that accessing general health providers versus specialist mental health services depended on the disorder, but was relatively frequent (Andrews et al., 1999). About 14% of Australians with substance use disorders sought help from general practitioners rather than a specialist. Of this group more females (21%) tended to seek help from general services than males (12%). The study found that of adults with depressive disorder in the last 12 months prior to the study, 40% consulted general practitioners, while 8.4% were seen by psychiatrists, 6.2% by psychologists and other professionals saw (29%). It is not known if the general practitioners were able to identify and treat them appropriately or not. In case of comorbidity of mental disorders, and comorbidity of mental disorders and chronic physical

disorders, there is greater likelihood of using general services for mental disorders.

In PNG specialist services are limited to one psychiatric hospital (Laloki Psychiatric Hospital) outside Port Moresby and five widely scattered provincial acute psychiatric units located in provincial hospitals. The rest of the fifteen provinces have psychiatric services provided in the general medical units. People with mental health problems have access to general health care facilities mostly staffed by general health workers, such as a Health Extension Officer, Nursing Officer and Community Health Worker (Pulsford & Cawte (1972). This means that these three groups of health workers provide most of the assessment and treatment of mental health problems. Most people with mental health problems do not want to leave their community and be admitted to a specialised health care setting. Such admittance would bring about isolation, lack of support and social stigma which people quite reasonably want to avoid.

In addition, travel in PNG is difficult because of the country's precipitous mountain ranges and other barriers such as deep gorges, swamps and rivers. There are few roads and air travel is expensive. These travel impediments create major problems of access to health and other vital services. Other factors, such as social conflicts also provide major challenges for health service delivery. For example, during the period of the present study, a tribal war in the initial location where this study was to be conducted meant that the study had to be relocated.

3.7. KNOWLEDGE AND UNDERSTANDING OF MENTAL HEALTH ISSUES IS NECESSARY FOR GENERAL HEALTH WORKERS

Global studies have reported that since general health workers are "gatekeepers" of mental health care, they are highly likely to provide the bulk of mental health care at the primary level, but they lack mental health knowledge (Algeria et al., 1991; Tobin & Norris, 1998). It is of utmost importance that they have a sound knowledge and understanding of mental health issues including patient's cultural perceptions of illness (Tabassum et al., 2000; Jacobs & Giarelli, 2001).

It is difficult to diagnose mental health problems where cultural factors influence the clinical picture. Therefore, adequate understanding and knowledge of both cultural and western mental health issues can assist in accurate diagnosis and treatment decisions (Burton-Bradley, 1965; Pulsford & Cawte, 1972; Stavovy, 1996; Ruiz, 1998; Cormack et al., 1998; Al-Krenawi et al., 2001). This study also tested the hypothesis, that (4) the higher the level of basic training the higher the level of knowledge in health workers ability to identify, diagnose and treat the different types of mental disorders. The hypothesis is further discussed in chapter five.

The lack of mental health knowledge can lead to misdiagnosis and inappropriate treatment. For example, WHO (1982) reports that, in the developing countries, it is estimated that 40 million men, women and children suffer from serious mental illness due to misdiagnosis at general health facilities. Even in developed countries such as America, mental health problems are more likely to go undetected and untreated in general health care facilities than in specialist services according to Hough et al., (1987). Sartorius (1997) confirms Hough et al, stating that general health workers in developed countries “who deal with large majority of the mentally ill are often poorly trained in psychiatry and do not recognise mental disorders when they see them. The treatment provided to them who are recognised is often not adequate, leading to outcomes that discredit psychiatry and its therapeutic armamentarium” (Sartorius, 1997:70).

In context of PNG the lack of proper identification of mental health problems and application appropriate treatment may be partially explained by a lack of knowledge, skill or sensitivity to signs and symptoms of mental illness. It may be also partially explained by presentation of somatic symptoms with underlying cultural beliefs complicating appropriate diagnosis and treatment decisions.

There are several factors that are likely to impinge on what general health workers know about mental health issues and their ability to diagnose mental health problems/disorders. Perhaps foremost is the amount of training they receive. There is limited time devoted to mental health during basic and

postgraduate training for general health workers. As a consequence, general health workers are likely to have limited knowledge of both western and cultural mental health issues. A more general description of general health workers training in mental health was discussed earlier in detail in chapter two.

The current study was undertaken, as little is known about general health workers' mental health knowledge or how well they are prepared during their training to deal with mental health problems. It was also not known how confident they were in dealing with mental health problems. One of the aims of the present study was to assess the amount of time devoted to mental health issues in the training of general health workers and to assess workers' level of confidence in dealing with mental health problems.

A study by Samiak and Vince (2000) assessed 106 general health workers' knowledge and competency of common paediatric problems in PNG by using three case scenarios and a questionnaire on the use of the Paediatric Standard Treatment Manual. The study which involved mainly NOs and CHWs concluded that these category of health workers were able to identify and diagnose more simple paediatric problems (87%) but had difficulty in identifying more complex cases that included a primary diagnosis with possible secondary diagnoses. Less than 30% made the correct diagnoses.

Another study by Ashwell (1993) assessed competence of PNG community health workers in making appropriate diagnoses and making treatment decisions for general health problems. Whilst no equivalent study of general health workers mental health knowledge is available, these previous studies provide some useful comparisons with the results of the present study, further outlined in the discussion chapter.

3.8. THE PRESENT STUDY

The need for the present study is based on the current writer/researcher's observations and experiences as an indigenous Papua New Guinean health worker. The researcher was employed by the PNG National Department of Health as a general health worker for five years and as a mental health worker

for fourteen years. The researcher's experiences and observations are generally consistent with a number of past anthropological and psychiatric studies in PNG. These studies support the view that people with mental health problems utilise general health care facilities. They also raise concerns that general health care practitioners who provide mental health care may lack knowledge about mental health issues due to limited training. Previous research highlights the presence of dual traditional culture bound practices and western practices that influence beliefs about mental illness, identification of mental health problems and treatment. However, there is little data about how the traditional and more recent western belief systems interact in the practices of general health workers.

The study's main focus centres on three categories of general health workers:

- a. Health Extension Officers (HEO)
- b. Nursing Officers (NO) and
- c. Community Health Workers (CHW)

These three categories of health workers provide the bulk of PNG's mental health care at the primary level, where 82% of the rural population live. The rural population has little or no specialist care and in some very remote geographically difficult locations even general health care is inaccessible.

The outcomes of the proposed study will be of importance to the PNG National Department of Health, Social Changes and Mental Health Services. The study findings will assist the government of PNG in catering for the general mental well being of Papua New Guineans. Listed below are some items indicating the need for this study:

- The outcomes of this study will provide new information on the types of mental health problems treated by general health workers. At the present there is a lack of important mental health data in the absence of a formal mental health information system. Epidemiological information on the type of mental health problems seen by general health workers in their routine practice is lacking. A core part of this study is to explore what type of mental health problems are being treated by the health workers

and what type of treatments are being used to treat those with mental health problems.

- The findings of the study will assist in reviewing and improving health workers' training in mental health both at the basic level and at the postgraduate level. Improvements may include the provision of ongoing on-the-job training and up-skilling. At present, little is known about the effectiveness of current training and preparation of health workers on managing mental health problems and how well they understand cultural beliefs and treatments.

Mental health care is provided in a complex dual system. Therefore, it is vital for health workers to have a sound understanding of both western and cultural mental health knowledge. Familiarity with cultural and western mental health issues is necessary for effective assessment, diagnosis and treatment of mental health problems. The combination of cultural and western knowledge on mental disorders goes far beyond the western guidelines and classifications of mental disorders (Burton-Bradley 1990). Levels of knowledge and confidence amongst general health workers in the identification, diagnosing and treatment of mental health problems are unknown. One of the aims of this study is to assess the health workers' confidence level in dealing with mental health issues covering both western and cultural issues.

Data regarding the use of medications in treatment will assist in reviewing and improving the supply and availability of psychotropic medication in general health facilities. The findings of the study will provide estimates of the number of people with mental health problems seen by general health workers who are treated with medications. The availability of supply is limited and those who need the medication do not often have easy access to it.

- The findings of this study will assist in providing information on the types of traditional treatments used for mental health problems. The traditional health care system is well established and has been passed down from generation to generation by word of mouth over hundreds of

years (WHO, 2001). The traditional system is likely to resist change should any imposed health care system not actively acknowledge it (Stephen, 1987; Burton-Bradley, 1990). The formal health system, in which mental health care is an integral part, does recognise the traditional health structure and the complementary role traditional medicine plays, especially in primary health care. Therefore the findings of this study will provide systematic data to facilitate the blend of medication and traditional treatment approaches.

- The study will, most importantly assist in filling vital information gaps in respect of mental health care in PNG. The findings will provide important new baseline information that will be useful for mental health service planning, allocation of resources to mental health services by the National Department and allocation of population and mental health problem based resources by mental health services to the community. Thus the outcomes of the study will assist in planning an effective, affordable, equitable and responsive mental health service that is culturally sensitive and appropriate for Papua New Guineans.
- Finally, it is hoped that the outcomes of this study will provide useful baseline information for future research in relevant areas covered in the study. The findings of this study will also provide preliminary information for future studies to be conducted locally, regionally, and globally especially in developing countries and among indigenous and ethnic migrant groups with diverse cultures and languages in developed countries.

3.9. THE AIMS OF THE PRESENT STUDY

The main aims of this study are:

1. To assess general health workers' knowledge and level of confidence in identifying, diagnosing and managing:

- i. A range of culture specific diagnoses/syndromes identified to be common among cross cultural-linguistic groups in PNG by past anthropological and psychiatric researchers.
 - ii. A range of broad diagnostic categories based on ICD-10 (WHO, 1993) and DSM-IV (American Psychiatric Association, 1994).
2. To explore the types of mental health problems managed by general health workers in their routine practices in a range of health care settings at the primary care level.
3. To investigate the types of treatment approaches used by general health workers and assess their level of confidence in using these treatments:
 - i. Types of medication used and their confidence and level of knowledge in using such medications.
 - ii. Types of traditional treatment approaches used and their confidence in using these traditional treatment approaches.
4. The amount of time devoted to mental health during basic training of health workers.
5. To determine whether health worker's level of knowledge and confidence in mental health can be improved by training.

In addition to the main aims, 1-5 above, four hypotheses introduced earlier in this chapter and further described in detail in chapters five and six will also be tested. Two of the hypotheses are links to materials already published regarding mental illness in PNG, while the third hypothesis is based on studies conducted in other countries. The fourth hypothesis was formulated by this study based on the three categories of participants with differing levels of training in order to test if there was any relationship between training and level of knowledge. The four hypotheses of this study are:

1. The most frequent presenting complaint for male patients will be aggression and violent behaviour.
2. The most frequent mental illness among male patients will be schizophrenia.
3. Female patients will have a higher rate of depression than males.
4. The higher the level of basic training amongst general health workers, the higher the level of knowledge as reflected in the ability to identify, diagnose and treat different types of mental disorders.

CHAPTER FOUR

Method

4.1. INTRODUCTION

This chapter provides a descriptive overview of the method used for the three parts of this study. It presents a description of the participants, brief overall descriptions of the measures, and procedures used in the study. While detailed descriptions of measures, procedures and results are provided separately under each part of the study, chapters five (study part 1), six (study part 2) and seven (study part 3). This chapter also presents the ethical issues posed by the study.

4.2. PARTICIPANTS

The study focused on three categories of general clinical health workers in PNG: Health Extension Officers (HEO), Nursing Officers (NO), and Community Health Workers (CHW) who practice in a range of general health care setting at the primary care level. The sample comprised 209 participants (HEOs = 70, NOs = 95, CHWs = 44) who attended the series of four regional mental health- training workshops. The 209 participants represented 2.4% (209/8895) of the total workforce of these health worker categories in PNG (PNGNDOH, 1998). Participants also represented all 20 provinces within the four regions of PNG (Southern Region, n = 66, Momase Region, n = 54, Highlands Region, n = 58, New Guinea Islands Region, n = 31) and a range of health care settings (provincial hospital, district hospitals, district health centres, health sub-centres, urban clinics, aid post and other private health care settings. These three categories of health workers are significant because they provide the bulk of general health services including mental health at the community or primary health care level. Further descriptions of the participants are reported as results in Chapter five.

The recruitment of participants involved a letter being sent from the PNGNDOH to all the Provincial Health Advisors informing them of the

regional mental health training workshops and incorporation of this study with the workshops. The provincial officers were requested to nominate individuals for training based on the nominees' involvement and or likely involvement in caring for persons with a mental health problem. The provincial health officers were also asked to inform attendees about their potential to participate voluntarily in the study and to bring case information on three of the most recent patients they have treated with a mental illness. The letter was followed up by phone calls and facsimile messages wherever possible to confirm receipt of the letter and to make other necessary arrangements for the participants to attend the training workshop. Participants were brought from their places of work into the regional centres by land, air and sea transport to where the training workshops were conducted.

4.3. MEASURES

This study used a questionnaire designed in three parts to explore types of mental health problems and types of treatment approaches used by general health workers in PNG (See Appendix 8). Part one was designed to focus on socio-demographic items, health worker characteristics and health worker's knowledge and confidence level in identifying, diagnosing and treating six broad mental disorder types (schizophrenia, depression, personality disorder, anxiety, substance use disorder and somatization). These six problems were identified based on DSM-IV/ICD-10 diagnostic systems and were commonly used and reported to be common in other international studies (Akiskal et al., 1978; Splinter et al., 1978; Michael & Kalokoska, 1981; Edwards, 1984; Myers, 1984; Robins et al., 1984; Shapiros et al., 1984; Bollini & Mollica, 1989; Kessler et al., 1994; Howard, 1996; McLennan, 1997; Hendryx et al., 1997; Tibaldi et al., 1997). Culture specific diagnoses/syndromes reported to be common in PNG by previous studies (Sinclair, 1957; Burton-Bradley & Julius, 1965; Meggitt, 1965; Pulsford & Cawte, 1973; Burton-Bradley, 1968; 1973; 1990; Hamnett & Connell, 1981; Flaskerud, 1986; Frankel, 1986; Lepowsky, 1990; Stavovy, 1996, Noble, 1997; Mai, 1997) were also included to assess participants' level of confidence in dealing with culture specific disorders.

Detailed measurement items used in collecting data for part 1 are provided in Chapter 5.

Part 2 of the study questionnaire was designed to review the three most recent cases with a mental health problem treated by the participants. Items used to gather data for part 2 included patients sex, gender, referral source, type of presenting complaints, diagnosis, treatment received and the outcome of treatment. Specific items used in part 2 are described in detail in Chapter six.

Part three was designed to focus on pre-post mental health training workshop outcomes (e.g. knowledge change). Questionnaire items were based on three video case vignettes of common mental health problems that depicted schizophrenia, depression and substance use disorder (See Appendix 9 for transcript of video cases and video on compact disc attached inside back cover of thesis). Assessment of knowledge change was based on participant's response to the video case vignettes before and after training. Detailed descriptions of measures are provided in Chapter seven.

The questionnaire was designed in English and was translated into Neo-Melanesian (*Tok Pisin*) and then back translated by two PNG health workers for verification. As far as was possible the language used on the questionnaire was non-technical and based on common language and terminology used by patients and health workers. New Guinean health workers understand and use these non-technical terms in identifying patient's complaints. For example, "seeing things" and "talking non-sense" were used as potential presenting complaints. Whilst from a diagnostic perspective these terms may have less precise meanings compared to "visual hallucinations" or "disorganised speech", they do reflect common language used to describe presenting symptoms or complaints in PNG. The use of non-technical terms also considered the varying levels of educational and training backgrounds of the three categories of health worker participants. There was also consideration of local PNG languages that do not have equivalent terms for mental disorders. The questionnaire was pilot tested on a sample of eight university postgraduate students (HEOs, NOs and a medical practitioner) from PNG to identify ambiguous or confusing items. This resulted in no change to the wording.

4.4. PROCEDURE

The data collection was incorporated within four 5-day long regional mental health-training workshops. The workshops were conducted in four different regional locations: Port Moresby for Southern Region; Madang for Momase Region; Mt Hagen for Highlands Region and Rabaul for New Guinea Islands Region (See Appendix 5 for location). The data collection along with conduct of training workshops took place between September 2001 and December 2001.

Throughout the training and the conduct of the study both English and Pidgin languages were used to clarify any questions raised regarding topics covered in the training and the questionnaire. The researcher supervised the data collection and was available throughout the data collection process to answer questions and to clarify items not understood.

Data from parts 1, 2 and the pre-test data for part 3 were collected prior to the commencement of training on the first day (day 1) of each workshop. The post-test data for part 3 was collected at the conclusion of training on the last day of training (day 5). The data collection process for part 3 involved screening of the three video cases before training and re-administration after training and is described in detail in Chapter seven. The researcher collected the completed questionnaires from the participants immediately after completion. The data collected from the study is predominantly descriptive and was analysed using Statistical Program for the Social Sciences for windows version 11.0 (SPSS Inc, Chicago, 2000).

4.5. ETHICAL ISSUES

The research protocol was reviewed and approved by the Medical Research Advisory Committee of the PNG National Health Department and the Wollongong University Human Ethics Committee prior to conducting the study (See Appendix 6).

4.5.1. Informed Consent

Due to communication and geographical difficulties it was impossible to disseminate participant's information packages and obtain signed consent forms from the participants prior to the training workshops. However, participants were made aware of the voluntary nature of their participation in the research prior to the commencement of the workshops by their supervisors. Participants' information sheets were distributed and the researcher reviewed the information package with the participants and reinforced the voluntary nature of participation and confidentiality on the first day of each workshop prior to commencing training. All workshop participants agreed to participate in the study. Signed consent forms were collected from the participants by the researcher (See Appendix 7 for participant's information package and consent forms for participation).

4.5.2. Confidentiality

Confidentiality was maintained at all levels of the study by using identification codes instead of participant's names. This was particularly important in relation to discussion of traditional beliefs on causes of illness and traditional treatments, which participants may have been reluctant to discuss openly. As noted in the earlier chapters, discussions on sorcery and spirit possession are regarded as socially taboo in some cultural grouping. Anonymity provided some protection regarding the social taboo of discussing these topics publicly, but there may still have been private beliefs (e.g., misfortune may befall those who discuss sorcery) that may have reduced the willingness to provide written descriptions of culturally based treatments. No patient identifying data was required for the study.

CHAPTER FIVE

PART 1

Health worker confidence in diagnosing and treating mental health problems in Papua New Guinea

5.1. AIMS

The aims of part 1 of the study were:

1. to assess general health worker's level of confidence in identifying, diagnosing and treating a range of mental disorders based on both modern diagnostic categories and culture specific syndromes/diagnoses
2. to determine how well health workers are prepared to manage mental health problems during their basic training.

In addition, it was hypothesised that:

the higher the level of basic training the higher their level of knowledge in health workers ability to identify, diagnose and treat the different types of mental disorders.

5.2. MEASURES

The questionnaire items used in part 1 of the study focused on socio-demographic, health worker (participants) characteristics and assessed of participants' level of confidence in identifying, diagnosing and managing six common mental disorders (schizophrenia, depression, personality disorder, anxiety disorder, substance use disorder and somatisation) based on broad ICD-10 (WHO, 1993) and DSM-IV (American Psychiatric Association, 1994) diagnostic categories.

These six disorders were also reported to be common by a number of international studies (Akiskal et al., 1978; Splinter et al., 1978; Michael et al., 1981; Edwards, 1984; Myers, 1984; Robins et al., 1984; Shapiros et al., 1984; Bollini et al., 1989; Kessler et al., 1994; Howard, 1996; Australian Bureau of Statistics, 1997; Hendryx et al., 1997; Tibaldi et al., 1997). Schizophrenia has also been reported to be common in PNG (Sinclair, 1957; Burton-Bradley, 1968; 1969; Johnson, 1997; Noble 1997).

The assessment of participant's confidence level also included five culture specific diagnoses/syndromes (sorcery, witchcraft, magic, spirit possession and amok syndrome) commonly recognised throughout PNG (Sinclair, 1957; Burton-Bradley & Julius, 1965; Meggitt, 1965; Pulsford & Cawte, 1973; Burton-Bradley, 1968; 1973; 1990; Hamnett & Connell, 1981; Flaskerud, 1986; Frankel, 1986; Lepowsky, 1990; Stavovy, 1996, Noble, 1997; Mai, 1997). See Appendix 8 for questionnaire items used in collecting data for this part of the study.

The item stem stated, "Health workers are confident in diagnosing the following". The modern diagnostic categories and cultural specific illnesses were then listed with a confidence rating provided for each of the eleven disorders. Each disorder category was rated on a 4-point Likert scale ranging from 1 "strongly disagree" to 4 "strongly agree" (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree). The scale also provided a "don't know" option. Participants were instructed to consider the term "health worker" as the category of health worker in which they were currently employed. This term was used over specific reference to their personal characteristics (i.e., "I am confident...") because it was felt participants would more willingly and honestly rate health workers as a group as opposed to their own levels of knowledge or confidence. General Health Workers are expected by their employer to be confident in dealing with all aspects of health care including mental health care. As a result of these expectations and given they were participating in training provided by their employer it is possible that if asked to rate their own personal confidence they may have put responses that placed them in a more favourable light. This tendency was reduced by asking them to rate "health workers" in

general rather than themselves. The disadvantage of such an approach is that participants will likely have elements of their own beliefs about their own confidence and also their beliefs about the confidence of other health workers. Thus, the individuals' beliefs about themselves and others in similar positions are likely to be blended.

Using the same response scale, five additional items were included to expand on confidence ratings for both modern and culture specific disorders. For both modern and culture specific mental health problems they were asked: "health workers understand the difference between above mental illnesses". For modern diagnostic categories they rated the degree of agreement to, "health workers use the above diagnostic categories to make a diagnosis when they see a person with mental illness", "health workers know when and where to refer a mentally ill person who needs specialist mental health care".

For culture specific diagnoses they were asked to rate, "health workers are confident in consulting and working with a traditional healer regarding treatment of patients with culture specific mental illnesses", "health workers are familiar with specific symptoms of these culture specific diagnoses", and "health workers are familiar with cultural beliefs concerning the causes of mental illnesses".

The questionnaire also had a range of items to determine levels of training in mental health. These included the number of weeks devoted to mental health training at both undergraduate and postgraduate levels. Several items also asked about health workers capacity to speak the local language, which might relate to familiarity and use of more traditional cultural approaches to mental health assessment and treatment.

Other additional items in the study included ratings on the extent of use of both traditional treatment and medication using a 4-point response (1 = Not at all, 2 = A little bit, 3 = Somewhat, 4 = A great deal). Participants were asked "do you use modern medication e.g., chlorpromazine", "are you confident in prescribing modern medication", "do you get enough supplies of psychotropic drugs to meet your needs", "are you familiar with the different types of traditional treatment

for mental illness used in your area”, “do you have access to traditional treatment”. Part 1 of the questionnaire was administered on the first day of each workshop prior to the commencement of training.

5.3. RESULTS

The results of Part 1 are presented in five sections. Section 1 provides the demographic findings and participants’ characteristics including: participants’ sex and age, educational backgrounds, number of years in health services and their location of employment. Section 2 presents the results of assessment on length of time devoted to mental health during participant’s basic training. Section 3 provides participant’s level of confidence in diagnosing a range of mental disorders. Section 4 reports the findings on understanding between modern diagnostic categories and culture specific diagnoses/syndromes and section 5 presents results on level of confidence between the three categories of health worker participants (HEOs, NOs and CHWs). Study part 1 also tests the hypothesis regarding higher training leading to higher level knowledge and confidence level in health workers ability to identify, diagnose and treat the different types of mental disorders.

Descriptive comparisons of mean levels were conducted for: health worker’s characteristics, their level of training and level of confidence in diagnosing the range of mental disorders and confidence level in differentiating the range of disorders. One-way ANOVA with post hoc contrasts using Bonferroni correction was conducted: to compare differences between the three health worker groups on; time spent on mental health during basic training, levels of confidence in diagnosing the range of mental disorders, familiarity, confidence and use of treatment approaches between the three health worker groups.

5.3.1. Participant’s (Health Worker’s) Characteristics

There were 209 health workers who participated in the study. Most were male (n = 129, 62%; females = 80, 38%), with ages ranging from 22 to 53 years with

a mean age of 34.67 years (SD = 6.88). The educational background of participants ranged from elementary to grade 12 (less than grade 9 = 5%; grades 9 to 10 = 71%, and grades 11 to 12 = 24%). The length of service in the health department ranged from 1 to 32 years with a mean of 11.48 years of service (SD = 7.96), with most (n = 129, 62%) of the participants being in service from 1 to 11 years. A majority of the participants were employed in health centres (n = 98, 47%) followed by district hospitals (n = 27, 13%), health sub-centres (n = 22, 11%), aid posts (n = 18, 9%), provincial hospitals (n = 13, 6%), urban clinics (n = 13, 6%), and the remainder from a range of other settings (n = 18, 9%). Sixty percent (n = 125) could speak the local language of the area where they worked.

5.3.2. Health Worker Training in Mental Health

Respondents indicated that they received a mean of 2.63 weeks of training devoted to mental health/psychiatry during undergraduate training. This ranged from no training to 10 weeks (M = 2.63, SD = 2.53). Most respondents indicated 2 weeks training (n = 57, 27%), followed by; 0 weeks (n = 47, 22%), 1 week (n = 36, 17%), 6 weeks (n = 33, 16%) 8 weeks (n = 8, 4%), 5 weeks (n = 6, 3%) and 3 and 10 weeks (n = 4, 2%) and 14 (7%) could not recall their training in mental health.

Ninety-five of the 209 (45%) respondents had postgraduate qualifications. However, 85% (81/95) reported that none of their postgraduate training was dedicated to mental health topics. Four respondents reported they received 40 weeks of postgraduate training and this group comprised four NOs who had undertaken postgraduate training in psychiatric nursing. The remaining 10 participants with postgraduate qualifications had received between 1 and 2 weeks training in mental health.

A one-way ANOVA was conducted to assess the amount of time spent on mental health during undergraduate training between HEO, NO and CHWs and the result was significant, suggesting differences in the amount of time spent between the different health worker groups, $F(2,195) = 49.87, p < .01$. Post hoc

contrasts using a Bonferroni correction indicated that NO's received significantly more weeks of mental health training ($M = 4.28$, $SD = 2.86$, $n = 92$) than either HEOs ($M = 1.62$, $SD = .89$, $n = 66$) or CHWs ($M = .92$, $SD = 1.16$, $n = 40$), both $p < .01$. As reported earlier the numbers of years in basic training for health worker positions is 4 years for HEO, 3 years for NO and 2 year for CHW, but results suggest that NOs received more training related specifically to mental health despite fewer years in training.

5.3.3. Mean Level of Confidence in Diagnosing a Range of Mental Disorders

Table 5.1 provides participant's mean level of confidence in diagnosing a range of mental disorders. The mean level of confidence ranged from substance use disorder ($M = 2.65$, $SD = .78$) to amok syndrome ($M = 1.85$, $SD = .06$). In general, the modern diagnostic categories had slightly higher means (with the exception of schizophrenia) than culture specific diagnoses.

Table 5.1. Mean Level of Confidence in Diagnosing a Range of Mental Disorders

Disorder	Mean	SD	N	Don't know	
				%	n
Substance Use Disorder	2.65	.78	187	11	20
Depression	2.47	.08	194	6	12
Anxiety Disorder	2.39	.78	186	12	22
Personality Disorder	2.32	.81	182	14	25
Spirit Possession	2.23	.83	168	23	39
Somatisation	2.22	.78	152	34	52
Sorcery	2.16	.80	177	17	30
Schizophrenia	2.12	.78	167	24	40
Witchcraft	2.10	.73	166	23	38
Magic	2.06	.73	179	16	29
Amok Syndrome	1.85	.60	114	26	30

To check for the potential effects of missing data from respondents who chose the “don’t know” option, paired t-test comparisons were conducted by calculating the mean of available items (e.g. 4 of the 6 diagnoses in the modern category) compared to using the means only when all items were available (i.e., 6 of 6 diagnoses in the modern category). Using the mean only when all items were completed, there was a significant difference between confidence in making modern diagnoses ($M = 2.19$, $SD = .61$) and culture specific diagnoses ($M = 1.95$, $SD = .59$), $t(77) = 3.21$, $p = .002$. When using the means of available items (i.e. some missing items) the pattern of findings was the same, with confidence in making modern diagnoses ($M = 2.43$, $SD = .67$) significantly higher than for culture specific diagnoses ($M = 2.13$, $SD = .70$), $t(187) = 4.67$, $p < .01$.

Differences between confidence ratings for modern and culture specific diagnoses were significant with or without the inclusion of missing data, in that, health workers were significantly more confident in diagnosing modern categories of mental disorders than culture specific diagnoses/syndromes.

5.3.4. Understanding Differences Between Modern Diagnostic Categories and Culture Specific Diagnoses/Syndromes.

Participants were also asked how much they agreed with the statement that health workers understood the difference between the modern subset of diagnoses and the traditional subset of diagnoses. For modern diagnoses, 46 (22%) agreed that health workers understood the differences and 163 (78%) disagreed. For culture specific mental health problems, 79 (38%) agreed and 130 (62%) disagreed that health workers understood the differences between the culture specific problems.

A paired t-test indicated that respondents felt significantly less confident at differentiating between modern diagnoses ($M = 1.98$, $SD = .71$) than between culture specific diagnoses ($M = 2.23$, $SD = .76$), $t(157) = 3.99$, $p < .01$. Table 5.2 provides the proportion of those who agreed and disagreed with additional items regarding understanding and confidence of health workers concerning

different mental health issues. In general, the results indicate a lack of confidence and understanding regarding differential diagnosis. Despite some uncertainty about the differences between cultural diagnoses just over half indicate that health workers were familiar with cultural beliefs concerning the causes of mental illness. Most agreed that health workers know when to refer to a specialist.

Table 5.2. Agreement about Understanding and Confidence of Health Workers Regarding Different Mental Health Issues

Items	Agree		Disagree	
	n	%	n	%
Understand difference between modern diagnoses	42	22	147	78
Use modern diagnosis	41	22	144	78
Know when and where to refer for specialist mental health care	155	77	47	23
Understand difference between culture specific diagnoses	63	38	103	62
Confident in consulting and working with traditional healer	36	20	142	80
Familiar with symptoms of culture specific diagnoses	60	35	112	65
Familiar with cultural beliefs concerning causes of mental illness	98	55	81	45

Note: Sample sizes for each item vary due to “don’t know” ratings.

The agree rating scale ranged from 1 strongly disagree to 4 strongly agree, (strongly disagree, disagree, agree, strongly agree)

5.3.5. Level of Confidence in Diagnosis Between HEO, NO and CHW

A one-way ANOVA assessing confidence in diagnosis between HEO, NO and CHWs was conducted. This revealed significant differences between health worker type and levels of confidence in diagnosis for modern disorders, $F(2,192) = 6.44$, $p < .02$, and culture specific disorders, $F(2,182) = 4.69$, $p < .01$. Post hoc contrasts using Bonferroni correction indicated that CHW's were significantly less confident with diagnosis of modern disorders ($M = 2.07$, $SD = .64$, $n = 38$) compared to both HEOs ($M = 2.49$, $SD = .57$, $n = 66$) and NOs ($M = 2.48$, $SD = .68$, $n = 98$). Whereas, for culture specific disorders, HEOs were

significantly less confident ($M = 1.91$, $SD = .74$, $n = 60$) than NOs ($M = 2.26$, $SD = .68$, $n = 86$).

5.3.6. Use of Different Treatments

Table 5.3 provides mean ratings regarding use, confidence and familiarity with both modern and traditional culture specific treatments. The percentage of those rating "not at all" is provided in the far right column. This data suggests that modern medication is used by most with some degree of confidence, but 15% of respondents have difficulty with supply of psychotropic medications. Over half were not familiar with the traditional treatments used in their local area and three-quarters did not have any access to these treatment approaches.

Table 5.3. Mean Use, Confidence and Familiarity with Medication and Traditional Treatments (N = 209).

Item	M	SD	Not at all %
Use of modern medication	3.11	0.96	6
Confident in prescribing modern medication	2.99	0.94	8
Get enough supply of psychotropic medication	2.43	0.93	15
Familiar with traditional medicine used in your area	1.58	0.69	51
Access to traditional treatment	1.33	0.68	76

Note: Items were rated using a 4-point response format 1 = Not at all, 2 = A little bit, 3 = Somewhat, 4 = A great deal.

A one-way ANOVA revealed no significant differences between health worker type (HEO, NO, CHW) in either familiarity or access to traditional culture specific treatments (all $p > .05$). Table 5.4 provides means and standard deviations for medication use data for different health worker types. There were significant differences between health worker types with regard to the amount of medication they used, $F(2,195) = 13.02$, $p < .01$. Post hoc analysis using Bonferroni correction indicated that HEOs used significantly more medication than both NOs and CHWs. NOs used significantly more medications than CHWs as indicated in Table 5.4.

Table 5.4. Mean and SDs of Health Workers Use of Medication

	HEO (n = 66)		NO (n = 92)		CHW (n = 40)	
	M	SD	M	SD	M	SD
Use of Medication	3.45 ^a	.84	3.13 ^b	.95	2.55 ^c	.78
Confidence in Prescribing Medication	3.31 ^a	.79	3.09 ^b	.91	2.25 ^c	.71
Access to Medication Supply	2.82 ^a	.81	2.46 ^b	.83	1.67 ^c	.76

Note: ^{a, b, c} Values in the same row with different superscript letters are significantly different. Response scale values were 1 = Not at all, 2 = A little bit, 3 = Somewhat, 4 = A great deal

There was also a significant difference between health workers with regard to their confidence in prescribing medication, $F(2,195) = 29.56$, $p < .01$. Post hoc analysis using Bonferroni correction revealed CHWs were significantly less confident in prescribing medication than HEOs and NOs (See Table 5.4). In addition, NOs were significantly less confident than HEOs. However, these findings may have in part been influenced by access to supplies of medications and/or levels of training in mental health as suggested below.

One-way ANOVA also indicated a significant difference between health workers with regard to problems of accessing medication supplies, $F(2, 206) = 28.80$, $p < .001$, as shown in Table 5.4. Post hoc analysis using Bonferroni correction indicated HEOs' reported significantly greater access to supplies of medication than both NOs and CHWs. CHWs' reported the most difficulty with access to supplies of medication than HEOs and NOs.

It was hypothesised that:

the higher the level of basic training the higher their level of knowledge in health workers ability to identify, diagnose and treat the different types of mental disorders.

There was a correlation between weeks of undergraduate training in mental health and confidence in prescribing medication with respondents receiving more training also reporting being most confident ($r = .30, p < .01$). This finding provided additional data in support of this hypothesis.

5.4. DISCUSSION

With the exception of schizophrenia, health workers were more confident making modern diagnoses than making culture specific diagnoses. Overall, health workers had less confidence in identifying and diagnosing schizophrenia than other diagnoses (depression, substance use disorder, anxiety disorder, personality disorder and somatisation). Between the three categories of health worker participants, CHWs had relatively low levels of confidence in diagnosing modern diagnostic categories compared to HEOs and NOs. With culture specific diagnoses, HEOs were significantly less confident than NOs. Overall, results indicated that participants had low levels of confidence in diagnosing both modern and culture specific diagnoses.

In general, the results indicated a lack of confidence and understanding regarding differential diagnosis. Despite some uncertainty about the differences between cultural diagnoses just over half indicated that health workers were familiar with cultural beliefs concerning the causes of mental illness. Being familiar with the beliefs regarding causes of mental illness and speaking the local languages did not make any significant difference in the confidence level in identifying and diagnosing culture specific disorders and traditional treatments. Nor did it make any difference in the access to traditional treatment and confidence in consulting traditional healers.

This may be attributed to a number of factors. Firstly, traditional healers may be reluctant to collaborate with health workers who they may view as competitors. The practice of traditional healing is an important means of income and therefore traditional healers may be reluctant to share their expertise with others. Secondly, the use of some forms of traditional healing such as sorcery, witchcraft and magic is explicitly prohibited by government policy. This may

create barriers for cases that may require use of both medication and traditional treatments. Health workers may be reluctant to refer patients to traditional healers because of fear that they may suffer some form of misfortune as consequence of violating a taboo. They may also fear violating the traditional policy especially sorcery related practices.

In addition to limited training opportunities specific to mental health, another explanation for low levels of confidence in diagnosing mental illness is the complexities created by the cultural diversity of PNG. Cultural-linguistic factors are likely to play an important role in influencing concepts, perceptions and experience of symptoms that flow on to making a diagnosis and treatment decisions. Sinclair (1957) and others (Burton-Bradley, 1973; Robin, 1979; Stavovy, 1996) found that the beliefs of Papua New Guineans' concerning the causes of mental illness complicated the diagnostic process thus making it difficult to arrive at a specific diagnostic formulation. For example, low levels of confidence in diagnosing schizophrenia may be explained by cultural phenomenon such as dreaming and visions that complicate the establishment of symptoms such as hallucinations and delusions. A further potential contributing factor is the general lack of distinction between various forms of psychotic illness in local languages and in *Tok Pisin*. All forms of psychotic illness are classified using the nonspecific term *longlong*. There are no local languages "terms" equivalent to the different types of mental disorders classified in the western diagnostic category.

The results of this study indicate the need for more comprehensive preparation and training of health workers during basic/undergraduate training. Current undergraduate training programs for HEO, NO and CHW devote little time to training in mental health. These inadequacies are reflected in the low level of health workers' confidence in distinguishing between different types of mental disorders, lack of confidence in making a diagnosis, and lack of knowledge of alternative treatment approaches. As a consequence it is more likely that the patient will be inappropriately referred to the limited range of specialist services or they may be left in their families care with little professional specialist

support. In practice it is often only when the individual concerned becomes aggressive or violent that referral to specialist services is made.

Respondents also reported that they use modern medication more frequently than traditional treatments. However, use of modern medication differs by health worker types. HEOs are more confident in using medication and prescribe medication more frequently than both NOs and CHWs. HEOs also have greater access to supplies of medication and as a consequence are more likely to use them. Nursing Officers are less confident in prescribing and using medication than HEOs but they are more confident than CHWs. This may be in part due to different levels of training of the groups with NOs receiving significantly more training in mental health than either HEOs or CHWs. Finally, CHWs are least confident in prescribing and using medication and also have significantly less training in mental health and reported that they have the poorest access to supplies of medication. They also lacked confidence in prescribing medication and used less medication than HEOs and NOs.

A major finding of the study is that CHWs, who have arguably the most contact with people in their local communities, also have the least mental health training and poorest access to medical supplies. Based on the findings of this study, it is suggested that CHWs training in particular be targeted for improvement.

CHAPTER SIX

PART 2

Retrospective Review of Three of The Most Recent Patients Treated by General Health workers in the Community.

6.1. INTRODUCTION

According to Mumford et al., (1997) little is known about the prevalence of mental illness in non-western countries. The author's statement is consistent with the picture in PNG. There is scant data regarding the prevalence of mental illness from the specialist service admissions but even less data regarding the prevalence of mental illness amongst communities managed by general health workers. The vast majority of people with mental health problems consult general health workers rather than specialist services (Regier et al., 1978; Mechanic, 1980; WHO, 1982; Kuo, 1984; Suan & Taylor, 1990; Narikiyo & Kameoka, 1992; Andrews & Teeson, 1994; Urdaneta et al., 1995; Sartorius, 1997; Edman et al., 1999). For example the prevalence rate of attendance at general services by people with a mental illness in the African countries is between 20 and 50 percent (Johnson, 1990). A study by WHO (1982) in developing countries also reported that of individuals with psychiatric problems between 13.9 and 20 percent use general health facilities. Sartorius (1997:70) stated that: "Even in highly developed countries, most of the mentally ill will first seek help from general practitioners or physicians other than psychiatrists".

In PNG, mental health care is an integral part of the general health system and most people with mental health problems utilise general services. However, the prevalence rate of those with mental health problems attending general services is unknown. The types of mental health problems treated by general health workers are also not known. There has been no study, which has looked at the types of mental health problems treated by general health workers. Obtaining accurate figures on incidence and prevalence rates of mental illness in PNG is

difficult (Stavovy 1996). Some of the contributing factors to this lack of important psychiatric epidemiological information are as follows:

- There is a lack of resources to undertake large-scale psychiatric epidemiological studies.
- The National Health Department's Health information and reporting forms do not include mental health information (WHO, 2002). In addition, acute psychiatric units attached to provincial hospitals and Laloki Psychiatric Hospitals were not reported in the 1998 statistics handbook. Psychiatric morbidity is unreported or is subsumed under "other reasons for contact with health services" or "all other causes" (PNGNDOH, 1998).
- According to Johnson (1990:133): "psychiatric morbidity remain concealed under the cover of undiagnosed somatic illness or some ill-defined symptoms and is then referred as a hidden psychiatric morbidity (HPM)". WHO (1982) reported 40 million men, women and children in developing countries fall into the HPM category and suffer from serious mental illness as a result of misdiagnosis at general health facilities.
- Presentation of somatic bodily complaints based on underlying cultural beliefs concerning causes of mental illness complicate the process of making psychiatric diagnosis (Burton-Bradley, 1973; 1990; Stavovy, 1996; Phan & Silove, 1997).
- The geography of PNG makes it virtually impossible to undertake large-scale epidemiological studies. This is already demonstrated by the lack of accurate census figures and other data recorded for births and deaths and morbidity on other health domains.
- There is a lack of understanding of diverse cultural and language issues related to mental health problems, especially for a health worker whose culture and language may be different from that of the patient.

Prevalence of home care and use of traditional treatment for individuals with mental health problems may suggest higher community tolerance or preference for managing the problems within the community. This may mean that less people present for treatment. Some communities even hid their mentally ill in the earlier years of western contact (Sinclair, 1957; Stavovy, 1996). Some evidence of the latter point comes from an early anthropological study that reported no signs of mental illness among the indigenous villagers (Seligman, 1929). The researcher reported that the only sign of psychoses was among the coastal people (number of cases = 6) and this was attributed to their close contact with Europeans.

Past psychiatric studies have reported different types of mental illness but these have been limited to patient populations under specialist care. Sinclair (1957) described patients with: psychoses (acute, n = 12, chronic, n = 30, toxic, n = 1); hysteria with somatic dissociation (n = 9) other forms (n=23), personality disorder (n = 2), neurological conditions (n = 20), epilepsy (n = 8), senile dementia (n = 7) and mental defectives (n = 28). Sinclair indicated that the rate for such disorders was low but predicted that it would increase with increasing development, modernization and social changes. This view has subsequently been supported in a number of later studies (Burton-Bradley, 1963; 1965; 1973; Beckett, 1974; Moi, 1976).

As noted several studies have reported the distribution of different diagnostic groups amongst patients referred to specialist psychiatric services. Burton-Bradley (1969) reported the first 1,000 psychiatric referrals in PNG. Of the 1,000 cases the study gives an account of 454 cases with diagnoses as follows: schizophrenia (47.4%), manic depressive (10.4%), puerperal psychosis (1.1%), non-malarial organic brain syndrome (6.8%), cerebral malaria (1.5%), epilepsies (2.6%) and reactive depression (0.7%).

Torrey et al., (1974) attempted to describe the prevalence rate of schizophrenia in PNG and in the process reported 478 cases of psychosis of unknown origins. These consisted of 332 (69%) with acute psychosis, 121 (36%) cases out of the 332 were reported to have been diagnosed with schizophrenia and had rapid and

complete recovery. Thirty-five (10%) out of 332 were diagnosed with manic-depressive psychosis and also had rapid and complete recovery. Some of these cases did not have a clear diagnosis and a number of the cases were classified as, culture specific syndromes. The study concluded that the overall prevalence rate of schizophrenia was low.

Other studies reported a high incidence of psychoses among Highlanders who had immigrated to different parts of the coast to work on plantations from 1965 to 1967 (Hoskin & Vaness 1967; Hoskin, 1969; Cawte et al., 1976; Torrey et al., 1974). The term “plantation syndrome” was used to describe the high rate of psychoses among the plantation workers. The researchers assumed that these immigrants had fewer relatives available to act as a buffer against the impacts of technology (Stavovy, 1996). This could also be due to changes in adapting to a new culture and languages. As stated in the above paragraph, Torrey et al., (1974) reported that there was rapid and complete recovery among those who had psychosis “plantation syndrome” and the etiology of their illness was unknown. Therefore it was assumed that proportions were culture specific syndromes.

Some of these cases presented both at specialist and general services and were not necessarily psychiatric cases. There are patients who do not have major psychiatric symptoms but require the management of psychological distress or social problems (Mayo & Hawton, 1986). Being sad or unhappy does not necessarily equate to having a psychiatric disorder. People do experience occasional depressive mood such as low spirits, dejection and sadness, which can be a normal reaction to disappointments, adversities and losses. These depressed moods should be differentiated from depressive disorders that represent psychiatric illness leading to impairment of psychological, somatic and social functioning.

Those with depressed mood often benefit from psychological interventions. The family or community support networks in the villages help most of them and they rarely show up in the clinics and if they do they usually present with somatic bodily complaints. The community support network system is difficult

to access by individuals who move out of their cultural-linguistic groups, as was the case for those described as having “plantation syndrome”.

None of the early studies reviewed cases as diagnosed and managed by general health workers nor investigated or included the culture specific diagnoses made by general health workers. However, the studies did acknowledge the importance of culture specific diagnoses among Papua New Guineans. There is limited discussion from these studies on types of treatment approaches used by general health workers. However, they do report that there were more male patients predominantly treated for aggression and violent behaviour than female patients (Robin, 1979; Stavovy, 1996). Thus, the focus on hospital settings may have contributed to the focus on psychotic disorders and more males being identified in these samples than females.

Sinclair (1957) commented that of the patients admitted to Bomana Mental Asylum (currently moved location and renamed to Laloki Psychiatric Hospital) there was a gender ratio of 1 female for every 7 male patients. Stavovy (1996) reported 77% (18) male patients and 22% (5) female patients out of a total of 23 patients studied. While no studies have been undertaken to determine what type of mental disorder was common among female patients in PNG. Population-based epidemiological studies in other countries reported depression to be more common among females (Gordon & Ledray, 1986; Wetzel, 1994; Weissman & Olfson, 1995; Stiver & Miller, 1997; Bhatia & Bhatia, 1999; Lindeman, 1999, Fergusson et al., 2002). For example, the prevalence rate of depression in Finnish and international population surveys reviewed by Lehtinen & Joukamaa (1994) varied from 2.6% to 5.5% in men and from 6.0% and 11.8% in women. Sadock & Sadock (2000) reported the lifetime prevalence of depression in women as approximately 20% but as only 10% for men.

There are no data regarding the prevalence of depression among female patients in PNG. Jablensky (1996) comments that depression is more often difficult to diagnose as it gives rise to variation in the presentations of depressive affects and experiences in many cultures. Based on prior research it was hypothesised

that cases of depression in health worker's caseloads would be significantly higher for females than males.

6.2. AIMS OF PART 2

The aims of study two are:

1. to describe the type of mental health problems seen by general health workers.
2. to describe the types of treatment approaches used by general health workers to treat those with mental health problems.

Part 2 also tested three hypotheses:

1. The most frequent presenting complaint for male patients will be aggression and violent behaviour.
2. The most frequent mental illness among male patients will be schizophrenia.
3. Female patients will have a higher rate of depression than males.

6.3. HEALTH WORKER PARTICIPANTS

Of the 209 participants, four psychiatric nurses, one general nurse and one HEO were excluded from this part of the study based on the former four having postgraduate training in mental health and the later two working in specialist mental health services. The 203 participants included in the study, consisted of 69 (34%) HEOs, 90 (44%) NOs and 44 (22%) CHWs. The participants worked in a range of primary general health care settings as indicated in Table 6.1.

Table 6.1. Location of Routine Practice

Health Care Facility	Number of General Health Workers (n = 203)	
	n	%
Provincial Hospital (100 plus beds)	12	6
District Hospital (~ 50plus beds)	25	12
Health Centre (~20plus beds)	95	48
Health Sub-Centre (~10plus beds)	20	10
Urban Clinic (no beds)	13	6
Aid Post (few~1-5 beds, most no beds)	17	8
Others	21	10
Total	203	100

Note: A few larger district health centres have been recently renamed to district hospitals and most are still managed by HEOs and NOs.

Almost half of the participants 48% (n = 95) practised in health centres. This was followed by district hospitals (12%, n = 25). Which in turn was followed by health sub-centres, (10%, n = 20) and a range of others settings (10%, n = 21) (e.g., private health services).

6.4. MEASURES

Part 2 of the questionnaire was designed for participants to review their three most recent mental health cases that they had treated in the last three months prior to the study. Items used in reviewing the cases included, the age and gender of patients, duration of illness prior to treatment, length of treatment and source of referral. Sources of referral included: self-referral, family, police or court order and other (non specific or not identified sources).

Participants were provided with a list of eight categories of presenting complaints found to be common in PNG by previous studies (Robin, 1979; Burton-Bradley, 1990; Johnson, 1990; Stavovy, 1996). The list of complaints included: aggressive and violent, hearing voices, crying/sad, headache, seeing

things, talking non-sense, very active and belly pain (belly, a *Tok Pisin* term meaning pain in the abdomen, can also refer to pain in the heart, a seat of emotions, a metaphoric term conveying depressive affect). Participants were asked to indicate their patient's presenting complaints by ticking the appropriate box or boxes.

The language used in describing these presenting complaints was deliberately non-technical for three main reasons: Firstly, these descriptions have been commonly reported complaints that were found in previous studies (Pulsford and Cawte, 1972; Burton-Bradley, 1973; 1990; Robin 1979; Stavovy, 1996). Secondly, general health workers participating in the study have varied levels of educational background and some would have difficulty in understanding terms such as "hallucinations and delusions", and were more likely to relate to descriptions such as "hearing voices and seeing things". Finally, participants did not have access to a formal diagnostic reporting system or manual based on DSM-IV or ICD-10.

Participants were then required to provide one or more western or culture specific diagnosis for each client. A total of 11 categories were included in this section. These 11 categories were as follows: schizophrenia, depression, personality disorder, anxiety disorder, substance use disorder, somatisation, magic, sorcery, witchcraft, amok syndrome and spirit possession. Participants were instructed to tick the appropriate box or boxes according to their diagnosis of each patient.

Participants were then asked to record the treatment provided for each patient. The items included the three types of treatment approaches available in PNG. Firstly, a list of medication available in PNG was provided. This included: chlorpromazine, fluphenazine decanoate, haloperidol, thioridazine, amitriptyline, diazepam, fluoxetine and olanzapine. Secondly, a list of traditional treatments commonly used by traditional practitioners was provided. The list included: reconciliation, animal sacrifice, herbs and plants, compensation/payments and an "other" option. Finally, a list of psychological treatments was provided, which included: individual counselling with a health

worker; family counselling with a health worker; traditional counselling with a village leader and pastoral counselling with a pastoral worker. Participants were instructed to tick appropriate box (es) according to the treatments they used with each patient.

Additional items included: how often the patient was visited, the length of each visit, whether the patient was seen alone or with the carers, and the patient's current living situation (i.e. Living in the village; In hospital and Don't know).

Participants were instructed to rate patient's progress since treatment commenced using a Likert-scale from 1 to 5 (Much Worse; A Little Worse; Stayed the Same; A Little Better; and Much Better). These additional items assisted in providing an indication of the clinical outcome of the patients.

Finally, participants were asked to record the total number of patients with a mental health problem they had treated in the last three months.

6.5. RESULTS

This section is organised to present the results on: patient characteristics including number of patients, gender, age and referral sources; duration of illness prior to commencing treatment; presenting complaints; classification of diagnoses made by participants, validity of participants diagnosis, treatment approaches used to treat the patients; the relationship between cultural based diagnosis and cultural/traditional treatments used; the length of time spent with each patient by the health worker; the clinical outcomes achieved and results of specific hypotheses.

The results in this chapter are mostly descriptive. A chi-square test was used to test whether those receiving culture specific diagnoses were also more likely to receive traditional treatment. Chi-square test was also used to test the hypothesis that those receiving a diagnosis of depression were more likely to be female.

6.5.1. Patient Characteristics

One hundred and forty-six (146, 72%) participants provided data on a total of 282 patients that they had treated for mental health problems over the previous three months. The remaining fifty-seven, (28%) had not treated any patients, even though eight participants reported that they had seen patients in the community. Of the 282 cases provided by the participants, 189 (67%) were male and 93 (33%) were females. The number of patients treated by the participants ranged from one to ten with a mean of 1.5 (SD = 1.5). As expected the majority of the patients, 239 (86%) were living in the community and only 23 (8%) were inpatients at the time of the study. For the remaining 6% of cases, health workers indicated that they did not know where the patient was at the time questionnaires were completed

6.5.1.1. Patient's Age Distribution

A majority of the 242 (86%) patients were in their teens to middle age years with a mean age of 28.9 (SD = 9.6). The ages of patients treated by participants are indicated in table 6.2.

Table 6.2: Patient's Age Distribution

Age in Years	Number of Patients (N = 282)	
	n	%
10-15	2	1
16-20	64	22
21-25	49	17
26-30	72	25
31-35	22	7
36-40	35	12
41 plus	39	14
Missing	7	2
Total	282	100

6.5.1.2. Patient Referral Sources

More than half of the patients, 186 (66%) were referred by their families followed by self-referral of 59 (21%). Other non-specific referral sources were described 21 (7%) and 10 (4%) patients were referred by the police or through the court. A small number of 6 (2%) cases had no referral sources indicated.

6.5.2. Duration of Illness Prior to Treatment

More than half of the patients, 147 (52%) had been ill for 12 weeks or less, while 93 (33%) patients had been ill for more than 12 weeks prior to commencing treatment as indicated in Table 6.3.

Table 6.3. Duration of Illness Prior to Admission

Duration of Illness	Number of Patients (N =282)	
Number of Weeks	n	%
0-1	26	9
2-4	58	21
5-8	45	16
9-12	18	6
13-16	4	1
17-20	0	0
21-24	28	10
25plus	61	22
Missing	42	15
Total	282	100

6.5.3. Presenting complaints

As indicated on Table 6.4, 119 (63%) male patients presented with talking non-sense, followed by 102 (54%) with aggression and violent behaviour. Among the female patients, 49 (53%) presented with headache and 46 (50%) with crying and sadness. Between the two gender groups, 154 (55%) presented with talking non-sense and, 138 (50%) with headache.

Table 6.4. Presenting Complaints by Gender (Total Number of Patients = 282)

Presenting Complaint	Number of Male Patients (n = 189)		Presenting Complaint	Number of Female Patients (n = 93)	
	n	%		n	%
1. Talking non-sense	119	63	1. Crying/sad	50	67
2. Aggressive and violent	102	54	2. Headache	49	53
3. Headache	89	47	3. Belly pain	35	38
4. Very active	68	36	4. Talking non-sense	35	38
5. Hearing voices.	51	27	5. Aggressive and violent	15	16
6. Seeing things	22	12	6. Hearing voices	13	14
7. Belly pain	22	12	7. Seeing things	11	12
8. Crying/sad	21	11	8. Very active	6	7
9. Others	74	39	9. Others	32	35

Note: Percentages total more than 100% because more than one complaint could be endorsed

6.5.4. Classification of Diagnoses as Made by the General Health Workers

The five leading mental health problems managed by the participants in the last three months prior to the study are indicated in Table 6.5 below.

Table 6.5. Five Common Mental Health Problems managed by Participants

Diagnoses	Number of Patients (N = 282)					
	Total		Male		Female	
	n	%	n	%	n	%
Depression	85	30	33	12	52	18
Schizophrenia	77	27	68	36	9	3
Substance use dis.	68	24	66	23	2	1
Sorcery	65	23	44	16	21	7
Spirit possession	49	17	40	14	9	3

Among the 189 (70%) male patients, schizophrenia was found to be most common, 68/189 (36% of males), closely followed by substance use disorder, 66 (35%); sorcery, 44/189 (23%) and spirit possession, 40/189 (21%). Whereas, among the 93 (33%) female patients, depression was found to be most common, 52/93 (56%), followed by sorcery, 21/93 (22%) and somatisation, 19/93 (20%). The differing diagnoses among the two gender groups are provided in Table 6.6.

Table 6.6. Diagnoses Made by Gender (Total Number of Patients = 282).

Diagnoses		Number of		Diagnoses		Number of	
		Male				Female	
		Patients (n = 189)				Patients (n = 93)	
		n	%			n	%
1.	Schizophrenia	68	36	1.	Depression	52	56
2.	Substance use dis.	66	35	2.	Sorcery	21	23
3.	Sorcery	44	23	3.	Somatisation	19	20
4.	Spirit Possession	40	21	4.	Anxiety dis.	12	13
5.	Personality dis.	34	18	5.	Personality dis.	10	11
6.	Depression	33	17	6.	Schizophrenia	9	10
7.	Anxiety dis.	26	14	7.	Spirit possession	9	10
8.	Magic	14	7	8.	Magic	3	3
9.	Witchcraft	11	6	9.	Substance use dis.	2	2
10.	Somatisation	4	2	10.	Witchcraft	2	2
11.	Amok syndrome	2	1	11.	Amok Syndrome	1	1
12.	Others	19	10	12.	Others	11	12

6.5.5. Validity of Health Worker's Diagnoses

The relationship between the presenting complaints/symptoms of the leading diagnoses of schizophrenia and depression were explored. Frequencies of specific complaints with signs and symptoms were checked. The results indicated that there were some cardinal symptoms for schizophrenia and depression that were correctly associated with the diagnoses.

Schizophrenia:

The characteristic symptoms of schizophrenia include delusions, hallucinations and disorganised speech. These were most consistent with the presenting complaints of hearing voices, seeing things and talking non-sense. Of the 77

patients diagnosed with schizophrenia, 81% (62) had at least one of these symptoms, 40% (31) had two of these symptoms and 20% (15) had all three symptoms. In theory these three complaints should also be the most frequently occurring symptoms but it was found that the most frequent symptoms for cases with schizophrenia were: talking non-sense (n = 55, 71%); followed closely by aggressive and violent (n = 54, 70%); hearing voices (n = 37, 48%); headache (n = 36, 47%), overactive (n = 32, 42%) and seeing things (n = 17, 22%). Seeing things was expected to be higher than overactive and headache but occurred less frequently than overactive and headache for those diagnosed with schizophrenia. Thus, 81% of patients diagnosed with schizophrenia had at least one of these complaints/symptoms and 71% had “talking non-sense” as a symptom. Whilst other symptoms were present, this suggests that at least some of the cardinal symptoms were consistent with the diagnosis.

Depression:

A total of 85 out of 282 patients had depression. The main complaints associated with a diagnosis of depression were, crying/sad followed by belly pain and headache. In PNG belly pain and headache are culture bound somatic symptoms. Therefore, they were expected to be associated with a diagnosis of depression. The frequencies of these three cardinal symptoms among 85 cases with depression were: headache (n = 54, 64%); followed by crying/sad (n = 47, 55%) and belly pain (n = 38, 45%). The frequencies of the three key complaints associated with a diagnosis of depression were the most frequently occurring symptoms out of all other complaints.

The findings suggest that the general health workers seem to recognise that there were predominant symptoms that relate to certain diagnoses. Their diagnoses were broadly consistent with presenting complaints.

6.5.6. Treatment Approaches Used

The types of treatments used to treat the patients were grouped into three groups: medication, traditional treatment and psychological treatment

(counselling) and most patients had a combination of either two or all three approaches.

Medication

The number of patients who received medication is as reported below:

- 65% (n = 184 patients, 139 males, 45 females) of patients received chlorpromazine,
- 16% (n = 45 patients, 37 males, 8 female) of patients received diazepam
- 6% (n = 16 patients, 14 males, 2 females) of patients received fluphenazine decanoate
- 3% (n = 8 female) of patients received amitriptyline.

Traditional Treatment

The number of patients who received traditional treatments is as follows:

- 12% (n = 34) of patient's treatment involved reconciliation (e.g. peace making)
- 9% (n = 25) of patient's treatment involved some form of compensation payment.
- 7% (n = 20) of patients received herbs or plants products and
- 2% (n = 6) of patient's treatment involved animal sacrifice.

Psychological Treatment

The number of patients who received psychological treatment included:

- 56% (n = 158) received individual counselling with a health worker.
- 51% (n = 144) received family counselling with a health worker.
- 32% (n = 90) received pastoral counselling with a pastoral worker.
- 15% (n = 42) received traditional counselling with a village leader or elder.

6.5.7. Cultural Based Diagnosis and Traditional Treatment.

A Chi-Square test was conducted to test whether those with culturally based ‘diagnoses’ more frequently received traditional treatment. The result of the test is reported in Table 6.7 below.

Table 6.7 Frequency of those with a Cultural specific Diagnosis who also received a Traditional treatment

		Traditional Treatment		
		NO	YES	Total
Culture Specific Diagnosis	NO	146	38	184
		79%	21%	
	YES	58	40	98
		59%	41%	
Total		204	78	282
		72%	28%	100%

Chi-square (n = 282, df=1) = 12.99, $p < .001$

A significant Chi-square test indicated that culturally based diagnosis was related to receiving traditional treatment. Those who received a culturally based diagnosis were almost twice as likely to also receive traditional treatment (41%) than those who did not receive a culturally based diagnosis (21%).

6.5.8. Length of Time Spent With Patients

The length of time spent with the patients on each visit ranged from 1 minute to 60 minutes. Slightly less than half, 97 (48%) of participants reported that they spent between 20 to 30 minutes while 57 (39%) spent more than 30 minutes with their patients. The mean length of time for each visit was 23.8 minutes (SD = 11.7). The largest group of patients, 97 (34%) were seen once every week, 58 (21%) were seen everyday and 31 (11%) were seen once every two weeks. Ninety-six, (34%) of the patients did not have any data provided regarding how often they were seen.

6.5.9. Clinical Outcome of the Patients

Participants reported that following treatment, half of the patients, 142 (50%) had a “much better outcome”, 88 (31%) got “a little better”, 37 (13%) “stayed the same” and only 6 (2.%) were considered to be “a little worse” or “much worse”. For 9 (3%) cases clinical outcomes were not reported.

6.5.10. Gender Differences

Hypothesis 1.

The most frequent presenting complaint for male patients will be aggression and violent behaviour.

This hypothesis was not confirmed. The most frequently occurring complaint for males was “talking nonsense” (63%, see Table 6.4), followed by aggression and violence (54%).

Hypothesis 2.

It was hypothesised that the most frequent diagnosis among male patients would be schizophrenia. Hypothesis 2 was confirmed in that schizophrenia was the most frequent diagnosis amongst male patients (36%, see Table 6.6). This finding confirms previous studies that also found schizophrenia to be common among male patients in PNG (Burton-Bradley, 1969, Torrey et al., 1974; Stavovy, 1996; Johnson; 1997). The finding also confirmed a global view that schizophrenia is a common mental disorder in psychiatric hospitals, but further to this it confirms that schizophrenia is also commonly seen in general practice at the community level. Substance abuse was also very prevalent and very close in frequency at 35% among male patients in this study.

Hypothesis 3.

Female patients will have a higher rate of depression than males.

The results were consistent with this hypothesis. Among female patients depression was the commonest diagnosis (see Tables 6.5 and 6.6). The results of a Chi square test assessing the proportion of males and females with a diagnosis of depression was significant χ^2 (n = 282, df = 1) = 43.77, p < .001 and indicated that a significantly higher proportion of females (56%) were diagnosed with depression than males (18%) as shown on table 6.8.

Table 6.8. Frequency Table for Females with a Diagnosis of Depression Verses Males

		Patient Gender		
		Males	Females	Total
Received a Diagnosis of Depression	YES	33	52	85
		18%	56%	30%
	NO	156	41	197
		82%	44%	70%
Total		189	93	282
		100%	100%	100%

Chi-square (n = 282, df = 1) = 43.77, p < .001

6.6. DISCUSSION

Part 2 of the study found that more male patients 189/282 (67%) had been recently treated for a mental health problem than female patients, 93/282 (33%). The higher proportion of male patients found in this study supports previous studies in PNG that reported more males than females receiving treatments for mental health problems (Sinclair, 1957; Burton-Bradley, 1969; Robin, 1979; Johnson, 1990; Stavovy, 1996).

Male's main presenting complaints were talking nonsense and aggression and violent behaviour. Whilst aggression and violence were not the main presenting complaints, they still occurred at a high rate. This finding was consistent with and also supported similar reports of earlier PNG studies (Sinclair, 1957; Burton-Bradley 1969; 1990; Robin, 1979; Johnson, 1990; Stavovy, 1996). PNG communities are generally very tolerant of people with mental illness as long as

it does not involve extreme aggression and violence. Patients are often brought to the health care setting when their aggression and violent behaviour can no longer be managed in the community. This is usually the case for male patients whose aggressive behaviour tends to be more frequent and difficult to manage compared to females. For example; this study found 102 (45%) of male patients were aggressive and violent, while only 15 (5%) females were found to be aggressive and violent. Since aggression and violence is common among male patients, these symptoms are also likely to become a source of labelling by the general community. Papua New Guineans are likely to label those with mental illness as aggressive and violent. This view is supported by Callan et al., (1983), who reported a sample of 133 high school students from PNG more frequently highlighted disruptive and violent behaviour as indicative of mental illness frequent than did 144 Australian high school youth's.

The present study found that more than half of the patients, 147 (52%) had been ill for 12 weeks or less, while 93 (33%) patients had been ill for more than 12 weeks prior to commencing treatment. Referral was made predominantly by the family (66%). The longer length of illness and delay in referral by family members is likely to occur when; the cause of the illness is difficult to establish, traditional treatment does not work, medication is sought as a symptomatic treatment or as a last resort and when the patient becomes overtly aggressive and is difficult to manage in the community.

There appeared to be a relationship between the presenting complaints/symptoms and the diagnoses made by health workers, even though the participants did not have access to diagnostic guides. Their diagnoses were broadly consistent with presenting complaints at least for those few disorders that could be checked. For example, hearing voices occurred relatively frequently in association with a diagnosis of schizophrenia.

The five most common diagnostic categories were: depression, (30%) of patients, schizophrenia, (27%), substance use disorder (24%), sorcery, (23%) and spirit possession (17%) of patients. Among male patients schizophrenia was the most common diagnosis. The finding supports Burton-Bradley (1960) and

Johnson (1997) who reported similar findings that schizophrenia was the most common cause of admission in Port Moresby General Hospital's acute psychiatric unit. Burton-Bradley (1960) reported 47% (215/454) of cases had a diagnosis of schizophrenia, while Johnson (1997) reported 49% (328/725) of cases had schizophrenia during the 1980 to 1989 period. Both reports also indicated admission of more male than female patients. Thus, in clinical practice schizophrenia, particularly in males appears quite prevalent.

Depression was found to be the commonest diagnosis among female patients. The finding regarding the incidence of depression in female patients is similar to findings in other countries that reported depression to be of high prevalence among women and relative to males (Gordon & Ledray, 1986; Lehtinen & Joukamaa, 1994; Wetzel, 1994; Weissman & Olfson, 1996; Stiver & Miller, 1997; Lindeman, 1999, Andrews et al., 1999; Fergusson et al., 2002;). In the Australian National Mental Health Survey, among those with affective disorders, most people met the criteria for depression, with women (92%) being higher than (82%) men (McLennan, 1997). Johnson (1990; 1997) reported depression as the third most common diagnosis among inpatients under specialist care in PNG. The present study extends these findings to a community-based sample managed by general health workers.

It is also possible that the high rates of depression particularly among females in treatment reflect increases in depression that have been reported worldwide. The WHO (2001) estimated depression to be the leading cause of disability worldwide, and also noted that this disorder may go under-reported in the developing countries due to inaccurate reporting and not being recognised as a major disease (Jablensky et al., 1999).

The high frequency of substance use disorder particularly amongst males (35%) was another important diagnostic finding of this study. Burton-Bradley (1969), did not report any substance use disorders and Johnson's (1997) study, reported only 1 (0.1%) case of cannabis induced psychosis in 1989. In Australia, the McLennan (1997) reported that young men were more prone to substance use disorders especially among young adults. Andrews et al., (1999) also reported

that in the past 12 month period prior to the National Mental Health survey, prevalence rate of substance use disorder indicated more males (11.1% out of 734,000) than females (4.5% out of 307,000) met the criteria for substance use disorder. The most used substance was found to be cannabis. The current researcher's observations are that, males in PNG generally consume alcohol, tobacco and cannabis more than females. This study did not identify what types of substances were used, however, based on the researcher's observations since 1990 cannabis use has become an increasing problem.

Cannabis induced psychoses are being increasingly reported in acute provincial psychiatric units and medical wards throughout the country. Due to lack of formal mental health information and reporting systems, this data remains anecdotal. Most people did not know that cannabis was a drug even though it was a weed growing throughout the country. It became more problematic among the young male population exacerbated in part by the banning of alcohol in the five highlands provinces. The findings of the present study suggest the need for further research into the types of drug abuse and more detailed studies regarding incidence and the relationship of substance abuse to other mental disorders (e.g. psychosis).

The culture specific diagnosis of sorcery was high for both gender groups (23%) while, spirit possession was also high among the male patients. This finding suggests that sorcery and spirit possession are commonly practiced in most areas of PNG and confirms that most serious and chronic physical and psychological illness are attributed to sorcery and spirit possession. Earlier, PNG studies support the current researcher's observation (Sinclair, 1957; Burton-Bradley & Julius, 1965; Burton-Bradley, 1990; 1972; Hamnett & Connell 1981; Frankel, 1986; Stephen 1987; Pulsford & Cawte 1972; Stavovy, 1996). Even more recent data from high school youths reveals that sorcery is still considered as a cause of mental illness (Callan et al., 1983).

A significant proportion of the patients treated by the participants were in their late teens through to middle age (16 to 40, 86%) with the majority being young adults (21 to 30 years, n = 143). Johnson (1997) reported similar findings

where 516/725 (71%) of patients in his sample were in the age range of 16 to 40 and similarly a considerable proportion was in the age group 21-30 (n = 267, 37%).

The patients in the present study also had a range of somatic bodily complaints rather than clear psychiatric complaints. This finding is also consistent with previous studies conducted in PNG (Sinclair, 1957, Burton-Bradley 1969; 1990; Pusford & Cawte, 1972; Hamnette & Connell 1981; Stavovy, 1996). The finding also supports a non-PNG study, which reports that somatisation is an idiom of stress and correlates with depression (Keyes & Ryff, 2003). This study found that females reported somatic symptoms more than males, which is consistent with the high rate of depression among females.

The results indicated that chlorpromazine and diazepam were most frequently used in treating patients. Chlorpromazine and diazepam (only in injectable form) are commonly prescribed and utilised by the general health workers who participated in this study but not by CHWs. Medications were also found to be used based on the availability of the types of medication not necessarily based on the effectiveness or appropriateness of the medication for the given diagnosis. For example, amitriptyline is generally the medication of choice for depression, but only 3% (n = 15) of the 52 female patients with depression received the medication. This is due to amitriptyline not being available in the rural health care settings where the participants of this study practice. In addition, HEO's NO's and CHW's are not allowed to prescribe amitriptyline as it is a category B drug, (See Tables 2.4 & 2.5 .6) which means it can only be prescribed by medical practitioners (PNGNDOH, 1996).

However, the findings indicate that those who received culture specific diagnoses were almost two times more likely to receive traditional treatment. Of those who did not receive a culture specific diagnosis, half of them still went on to receive traditional treatment. This indicates that traditional treatment is still very much used despite some of the traditional treatment methods not being approved by the NDOH. Because some methods are not approved they may not have been reported as frequently as in actual practice.

These practises include aspects of sorcery and witchcraft, which are also feared and not openly discussed.

A significant proportion of patient's utilised psychotherapy or counselling services provided by health workers individually or with other family members. These were followed by counselling services provided by pastoral workers. A low proportion used traditional counselling with a village leader. The main explanation for the low rate of utilising traditional counselling may be the lack of privacy and confidentiality in traditional counselling. There is usually little privacy with traditional counselling. The close-kin village community usually means that everyone in the village knows everything about everyone. Traditional counselling usually results in the counsellor telling the client what to do. For example if the counsellor felt that a person has been wronged by another and as a result the person becomes sick then, the person who is responsible for bringing the illness upon the person who is ill has to make some form of payment. This is a form of compensation to assist recovery of the sick person. The sick person will then have to accept the payment and shake hands or partake in sharing a drink or meal from the same container or plate with the offender as part of the reconciliation. In many cases the sick person often recovers rapidly.

The results indicate that most health workers were providing care for patients with mental health problems in their local communities. They estimated that about 81% of patients got at least "a little better" since first being identified. Talking non-sense and aggression were the main presenting complaints for males whereas headaches, crying and sadness were the main complaints for female patients. Consistent with this, for males the most frequent diagnoses were schizophrenia and substance abuse, whereas for females it was depression. At least 65% of patients received some form of medication, at least 56% received counselling and at least 28% received a traditional cultural approach to treatment. These findings are broadly consistent with research from other developing countries that indicate an emphasis on community treatment with strong family support networks being utilised (Nunley, 1988; Mosher, 1999; Waxler, 1979; Ohnuki-Tierney, 1984; Sartorius et al., 1986).

CHAPTER SEVEN

STUDY PART 3

Assessment of Pre and Post Mental Health Workshop Training: Diagnosis and Treatment Options using assessment of Video case vignettes.

7.1. INTRODUCTION

This final part of the study (Part 3) focuses on pre and post mental health training workshop outcomes. It involves assessing general health worker's ability to identify, diagnose and treat three common mental disorders consistent with ICD-10 and DSM-IV diagnostic criteria of schizophrenia, depression and substance use disorder. The three cases were presented in the form of video case vignettes (Video on compact disc attached inside back cover of thesis) and represent problems frequently seen in both general and specialist health facilities in PNG. The health worker's level of knowledge was assessed prior to training and then after training to assess knowledge change as a result of the training workshops. The measurements used to gather data, the results of the study and the implications of the findings are discussed in this chapter.

7.2. AIM

The aim of study part 3 was to assess the impact of training using a pre/post knowledge test. Specifically to assess knowledge change in participant's ability to identify, diagnose and treat common mental health problems in PNG.

7.3. MEASURE

Video Case Studies (Video on compact disc attached back cover of thesis)

The pre and post-test questionnaire was developed based on three video case studies that depicted cases involving presentations consistent with schizophrenia, depression and substance use disorder (See Appendix 9 or

compact disc). In addition, the cases were also designed to include possible cultural belief components: For example, Case One: “Joe” depicted a 24 year old university student with schizophrenia being admitted to the hospital. Two days after admission, Joe’s family wanted to take him back to the village to try traditional treatment because they felt that two days of western treatment had not helped. They believed that Joe’s girlfriend’s family had used sorcery in retaliation for Joe making her pregnant and then refusing to marry her.

Case Two: “Kutan” depicted a 27-year-old mother with depression. Several health professionals had seen her over the previous six months with presentation of somatic bodily complaints. She had undergone several blood and other tests to rule out possible physical causes of her illness. None of the treatments for her physical complaints had helped her. Her behaviour had changed six months previously after the loss of her third child, which had not been discussed until her current presentation. The baby was taken from her after birth and was given to her husband’s childless aunt for adoption (in her culture it is permitted for children to be given up for adoption to childless relatives). The depth of depression she suffered required antidepressant medication as well as some form of culturally appropriate psychological treatment to enhance recovery. Such an approach might include compensation payment and arrangements to be made for the patient to have access to her child.

Case Three: “Mark” a 17-year-old high school student with substance abuse and a possible secondary diagnosis of early onset schizophrenia. His behaviour had changed since he started hanging out with his friends who take drugs (cannabis and alcohol). He had also been getting into fights with his cousin, and broke his cousin’s arm. His cousin demanded compensation for his injury. Mark had to make peace with his cousin as well as get treated for his substance abuse problem. Since Mark had not been his normal self, his family wondered if a spirit possessed him or his behaviour was the result of the work of a sorcerer.

The three video cases were reviewed by a practising Papua New Guinean Psychiatrist and confirmed the presentations were consistent with the diagnostic entities they aimed to depict. Each of the cases was role played by PNG health

workers, who were students at the University of Wollongong. The videos were spoken in *Tok Pisin* and back translated into English in a written transcript (See Appendix 9). The transcript was made available to the participants to use in conjunction with viewing the videotaped cases. This allowed for further clarification in case of any misunderstanding related to the use of *Tok Pisin* language on the videotaped cases.

The video case questionnaire items were broadly designed to first have respondents identify appropriate signs and symptoms, then suggest the most appropriate diagnosis and finally, suggest the most appropriate form of treatment. Respondents were asked, "What are the signs and symptoms for each case?" Participants checked a list of 10 presenting signs and symptoms and placed a tick in the appropriate box (es) next to each sign or symptom. Participants were instructed to tick more than one sign and symptom according to their assessment of the case.

Respondents were then asked to "Number the diagnoses that you think are appropriate in order of importance for each case". A list of 11 diagnoses was provided for participants and included: personality disorder, schizophrenia, sorcery, anxiety disorder, depression, spirit possession, substance use disorder, magic, somatisation, amok syndrome and witchcraft. Participants made their diagnosis by placing the numbers 1, 2 and 3 in a box under each case to indicate the order of priority. For example, the priority or primary diagnosis would be indicated by number 1, secondary diagnosis to be indicated by number 2. Participants were also permitted to tick two additional options of "no appropriate diagnosis" and "don't know, not sure which diagnosis is appropriate".

The third part of questionnaire included a range of treatment approaches which were broadly grouped into medication, traditional treatment and counselling. The medication list was based on the available psychotherapeutic medications in PNG Health Department's system. Participants were asked to rate the appropriate treatments for each case. The list of medications included; amitriptyline, chlorpromazine, diazepam, fluphenazine decanoate, haloperidol,

olanzepine, fluoxetine. The list of traditional treatments included: animal sacrifice, use of herbs/plants, compensation/payments and reconciliation.

The list of counselling approaches included: individual counselling with a health worker, family counselling with a health worker, traditional counselling with a village leader and pastoral counselling with a pastoral worker. Participants were asked to indicate the appropriateness of the treatment they endorsed by using a rating scale, ranging from 0 to 4 (0 = Don't Use It, 1 = Not Good, 2 = Its Ok, 3 = Good, 4 = Very Good) with a 5th option of Don't Know. The response scale options were selected based on their ability to be appropriately translated into *Tok Pisin*. Additional global items were used to assess the general rating for medication, counselling and traditional treatment approaches. The items were, "How good is medication for this case", "How good is counselling for this case" and "How good is traditional treatment for this case".

The final part of the post-test questionnaire asked participants to rate themselves on their knowledge and understanding of a range of disorders: schizophrenia, depression, personality disorder, anxiety disorder, substance use disorder, amok syndrome, magic, sorcery, and spirit possession. These disorders and other mental health issues were covered during the training (See Appendix 10 for outline of training program). Ratings for each item were made on a 5-point Likert-type scale (very poor, poor, fair, good, very good). Participants were also asked to self-rate their knowledge on the three types of treatment approaches (medication, traditional treatment and counselling) using the same scale. The final part of the post-test included a final item asking about the need for additional training in mental health. The item was "How much additional training in mental health do you think you need?" Participants were asked to use a 5-point Likert-type response scale (none, not much, fair amount, much, a great deal).

7.4. PROCEDURE

The pre-test part of the questionnaire was administered on day one prior to commencing the five-days training to assess current level of knowledge. English transcript of the videotaped cases was also made available for the participants but collected after the pre-test was completed only to be made available again with post-test on the last day of the workshop.

The researcher presented the three-videotaped case vignettes individually. After viewing each case the participants immediately completed the case component of the research questionnaire. Consistent with other studies that ask clinicians to allocate a diagnosis (e.g., Jorm et al., 2000) this study allowed participants to select both broad ICD-10 and DSM-IV diagnostic categories (e.g. schizophrenia) and culture specific disorders (e.g. amok, sorcery). After all three video cases had been viewed and rated, the researcher collected the completed questionnaires.

After collection of the pre-test data, the formal 5 days of training commenced. During the five-days training a broad range of topics in mental health were taught (See Appendix 10 for topics covered during the training including the three disorders presented in the video (schizophrenia, depression and substance abuse). The participants did not view the video case studies again nor discussed the specific cases during the training. The video cases were not reviewed again until after completing training at the end of the 5th day.

On the 5th day at the end of the training, the same pre-test questionnaire was then readministered as a post-test to assess post-training knowledge change or to assess training outcomes. During the post-test, the same procedure for collecting pre-test data was applied.

7.5. RESULTS

Results of each video case are presented case-by-case in this section. A number of signs and symptoms were expected to be endorsed for each case as noted

below in Table 7.1. The inclusion of these signs and symptoms were based on diagnostic criteria and previous studies in PNG (Rodrique, 1963; Pulsford & Cawte, 1972; Burton-Bradley, 1990; Stavovy, 1996). The most appropriate or primary diagnoses based on video case content were: schizophrenia for Case 1, depression for Case 2 and substance use disorder for Case 3 with a possible secondary diagnosis of early onset schizophrenia for Case 3.

The results of this part of the study are predominantly descriptive frequencies for types of signs and symptoms and, diagnoses and treatment approaches used are presented in tables. Apart from descriptive results, paired t-tests were used to test pre-post training differences in the number of signs and symptoms identified correctly. Wilcoxon signed ranks tests were performed to assess pre-post training endorsement of correct diagnosis and medication use for case studies.

7.5.1. Signs and Symptoms

A number of signs and symptoms were identified as appropriate in making the primary diagnoses for each video case vignette and for the secondary diagnosis for case 3. These expected signs and symptoms are listed as notes under Table 7.1. The total number of these signs and symptoms for each participating health worker was calculated. The expected signs and symptoms for each case's primary diagnosis were identified by a large number health workers during pre-test and remained high during post-test. Table 7.1 presents a summary of the number of participant's identifying each of the signs and symptoms for the three video case vignettes.

Paired sample t-tests were performed between the number of signs and symptoms correctly identified at pre-test compared to post-test. For Case 1, there was no significant difference between the seven correctly identified signs and symptoms from pre-test mean ($M = 6.30$, $SD = 1.09$) to post-test mean ($M = 6.41$, $SD = .93$), $t(207) = -1.54$, $p = .12$.

For Case 2, depicting depression there were six possible signs and symptoms. A paired sample t-test indicated a significant increase in the number of signs and symptoms identified from pre-test ($M = 3.89$, $SD = 1.16$) to post-test ($M = 4.13$, $SD = .99$), $t(206) = -4.06$, $p = .000$.

Similarly, for Case 3, a paired t-test also revealed a significant increase in the mean number of symptoms correctly identified for the primary diagnosis from pre-test mean ($M = 5.96$, $SD = 1.54$), to post-test ($M = 6.19$, $SD = 1.25$), $t(205) = -2.64$, $p = .009$. Thus, for cases 2 and 3 there were improvements in the correct identification of the number of signs and symptoms over the course of training.

Table 7.1. Summary of Identification of Signs and Symptoms for Each Case

Signs/Symptoms	Case 1				Case 2				Case 3			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%	n	%	n	%
Aggressive and violent	205	98	206	99					175	84	196	94
Not eating well and losing weight	195	93	198	95	194	93	203	97	190	91	194	93
Poor performance at school	198	95	198	95					202	97	205	98
Thought disordered	177	85	180	86	65	31	59	28	73	35	42	20
Sad and tearful everyday					202	97	205	98				
Hearing voices	201	96	202	97					7	3	4	2
Poor self care	168	80	164	79	119	57	133	64	156	75	168	80
Social withdrawal					191	91	192	92	85	41	92	44
Disturbed sleep	174	83	188	90	108	52	127	61	162	78	194	93
Hangs around with people who drink and use substance									190	91	193	92

Note: Expected signs and symptoms for case 1 (schizophrenia) were: Aggressive and violent, not eating well and losing weight, poor performance at school, thought disordered, hearing voices, poor self-care and disturbed sleep. Expected signs and symptoms for case 2 (depression) were: Not eating well and losing weight, sad and tearful everyday, poor self care, social withdrawal, disturbed sleep and thought disordered was included as a significant number of health workers indicated it. Expected signs and symptoms for case 3 (primary diagnosis of substance use disorder with a secondary diagnosis of early onset schizophrenia) were: all of the signs and symptoms on the list in the table except sad and tearful every day.

7.5.2. Endorsement of Diagnoses

Table 7.2 provides descriptive data regarding the diagnoses with the highest endorsements for the three cases at pre-test and post-test. In addition Wilcoxon signed rank tests were performed to test whether there was a significant increase in the number of health workers endorsing the correct primary diagnosis for the cases. The summaries for these analyses are provided in Table 7.3.

Case 1: Primary Diagnosis – Schizophrenia

The primary diagnosis for case 1 was correctly endorsed by 89 (42%) out of 209 health workers during the pre-test and increased to 173 (83%) during post-test. Seventy health workers chose other diagnoses for Case 1, (e.g., 33% chose personality disorder at pre-test, but only 15 (7%) chose this diagnosis during post-test). Similarly, other diagnoses (anxiety, sorcery and depression) were chosen as the primary diagnosis during pre-test but later decreased to even smaller numbers during post-test (Table 7.2).

Table 7.3 summarises the results of the Wilcoxon signed ranks tests which indicated that only 9 participants who endorsed the correct diagnosis for Case 1 during pre-test incorrectly changed to the wrong diagnosis during post-test. While 93 participants who endorsed the incorrect diagnosis during pre-test, changed to endorsing the correct diagnosis during post-test. Whereas, 107 participants remained unchanged during pre and post-test ($Z = -8.32$, $p < .001$). The result was significant.

Table 7.2. Endorsement of Primary Diagnoses for the Three cases

Diagnosis	Case 1 (Schizophrenia)			Case 2 (Depression)			Case 3 (Substance Use Disorder, possible Schizophrenia)		
	Pre-test	Post-test		Pre-test	Post-test		Pre-test	Post-test	
	N	%	N	%	N	%	n	%	n
Personality disorder	70	33	15	7	10	5	18	9	10
Schizophrenia	89	42	173	83	1	.5	1	.5	8
Sorcery	15	7	4	2					1
Anxiety	17	8	9	4	14	7	10	5	3
Depression	10	5	4	2	180	86	182	87	2
Substance use disorder	1	.5					2	1	179
							86		183
									88

Note: Diagnoses of spirit possession, magic, somatisation, amok syndrome, and witchcraft were excluded from this table due to less than 5 health workers endorsing these diagnoses across all three cases.

Table 7.3: Summary of Wilcoxon Signed Ranks Tests for Endorsement of Correct Diagnosis

Cases	Pre-test		Post-test		Negative ^a		Positive ^b		Ties ^c		Wilcoxon Signed Ranks - Z
	n	(%)	n	(%)	n	(%)	n	(%)	n	(%)	
Case 1 Schizophrenia (Primary)	89	(43)	120	(57)	173	(83)	36	(17)	9	107	- 8.32 **
Case 2 Depression (Primary)	180	(86)	29	(14)	182	(87)	27	(13)	15	177	- 0.35
Case 3 Substance Use Disorder (Primary)	179	(86)	30	(14)	183	(88)	26	(12)	15	175	- 0.69
Case 3 Schizophrenia (Secondary)	22	(11)	187	(89)	63	(30)	146	(70)	7	154	-5.53 **

Note: a. represents number of cases where subjects indicated “yes” at pre-test and then “no” at post-test (negative change)

b. represents number of cases where subjects indicated “no” at pre-test and “yes” at post-test (positive change)

c. represents no change from pre to post-test

** . p < .001

Case 2: Primary Diagnosis – Depression

A high percentage of participants, 86% (n = 180) endorsed the correct diagnosis at pre-test and this remained unchanged and high at post-test 87%, (n = 182).

A Wilcoxon signed rank test (Table 7.3) indicated that 15 participants changed from endorsing the correct diagnosis during pre-test and endorsed the wrong diagnosis during post-test. While 17 participants changed from endorsing the wrong diagnosis during pre-test to endorsing the correct diagnosis during post-test and 177 participants remaining unchanged during pre and post-test ($Z = -0.35$, $p > .05$). The result was not significant.

Case 3: Primary Diagnosis – Substance Use Disorder, Secondary Diagnosis – Early Onset Schizophrenia.

For Case 3, both the primary diagnosis and secondary diagnosis were considered. The Primary diagnosis for case 3 was correctly made by 86% (n = 179/209) of participants, during pre-test and increased to 88% (n = 183) during post-test. The Wilcoxon signed rank test was not significant ($Z = -0.69$, $p > .05$). Fifteen participants who endorsed the correct primary diagnosis during pre-test changed their mind and did not endorse it during post-test. Nineteen participants who did not endorse the correct diagnosis during pre-test changed to endorsing the correct diagnosis during post-test. A further 175 participants endorsed the same primary diagnosis at pre and post-test.

The secondary diagnosis for case 3 was endorsed by only 11% (22) participants during pre-test and increased significantly to 30% (63) of participants at post-test, $Z = -5.53$, $p < .001$ as indicated in Table 7.3. However, the absolute numbers remained relatively low.

7.5.2.1. Endorsement of Any Culture Specific Diagnosis

The number of culture specific diagnoses that received any endorsement (either primary, secondary, etc) was explored. In general, culture specific diagnoses were not frequently endorsed as primary diagnoses for any of the cases.

Sorcery was the most endorsed culture specific diagnosis for Case 1 with 115 (55%) participants selecting this as a potential diagnosis at pre-test. The number continuing to endorse this at post-test remained essentially the same 113, (54%). However, sorcery was endorsed by 5 (2%) participants for Case 2, during pre-test and an even smaller number of 2 (1%) endorsed sorcery during post-test. For Case 3 only 15 (7%) participants endorsed sorcery during pre-test and the number remained much the same during post-test, 13 (6%).

Spirit possession was endorsed by 34 (16%) participants for Case 1 during pre-test and remained much the same at 32 (16%) during post-test. Only 11 (5%) endorsed spirit possession for Case 2 during pre-test and this decreased further during post-test to only 4 (2%). Case 3 received an endorsement of spirit possession by 5 (2%) participants during pre-test and only 1 (.5%) participant endorsed spirit possession during post-test.

Magic was endorsed as a diagnosis for Case 1 by 28 (13%) participants during pre-test and remained unchanged during post-test, while cases 1 and 3 were both endorsed by less than 5 participants. Witchcraft was endorsed as a diagnosis for Case 1 by 56 (27%) of the health workers during pre-test and by 21 (10%) during post-test. Only 3 participants endorsed witchcraft as a diagnosis for Case 2 during pre-test. A summary of any endorsement of culture specific diagnosis is reported in Table 7.4.

Table 7.4. Summary of Any Endorsement of Culture Specific Diagnosis

Diagnosis	Case 1				Case 2				Case 3			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%	n	%	n	%
Sorcery	115	55	113	54	5	2	2	1	15	7	13	6
Spirit possession	34	16	32	15	11	5	4	2	5	2	1	.5
Magic	28	13	28	13	5	2	2	1	1	.5	2	1
Witchcraft	56	27	21	10	3	1	0	0	0	0	0	0

Note: Amok syndrome was excluded as only 1 person endorsed it across the three cases

7.5.3. Endorsement of Treatments

Treatment was divided into three parts, medication, counselling and traditional treatment. Participants were asked to recommend what they thought was the best treatment for each case by endorsing a list of psychotropic medications potentially available in the PNG public health care system. However, the analyses focused on only the three commonly used and available medications; amitriptyline, chlorpromazine and diazepam. Diazepam is only available to HEOs and NOs in injectable form. The other medications were in general not available to respondents, thus the rates of endorsement were very low.

Table 7.5 provides the means and standard deviations for endorsement of relative use of each of the medications for each case. However, the distributions for some of the variables were highly skewed. For example, only 3 respondents endorsed "Don't use it" or "Not good" for the use of chlorpromazine for Case 1. Thus, response points were collapsed into categories so that non-parametric analyses could be conducted. The response categories of "do not use it" and "not

good" were combined to indicate the tendency to "not use" a particular treatment for the case. Similarly, the categories of "its ok", "good" and "very good" were combined to reflect relative endorsement or "use" of a particular strategy. There tended to be more "don't know" responses on the medication items at pre-test compared to post-test. This may have been a function of higher levels of uncertainty that respondents had at pre-test prior to training. This uncertainty decreased after training. The decrease was indicated by an increase in the number of participants responding and endorsing treatments during post-test.

7.5.3.1. Medication

Case 1: Primary Diagnosis – Schizophrenia

Table 7.6 provides the frequencies of participants who endorsed "use" or "not use" for specific medications for each case at pre and post-test. At pre-test, 21% (23/111) endorsed use of amitriptyline and at post-test this increased to 30% (60/198) but remained relatively low compared to those who did not endorse the medication. The increase in the latter figure is due in part to increases in the number of health workers responding during post-test. Encouragingly, almost all endorsed the use of chlorpromazine at both pre-test 201 (99%) and post-test 198 (97%). Similarly, 189 (96%) endorsed the use of diazepam at pre-test and a similar number endorsed it at post-test 193 (94%). Thus, the uses of chlorpromazine and diazepam were considered the most appropriate drug treatments for Case 1.

Table 7.5. The Means and SDs for Endorsement of Relative Use of Each of the Medications for Each Case.

Medication	Pre-Test		Post-Test	
	M	SD	M	SD
Case 1				
Amitriptyline	0.89	1.34	0.83	1.31
Chlorpromazine	3.49	0.75	3.75	0.73
Diazepam	2.88	0.89	2.85	0.96
Case 2				
Amitriptyline	3.39	1.74	3.46	1.19
Chlorpromazine	1.89	1.84	1.29	1.49
Diazepam	1.94	1.77	1.18	1.39
Case 3				
Amitriptyline	2.42	2.36	1.00	1.54
Chlorpromazine	2.71	1.48	2.62	1.39
Diazepam	2.47	1.60	1.90	1.35

Table 7.6. Frequencies of health workers who endorsed "use" or "not use" for specific medications for each case.

Medication	Pre-test		Post-Test				Negative ^a		Positive ^b		Wilcoxon Signed Ranks - Z	
	Use		Not Use		Use		Ranks		Ties ^c			
	n	%	n	%	n	%	n	%	n	%		
Case 1												
Amitriptyline	23	21	88	79	60	30	130	70	9	8	94	-2.243
Chlorpromazine	201	99	3	1	198	97	7	3	5	2	193	-1.134
Diazepam	189	96	9	4	193	94	13	6	10	8	179	-4.71
Case 2												
Amitriptyline	90	73	33	27	180	90	21	10	1	23	97	-4.491
Chlorpromazine	81	45	98	55	71	35	134	65	32	16	129	-2.309 **
Diazepam	91	51	87	49	75	37	130	63	36	17	123	-2.610 **
Case 3												
Amitriptyline	8	7	106	93	45	23	153	77	3	12	98	-2.324 **
Chlorpromazine	146	81	34	19	164	80	41	20	9	14	155	-1.043
Diazepam	124	73	47	27	136	67	67	33	16	17	136	-1.74

Note: a. represents number of cases where subjects indicated "yes" at pre-test and then "no" at post-test (negative change)
b. represents number of cases where subjects indicated "no" at pre-test and "yes" at post-test (positive change)
c. represents no change from pre to post-test
*** $p < .001$, ** $p < .01$, * $p < .05$

Case 2: Primary Diagnosis - Depression

It was notable that at pre-test, fewer participants 90/123 (73%) endorsed amitriptyline and this increased to 180/201 (90%) at post-test. Thus, not only was there strong endorsement of this treatment, there was also an increase in use from pre to post-test. At pre-test 81/179 (45%) endorsed the use of chlorpromazine and this decreased to 71/205 (35%). At pre-test 91/178 (51%) endorsed the use of diazepam but this reduced to 75/205 (37%) at post-test. Fewer respondents provided a response during pre-test but this increased at post-test. Thus, there was an increase in the endorsement of the correct medication (amitriptyline) during post-test. While the number of respondents endorsing chlorpromazine and diazepam decreased.

Case 3: Primary Diagnosis – Substance Use disorder, Secondary Diagnosis - Early Onset of Schizophrenia

A large number of participants (106/114, 93%) did not endorse amitriptyline for Case 3 during pre-test and this increased dramatically to 153/198 (77%) during post-test. Only 8/114 (4%) endorsed the medication as treatment for Case 3 during pre-test and this increased to 45/198(23%) during post-test. This indicates that amitriptyline was not viewed as the treatment for Case 3 by a large number of the respondents.

At pre-test 146/180 (81%) endorsed chlorpromazine and this remained high with 164/205 (80%) participants endorsing chlorpromazine at post-test. Diazepam was endorsed as treatment for Case 3 by a high proportion of health workers during the pre-test (124/171, 73%), the number increased to 136/203 (67%) but percentages remained relatively stable at post-test.

7.5.3.2. Counselling

Generally, counselling was favoured as a treatment for all three cases by participants during both pre and post-tests. Table 7.7 indicates the percentage of health workers who recommended using a counselling option for each of the cases. This ranged from a low of 94% to 99.5%.

Table 7.7. Endorsement of Counselling for Each Case

Case	Pre-test				Post-test			
	Use		Not Use		Use		Not Use	
	n	%	n	%	n	%	n	%
Case 1	192	97	6	3	202	98	4	2
Case 2	194	98	4	2	204	99.5	1	.5
Case 3	196	94	2	1	206	99	1	.5

7.5.3.3. Traditional Treatment

Table 7.8. Summarises the endorsement of any traditional treatment for each video case vignette.

Table 7.8. Endorsement of traditional Treatment

Traditional Treatment	Pre-test				Post-test			
	no		yes		no		yes	
	n	%	n	%	n	%	n	%
Case 1								
Animal sacrifice	120	66	62	34	131	66	66	34
Herbs/plants	63	35	116	64	80	41	113	59
Compensation/payment	30	14	163	84	35	18	165	83
Reconciliation/shaking hands	14	7	182	93	19	10	180	90
Case 2								
Animal sacrifice	180	96	8	4	192	96	8	4
Herbs/plants	121	64	69	36	115	65	63	35
Compensation/payment	45	23	149	77	40	20	163	80
Reconciliation/shaking hands	20	10	178	90	16	9	167	91
Case 3								
Animal sacrifice	183	97	6	3	198	98	4	2
Herbs/plants	117	68	55	32	145	72	57	28
Compensation/payment	167	89	21	11	178	89	21	11
Reconciliation/shaking hands	139	71	56	29	156	78	45	22

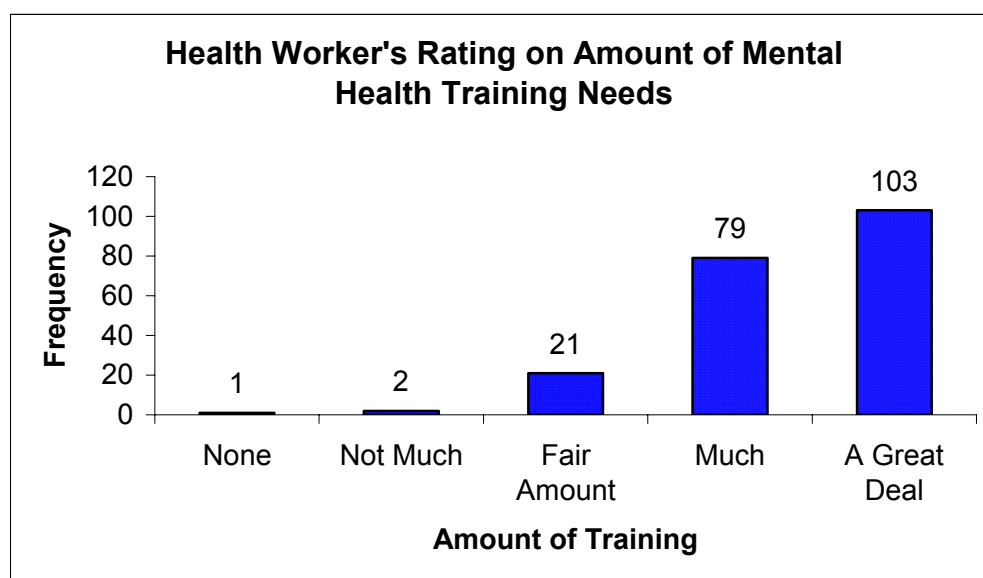
Note: no = number of participants who did not endorse the treatment approach
yes = number of participants who endorsed the treatment approach

For Cases 1 and 2, the use of herbs/plants, compensation/payments and reconciliation during both pre and post-test were relatively frequently endorsed (35% to 93%). Only for Case 1 was animal sacrifice endorsed with any notable frequency (34% at both pre and post-test). Case 3 had the lowest levels of endorsement of traditional treatments across the three cases.

7.5.3.4. Additional Post-test Questions

The health workers were asked after the training as part of a post-test if they needed more training in mental health in the future and if so, how much. Most indicated more training was required. The responses, 103 (50%) indicated that health workers needed a great deal of additional mental health training, 79 (38%) indicated much training is needed and 21 (10%) indicated that a fair amount of training is needed for health workers in future. The responses are in shown in Figure 7.1.

Figure 7.1. Future Mental Health Training Needs.



7.6. DISCUSSION

The signs and symptoms presented in the video cases considered relevant to each of the diagnostic presentations were not exhaustive, but were representative of the types of symptoms relating to the diagnostic entity. In

general, participants were able to recognise the appropriate signs and symptoms for most cases, but particularly case 1. There were significant increases in identification of signs and symptoms from pre-test to post-test for cases 2 and 3.

Whilst participants were able to recognise the appropriate signs and symptoms for case 1, schizophrenia they had much more difficulty identifying the appropriate diagnosis for this case. This was indicated by a spread of participants endorsing other diagnoses from the list provided. Only 89 (43%) participants endorsed the correct diagnosis during pre-test. A dramatic increase in the percentage of those endorsing the correct diagnosis was found at post-test (83%). Similar results were found for the secondary diagnosis of schizophrenia for case 3. Even though the correct endorsement was low, there was a significant increase from pre-test (11%) to post-test (30%). The participants generally had difficulty in identifying schizophrenia and endorsing it as a diagnosis during pre-test but this improved during post-test. This finding was also indicated by findings in part one of this study, which indicated that participants were less confident in diagnosing schizophrenia.

This study found that participants were better able to identify and diagnose mental health problems such as depression and substance use disorder but found it difficult to diagnose complex presentations such as schizophrenia. This finding is consistent with those of Samiak and Vince (2000) who reported similar findings with paediatric problems in PNG. Health workers (NOs and CHWs) were generally competent with simple presentations but had difficulty in diagnosing and managing more complex paediatric problems.

Sorcery was frequently endorsed as a cause/diagnosis for case 1 at both pre-test and post-test. The finding supports earlier PNG studies that reported sorcery as being commonly believed and practiced and that almost all serious illnesses were attributed to sorcery (Burton-Bradley & Julius, 1965; Burton-Bradley, 1972; 1990; Pulsford & Cawte, 1972; Hamnette & Connell, 1981; Frankel, 1986; Stephen, 1987; Stavovy, 1996).

Medication endorsed for the cases depended on the availability and category (e.g., Category A) of medication available to the three groups of health workers involved in the study. A large number of participants endorsed Chlorpromazine

for cases 1 and 3, followed by diazepam. A large number of participants endorsed amitriptyline for case 2, followed by chlorpromazine. In general fewer participants responded during pre-test in endorsing medication but the number of respondents increased during post-test. This result may be partially influenced by the lack of knowledge and confidence around treatment selection but this improved with training. Counselling was recommended for all cases by of the vast majority of participants during pre-test and this remained high during post-test.

Animal sacrifice was not endorsed by a high number of participants during both pre and post-test for all three cases. However, for case 1 a third of the respondents endorsed this as a treatment. A large number for both cases 1 and 2 recommended reconciliation and compensation payments (80% to 90%). There appeared to be a relationship between the extent of underlying social problems embedded in the case and the endorsement of reconciliation or compensation as treatment approaches. The underlying social problems needed to be solved between the patient's family members and concerned individuals or family groups.

However, for what was viewed as predominantly substance abuse problem (Case 3) reconciliation was endorsed by less than a third of the health workers. However, traditional treatment was generally not recommended for Case 3. The causes of the problems related to substance abuse, but the underlying reasons for this substance abuse were less clear. Substance abuse is a relatively new and seemingly growing problem in PNG and as a result there are no traditional treatments.

Findings of part 3 of the study indicate that there were significant positive changes in some knowledge domains after the training. Improvements in confidence (and possibly knowledge) were also suggested by a decrease in the number of "don't know" responses at post-test. Despite these improvements, the participants of this study also indicated a great need for further training in mental health for general health workers.

CHAPTER EIGHT

Discussion/Limitations

8.1. INTRODUCTION

This discussion chapter integrates the findings across all three parts of the study and links the aims of the study and background literature. The chapter discusses training issues and the possibility of reorganising mental health services to enhance care at the primary level. This chapter also discusses possibilities regarding the integration of traditional and western treatment based on the study's findings. The importance of the family and community support network and the need for a mental health information system are also highlighted. This chapter also presents the limitations of the study.

8.2. THE STUDY FINDINGS, AIMS AND BACKGROUND LITERATURE

In PNG general health facilities are utilized more than the limited specialist mental health services. Mental health problems seen in general health facilities in PNG seem to be increasing as reported by an editorial comment in the PNG Medical Journal by Crouch-Chivers, (1998: 100): "Much illness presenting at outpatient departments and general practices is psychosomatic in origin and maybe related to loss of esteem, feeling of guilt or overt poverty secondary to the social disruption, caused directly or indirectly by industrial development". The demand for mental health services is increasing in general health facilities as is indicated by an increasing number of patients presenting at general health facilities with illness of psychosomatic origins.

At the same time literature also indicates that there is general lack of mental health knowledge among general health workers (and people with mental health problems often go unrecognised and untreated. Those who are recognised are

likely to receive inappropriate treatment (WHO, 1982; Sartorius, 1997; Phan & Silove, 1997; Tabassum, 1998; Tobin & Norris, 1998).

The results across the three parts of this study confirmed that across the three categories of general health workers there were low levels of confidence in identifying and diagnosing mental health problems. Whilst there was relatively low level of confidence, health workers demonstrated that they were generally able to identify and diagnose depression and substance use disorder. They were able to identify expected cardinal culture bound somatic symptoms associated with presentations (e.g., belly pain). Health workers were not confident in identifying and diagnosing schizophrenia.

Schizophrenia was one of the disorders health workers had most difficulty in accurately identifying and diagnosing. This was reflected in a less than ideal match between the types of complaints identified and the diagnosis of schizophrenia. Health workers had difficulty in distinguishing cardinal symptoms versus other associated symptoms such as aggression. However, the results suggested that with training the rates of correct identification of schizophrenia both as a primary and potential secondary diagnosis were improved (e.g., video case 3). This result indicates that general health worker's knowledge can be improved by training.

The low level of confidence found across the three parts of the study were likely related to limited prior mental health training these categories of health workers had during their basic training. There was also relatively less access to postgraduate training in mental health for HEOs and CHWs while NOs have a postgraduate mental health nursing program in place.

The findings of this study clearly highlight the need for more training in mental health at the basic training level and/or continuing education following basic training. The need for retraining of those in the field in mental health was reiterated by findings of this study and echo the views expressed in earlier studies in PNG and other developing countries (Pulsford & Cawte, 1972; WHO, 1982; Chakraborty, 1991).

The focus of such training should be related to better understanding presentations of schizophrenia, appropriate use of medications for specific disorders, and integration of traditional and western approaches to treatment. Training which provides opportunities for practitioners to share the way they work within traditional community support and treatment systems is needed. For example, it would be useful to explore the potential community responses to substance abuse.

The present study confirmed significant differences were found between the frequency of different disorders between males and females. Substance use disorders are particularly common among young males in their late teens to middle age years and depression is common among females (McLennan, 1997). In Australia for example, in one year prevalence for depression in females is 7.4% but for males is 4.2% of the population (Andrews et al 1999). Other global studies report similar prevalence rates (Gordon & Ledray, 1986; Wetzel, 1994; Weissman & Olfson, 1996; Bhatia & Bhatia, 1999).

Gender differences in the presentation of different mental health problems may be a function of environmental factors in PNG. For example, family members are likely to be more able to manage females with mental health problems who tend to be less aggressive than males. This may in part explain why in PNG there tend to be more male patients identified than females, irrespective of diagnosis. In Australia, epidemiological studies suggest similar levels of prevalence between males (e.g. 19.4%) and females (18%) across affective, anxiety and substance use disorders. Although the rate for each gender within these broad diagnostic categories vary considerably (e.g. male substance abuse 11%, females, 4.5%) (Andrews et al., 1999). However, point prevalence of people with psychotic disorders making contact with treatment services in Australia for males is 4-7 per 1000 and for females is 3-6 per 1000 over a one-month period (Jablensky et al., 1995).

The reports of culture specific diagnoses of sorcery and spirit possession being common, and the endorsement of these diagnoses in part 1 and 3 supports

literature on sorcery, spirits/supernatural agents being strongly held cultural beliefs regarding the cause of mental illness. The beliefs also form the basis for most traditional treatment practices (Sinclair, 1957; Burton-Bradley & Julius, 1965; Burton-Bradley, 1969).

Treatment approaches endorsed across the three parts of the studies included, medication, psychotherapy and traditional treatment. General confidence in the use of treatment approaches was relatively low. For medication, confidence was low due in part to unavailability of a range of psychotropic medication. There were suggestions that availability and not the appropriateness of the medication for the identified diagnosis influenced treatment decisions. Respondents were familiar with diazepam, amitriptyline and chlorpromazine but were unfamiliar with other psychotropic medications (listed in Table 2.4) as these medications were not generally available to them.

Prescribing medication at the general health care setting by HEOs, NOs and CHWs, are in theory guided by the Standard Treatment Manual for Common illnesses in PNG (See Appendix 12 for section on treatment of psychosis). However, previous PNG studies of other common health problems and the use of the standard treatment guide report that in practice health workers rarely check the drug and dosages against the guide. Studies outside of PNG have suggested that prescription of medications is often based on experience and most often is incorrect (Bouten, 1987; Rogers et al., 1991; Freeman et al., 1995). Thus, given the limited knowledge of medication and access to a limited range of medications, similar problems with administration of medications are likely in the mental health context.

8.3. INTEGRATION OF WESTERN AND TRADITIONAL MENTAL HEALTH CARE APPROACHES

Burton-Bradley, PNG's first psychiatrist, found that Papua New Guinea's beliefs about mental illness greatly influenced their help-seeking behaviour and he looked for possibilities to integrate western and traditional methods of

treatment for mental illness. In the process the psychiatrist asked a vital question:

“can knowledge of the patient’s beliefs in the cause of his illness be of any use in treatment?”

(Burton-Bradley, 1973:38).

The findings of this study support the influence of traditional patient beliefs on treatment and provide some potential sources of data to answer Burton-Bradley’s question. The results of this study indicate mixtures of treatments were broadly based on the presenting complaints and the diagnoses given. For example, those who received a culture specific diagnosis were twice as likely to use traditional treatment approaches compared to those without a culture specific diagnosis.

In Ghana, people’s strongly held traditional and spiritual beliefs have been blended into the mental health care system and psychiatrists, traditional and spiritual healers together provide services. This combined mental health care system has proved to be beneficial in patient management and recovery (Roberts, 2001). Ghana has some similarities with PNG including limited resources and limited specialist services with only 15 psychiatrists for a total population of 18 million. Patient management and care in PNG might be modelled on the Ghana experience, which integrated western and traditional medicine systems are implemented.

In PNG an integrated method of treatment for those with mental health problems would need to more clearly formulate what people already have access to in terms of traditional treatment. The new traditional medicine policy (See Appendix 13) seeks to promote an integrated system, but sorcery the common practice and basis for many traditional treatments in caring for people with mental illness is still not allowed. Sorcery and witchcraft related practices are labelled unsafe and dangerous in the traditional medicine policy. The results of this study found that sorcery was among the five leading diagnoses identified and made by the participants and the finding supports similar reports by earlier PNG studies. Based on the findings of the current and earlier studies, sorcery

beliefs and practices are strongly held and should be acknowledged as such. PNGNDOH may need to liaise with traditional healers to identify, which are the safer practices of sorcery and integrate these safer practices with medication to enhance patient recovery.

The government of PNG has always been interested in the role of traditional medicine and parliament passed the 1977 “Public Health Act” to register all traditional healers, but this statute never took effect. With more consultation and research on methods of treatment of mental illness many traditional treatments for mental illness with no doubt prove to be beneficial. For example, as in video case 3, there is a belief that possible sorcery was involved, making the patient sick because he refused to marry his girlfriend who had become pregnant. The traditional treatment for this case involves some forms of compensation payment, or payment of bride price and marriage as expected by the girlfriend’s family. The sorcerer would then remove the sorcery and the patient would get better. When the patient knew that traditional treatment and necessary arrangements are being made to help his recovery, the level of anxiety is likely to decrease and facilitate recovery. If the case did involve early signs of onset of schizophrenia, the reduction of anxiety is likely to facilitate other treatment approaches (e.g., medication or family counseling). The use of traditional treatment alleviates stress and anxiety and may make hospital admission of the patient easier (Burton-Bradley, 1973). A similar case combining both traditional and western treatments in PNG was reported by Burton-Bradley (1973). The case involved a patient who believed that the cause of his illness was sorcery. The patient was very anxious and was not improving on medication, when the patient was told that a sorcerer had been paid some amount of money to remove that sorcery, the patient’s anxiety level decreased dramatically.

A CHW in the East Sepik province of PNG had a good working relationship with a traditional healer; they reported working as counterparts and referral of patients were made between them. Patients were comfortable consulting both the CHW and the traditional healer. The researcher has on a few occasions sent patients to their villages to try traditional medicine at the request of family members. This often occurred after signing a going home against medical

advise form. According to Stavovy (1996), combining traditional treatment and medication is not a new idea and has been tried before. In one example a traditional healer was recruited to work with the mental health services but this trial apparently stopped for unknown reasons.

8.4. IMPORTANCE OF FAMILY COMMUNITY SUPPORT NETWORK

Papua New Guineans are group oriented and those in the immediate and extended family (clan or tribe) feel deep obligations and responsibility towards each other. In major illness or other serious matters everyone works together as a group to help each other out. However, this help and caring can be exhausted in long-term or chronic illness. The long-term need for help grows while help becomes less and less (Sartorius, 1997) and the patient can end up an outcast wandering unsupported and unwanted. Despite this, sufferers are never totally left abandoned, families continue to watch and feed, shelter and clothe the person. Families and members of the community cannot afford to continue to intensively care for the person, as they have to care for and meet the needs of other members of the family or community. There is no government social service structure in most rural communities to assist in such situations. Similarly in urban centres where people have migrated or drifted into the cities from the rural areas there is a lack of family/community support networks. This is where health and other social services need to introduce and set up support systems in the community to assist the chronically mentally ill and others who have disabilities. There is also a need to help them in rehabilitation to teach life skills, assist them into the work force or at a minimum to integrate them back into traditional subsistence activities such as hunting, fishing and gardening.

Family and community education about the illness and early intervention is vital to eliminate long-term impairments. Early intervention and treatment of people with mental illness, reduces the likelihood of long-term impairment and as Sartorius (1997:70) states reduces the chances of losing *“their place in the community of origin and becoming ostracized vagrant psychotics overexposed to health hazards and hardships of all kinds.”*

8.5. MENTAL HEALTH INFORMATION

There are two major ways to address both physical and mental health problems in PNG. These are firstly by adequately preparing health workers to deal with mental health problems. The need for training adequate undergraduate and postgraduate training of health workers in mental health has been discussed. Secondly, through collection of health information and made available to health planners, educators, politicians and to the general public.

The PNG Health Department has an information collecting system in place that generates monthly, quarterly and annual health statistics. This information is used in strategic planning and evaluation of health services. But the information system does not include mental health statistics. Planning and evaluation of mental health services each year is based on incomplete data. The prevalence of mental health related problems seen in the general outpatients departments and clinics are unreported. Ben-Tovim (1990) was a WHO consultant on a short-term contract and identified the need for mental health information and recommended an improvement in mental health information systems.

Informal interviews with participants of the present study indicate that mental health problems are reported as “all other causes”. This “all other causes” category could include any diagnosis and any number of patients (See Appendix 14). There is no accurate information that links outpatient and inpatient prevalence, neither on the nature of admission or the diagnosis given as all mental health problems are categorized as “psychosis” in the admission books unless seen and diagnosed by a mental health worker. This is again in part due to low levels of knowledge and confidence in identifying and diagnosing mental disorders by general health workers.

One of the main contributing factors to the inadequate allocation of resources including funding of mental health services and the deterioration and non-expansion of current services is due to a lack of information. Lack of information means that mental health problem, which are of consequence to the socioeconomic and political development of the country, remains relatively

ignored. The present study provides at least some preliminary data on the types of mental health problems and the types of treatments used on an outpatient basis in PNG.

In order to collect viable mental health information from the provinces, all provinces need to actively accept some responsibility in collection of information. Currently this active participation from the provincial level is lacking and this is likely due to mental health remaining as a national function that has not been decentralized like other public health programs.

8.6. CURRENT SOCIAL CHANGES AND MENTAL HEALTH SERVICES

As mentioned, the current social changes and mental health services remain a national function. Provincial and local health planners are not actively involved in planning of mental health services at the provincial and local levels. This results in disempowerment amongst administrators at a provincial level who may believe that anything to do with mental health services must be done at the national level. This also creates funding and cost-shifting problems. Belief that mental health should be managed at a national level means that provincial health services do not see mental health as a priority when public health programs are planned and funded. For example, in 2001 the researcher had the opportunity to review five provincial health plans for the subsequent 10 years and found that none of them had included a plan for mental health services.

The fast pace of modernization has brought new challenges in mental health. Psychosocial problems become more prominent in societies, which are undergoing rapid changes (Sartorius, 1997). Crime, violence, poverty, increased substance abuse, loss of economically productive life through fatal motor vehicle accidents (often involving drink driving), frustrations of being unemployed and unable to feed oneself are just some of the psychosocial problems. These issues place additional burden on those who are employed and earning wages who may be required to support a larger number of dependents.

The overall impact on health and other vital services and socioeconomic developments are difficult to estimate.

The current mental health care system is largely overwhelmed and unable to meet the increasing demand for health care of a fast growing population. Mental health services have not expanded to meet these growing health demands in the urban and the rural areas. The existing specialist services have not expanded over a long period of time. Instead of expanding services four provincial acute psychiatric units have closed down due to lack of resources and trained mental health workers (except Bougainville, which closed down due to political upheaval associated with the independence movement). Port Moresby General Hospital, PNG's National referral hospital has no permanent psychiatric unit, since the old unit was demolished to make way for the new hospital in 1989. The mental health staffs have been providing care in the malnutrition unit as a "temporary" arrangement since that time. Thus, the country's biggest hospital still awaits an acute psychiatric unit. Popondetta Hospital does not have a psychiatric unit (a patient burned down the old unit in 1994). Patients there have been accommodated in a general medical unit. As a result of the current deterioration in specialist services, the population at large does not have access to psychiatric care close to home despite the increasing demand for specialist services. One way to improve mental health care is to empower provincial and local health planners and implementers, by decentralizing social changes and mental health to the local level governments with an emphasis on enhancing primary health care.

Other public health programs have been decentralized to the provincial and local level governments with an emphasis on primary health (Chapter two - 2.3) with the aim of delivering more effective, efficient and accessible health services to the rural majority. Health programs and resource allocations are in accordance with the decentralization process by identifying given health problems that become priority programs (which mental health is not at present). One of the possible contributing factors is that mental disorders are believed to not be amenable to preventive or curative interventions. Similarly, mental disorders are thought to not contribute to mortality and so are given low priority

compared to other conditions. Many manifestations of mental illness are preventable and treatable and early intervention can achieve beneficial results (Sartorius, 1997). Further mental health problems do cause morbidity and mortality, with the most obvious example being suicide.

While mental illness affects people of all ages, this study confirms that young adults (20 to 30 years) in particular are being identified and treated by general health workers. This is potentially one of the most economically productive groups. Mental health problems are becoming a major public health problem, are occurring more frequently and have the potential to cause lasting impairment for the individual and burden for families and communities.

8.7. LIMITATIONS OF THE STUDY

The study included HEOs, NOs and CHWs and did not include general medical practitioners. The main reason was logistical. The study was incorporated with the regional mental health-training workshops for HEOs, NOs and CHWs in 2001 (funded by the National Health Department). General medical practitioners and physicians mental health training had been conducted in the prior year (2000). The researcher was limited by funding and could not conduct a separate study for medical practitioners. Information provided by medical practitioners would have also been of vital importance, as they tend to manage persons with mental health problems of greater complexity at the hospital level. There is a need in the future to include general medical practitioners and physicians.

The researcher did not have any control over the selection of the participants in this study. Participants were selected by their superiors after being identified as health workers who were already involved and were likely to be involved in caring for people with mental health problems. Thus, it is unclear how representative the selected participants were of the overall general health worker population. It was also impossible in terms of communication and geography for the researcher to go to each province to send out participant's information packages, consent forms and questionnaires. Therefore bringing the health

workers to the four central regional locations and incorporating the study with the training was the most practical method. The method also saved costs.

The participants are expected by their employers to be knowledgeable in all aspects of health care, including mental health issues since they provide the bulk PNGs health care. Therefore, even though they were representative of the three categories of health workers in the community level, there may have been some bias as a result of workers wanting to provide a favourable impression to their employer. It maybe possible that participants may have even created more favourable impressions about the way they care for their patients and the number of cases they manage.

Due to lack of funding relatively few CHW's were recruited in the study. Most CHWs work in the rural remote areas and it was difficult and expensive to bring them in by air, sea and land transport. CHWs made up 62% of the clinical workforce at the time of the study and they are usually the first point of contact in health care for the rural population and the return point of contact for patients leaving hospital and resuming living in the community. CHWs only constituted 21% of the participant sample, thus future research should attempt to sample a more representative sample of CHWs.

The study relied on self-report by health workers and knowledge and confidence items may have been particularly vulnerable to respondent reluctance to exposing a lack of knowledge or confidence. The participants being general practitioners are expected to have confidence in dealing with all issues of health care including mental health. It was hoped that having them rate confidence in relation to health workers in general would make them respond more honestly rather than having them rate their own personal confidence level. If they had been asked to rate their own personal levels of confidence they may have felt compelled to rate confidence high so as not to risk placing their personal competencies in a less than favourable light. Thus, ratings of confidence probably represent a blend of their own personal confidence and their perceptions of confidence amongst other health workers of similar position. In an attempt to reduce these effects, the confidence items were worded so that

participants responded to “health workers” as opposed to their own personal characteristics. However, this was not possible for other aspects of the questionnaire. Similarly, they may also have been reluctant and worried about describing some cultural beliefs and treatment approaches for fear of violating cultural taboos. For some respondents there may have been beliefs that to do so may result in harm or other misfortune. This reluctance may have also been related to health department policy that restricts the practice of some traditional treatment methods (i.e. Sorcery and witchcraft related practices). As a result there may have been an under-reporting of the extent of traditional treatment approaches by respondents.

There is a possibility that the immediate post-training impact on level of knowledge may be lost over time. Therefore there is a need to assess how long these post-training benefits are sustained after six to twelve months. Social Changes and Mental Health Services should provide ongoing training support for general health workers based on the outcome of knowledge sustainability assessments.

In future studies it would be useful to obtain data from traditional healers themselves. The types of mental health problems they treat the characteristics of patients they treat and the types of traditional treatments they use as well as their views on integrating traditional treatment with the formal health services would have been valuable.

The lack of recent mental health related studies in PNG made it difficult to place aspects of the current study’s findings in a substantial body of prior literature. As noted, there have been ranges of anthropological and psychiatric studies with the focus on provision of care by psychiatrists or specialist psychiatric services, but usually in the context of inpatient care. The present study was the first to explore mental health care involving general health workers at the primary health care level. Unfortunately the absence of adequate mental health information systems and data limited the pursuit of additional study questions, for instance comparing prevalence rates over time in the different provinces.

Geographic difficulties, time, resources and situational factors limited the scope of the study. Thus, it was not possible to collect more data from each of the three groups of health workers. As the workers have varying levels of educational and training background, three separate studies for each category of health worker would have given data on specific difficulties and needs for each group. It was envisaged that the present study would have been conducted in the province of origin of the researcher and initially preparation was made to go there. However upon arrival in Port Moresby from Sydney the researcher was informed by family and health authorities in the province that there had been an upsurge of tribal warfare. The participants would not be able to travel, as in time of war it is usually too risky. Participants from the tribal war affected areas were brought to the nearest regional centre.

Nevertheless, despite these limitations, the study is the first to begin identifying and describing types of mental health problems and treatment approaches used by general health workers. It identifies levels of basic training and preparation in mental health and areas for continued education. The study provides sufficient information for Social Changes and Mental Health Services, Human Resource Development and Pharmaceutical Branches of the PNGNDOH to facilitate planning and provision of mental health services by general health workers.

CHAPTER NINE

Conclusion/Recommendations

9.1. CONCLUSIONS

Papua New Guinea has limited mental health specialist services and professionals to provide for increasing mental health need amongst its 5 million people. The limited specialist services are located in urban centres and not accessible by the majority of the predominantly rural population (83%). In addition, other complex issues such as diverse cultures, languages and the geography of the country restrict access to services. As a result the bulk of mental health services are provided by general health workers who practice in a range of health care settings in the community.

The types of mental health problems managed by general health workers and the types of treatments they use are unknown. It is also not known how well general health workers are prepared during their basic training to manage mental health problems. The present study is the first in PNG to address these issues.

Part 1 of the study consisted of a cross-sectional survey of health workers confidence in working with a range of mental health problems. It was evident from the findings that relatively little time was devoted to mental health during basic training. Participants were more confident in diagnosing western categories of mental disorders than culture specific disorders with the exception of schizophrenia. Overall health workers had relatively low levels of confidence for both western and culture specific diagnoses and they had difficulty differentiating between the different types of mental disorders.

Part 2 involved a retrospective review and description of three of the most recent patients treated for mental health problems within the last three months prior to the study. This included a description of treatment approaches used. The results showed that more than half of the male patients presented with aggression, violence and hyperactivity. Schizophrenia was the commonest

diagnosis among the male patients followed closely by substance use disorder. Depression was found to be the most frequent diagnosis among the female patients.

Approximately 23% of both males and females received a culture specific diagnosis of sorcery and 41% of the males received a diagnosis of spirit possession. The health worker's diagnoses appeared broadly consistent with the presenting complaints or problems. A large percentage of the patients received medication, followed by counseling and a small proportion received traditional treatments. Those diagnosed with a culture specific disorder were almost twice as likely to receive traditional treatment. This indicated a mixed use of treatments for many patients. Health workers also reported that 81% of their patients made some improvement since commencing treatment.

Part 3 involved the use of the videotaped cases and assessed pre and post training knowledge change. The participants used the video cases to identify presenting complaints, diagnoses and endorsed the most appropriate treatment options. The three videotaped case vignettes portrayed typical mental health problems that are likely to present in PNG along with culturally bound factors. Results indicated that health workers were able to identify and diagnose straightforward diagnoses of depression and substance use disorder but were less able to diagnose schizophrenia. Difficulty in identifying schizophrenia was also identified in Part 1 of the study. There were improvements from pretest to posttest in the ability to appropriately diagnose schizophrenia and this suggests that training may have been effective.

Culture specific diagnoses of sorcery and spirit possession were frequently made in response to the case vignettes. Medication use tended to be limited to only three types and appeared to be at least in part selected on the basis of availability and not necessarily effectiveness or appropriateness. Traditional treatment was endorsed by a low percentage of health workers while counseling approaches were viewed favorably and endorsed by almost all health workers for all three cases.

On average general health workers indicated they have low levels of confidence in recognizing and diagnosing different types of mental health problems. Despite this they did very well in making some diagnoses in response to the case vignettes. There were suggestions that appropriate presenting complaints were linked with specific diagnoses and that these diagnoses were related to treatments (e.g., types of medication, cultural diagnosis and traditional treatments). This occurred with extremely limited access to comprehensive assessment manuals and treatment guides. It was also encouraging to find improvements in knowledge that occurred over the course of training. These findings provide the foundation for a range of recommendations to further enhance treatment of mental health problems in PNG communities.

9.2. RECOMMENDATIONS

In order to combat the increasing mental health needs of the population, and to achieve a better mental health outcome there are eight important factors that need to be emphasised based on the findings of this study. These are:

- 9.2.1. Training of health workers.
- 9.2.2. Ongoing support for health workers in general practice.
- 9.2.3. Improved written resources.
- 9.2.4. Integration of tradition and western treatments.
- 9.2.5. Family and community support networks
- 9.2.6. Promotion of primary mental health care in general practice.
- 9.2.7. Mental health information system
- 9.2.8. Future research

9.2.1. Training

The results of the three parts of this study show evidence that general health workers may be inadequately trained and prepared to deal with mental health problems. This was indicated by the health worker's lack of confidence and difficulty in identifying the difference between the different types of mental illnesses. The study identified that little time is devoted to teaching mental health to students, which leads to inadequate training. This may in part be due to

demands of covering other health issues that currently take higher priority in the PNG health system. It may also reflect a lack of qualified professionals teaching mental health in these institutions. Where there has been historical neglect of a topic area, it is difficult to find individuals who themselves have sufficient knowledge in mental health in order to adequately prepare students in mental health.

There is a need to engage qualified academics that have adequate western and cultural knowledge and understanding of cultural-linguistic issues related to mental health. They should be employed in health training institutions to teach mental health in both undergraduate and postgraduate programs. Health training institutions including the Medical Faculty at the University of PNG have been insufficiently staffed due to lack of resources and unattractive conditions for both overseas and local academics (Crouch-Chivers, 1998). Therefore as mentioned earlier students may be taught by whoever is available on campus even if the lecturer has limited knowledge of mental health.

This study did not include assessment of training curriculum nor interview academics involved in mental health training but does provide preliminary data suggesting a major problem. Based on this finding this study recommends the review of the training curriculum for HEOs, NOs and CHWs with special attention being paid to mental health components of the curriculum. A new mental health component of the training curriculum should allow more time to comprehensively cover more aspects of mental health issues. Training in mental health should be threaded throughout the whole length of their respective courses to sustain learning.

Adequate time in mental health should be allocated for both classroom teaching and hospital based individual patient care. Students should also be allowed time and encouraged to conduct or participate in community based research projects related to mental health. This would allow them to do research into subjects taught, stimulate their interest and reinforce classroom teaching. Similar approaches have been endorsed for the medical school in PNG (Sapuri, 1999).

For example, students could complete placements in both their own and different communities. This would allow them the opportunity to explore people's beliefs and practices about both physical and psychological health problems. Such placements also allow them to establish links with traditional healers. In the process, the amount and pattern of mental illness within local communities will be better understood and intervention programs to prevent mental illness and promote mental health may become more appropriate and successful.

The revised curriculum should be culturally appropriate for Papua New Guineans and include content on the prevention of mental illness and promotion of mental well being. There needs to be a shift in emphasis from limited specialist hospital based treatment to community based care where the bulk of the care is provided by HEOs, NOs, CHWs and the families of those with mental health problems. Seed and Higgins (2003) describe such a curriculum model that includes child development, family interventions, normal biological responses, cultural norms and behaviours of different cultural-linguistic groups in PNG. The different languages and terminologies used for mental disorders, common somatic complaints, assessment skills, culture specific diagnoses and the types of treatments used in PNG should be part of the curriculum.

Kleinman (1980) emphasised that any training model should highlight Explanatory Models (EM) of people's beliefs, experiences and explanations of their illness. Such a model would be ideal for PNG's complex health care system. The training modules should highlight the Papua New Guinean Explanatory Model (EM) of illness. The EM should account for illness beliefs held by Papua New Guinean societies and consider personality and cultural factors, which profoundly influence people's experiences and expressions of illness. Papua New Guineans have higher rates of somatic presentations, which complicate psychiatric diagnosis. This is an important factor that needs to be considered in training of health workers. Other studies have reported that general health workers miss underlying mental health problems when patients present with somatic complaints both in developed and developing countries (Kleinman, 1977; 1987; Alarcon, 1995; Sartorius, 1997; Tabassum et al., 2000).

Better communication skills should be an additional part of the curriculum. Effective communication skills can assist in conducting sophisticated patient interviews leading to improved diagnosis and treatment decisions. Other studies involving general practitioners have confirmed that lack of communication skills lead to inappropriate diagnosis and treatment (Millar & Goldberg, 1991; Goldberg & Gater, 1996; Tobin & Norris, 1998). Communication skills should also include basic counselling skills to assist health worker in identifying underlying psychological problems, which present with somatic symptoms. The findings of this study indicate a need for counselling skills as almost all the participants favoured counselling as part of the treatment process.

The EM should also be incorporated into a standard treatment manual for mental health problems. HEOs, NOs and CHWs need to be aware of different beliefs concerning mental health and illness as it is vital for high quality, integrated care in general practice (Caldwell & Jorm, 2000). Primary mental health care in general practice should be emphasised in the process since the bulk of mental health care is provided in general practice. Tobin and Norris (1998:104) confirm from their study in New South Wales with general practitioners (GPs) that: “the majority of GPs felt they were not sufficiently skilled in primary mental health care pertaining to serious mental illness and more specifically, were ignorant of model and practice of public sector mental health services delivery”. This is a good indication that could motivate the development of primary mental health care component of the curriculum for health workers.

The revised curriculum for HEOs and NOs could include basic epidemiology. HEOs and NOs could carry out local population-based epidemiological research. Even the CHWs should be taught to carry out basic research within the population they serve particularly data on the extent of mental health problems in their community. Adequate preparation of HEOs, NOs and CHWs is vital because they are in the frontline dealing with prevention of mental illness and promotion of mental health as well as caring for those with mental health problems.

The revised curriculum should be standardised for the nurse training institutions and another standardized module for all the community health worker training schools. The standardised curriculum should be made available and taught in both public and private nursing and community health worker training institutions. This would assist in development of the standard treatment book and also ongoing assessment of training effectiveness. Currently different schools use different models and teaching across the training schools is not standardised, making it difficult to assess what is being taught in basic training.

Other field based approaches to learning would involve specialists making support visits to facilities where HEOs, NOs and CHWs practice. They would mostly provide clinical support and secondary consultation. However, this clinical consultation process would also provide a valuable training opportunity for health workers. Due to the present lack of such specialists and funding, there is at present limited availability of such support.

The current postgraduate diploma in mental health nursing program in PNG needs to be reviewed and possibly upgraded to a graduate diploma in mental health that is open to HEOs as well. There is potential for new postgraduate programs in mental health to be developed and taught at the Medical Faculty at the University of PNG. Opening the courses to HEOs would not only boost mental health care in general practice but would also develop career paths for HEOs to specialise in mental health service delivery.

9.2.2. Ongoing Support from Mental Health Services for General Health Workers

The results of this study indicated that most health workers preferred counselling, especially for the three video cases in Part 3 of the study. It is unclear what kind of counselling approach or what specific counseling skills that health workers possess. Further research is needed to explore counselling skills amongst health workers, particularly given the popularity of this treatment approach. At a minimum, there is a need to equip all health workers with adequate counselling skills. Counselling skills would also have utility for health

workers in managing both physical health and psychological health problems with patients and their families.

There is a need to motivate, maintain and support existing health workers in the field. Without ongoing support, there is a risk of losing health. Existing health workers in the field try and do their best in providing health care to the people despite the lack of support from the health departments. A typical example of a health worker's sheer hard work in providing health care is quoted from Crouch-Chivers (1998) where a resident medical practitioner wrote:

“I came to see that the majority of the population don't get the type of health services they are entitled to. It is a fact that the reporting system does not give us the real picture, more mothers die in the rural areas without any health worker doing anything about it. More children die in the rural areas without us knowing about it. The CHW or NO or HEO is out there trying his/her best to treat the majority with less manpower, less amount of essential drugs and most of all expired drugs. He/she has no laboratory support to help confirm epidemics. They are sent into the remotest parts of the country and they do not see the fruits of their labour and become frustrated and finally all hope is lost. Embezzlement over the delayed receipt of their pay reduces their morale, discipline and thus collapse in health services”. (Crouch-Chivers, 1998:99).

These health workers are likely to have “burnout” and there is no support in place for them in the system. That is why it is imperative to provide frequent ongoing training, since this is not only skill acquisition but also support. Specialist and other medical practitioners within the provinces as well as from the national level need to be involved in this process.

9.2.3. Improved Written Resources

Another need identified is an appropriate culturally based pocket sized standard treatment manual on mental health problems for Papua New Guinean health workers. The manual should include signs and symptoms, diagnoses (both

primary and differential) and basic treatments. The manual needs to cover both cultural and western mental health issues and be written in non-technical language. A manual is needed that can easily be read and understood, and that is practical for all categories of clinical health workers in PNG. The manual should have a simple and easy to follow layout perhaps organized around different types of mental disorders based on DSM-IV or ICD-10 but with the addition of a description of culture specific diagnoses and how traditional treatments might be integrated into care of the person(s).

The manual should be developed in consultation with the general health workers who are familiar with the types of mental health problems presented in their communities. Blackman (1987) developed a learning package in mental health for CHWs in PNG in a simplified version with non-technical language but this has never been disseminated and utilised, partially due to lack of funding. This package could be adapted in the process of developing the new manual.

Another resource book was developed by Andrew (1982) for medical officers and administrators, however this resource has not been distributed to primary health workers at the primary health care level and it is not accessible to HEOs, NOs and CHWs at the community level. Parts of Andrew's book could be simplified and translated into non-technical language and integrated into the new standard treatment manual for health workers.

It would also be beneficial for health workers to have at least a copy of diagnostic manuals such as DSM-IV or ICD-10 in hospitals and health centres and health sub-centres in addition to the new standard treatment manual for mental health problems. Certainly copies of these resources need to be available in the health training institutions and these resources should be part of the recommended textbooks of students. These resources are currently unavailable to HEOs, NOs and CHWs. Should the resources be made available to the health workers, they would have some familiarity with these resources even if they were too technical to be used in a day-to-day basis.

Samiak and Vince (2000) assessed the capacity of NOs and CHWs to use the Paediatric Standard Treatment Manual and were disappointed to find that only two-thirds of NOs and CHWs employed in their study indicated using the Standard treatment book. Only half (51% out of 106) indicated always following its guidelines. Other studies such as Lenox (1979) also found that health workers did not utilise the standard treatment manuals. But reasons for not using standard treatment manuals are unknown. It is assumed that lack of ongoing training support in utilising these resources was at least partly to blame. Therefore, when the new mental health manual is developed and distributed, training should also be conducted on the use of the manual. Ongoing evaluation on the use of the manual and ongoing training should also be conducted to enable health workers proper use of the manual.

9.2.4. Integration of Western and Traditional Approaches in Patient Care

The findings of this study indicate that sorcery practice is the most common traditional form of belief and practice. Treatment of mental illness is based on healing rituals that stem from this belief. Safe and unsafe sorcery practices need to be clarified in the many different PNG cultural-linguistic groups. Similarly, other traditional treatment practices need to be explored. A population-based study would assist in identifying safe practices of traditional treatment and further delineate what is an unsafe practice. This could be done by working with traditional healers and identifying the types of practices they engage in for types of problems they are presented.

There is much anthropological literature on sorcery, magic, witchcraft and religious or spiritual beliefs regarding the cause and treatment of illnesses in different cultures. The distinction between these beliefs and practises are far from clear and sometimes difficult to differentiate, some are inter-related with no definite or separate terms (King, 1998). However, a traditional healer is in the best position to provide some definition of safer and unsafe practices. The safer practices would involve treatment that does not include bodily harm such as “cutting skin” inflicting wounds to let out bad blood, spirits, poisons in the affected person’s body. A safer method would involve for example making

peace with the sorcery, involving some form of payment that does not involve bodily harm.

An example of a safer practice described by participants of this study involved a sorcerer being called to perform healing. The healing process involved, rubbing chewed ginger mixed with special leaves and oil from a bark of a certain tree. This mixture is then rubbed on the patient's body; some of the mixture is also left under the patient's pillow to sleep on. This is a safer method of healing a person believed to be ill as a result of sorcery. Practices of sorcery differ from cultural-linguistic group to group in PNG (Stephen, 1987; Lepowasky, 1990; Epstein, 1999). Therefore identifying what practices are safer or not would be done in consultation with the traditional experts. A health worker would have some idea if the treatment would be harmful or not if there is an understanding of the patient's beliefs on the cause of his/her illness. As noted by other authors, "Traditional treatments in general are directed logically towards the supposed causation factors" (Burton-Bradley, 1965:14).

Participation of a traditional healer in caring for individuals with mental health problems was recommended by Burton-Bradley (1965), provided that the participation was not harmful. Burton-Bradley, comments that offering the sorcerer with some form of payment might make the sorcerer remove the sorcery. When the information regarding payment of the sorcerer is conveyed to the patient, there is obvious reduction of anxiety.

No policy or plan can be effective and achievable without community support. Indeed people are likely to resist change and continue using traditional treatments regardless since they view these as safe and/or effective. In many cases, the treatment approaches having been used for centuries and their use is unlikely to change dramatically even if they are viewed as unsafe or dangerous by the state health care system. It is recommended that the current traditional treatment policy that labels all sorcery related practices as unsafe and dangerous be reviewed. Greater success in modification of "unsafe"; practices might be achieved by working with traditional healers. The present study provides some

background information on the sorcery beliefs and practices as used in the prevention and treatment for mental illness.

9.2.5. Family and Community Support Networks

The extended family and social support network system is a vital existing resource in communities. In the absence of skilled health workers and reliable medication supplies, families provide care and manage family members with mental illness in the community without government support. There are suggestions that these support structures are stretched and may not be able to cope, predominantly with the fast pace of modernization. This is particularly evident as people drift away from rural areas to urban centres. There are currently no government support mechanisms or social services in place to assist those in need of support for disability caused by mental illness both in the urban and rural areas.

This will continue if health planners and government continue to view mental health as a low priority and allocate few resources. Limited specialist and overwhelmed general health services are already unable to provide comprehensive care for those with mental health problems. As a result there is a high risk for a revolving door circumstance for those with mental illnesses, who enter the limited specialist facilities and are, discharged prematurely returning to communities with out family support. In the rural areas the family support resources become stressed as the illness progresses (Sartorius, 1997). Lack of support services by the government means patients are then at higher risk of relapse and return to hospital.

The health department and other social and humanitarian services at national, provincial and local levels must establish services to sustain and promote family care for people with mental illness. Other concerned organisations could assist in slowing the eroding family and community support network. Services are required to support those with long-term impairments (both physical and psychological conditions) and their families and carers. These services need to

have plans to prevent or minimize psychosocial problems within the family or community at the primary health care level (Sartorius, 1997).

Social changes and mental health services should include active participation of those with mental illness and their carers in policy, planning and treatments. Ideally patients and carers have the right to decide on the type of treatment and care they want, should it be western medication in a state health care facility, traditional treatment and care, or a combination of both in the village or in the health care setting. Many countries such as Australia, United Kingdom and the United States of America have involved consumer groups in their programs and, PNG can certainly learn from their experience. But in PNG this process has to be based on negotiation, discussion and consultation with the community to establish what is culturally appropriate and applicable.

There is a need to help establish consumers and carers support groups and organisations. Groups that are organised and run by consumers and carers themselves in their communities with support from health workers and other humanitarian workers suitably trained and located in the community. These groups and organisations could act as lobby groups.

Carers and individuals living with mental health problems may value being able to share their experiences of living with and coping with illness through these groups. These groups can also assist in mental health research and through the political process influence policy makers and services planners. Mental illness places a huge burden on those caring for people with mental illness.

9.2.6. Promotion of Primary Mental Health Care in General Practice

The decentralization of NDOH functions seems to have created a gap between primary health and secondary health care service deliveries. A lack of control over services and lack of accountability seem to be prominent with shifting of power between the NDOH and the provincial health divisions. There also appears to be a gap between the provincial hospitals and the rural and extension health services which are controlled by the provincial health services. PNG has

struggled to meet the growing health needs of the present and at the same time focus on a vision for better health in the future (Crouch-Chivers, 1998). Having said this, it was an important decision by NDOH that Social Changes and Mental Health services remain as a national function. By continuing to be a national function, mental health services can be easily planned, monitored and evaluated from the national level. However, more emphasis should be placed on primary mental health care in general practice and in the provincial and local levels of services.

Emphasis on primary mental health should allow provinces and districts to play a major role in the mental health service provision. Mental illness prevention and promotion of mental health programs would also be effectively integrated through general services in the provinces and districts by the local health services rather than the national mental health office in Port Moresby. More importantly promoting primary mental health care in the community by working with general health workers is needed where resources are limited. Primary mental health care would cut the cost of specialist care and hospitalisation for those with mental health problems.

The national mental health offices should continue to provide technical support, strategic planning, monitoring and evaluation support to assess the effectiveness of change. In addition, there is a need to continue to plan training of health workers and provide resources for primary mental activities and functions in partnership with provincial areas in promoting mental well being of Papua New Guineans. The PNGNDOH has an official focus on primary health care since the 1960s to 1970s, but rural services have been poorly serviced in all activities (Connell, 1997). Social Changes and Mental Health needs to review the primary health strategy in the light of current health situation, socio-political and demographic changes in PNG and focus on promoting primary mental health care in the general practice. A working relationship with general workers should be established by creating an effective communication link between general workers and specialist services.

For example, in Iran village-based primary mental health care programs have linked village centres, hospitals and medical schools. In addition they have focused on priority mental health needs such as depression and suicide to achieve positive outcomes (Sherer, 2002). PNG could learn from such approaches and improve mental health care. WHO consultant to PNG, Ben-Tovim (1990) also recommended that PNG would achieve better mental health outcomes through primary mental health care. Psychiatry would “gain a great deal if the primary health care strategy had been introduced in all countries” (cited in Sartorius, 1997:72).

9.2.7. Mental Health Information System

The health department needs to review its information system to include the recording of mental health problems in its data collection. This will assist in effective planning of mental health programs and allocation of resources and equitable distribution of resources to the provinces. Not all mental health problems will be reported as some mental health problems will be managed by family members and treated by traditional healers. At present there is a risk that resources will be excessively allocated to centres where larger clinics and hospitals are based. It may appear as though the demand is higher in these areas because they receive a large number of mental health referrals. However, the demand may be just as high in rural areas, but they do not present to specialist services. This may be because such services are inaccessible or nonexistent and/or they are treated within the community and may not present to health services. Mental health information is vital for mental health service planning and allocation of resources.

9.2.8. Future Research

The findings of the present study and previous studies indicate a need for a properly and adequately planned and resourced population-based epidemiological mental health survey in PNG. Such a study should include both cultural and western mental health issues.

There is a need for a survey on sorcery, its beliefs and practices, the illness preventive practices and the curative practices including the safe and unsafe methods. This would assist in integrating the safe and helpful methods of practice into the western health care system.

There is a need for further investigation of schizophrenia and its prognosis. Previous studies in PNG and other developing countries have found that schizophrenia has a better prognosis in developing countries. A study on schizophrenia and factors that affect its prognosis would assist in early intervention and treatment programs. Educating communities and families about the importance of early detection and intervention in the treatment of schizophrenia would assist in achieving a better prognosis and outcome.

Based on the findings of this study, further research is recommended for schizophrenia, depression and substance use disorder and culture bound syndromes such as sorcery and spirit possession. These diagnoses were found to be common but little or no study has been conducted regarding these disorders or comorbidity. In planning future research programs, development of research should go hand in hand with service planning and resource allocation.

The present study provides one such example. The findings of this study and its recommendations will be presented to the PNGNDOH and the Government of PNG as the researcher continues to work with the PNGNDOH, within its Social Changes and Mental Health Services section. The findings of the study will inform the development of more effective and culturally appropriate mental health care for Papua New Guinea. There is much to be done to improve mental health services in PNG. Adequate training and preparation of general health workers is vital. There is a need for more research in mental health and illness in PNG. While the findings from this study can be considered as preliminary, hopefully many more mental health researchers will further examine some of the issues identified in this study in an effort to improve mental health services in PNG.

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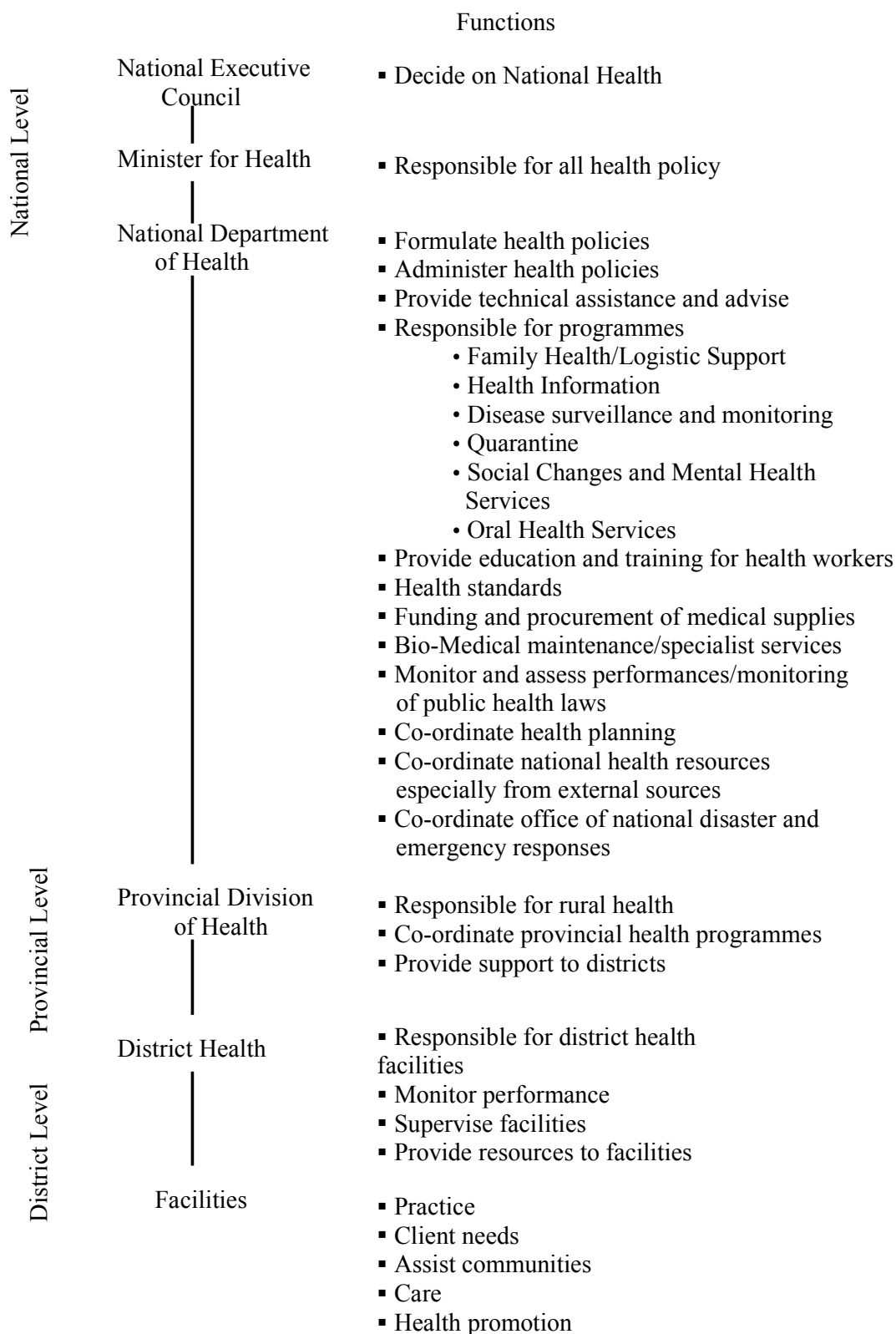
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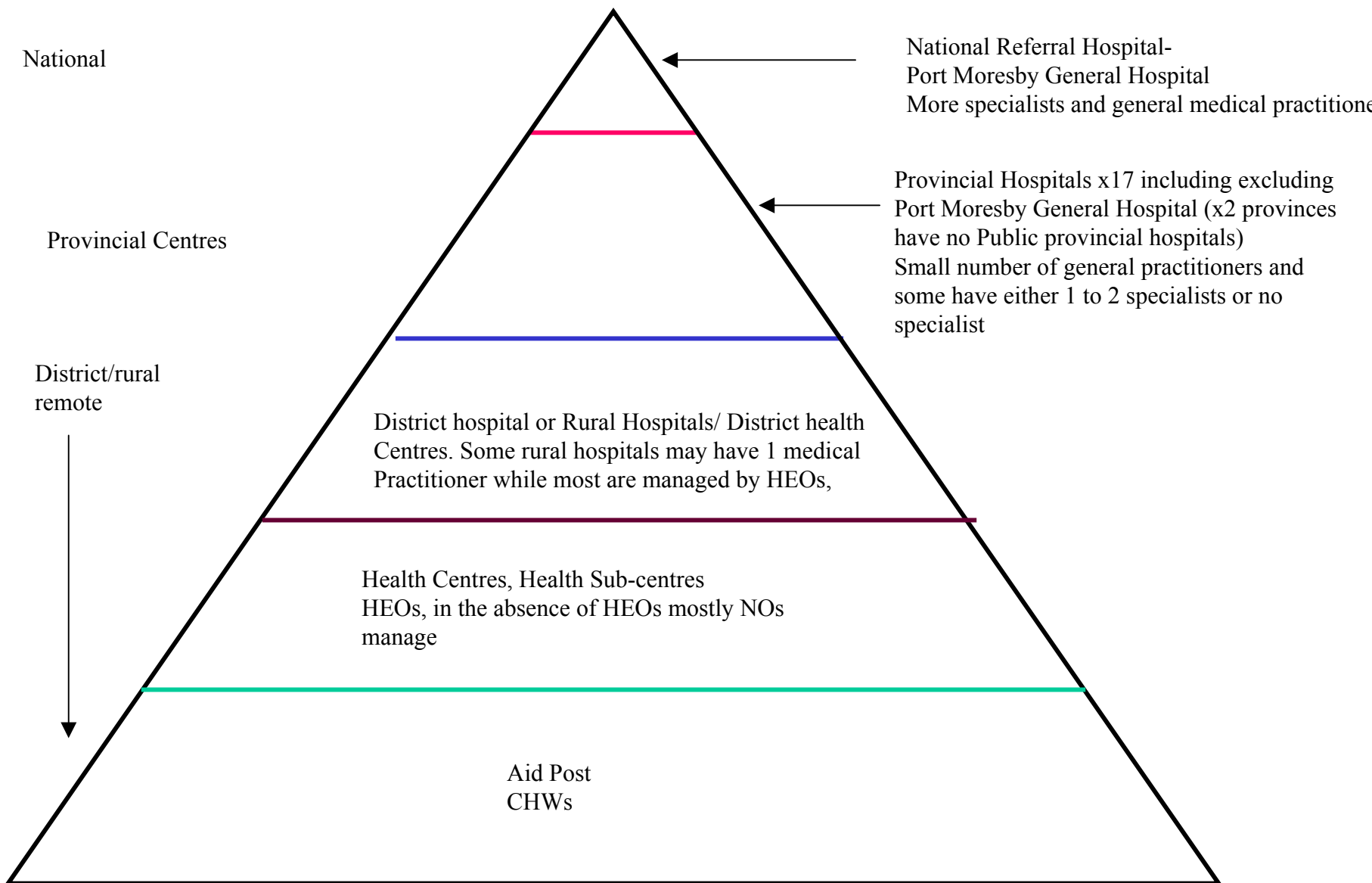
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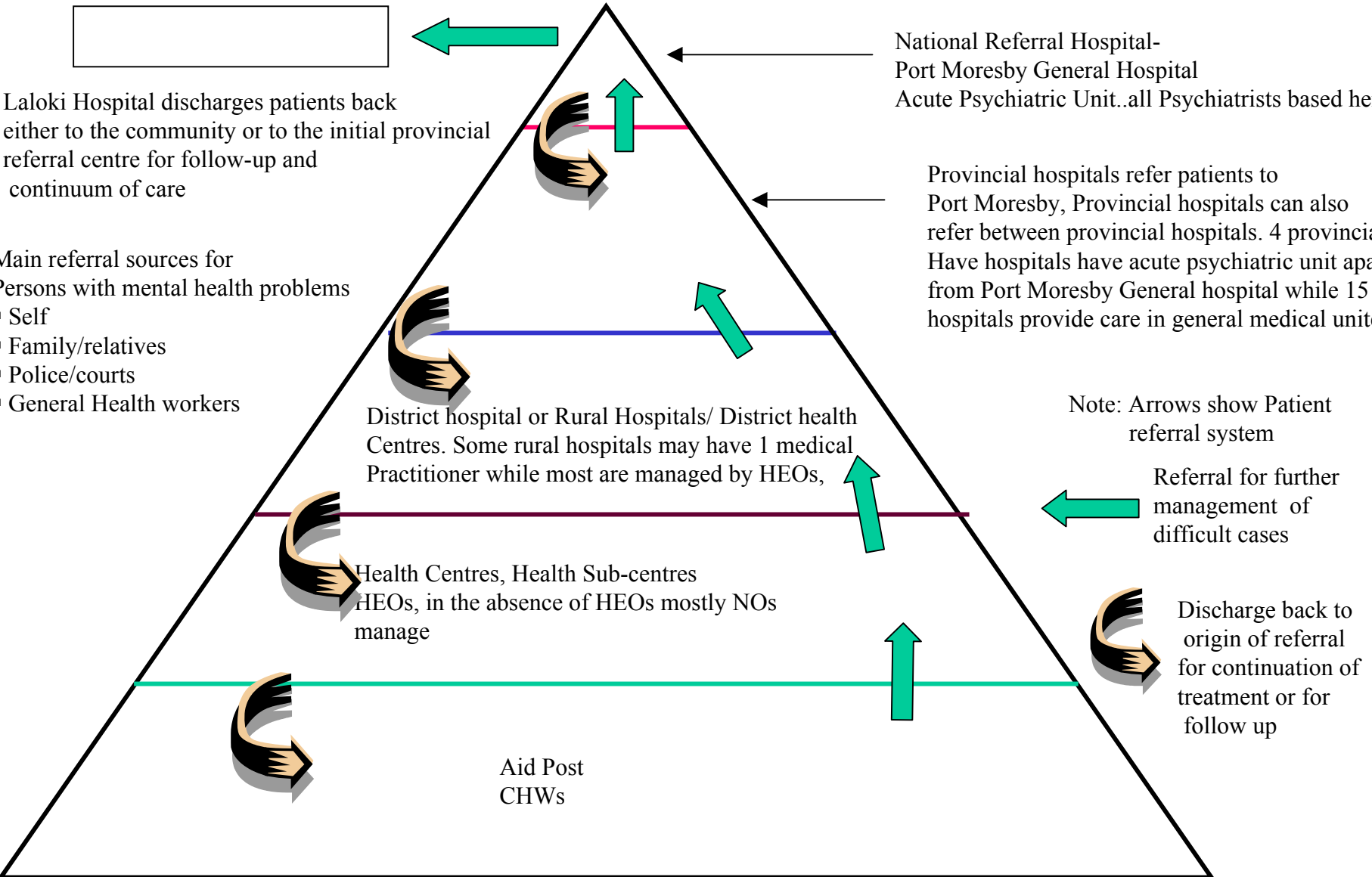
Appendix 1. Papua New Guinea's Health Administrative Structure

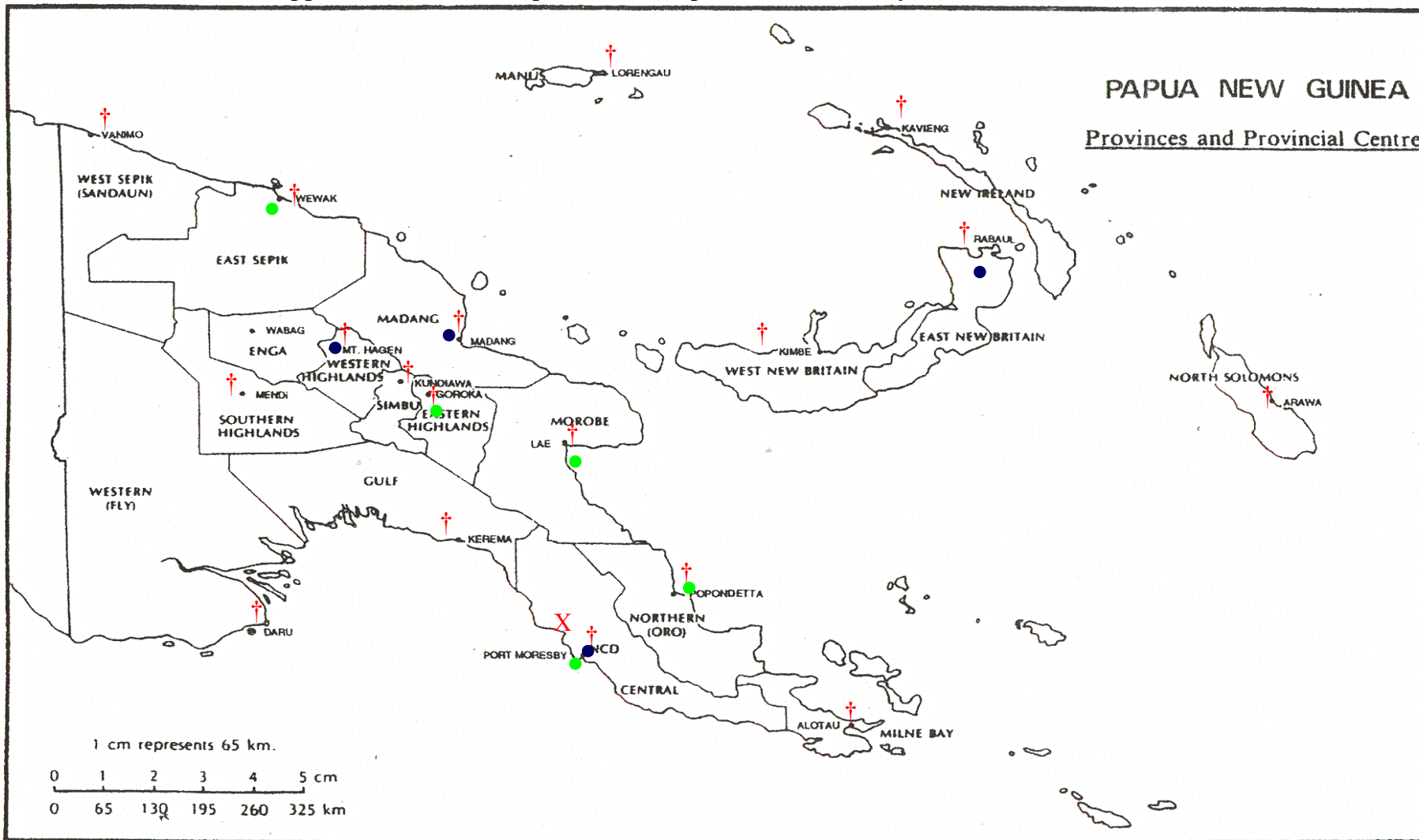




Please see print copy for Appendix 3: Medical issues to aid posts

Appendix 4. Patient Referral System





• locations where this study was conducted, ● Location of acute Psychiatric Units, X location of Laloki Hospital,
† location of provincial hospitals –(Daru, Kerema, Port Moresby, Alotau, Popondetta, Mendi, Mt Hagen, Kundiawa,
Goroka, Angau (Lae), Modilon (Madang), Wewak, Vanimo, Lorengau, Kavieng, Nonga (Rabaul), Kimbe, Arawa, Central and Enga
Provinces have no provincial hospitals.

Please see print copy for Appendix 6: Ethics approval

Please see print copy for
Appendix 7: Cover letter for participant information sheet and consent form

SURVEY QUESTIONNAIRE

CONFIDENTIAL

ID NO: -----

The purpose of this study is to collect information about health worker's knowledge on the type of mental disorders and types of treatment (both modern and traditional) used in Papua New Guinea. The study will form part of a DrPH (Doctor of Public Health) study being undertaken by Betty E. Koka. Information from the study will also be used in the development of a training manual and a treatment manual for mental disorders for Health Workers in Papua New Guinea. The information will also be used by the National Department of Health, Social Change and Mental Health Services for planning and development of mental health services for Papua New Guinea.

ALL INFORMATION WILL BE KEPT IN STRICTEST CONFIDENCE.

PART 1: DEMOGRAPHIC

General Identity Information

Please put a tick (✓) in the appropriate box.

1. Gender:

Male ☐ 1
Female ☐ 2

2. Age (in years): Years

3. Marital Status:

Married ☐ 1
Separated ☐ 2
Divorced ☐ 3
Widowed ☐ 4
Never Married ☐ 5

4. Were you born in Papua New Guinea?

Yes ☐ 1

No ☐ 2

If no, please state where you were born..... ☐ 3

.....

5. Do you speak the local language of the area you work in?

Yes ☐ 1

No ☐ 2

If no , please state what language you speak..... ☐ 3

.....

6. What province in Papua New Guinea do you come from?

.....Province

Other (please specify):

7. What district in Papua New Guinea do you come from?

.....District

Other (please specify): ☐

8. Where do you work?

- | | | |
|--------------------------------|--------------------------|---|
| Provincial Hospital | <input type="checkbox"/> | 1 |
| District Hospital | <input type="checkbox"/> | 2 |
| Health Centre | <input type="checkbox"/> | 3 |
| Health Sub – Centre | <input type="checkbox"/> | 4 |
| Urban Clinic | <input type="checkbox"/> | 5 |
| Aid Post | <input type="checkbox"/> | 6 |
| Other (Please specify): | <input type="checkbox"/> | 7 |
| | | |

9. What is your current position?

- | | | |
|--|--------------------------|---|
| Medical officer (GP):..... | <input type="checkbox"/> | 1 |
| Medical Officer (physician, surgeon or others speciality)..... | <input type="checkbox"/> | 2 |
| Health Extension Officer | <input type="checkbox"/> | 3 |
| Nursing Officer (general): | <input type="checkbox"/> | 4 |
| Nursing Officer (Psychiatric)..... | <input type="checkbox"/> | 5 |
| Community Health Worker | <input type="checkbox"/> | 6 |
| Aid Post Orderly | <input type="checkbox"/> | 7 |
| Other (specify): | <input type="checkbox"/> | 8 |
| | | |

10. How long have you been working in this position (as a health worker)?

.....Years

Some Questions About your Educational /Training Background

11. What is the highest grade you completed at school?

- None ☐ 1
- Elementary - Grade 6 ☐ 2
- Grade 7 - Grade 8 ☐ 3
- Grade 9 – Grade 10 ☐ 4
- Grade 11 - 12 ☐ 5

12. What undergraduate qualifications do you have?

- MBBS (or equivalent)..... ☐ 1
- Diploma in Applied Health Sciences (HEO) ☐ 2
- Certificate in Nursing ☐ 3
- Certificate in Community Health Work ☐ 4
- Certificate in Aid Post Orderly work ☐ 5
- Other (specify): ☐ 6
-

13. Do you have any post graduate qualification ?

- Yes1. ☐ go to question 14
- No2. ☐ go to question 15

14. If You answered yes to question 13, what postgraduate qualification do you have?

- Certificate ☐ 1
- Diploma ☐ 2
- Master's Degree ☐ 3
- Doctorate ☐ 4
- Other (Please specify): ☐ 5
-

15. During your undergraduate training, how many weeks were devoted to mental health/psychiatry?

..... Weeks

16. During your postgraduate training how many weeks were devoted to mental health/psychiatry?

..... Weeks

17. Have you ever undertaken a basic skills in counselling course for health workers?

- Yes ☐ 1
- No ☐ 2

18. Have you undertaken any other counselling courses?

- Yes ☐ 1
- No ☐ 2
- If yes, please specify:..... ☐ 3
-

**THIS IS THE END OF PART ONE (1) OF THE QUESTIONNAIRE
THANK YOU FOR ANSWERING**

PLEASE MOVE ONTO PART TWO

ID NO:-----

PART 2: DIAGNOSTIC CATEGORIES AND TREATMENTS

Part 2/A: Knowledge Assessment

In this part 2 of the questionnaire, we are interested in learning about your knowledge concerning the treatment and management of persons with a mental illness or mental disorder. Several researchers have used the following modern and culturally specific diagnoses

Please use the rating scale below to indicate your opinion about each statement. Put the number that represents your own opinion from the scale in the box next to each statement

(1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree) and (5 = Don't Know).

When you think about "health workers", think about "health workers" who have same position as you.

Modern Diagnostic Categories

1	2	3	4	5
Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know

1. Health workers are confident in diagnosing the following mental illnesses

	1	2	3	4	5
Schizophrenia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Depression (Affective Disorder)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personality Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Anxiety Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Substance Use Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Somatization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Health workers understand the difference between the above specific mental illnesses

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Health workers use the above diagnostic categories to make a diagnosis when they see a person with mental illness.

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1	2	3	4	5
-----	-----	-----	-----	
Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know

8. 4. Health workers know when and where to refer a mentally ill person who needs specialist mental health care.
- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1 | 2 | 3 | 4 | 5 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Culture Specific Diagnoses

5. Health workers are confident in diagnosing the following culture specific illnesses?
- | | | | | | |
|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Magic (Sanguma) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Sorcery (posin)..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Witchcraft..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Amok Syndrome | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Spirit Possession | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
6. Health workers understand the difference Between above culture specific mental illnesses.
- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
7. Health workers are confident in consulting and working with a traditional healer regarding treatment of patients with culture specific mental illness.
- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
8. Health workers are familiar with the specific symptoms of these culture specific diagnoses.
- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
9. Health Workers are familiar with cultural beliefs concerning the causes of mental illnesses.
- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

Treatment

Please refer to the attached list of common psychotropic drugs used in PNG when responding to these questions and Please circle the response that applies to you.

10. Do you use modern medication (eg, Chlorpromazine)?

	1		2		3		4

Not at all		A Little Bit		Somewhat		A great Deal	

11. Are you confident in prescribing modern medication?

	1		2		3		4

Not at all		A Little Bit		Somewhat		A great Deal	

12. Do you get enough supplies of psychotropic drugs to meet your needs?

	1		2		3		4

Not at all		A Little Bit		Somewhat		A great Deal	

13. Are you familiar with the different types of traditional treatment for mental illness used in your area?

	1		2		3		4

Not at all		A Little Bit		Somewhat		A great Deal	

14. Do you have access to traditional treatment?

	1		2		3		4

Not at all		A Little Bit		Somewhat		A great Deal	

This image shows a full page of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

(use the back of this paper should you need more space)

PART 2/B: YOUR OWN CASES

This part of the questionnaire asks you to tell us about the types of mentally ill patients you have seen.

In the last three months how many different people have you seen with mental health problems? Number

Please tell us about the three (3) most recent cases you have treated.

Please put a tick ✓ in the appropriate box that applies to you.

CASE 1 (PATIENT 1)

1. The patient was male or female?

☐

1 Male

☐

0 Female

Age _____ years

2. The patient was brought to the centre by

☐

1 Self

☐

2 Family

☐

3 Police /Court

☐

4 Others (Please write):

3. How long has this person been ill? _____ years _____ months

4. How long have you been treating this person? _____ years _____ months

5. What were the presenting problems?

☐

1 Aggressive and violent

☐

5 Seeing things

☐

2 Hearing voices

☐

6 Talking non-sense

☐

3 Crying / Sad

☐

7 Very active

☐

4 Headache

☐

8 Belly pain

☐

9 Others (Please write):

6. What was your diagnosis? (tick ✓ all that apply)

Modern Diagnosis

- ☐ 1 Schizophrenia
- ☐ 2 Depression
- ☐ 3 Personality disorder
- ☐ 4 Anxiety Disorder
- ☐ 5 Substance Use disorder
- ☐ 6 Somatisation
- ☐ 12 Other (Please write): _____

Culture Specific Diagnosis

- ☐ 7 Magic (sanguma)
- ☐ 8 Sorcery (posin)
- ☐ 9 Witchcraft
- ☐ 10 Amok Syndrome
- ☐ 11 Spirit Possession

7. How was this patient treated?

Medication

- ☐ 1 Chlorpromazine
- ☐ 2 Fluphenazine Decanoate
- ☐ 3 Haloperidol
- ☐ 4 Thioridazine
- ☐ 5 Amitriptyline
- ☐ 6 Diazepam
- ☐ 7 Fluxatine
- ☐ 8 Olanzapine

Traditional Treatment

- 9 ☐ Reconciliation (eg; shaking Hands)
- 10 ☐ Animal Sacrifice
- 11 ☐ Herbs and Plants
- 12 ☐ Compensation/payments
- 13 ☐ Others (Please write)
- _____

Counselling

- ☐ 1 Individual Counselling (with health worker)
- ☐ 2 Family Counselling (with health worker)
- ☐ 3 Traditional Counselling (with village leader)
- ☐ 4 Pastoral Counselling (with pastoral worker)

8. Please describe dosage, frequency and mode of administration eg, tablets, oral. Herbal drinks, intra-muscular injection, compensation payments) (Use attached drug list)

Medication

Traditional Treatment

9. Do you see this patient alone or with other family members?

- ☐ 1 Alone ☐ 2 with family members

10. About how long is each visit with the patient? _____minutes

11. How often do you visit the patient? _____(eg; 1 time per 2 weeks).

12. Where is this patient now?

- ☐ 1 Living in their community ☐ 2 In hospital ☐ 3 I don't know where they are

13. Since you have been involved in the treatment of this patient, how have they changed?

Please circle the appropriate answer.

1	2	3	4	5
Much Worse	A Little Worse	Stayed The Same	A Little Better	Much Better

CASE 2 (PATIENT 2)

The patient was male or female?

☐

1 Male

☐

0 Female

Age _____ years

1. The patient was brought to the centre by

☐

1 Self

☐

2 Family

☐

3 Police /Court

☐

4 Others

2. How long has this person been ill? _____ years _____ months

3. How long have you been treating this person? _____ years _____ months

4. What were the presenting problems?

☐

1 Aggressive and violent

☐

5 Seeing things

☐

2 Hearing voices

☐

6 Talking non-sense

☐

3 Crying/Sad

☐

7 Very active

☐

4 Headache

☐

8 Belly pain

☐

9 Others (Please write): _____

6. What was your diagnosis?

Modern Diagnosis

☐

1 Schizophrenia

☐

2 Depression

☐

3 Personality disorder

☐

4 Anxiety Disorder

☐

5 Substance Use disorder

☐

6 Somatization

☐

12 Other (Please write): _____

Culture Specific Diagnosis

☐

7 Magic (sanguma)

☐

8 Sorcery (posin)

☐

9 Witchcraft

☐

10 Amok Syndrome

☐

11 Spirit Possession

7. How was this patient treated?

Medication

- ☐ 1 Chlorpromazine
- ☐ 2 Fluphenazine Decanoate
- ☐ 3 Haloperidol
- ☐ 4 Thioridazine
- ☐ 5 Amitriptyline
- ☐ 6 Diazepam
- ☐ 7 Fluxatine
- ☐ 8 Olanzapine

Traditional Treatment

- ☐ 9 Reconciliation (shaking Hands)
- ☐ 10 Animal Sacrifice
- ☐ 11 Herbs and Plants
- ☐ 12 Compensation/payment
- ☐ 13 Others (Please write)
- _____

Counselling:

- ☐ 1 Individual Counselling (with health worker)
- ☐ 2 Family Counselling (with health worker)
- ☐ 3 Traditional Counselling (with village leader)
- ☐ 4 Pastoral Counselling (with pastoral worker)

8. Please describe dosage, frequency and mode of administration eg, tables, oral.

Herbal drinks, intra-muscular injection, compensation payments) (Use attached drug list)

Medication

Traditional Treatment

9. Do you see this patient alone or with other family members?

☐

₁ Alone

☐

₂ with family members

10. About how long is each visit with the patient? _____ minutes

11. How often do you visit the patient? _____ (eg; 1 time per 2 weeks).

12. Where is this patient now?

☐

₁ Living in their community

☐

₂ In hospital

☐

₃ I don't know

where they are

13. Since you have been involved in the treatment of this patient, how have they
changed?

Please circle the appropriate answer.

1	2	3	4	5
<hr/>				
Much Worse	A Little Worse	Stayed The Same	A Little Better	Much Better

CASE 3 (PATIENT 3)

1. The patient was male or female?

☐

1 Male

☐

0 Female

Age _____ years

2 The patient was brought to the centre by

☐

1 Self

☐

2 Family

☐

3 Police /Court

☐

4 Others

3. How long has this person been ill? _____ years _____ months

4. How long have you been treating this person? _____ years _____ months

5. What were the presenting problems?

☐

1 Aggressive and violent

☐

5 seeing things

☐

2 Hearing voices

☐

6 Talking non-sense

☐

3 Crying/ Sad

☐

7 Very active

☐

4 Headache

☐

8 Belly pain

☐

9 Others (Please write):

6. What was your diagnosis?

Modern Diagnosis

☐

1 Schizophrenia

☐

2 Depression

☐

3 Personality disorder

☐

4 Anxiety Disorder

☐

5 Substance Use disorder

☐

6 Somatisation

☐

12 Other (Please write):

Culture Specific Diagnosis

☐

7 magic (sanguma)

☐

8 Sorcery (posin)

☐

9 Witchcraft

☐

10 Amok Syndrome

☐

11 Spirit Possession

7. How was this patient treated?

Medication

- ☐ 1 Chlorpromazine
- ☐ 2 Fluphenazine Decanoate
- ☐ 3 Haloperidol
- ☐ 4 Thioridazine
- ☐ 5 Amitriptyline
- ☐ 6 Diazepam
- ☐ 7 Fluxatine
- ☐ 8 Olanzapine

Traditional Treatment

- 9 ☐ Reconciliation (eg; shaking Hands)
- 10 ☐ Animal Sacrifice
- 11 ☐ Herbs and Plants
- 12 ☐ Compensation/payment
- 13 ☐ Others (please write):

Counselling:

- ☐ 1 Individual Counselling (with health worker)
- ☐ 2 Family Counselling (with health worker)
- ☐ 3 Traditional Counselling (with village leader)
- ☐ 4 Pastoral Counselling (with pastoral worker)

8. Please describe dosage, frequency and mode of administration eg, tables, oral.

Herbal drinks, intra-muscular injection, compensation payments) (Use attached drug list)

Medication

Traditional Treatment

9. Do you see this patient alone or with other family members?

☐

₁ Alone

☐

₂ with family members

10. About how long is each visit with the patient? _____ minutes

11. How often do you visit the patient? _____ (eg; 1 time per 2 weeks)

12. Where is this patient now?

☐

₁ Living in their community

☐

₂ In hospital

☐

₃ I don't know
where they are

13. Since you have been involved in the treatment of this patient, how have they changed? Please circle the appropriate answer.

1	2	3	4	5

Much Worse	A Little Worse	Stayed The Same	A Little Better	Much Better

THIS IS THE END OF THIS PART OF THE QUESTIONNAIRE.

**WE WILL NOW MOVE UNTO THE NEXT PART OF THE QUESTIONNAIRE,
WHICH INVOLVES REVIEWING (LOOKING AT) THREE VIDEO CASE
STUDIES OF PEOPLE SEEKING HELP FOR A MENTAL HEALTH PROBLEM.**

PART 2/C: - VIDEO CASE STUDIES (PRE – TEST)

This part of the questionnaire requires you to watch three (3) video case studies presented to you. Please watch carefully for signs and symptoms of the three (3) cases in order to come up with the differential diagnosis and its treatment.

For part A, place a tick (✓) in the appropriate box under each case. You may need to tick several boxes depending on the number of signs and symptoms presented. For part B, you have to put a number in the box next to the diagnosis that you think is appropriate in order of importance, and in part C, using the scale provided rate each treatment for each case by putting a number in the box next to the treatment.

CASE 1 CASE 2 CASE 3

A. What are the Signs and Symptoms for each case?

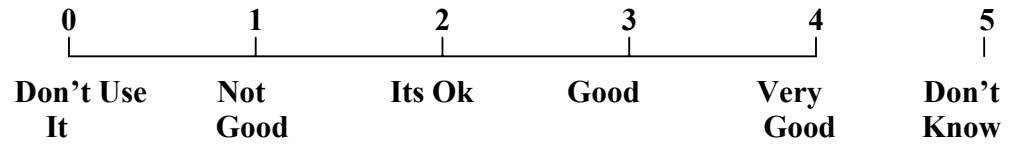
1. Aggressive and violent.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Not eating well and loss of weight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Poor performance at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Thought Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sad and tearful everyday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Hearing Voices (Hallucination)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Poor self-care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Social withdrawal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Disturbed Sleep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Hangs around with people who drink and use substances.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. Number the Diagnoses that you think are appropriate in order of importance for each case?

	<u>CASE 1</u>	<u>CASE 2</u>	<u>CASE 3</u>
1. Personality Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Schizophrenia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sorcery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Anxiety Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Depression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Spirit Possession (Masalai/Demons etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Substance Use Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Magic (Sanguma)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Somatization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Amok syndrome.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Witchcraft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. No diagnosis appropriate (tick ✓ if this applies).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Don't know, not sure which diagnosis is appropriate (tick ✓ if this applies to you).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. What would be the best treatment(s) you would recommend for each case?

Using the scale below rate each treatment for each case. Put a number from the scale in each box. If you don't know what a treatment is just put the number 5 in the box.



CASE 1 **CASE 2** **CASE 3**

Part C1: Medication

1 . Amitriptyline.....	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
2. Chlorpromazine (Largactil).....	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
3. Diazepam (Valium).....	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
4. Fluphenazine Decanoate (modecate).....	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
5. Haloperidol	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
6. Olanzapine	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
7. Prozac	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>
8. How good is medication for this case?	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>	<input style="width: 40px; height: 25px;" type="text"/>

0	1	2	3	4	5
----- ----- ----- ----- -----					
Don't Use It	Not Good	Its Ok	Good	Very Good	Don't Know

Part C2: Counselling

	<u>CASE 1</u>	<u>CASE 2</u>	<u>CASE 3</u>
1 Individual Counselling (with health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Family Counselling (with health worker).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Traditional counselling (with village leader).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Pastoral counselling (with pastoral worker).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. How good is counselling for this case?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part C3: Traditional Treatment

1. Animal Sacrifice to ancestral/dead or living spirits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Use of herbs/plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Compensation/payments.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reconciliation (eg; shaking-hands, sharing drinks, or meals).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. How good is traditional treatment for this case?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THIS IS THE END OF PART TWO C (2/C) OF THE QUESTIONNAIRE

**PLEASE MAKE SURE YOU HAVE RESPONDED TO ALL THE
QUESTIONS AND STATEMENTS. PLEASE HAND IT BACK TO ME (BETTY
KOKA), BEFORE YOU HAND IT BACK TO ME.**

ID NO :

PART 2/C: (POST-TEST)

CASES – VIDEO CASE STUDIES

Now that you have participated in training on diagnoses and treatments of mental disorders. I would like you to watch the three (3) video case studies again and respond to this part of the questionnaire, which is the same questionnaire you filled in before the training. Please tick all that apply in part A. For part B, put a number in the box next to the diagnosis in order of importance for the most appropriate diagnosis. Using the scale provided for part C rate the appropriateness of each treatment using a number from the scale.

CASE 1 **CASE 2** **CASE 3**

A. What are the Signs and Symptoms for each case?

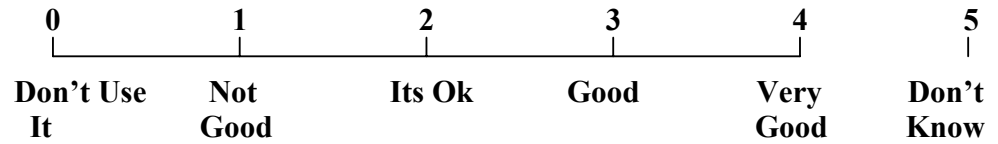
1. Aggressive and violent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Not eating well and loss of weight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Poor performance at school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Thought Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sad and tearful everyday	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Hearing Voices (Hallucination)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Poor self-care.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Social withdrawal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Disturbed Sleep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Hangs around with people who drink and use substances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. Number the Diagnoses that you think are appropriate in order of importance for each case?

1. Personality Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Schizophrenia.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Sorcery	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Anxiety Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Depression	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Spirit Possession (Masalai/Demons etc).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Substance Use Disorder.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Magic (Sanguma).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Somatization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Amok syndrome.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Withcraft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.No diagnosis appropriate (tick ✓ if this applies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Don't know, not sure which diagnosis is appropriate (tick ✓ if this applies to you.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. What would be the best treatment(s) you would recommend for each case?

Using the scale below rate each treatment for each case. Put a number from the scale in each box. If you don't know what a treatment is, just put the number 5 in the box.



CASE 1 **CASE 2** **CASE 3**

Part C1: Medication

1. Amitriptyline			
2. Chlorpromazine (Largactil).....			
3. Diazepam (Valium).....			
4. Fluphenazine Decanoate (modecate)			
5. Haloperidol.....			
6. Olanzapine.....			
7. Prozac.....			
8. How good is medication for this case.....			

Part C2: Counselling

0	1	2	3	4	5
Don't Use It	Not Good	Its Ok	Good	Very Good	Don't Know

	<u>CASE 1</u>	<u>CASE 2</u>	<u>CASE 3</u>
1. Individual Counselling (with health worker).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Family Counselling (with health worker).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Traditional counselling (with village leader).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Pastoral counselling (with pastoral worker).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. How good is counselling for this case?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part C3: Traditional Treatment

1. Animal Sacrifice to ancestral/dead or living spirits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Use of herbs/plants.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Compensation/payments.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reconciliation (eg; shaking-hands, sharing drinks, or meals).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. How good is traditional treatment for this case?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THIS IS THE END OF THIS PART OF THE QUESTIONNAIRE

PLEASE CHECK TO MAKE SURE YOU HAVE RESPONDED TO ALL THE QUESTIONS.

NOW PLEASE MOVE UNTO THE ADDITONAL PART OF THIS QUESTIONNAIRE.

IN THIS THE FINAL PART OF THE QUESTIONNAIRE WE WANT TO KNOW HOW YOU RATE YOURSELF AND ANY COMMENTS YOU WISH TO MAKE. PLEASE RESPOND TRUTHFULLY AS YOUR HONEST ANSWER WILL ASSIST IN IMPROVED TRAINING PLANS IN MENTAL HEALTH SERVICES.

PART 2/D: YOUR SAY (Additional Questions):

(Put the number that applies to you in the box)

	1	2	3	4	5
	Very Poor	Poor	Fair	Good	Very Good
1. How do you rate your knowledge and understanding of the following mental health problems?					
Schizophrenia.....					
Depression.....					
Personality Disorder.....					
Anxiety Disorder.....					
Substance Use Disorder.....					
Amok Syndrome.....					
Magic.....					
Sorcery.....					
Spirits.....					
2. How would you rate your knowledge and understanding Of treatments used in Treating persons with mental illness?					
Medication					
Traditional treatment.....					
Counselling.....					

3. How much additional training in mental health do you think you need? (circle the answer that applies to you)

1	2	3	4	5
None	Not Much	Fair Amount	Much	A Great Deal

4. If yes what kinds of training do you need?

5. If you have any comments about anything regarding mental health services in Papua New Guinea, the district mental health workshops or this study Please write it down as your comments will be very helpful in improving further training workshops. (use the back of this page if you need more space).

THIS IS THE END OF THE QUESTIONNAIRE.

THANK YOU FOR YOUR TIME AND TAKING PART IN THIS STUDY.
(Thank yu Tru!!!)

PLEASE MAKE SURE YOU HAVE ANSWERED ALL THE QUESTIONS AND MAKE SURE YOUR ID NO IS ON THE FIRST PAGE OF THIS PART OF THE QUESTIONNAIRE.

THEN HAND THE QUESTIONNAIRE BACK TO ME (Betty E. Koka)

LIST OF PSYCHOTHERAPEUTIC DRUGS AVAILABLE IN PNG

ITEM CATEGORY	DESCRIPTION	AVERAGE DAILY DOSE
1127 A	Chlorpromazine Injection 50mg/2ml	100 –1500mg
1128 B	Chlorpromazine Syrup 25mg/5ml	500mg
1129 A	Chlorpromazine Tablets 25mg	500mg
1130 A	Chlorpromazine Tablets 100mg	500mg
1225D	Fluphenazine Decanoate Injection 25mg/ml	25 -50mg Intra Muscular Injection (IMI) every 2-4 weeks (25mg IMI monthly
1247 C	Haloperidol Injection 5mg/ml	2-30mg
1248 C	Haloperidol Tablets 5mg	5 -10mg
1598 C	Thioridazine Tablets 50mg	100 – 800mg
1615 C	Trifluoperazine Tablets 5mg	10 – 40mg
1026 B	Amitriptyline Tablets 25mg	75 – 300mg
1176 A	Diazepam Injection 10mg/2ml	6 – 40mg
1177 C	Diazepam Tablets 5mg	5 – 10mg
New Drugs Introduced 1998	Olanzapine Tables 5mg and 10mg	10mg
	Fluoxetine 20mg	20-50mg to start then gradually increase to 300mg
	Lithium	900 – 2400mg (acute cases) 400-1200 maintenance with serum level checked monthly

Category of Health Worker Entitled to Use

A = General Availability for all categories of health Workers

B = Medical Officers Only

C = Specialist Medical Officers Only

D = Restricted for Special Indications Only

E = Pharmacists and Dispensers Only

ATO = Anaesthetist Technical Officer

Please see print copy for
Appendix 9: Video transcript – English version

APPENDIX10: WORKSHOPTIME TABLE

TIME/ DATE	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8.00AM	REGISTRATION	D E	V O	T I	O N
8.15AM	Activity: Introduction of participants & facilities BKoka	Activity: Group discussion with participants views on Mental Health and Mental Illness <i>Dr. Ambi</i>	Session 12 Introduction on substance use disorder <i>Dr. Tienang</i>	<i>Session 18 Cont'd</i>	Session 23: Mental Health Promotion, Primary Mental health care <i>Dr. Ambi</i>
8.30AM	Official Opening: Welcome participant, Aims,, Objectives and outcome of the workshop and the importance of involvement of mental health survey: Dr. Ambi	Session 4: Defining Mental Health & Mental Illness. <i>Dr. Ambi</i>	Session 12 Cont'd	Activity: Controlled discussion participants view in culture specific diagnoses and influences on help- seeking behaviour <i>B. Koka</i>	Session 23 Cont'd
9.00AM	Opening speech and opening of the workshop: Dr. Mann.	Session 5: History Taking and mental state examination - <i>Dr. Ambi</i>	Session 13: Marijuana <i>Dr. Tienang</i>	Session 19: Traditional Treatments used in treating mental illness Dr. Tienang	Session 24: Patient Referral System. <i>Dr. Tienang</i>
9:30AM		Session 5 cont'd	Session 14: Tobacco <i>Dr. Tienang</i>	Session 19 cont'd	Activity: General discussion/ Evaluation.
10.00AM	TEA	B	R	E	AK
10.30AM	Session 1: Introduction of mental health survey: Participant's information Package and consent forms. Administration and completion of study parts 1 and 2. B.Koka	Session 6: Psychosis – Organic/Functiona <i>Dr. M. Hagali</i>	Session 15: Alcohol <i>Dr. Tienang</i>	Session 20: Psychosocial Rehabilitation. <i>Dr. Sharma/M.Magaru</i>	Survey: Re-administration of study part 3 video case studies for post-test <i>B. Koka</i>
11.00AM	Completion of survey questionnaire part 1&2, cont'd	Session 8: Schizophrenia <i>Dr. M. Hagali</i>	Session 16: Betelnut <i>Dr. Tienang</i>	Session 20 cont'd	Survey Cont'd ended with general discussion and evaluation of workshop
12.00MD	L	U	N	C H	Official closing
1.30PM	Session 2: Completion of questionnaire study part 3 pre-test video case studies B. Koka	Session 9: Depression <i>Possanau</i>	Session 17: Somatization <i>Dr. Tienanag/Hagali</i>	Session 21: Psychopharmacology <i>Dr. Possanu</i>	Presentation of Certificates to participants Chairperson – Dr.Ambi
2.30PM	Session 2 Cont'd Completion of pre-test Video case studies	Session 10: Personality Disorder <i>Dr. Ambi</i>	Session 18: Culture specific diagnosis - magic - sorcery - witchcraft - amok syndrome - Spirit possession	Session 21 cont'd	
3.00PM	TEA	B	R	E	AK
3.30PM	Session 3: Policy and Priority Mental Health & Current Programs in Mental Health: National Health Plan 2001 – 2010 Dr. Ambi	Session 11: Anxiety Disorder <i>Dr. Ambi</i>	Session 18 cont'd <i>Dr. Tienang/B.Koka</i>	Session 22: Mental Health Information <i>B.Koka</i>	
4:00PM 4:00PM	Recap for the Day. And Adjourn B.Koka	Recap for the Day/ Adjourn Dr. Hagali	Recap for the Day. Dr. T Tienang	Recap for the Day/Adjourne. Dr. Ambi	

APPENDIX 11

QUESTIONNAIRE INSTRUCTIONS FOR RESEARCHER.

Official words of thank you for conducting the research and workshop in each of the four regions and taking part in the study. Welcoming of participants and Introduction of the workshop/research and its aims, objectives and expected outcomes of the workshops will be done by Dr. Uma Ambi, Principle Advisor, Social Changes and mental Health Services, PNG, during the official opening on the first day.

Researcher will go through the participants information sheet again together with the participants. Confidentiality will be emphasised and maintained at all times. Participants will also be taken through the consent form. Then if they want to participate voluntarily, they will sign consent forms and the signed consent forms will be collect by the researcher.

The questionnaires will already have identification numbers placed on them by the researchers prior to administration. Researcher will inform participants that all information/data collected during the work will be highly confidential and be kept in strict confidence.

STUDY PART 1

PART 1: DEMOGRAPHIC

Part 1 of the questionnaire requires you to give me your own identity. Some personal information on who you are, your training background and where you work. You are given 10 minutes to complete the questionnaire. If you have a question or do not understand anything then please put you hand up and ask. I will help you clarify the question.

After 10 minutes make sure everyone has completed part 1 then move unto part 2/A.

PART 2: DIAGNOSTIC CATEGORIES AND TREATMENTS.

PART 2/A: KNOWLEDGE ASSESSMENT

Researcher will go through each statement with the participants, but no definition of any diagnosis will be given. Let them know that this will be done through the intervention training and during the discussions after the questionnaire has been completed and collected.

The rating scale will be defined so that the participants know what each term means, eg; the difference between strongly disagree and disagree.

Please use the rating scale and indicate your opinion by putting the number that applies to you in the box next to the statement.

If you have any question or do not understand anything then please put you hand up and ask. I will help you. You are given 10 minutes to complete this part of the questionnaire.

After 10 minutes, make sure that all have completed part 2/A of study part 1 and then move unto part 2/B, which is study part 2.

COMPLETION OF STUDY PART 1

STUDY PART 2

PART 2/B: PARTICIPANTS OWN CASE STUDIES

You have been asked prior to the workshop to bring three (3) case files of persons with mental health problems that you have treated in your centre. Please use your case files to complete this part of the questionnaire. If you didn't bring any case files then recall cases you have seen and treated and complete the questionnaire.

If you have never seen or treated any persons with mental health problem in your centre, or you have persons with mental health problems in your catchment area but you have not treated them, then who is treating them? What are they being treated for and with what form of treatment? If they are not on any form of treatment then please do indicate at the back of page 10.

Take them through each question together. Explain the difference between each type of medication, traditional treatment and counselling.

If you have a question or do not understand anything then please put you hand up and I will help you. You are given 20 minutes to complete this part of the questionnaire.

After 20 minutes check if everyone has completed the questionnaire. If they have not then give them extra 5 minutes to complete. Move unto part 2/C, which is actually study part 3 – Pre-test, or pre-training when all have completed.

COMPLETION OF STUDY PART 2B

PART 2/C: PRE AND POST TEST VIDEO CASE STUDIES

In this part of the evaluation you will be asked to review (look at) three video case studies of people seeking help for a mental health problem.

Please watch and listen to the videotape very carefully you will be required to complete a questionnaire relating to the relevant signs and symptoms, diagnosis and treatment of each case study.

(show video case study 1).

*Now that you have watched case study one (1) of the video, I would like you to answer the three (3) questions on the questionnaire. Let us look at part A of the questionnaire together. **Question A:** (read aloud) **What are the signs and symptoms presented in the video for this case?** I would like you to put a tick (✓) in the box for each signs and symptoms that you think apply to case 1. You can tick more than 1 box.*

You can now go ahead and answer part A. If you are not sure about the question, please ask me so that I can clarify any misunderstanding. We will not discuss the answers at this stage. This will happened during group discussions at a later time during the workshop.

You will have 10 minutes to respond to question A. (give participants 10 minutes to respond to question A and be available clarify any misunderstandings, both individually and as a group).

(After 10 minutes make sure everyone has responded to part A. Then move on to part B of the case 1 on diagnosis).

Let us now move unto part B of the questionnaire on diagnosis for case study 1. In part B you are required to put a number in the box next to the diagnosis you think is appropriate

for Case 1. Starting with number 1 for the most appropriate diagnosis and number two for the next appropriate diagnosis and so on. If you think there is no appropriate diagnosis then indicate this ticking box 12 or if you are unsure tick box 13.

You will be given 10 minutes to respond to question B.

(After 10 minutes make sure everyone has responded to part B. Then move on to part C of the case 1 on treatment).

Part C of the questionnaire lists the type of treatment.

Please use the scale on the questionnaire to rate each treatment for each case. 0-4 (0 = Don't Use It, 1 = Not Good, 2 = Its Ok, 3 = Good and 4 = Very Good) If you don't know what a treatment is, just put the number 5 in the box. (5 = Don't Know).

Part C is divided into three (3) parts.

Part C1: Describes medication (drug) treatment that are used in PNG.

A list of the types of psychotropic medication available in PNG that you can refer to in responding to this part of the questionnaire.

Part C2: Describes types of counselling

Part C2: A lists of the types of counselling services available in PNG.

C2:1.& 2: modern health counselling,

where a health worker counsels

the patient individually or counsels the family as a group and help them to make their own decisions to help solve the problem.

C2: 3: Traditional Counselling,

where the village counsellor, leader or chief

listens to the problem, talks to the individual and family concerned and makes decision on the course of action to help solve the problem.

C2: 4: Pastoral counselling,

where a church pastoral worker counsels the patient

or the family based on Christian principles and involves praying with them.

Part C3: Describes traditional treatments

Traditional treatment describes all the different types of traditional treatment Available.

When you have completed this section please check to make sure you have rated by a number in the appropriate box for each type of treatment. You will have 10 minutes to respond to this section of the questionnaire. If you have any questions or not sure of anything, please do not hesitate to put your hand up and I will help you.

(Check after 10 minutes to make sure everyone has responded to every question. Then move unto case 2 and 3 using the same instructions).

Note: After case three (3):

We have now completed the pre-test part of the questionnaires. You will now participate in training on how to assess different types of mental disorders and their treatments.

COMPLETION OF STUDY PART 2/C: PRE-TEST.

(Intervention education and in-service training will take place for the 5 days, until Friday, the last day; the post-test questionnaire will be administered.)

STUDY PART 2/C: POST-TEST

Post-test Questionnaire

On the last day (day 5) of the training after all the subjects have been covered, post-test questionnaire is administered.

Now that you have participated in some assessment training on the diagnosis and treatment on the different types of mental disorders. I would like you to watch the three (3) video case studies again and respond to the same questionnaire you filled in on Monday, the first day of this training workshop.

Apply the same procedure used in collecting the pre-test data.

Make sure all the questions are complete and appropriate boxes ticked or numbers placed in them. When all the questions are completed and collected. *Move* unto the next section.

COMPLETION OF STUDY PART 3 POST-TEST.

PART 2/C: YOUR SAY (ADDITIONAL QUESTIONS)

This is the final part of the questionnaire indicated as part 2/C is where you can make your comments and to self rate skills on diagnosis and treatment and also asked to answer some additional questions about your future training needs. You are also provided space to make your comments about the training and the survey and make a general evaluation of the training.

Make sure the additional questions have been completed, and then collect the completed questionnaires.

(Completion of data collection - Move unto general discussion)

You can now discuss any issues about the survey and training; you may now like to discuss issues such as the difference between early onset of schizophrenia in adolescence and in adulthood etc. The likely hood of combining modern medicine and traditional treatment.

For this session, we will have general discussions on anything you did not understand in the study as a whole or the video case studies or even anything you did not understand during the training. You can even make comments on any mental health issues or the research.

End Discussion and move unto official closing of training workshop. Presentation of certificates of attendance.

DO NOT FORGET TO THANKS THE PARTICIPANTS AND FACILITATORS

COMPLETION OF TRAINING/COMPLETION OF DATA COLLECTION.

Please see print copy for
Appendix 12: three pages on diagnosis and management of psychosis in the standard
treatment manual for adults used by health workers in PNG (PNGNDOH, 1989: 95-97)

Please see print copy for
Appendix 13: copy of PNG traditional medicine policy from the PNGNDOH strategic plan
for 2001-2010

Please see print copy for
Appendix 14: PNGNDOH health information system monthly reporting form

Please see print copy for
Appendix 15: vocabulary addendum