

AN INTEGRATED FRAMEWORK FOR THE TREATMENT OF SUBSTANCE ADDICTION AND DEPENDENCY IN THE FREE STATE

by

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DECLARATION

I certify that the thesis hereby submitted by me for the degree PhD in Clinical Pharmacology at the University of the Free State is my independent effort and had not previously been submitted for a degree at another university/faculty. I furthermore waive copyright of the thesis in favour of the University of the Free State.

P.M. VAN ZYL

Date

DEDICATION

To the memory of my father who was a man of great compassion.

To my mother who has never been discouraged by the magnitude of challenges.

To my sister, Hanneljie Meintjes, who inspires me through her boundless enthusiasm; truly knows me, yet never failed to believe in me.

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LIST OF ACRONYMS

AA=Alcoholics Anonymous

AMPA= α -amino-3-hydroxyl-5-methyl-4-isoxazole-propionate

AMPH=Amphetamine

AUDIT=Alcohol Use Disorders Identification Test

BDNF= Brain Derived Neurotrophic Factor

CAD=Christian Action for Dependence

CAGE=Cut-down, Annoyed, Guilt, Eye-opener

CAT=Methcathinone

CB₁=Cannabinoid 1 receptor

CBO=Community Based Organization

CDA=Central Drug Authority

CRF=Corticotrophin releasing factor

DALY=Disability Adjusted Life Years

DBH=Dopamine hydroxylase

DBI=Diazepam-Bound-Inhibitor

DoH=Department of Health

DSD=Department of Social Development

EAP=Employee Assistance Programme

FSPC=Free State Psychiatric Complex

GABA=Gamma amino butyric acid

GHB=Gamma Hydroxy Butyrate

HPA=Hypothalamic-Pituitary-Adrenal

LTP=Long-Term Potentiation

MDG=Millenium Development Goals

MDT=Multi-Disciplinary Team

MEOS= Microsomal Ethanol Oxidizing System

MEC=Member of the Executive Committee

MTHFR=5,10 Methylene Tetrahydrofolate Reductase

NAcc=Nucleus Accumbens
NBD=National Burden of Disease
NGO=Non-Governmental Organization
NIMMS=National Injury Mortality Surveillance Systems
NMDA=N-Methyl- D -Aspartate
PAF=Population Attributable Fraction
PAN= Psychogenic Analgesic Nitrous Oxide
PHC=Primary Health Care
PMB=Prescribed Minimum Benefit
SACENDU=South African Community Epidemiology Network on Drug Use
SADHS=South African Demographic and Health Survey
SAHRC=South African Human Rights Commission
SAMF=South African Medical Formulary
SANCA=South African National Council on Alcoholism and Drug Dependence
SANAB=South African Narcotics Bureau
SAQA=South African Qualifications Authority
SARPN=South African Poverty Network
SSRI=Selective Serotonin Re-uptake Inhibitor
TIK=Methamphetamine
TIQ=Tetra isoquinolones
UNODC=United Nations Office on Drugs and Crime
VTA=Ventral Tegmental Area
WHO=World Health Organization
YLD=Years Lived with Disability
YLL=Years of Life Lost

LIST OF DEFINITIONS

Allostasis:

“Maintenanceof internal physical or psychological stability by making changes during situations of challenge.”(Dorland's Medical Dictionary for Healthcare Consumers)

Brief intervention:

“A treatment strategy in which a short structured therapy is offered (between 5 minutes and 2 hours) and typically on a single occasion. Aimed at helping a person reduce or stop substance use.” (Cochrane Drugs and Alcohol Group)

Cognitive-Behavioural Therapy :

“Is an active, directive, time-limited system of psychotherapy that focuses on uncovering and understanding the relationship and influence of automatic thoughts and underlying assumptions on problematic feelings and behaviours. The behavioural component consists of deep muscular relaxation training with imaginal and actual approach of conflict situations; identification and practice of verbal and non-verbal components of assertiveness; identification of and engagement in pleasant events; isolation and graduated rehearsal of small units of behaviour leading to goal attainment. The Cognitive component includes identification and disputation of irrational assumptions; sensitisation to aversive consequences of drug use; lowering of expectations and restructuring of goal setting strategies; development and contingent application of positive self-statements and evaluations.” (Cochrane Drugs and Alcohol Group)

Craving:

“Consuming desire”

“Intense desire for some particular thing”(Free Online Dictionary)

Detoxification:

“A medically supervised process by which physical withdrawal from a substance is managed through administration of individually prescribed medicines by a medical practitioner in a health establishment, including a treatment centre authorized to provide such a service under the National Health Act.” (RSA DSD, 2008:8)

Dual diagnosis:

In this thesis the term refers to the concept “concurrent disorder”, which is “the occurrence of a serious mental illness and a substance use disorder in an individual.”

(thefreedictionary.com)

Early intervention:

“To identify and treat potentially harmful substance use prior to the onset of overt symptoms associated with dependency on substances.” (RSA DSD, 2008:20)

Effectiveness:

“Adequate to accomplish a purpose, producing the intended, expected result”.

(Dictionary.com)

Efficacy:

“The skillful use of energy or industry to accomplish desired result with little waste of effort.” (Dictionary .com)

Epistemology:

“The nature of knowledge, its presuppositions and its foundations and its extent and validity.”

(Free Online Dictionary)

“The nature of the relationship between the knower (the enquirer) and the known (or knowable).” (Guba, 1990:18)

Evidence based medicine:

In its formal application refers to the application of a structured method of determining the strength of scientific evidence in order to provide a basis for clinical decision-making. Various methods were developed to grade the level of evidence for clinical effectiveness. Some methods incorporate a risk: benefit evaluation. It is not the purpose of this thesis to be prescriptive in which specific method should be used. In its broad sense “evidence-based medicine” can also refer to a personal habit of continuous self-auditing and improvement against scientific evidence (Timmermans & Mauck, 2005: 18).

In this thesis it is used in both senses, in the formal sense in the case of the setting of guidelines and in the broader sense in that it pleads for the consideration of biological evidence in setting targets for intervention for instance considering individualization such as with Lesch’s Typology.

Excitotoxicity:

“The pathological process by which nerve cells are damaged and killed by glutamate and similar substances. This occurs when receptors for the excitatory neurotransmitter glutamate such as the NMDA receptor and AMPA receptor are over-activated.”(Wikipedia)

Harm reduction:

A comprehensive concept including policies, programmes, services and actions specifically aimed at reducing harm caused by harmful behaviour (Hayhow & Lowe, 2006:235).

Kindling:

“A phenomenon in which there is a relatively profound alteration in brain function resulting from repeated electrical or chemical stimulation and culminating in the appearance of electrographic and behavioral convulsions whenever the stimulus is re-applied. It is used as an experimental model for epilepsy.”(Medical Dictionary)

The concept was adopted for the development of progressive deterioration in alcohol withdrawal following repeated episodes of withdrawal by Ballenger and Post in 1978. (Ulrichsen, Bech, Allerup & Hemmingsen, 1995:451)

Medicalization:

“to view or treat as a medical concern, problem, or disorder”: in order to “dispose of social problems.” (Medline Plus)

Methodology:

“How the enquirer goes about finding out knowledge.” (Guba, 1990:18)

Multidisciplinary team:

“Group composed of members with varied but complimentary experience, qualifications , and skills that contribute to the achievement of the organization’s specific objectives.”(BusinessDictionary.com)

The term as used in this thesis may also mean “interdisciplinary team” which is: “a group that consists of specialists from several fields combining skills and resources to present guidance and information.”(thefreedictionary.com)

Neurodegeneration:

“The process through which neurons die.” (Answers.com)

Neurogenesis:

“The process by which new nerve cells are generated.” (MedicineNet.com)

Neuroplasticity:

“The capacity of neurons and neural networks in the brain to change their connections and behaviour in response to new information, sensory stimulation, development, damage, or dysfunction. Although neural networks also exhibit modularity and carry out specific functions, they retain the capacity to deviate from their usual functions and to reorganize themselves.”(Encyclopedia Britannica). “The first person to use the term *neural plasticity* appears to have been the Polish neuroscientist Jerzy Konorski.”(Wikipedia)

Neurotoxicity:

“the ability to exert a destructive or poisonous effect upon nerve tissue.”(Dorland's Medical Dictionary for Healthcare Consumers)

Norms:

“A statistical normative rate of provision or measurable target outcome over a specified period of time.” (RSA DOH, 2000:6)

Ontology:

“That branch of philosophy which deals with the nature and the organisation of reality.”

(Guarino & Giarretta, 1995:25)

The nature of the “knowable.”(Guba,1990:18)

Paradigm:

“A set of beliefs that is accepted without question and used as a frame for seeing the world.”

(Collins & O'Brien, 2003:256)

Post-positivism:

“Human knowledge is not based on unchallengeable, rock-solid foundations; rather it is *conjectural*.” (Wikipedia)

Post-positivist ontology:

Acknowledges the existence of reality, but sees it as a regulatory standard and not as really attainable.

Post-positivist epistemology:

Acknowledges the existence of objectivity, but sees it as a regulatory standard and not as really attainable.

(Kuhn in Toma, 1999:543)

Primary Health Care:

“Primary Health Care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford in the spirit of self-reliance and determination.”(WHO: Declaration of Alma Ata, 1978: VI)

Relapse prevention:

“Adapted from the original work of Marlatt 1985 for use with cocaine users, "includes techniques intended to facilitate the identification and reduction of subjective craving for cocaine through the identification and recognition of high-risk situations for cocaine use and the development of effective coping behaviours and urge control strategies. Primary interventions of this approach include (1) reducing exposure to cocaine and cocaine cues, (2) fostering resolution to stop cocaine use through exploring positive and negative consequences of continued use, (3) self-monitoring to identify high-risk situations for relapse, (4) recognition of conditioned cocaine craving and development of strategies for coping with cocaine craving, (5) identification of seemingly irrelevant decisions that could culminate in high-risk situations, (6) preparation for emergencies and coping with a relapse to cocaine use, and (7) developing alternate activities to cocaine use”(Cochrane Drugs and Alcohol Group).

Standard:

“a statement about desired and acceptable level of health care.”(RSA DoH, 2000:6)

Tolerance :

“tendency of a drug, with repeated use, to become less effective (i.e., require higher dosage)” (Cochrane Drugs and Alcohol Group).

White paper:

“An authoritative report or guide that often addresses issues and how to solve them. White papers are used to educate readers and help people make decisions.”(Wikipedia)

Withdrawal:

“describe the group of symptoms that occurs upon the abrupt discontinuation/separation or a decrease in dosage of the intake of medications, recreational drugs, and/or alcohol.”

“Discontinuation of a drug, either acutely or gradual, with the intention not to resume use again.”(Wikipedia)

PROLOGUE

Two personal experiences provided the motivation for this study. Shortly after starting to work as a lecturer in pharmacology, I was approached by a minister in our local church to present a talk at the church on alcohol and drug addiction and dependency. In retrospect, I was definitely the wrong person to take on the task. Apart from an approach that was too academic, the real need of people living with addicted persons is not to understand the mechanisms by which it develops, but the very simple question: where do I get help when I am already financially ruined and my son has been expelled from various treatment centres? From this I realized that understanding the biology of the phenomenon, has not done any good for people living with addictions or their families.

The second attempt at lecturing about the subject at an academic discussion, led to a very heated response from some of the doctors present. The topic is emotionally loaded, I sensed. It is not necessarily regarded as a legitimate disease. Some doctors are frustrated by the particular patient population and the apparent futility of interventions.

Reports in the local media fuelled the spark. A drug addicted person, Logan Klingenberg, died in the Noupoort Christian Centre in South Africa, a rehabilitation centre known for its controversial methods. The Department of Social Development threatened to close down the centre and a legal struggle followed to keep the centre open. I recognized the desperation in the public outcry that accompanied the dramatic events. It was the same desperation I sensed in the lady at the church whose question I had no answer to.

I had to know: is there anything that my study field, pharmacotherapy, can contribute to reduce the suffering of drug addicted persons and their families? From the literature it seemed that it could, that there is indeed hope, although dim. It is however a complex situation, where multiple role-players, viewpoints, legislation and administrative actions will determine whether pharmacotherapy will be allowed to contribute to the treatment of alcohol and drug addicted persons.

SUMMARY AND KEY TERMS

Key Terms: Addiction; Dependency; Treatment; Integrated; Framework; Free State; Pharmacotherapy; Rational Prescribing; Help-seeking.

Background:

Historically characterized by a high prevalence of alcohol addiction and dependency, South Africa has in recent years experienced an unprecedented increase in illicit drug use, linked to organized criminal activities. While internationally, the role of pharmacotherapy in the multi-disciplinary treatment of addiction/dependency becomes more important based on an increasing body of evidence revealing the biological nature of the condition, major transformation in the Health and Social delivery systems are taking place locally.

Aim:

The study aims to provide a critical analysis of current treatment practices regarding pharmacotherapy for drug addiction/dependency in the Free State against the background of the biological processes involved in the addiction/dependency state as well as aspects of health service delivery that may influence the use of pharmacotherapy. The analysis forms the basis for the development of a framework for the treatment of substance addiction and dependence regarding pharmacotherapy, taking into account the findings of the literature study and local context.

Material and Methods:

Both quantitative and qualitative methods were used. A questionnaire and structured interview were conducted with 121 health care professionals that could reasonably be expected to be confronted by patients with addiction and dependency. The population included a randomized sample of general practitioners selected from regional, district and basic environments in the Free State; purposely selected representatives of state hospitals and private treatment centres, as well as private psychiatrists and therapists in the corresponding towns.

Results:

Help-seeking for addiction occurs in a distinguishable pattern across the various professional groups. Private general medical practitioners are an important conduit into treatment for alcohol addiction and dependency. Depending on the local organization of services, they are also actively involved in the medical treatment of addiction and dependency cases. Private psychiatrists exclusively deal with dual diagnosis patients and are exposed to a wider range of

addiction/dependency cases. State hospital service delivery varies from comprehensive services to no services. Perceptions regarding access to state hospitals and the quality of services in state hospitals are poor, while private services are generally regarded as costly, yet effective. Medical Scheme policies play an important role in determining access to facilities and services and dictate the individual prescriber's approach to pharmacotherapy.

Respondents regarded the role of pharmacotherapy as essential in withdrawal and neuropsychological support, yet less important in relapse prevention. Convention mainly determines the withdrawal regimens used by respondents, with a number of area-dependent exceptions. Recognition of the neurotoxic nature of the withdrawal state is not universally reflected in the selection of pharmacotherapeutic agents in withdrawal regimens. Only disulfiram is commonly used for relapse prevention and its use is limited by high cost. Besides financial status, the decision to prescribe these drugs is based on the patient's motivation or willpower.

Conclusion:

A basic lack of recognition of the biological basis of addiction and dependency exists in the current legislation, in the organization of services and in the management of addiction/dependency. Medical intervention in addiction/dependency typically occurs late and follows an intermittent course with short-term goals.

Recommendations:

An integrated framework was developed and needs to be considered for implementation at both organizational and treatment practice levels in the region with the primary objective to improve treatment outcomes. Rational prescribing of pharmacotherapy requires an expansion of medication options and improved screening methods to allow individualized treatment, a biological imperative for successful treatment. At the same time standardization of evidence-based best treatment practices should be implemented.

The role of private general practitioners as primary gatekeepers of the health system should be restored to provide a platform for accessible medical treatment of addiction and dependency.

[589 words]

OPSOMMING EN SLEUTELTERME

Sleuteltermes: Verslawing; Afhanklikheid; Behandeling; Geïntegreerd; Raamwerk; Vrystaat; Farmakoterapie; Beleid; Rasionele Voorskrywing; Hulpsoeking.

Agtergrond:

Histories gekenmerk deur 'n hoë voorkoms van alkoholverslawing en afhanklikheid, het Suid-Afrika oor die afgelope aantal jare 'n ongekeerde toename in onwettigemiddelgebruik beleef, gekoppel aan georganiseerde misdadaktiwiteit. Terwyl die rol van farmakoterapie in die multidissiplinêre behandeling van verslawing/afhanklikheid internasionaal toeneem weens die groeiende bewyslas van die biologiese aard van die toestand, is daar major transformasie van Gesondheidsorg- en Maatskaplikediensteleweringssysteme plaaslik.

Doel:

Die studie het 'n kritiese analise van huidige behandelingspraktyke aangaande farmakoterapie vir alkohol- en dwelmverslawing en afhanklikheid in die Vrystaat ten doel. Die analise geskied teen die agtergrond van die biologiese prosesse betrokke by die toestand van verslawing sowel as die aspekte van gesondheidsorg dienslewering wat die gebruik van farmakoterapie beïnvloed. Die analise vorm die basis vir die ontwikkeling van 'n raamwerk vir die behandeling van substans verslawing en afhanklikheid betreffende farmakoterapie, met die inagneming van die bevindinge uit die literatuur en lokale konteks.

Materiaal en Metodes:

Beide kwantitatiewe en kwalitatiewe metodes is gebruik. 'n Vraelys is voltooi en 'n gestruktureerde onderhoud is gevoer met 121 professionele gesondheidsorgwerkers wat redelikerwys verwag kan word om gekonfronteer te word met verslawing en afhanklikheid. Die populasie bestaan uit 'n lukraak geselekteerde monster van algemene praktisyne uit streeks-, distriks- en basiese omgewings in die Vrystaat; doelmatig geselekteerde verteenwoordigers van staatshospitale en private behandelingsentra, en private psigiaters en terapeute in ooreenstemmende dorpe.

Resultate:

Hulpsoeking vir verslawing kom voor in 'n waarneembare patroon oor die onderskeie professionele groepe. Private algemene mediese praktisyne vorm 'n belangrike toegangspunt vir behandeling vir alkohol verslawing en afhanklikheid. Afhangend van die lokale organisasie van dienste, is hulle ook aktief betrokke by die mediese behandeling van verslawing/afhanklikheids

gevalle. Private psigiaters is slegs betrokke by dubbele diagnose gevalle, maar het kontak met 'n wyer reeks van verslawings en afhanklikheids gevalle. Staatshospitaaldienste wissel van uitgebreide tot geen dienste. Persepsies rakende toegang tot staatshospitale en die kwaliteit van dienste is swak, terwyl private dienste oor die algemeen as duur, maar effektief gesien word. Siekefonds beleid speel 'n belangrike rol in die bepaling van toegang tot fasiliteite en dienste en dikteer die individuele voorskrywer se benadering tot farmakoterapie.

Respondente beskou die rol van farmakoterapie as essensiël in onttrekking en neuropsigiatriese ondersteuning, maar minder belangrik in terugvalvoorkoming. Onttrekkingsregimens is meesal konvensioineel, met 'n paar streeks-afhanklike uitsonderings. Die herkenning van die neurotoksiese aard van die onttrekkingsstaat word nie deurgaans gereflekteer deur die keuse van farmakoterapie in onttrekkingregimens nie. Slegs disulfiram word algemeen gebruik vir terugvalvoorkoming, maar die gebruik daarvan word beperk deur die hoë koste. Benewens die finansiële oorwegings, word die besluit om disulfiram voor te skryf gebaseer op die pasiënt se motivering of wilskrag.

Gevolgtrekking:

'n Basiese gebrek aan erkenning van die biologiese oorsprong van verslawing is herkenbaar in die huidige wetgewing, die organisasie van dienste en in die behandeling van verslawing. Mediese ingryping in verslawing en afhanklikheid vind tipies laat plaas en volg 'n intermitterende verloop met korttermyn doelwitte.

Aanbevelings:

'n Geïntegreerde raamwerk is ontwikkel en behoort oorweeg te word vir implementering op beide organisatoriese en behandelingsvlakke in die streek met die primêre oogmerk om behandelingsuitkomst te verbeter. 'n Voorvereiste vir rasonale voorskrywing van farmakoterapie is 'n uitbreiding van medikasie opsies en verbeterde siftingsmetodes om geïndividualiseerde behandeling, 'n biologiese noodsaak vir suksesvolle behandeling, moontlik te maak. Terselfdertyd moet getuïenis-gebaseerde beste praktyke gestandaardiseer en geïmplimenter word. Die rol van private algemene praktisyns as primêre toegang tot the gesondheidsorgsisteem behoort herstel en uitgebrei te word ten einde 'n platform vir toeganklike mediese behandeling van verslawing en afhanklikheid te skep.

[572 woorde]

CHAPTER 1

GENERAL PERSPECTIVE AND ORIENTATION

1.1 INTRODUCTION

Historically a country characterized by high prevalence of alcohol addiction and dependency (Willis, 2006:2), South Africa has in recent years experienced an unprecedented increase in illicit drug use, linked to organized criminal activities (Gastrow, 1999:1 of 11). Since 1994 increased international contact with drug-producing regions combined with relaxed border control allowed the influx of an unprecedented amount of psycho-active substances. South Africa has been targeted by drug cartels from Nigeria, Russia, China and the Italian Mafia and has since become fully integrated into their already existing drug-trafficking networks (Gastrow, 1999:5-6 of 11). The increased availability of a wider range of psycho-active substances and a society made vulnerable by its diverse and transitional nature, lead to altered patterns of drug use in various cultural groups.

Global trends in the response to alcohol and drug addiction saw a succession of paradigmatic shifts during the past decades: first approached as a moral deficiency (Levine, 1979:*s.l.*), then as a multi-factorial disease that needs multi-disciplinary treatment rather than punishment (Hobbs, 1998:*s.l.*). Pharmacotherapy however remains controversial in some circles (AA Grapevine, 1984:6). Emerging investigation techniques, like neuro-imaging (Volkow, Fowler & Wang, 2004:3) and advances in drug development over the past two decades provide renewed interest in pharmacotherapeutic options in addiction treatment.

Meanwhile, South Africa has transformed its Health system towards a Primary Health Care approach (RSA DoH, 1997:7). As a comprehensive strategy, it shapes the delivery of both Health Service Delivery and Social Service Delivery within which addiction treatment has to take place.

1.2 PROBLEM STATEMENT

The initial observation of extreme negative reaction of medical doctors to the subject of addiction and the outright rejection of such patients (see *Prologue*) led to the assumption that maybe all doctors have this reaction when confronted by the problem of addiction. A further assumption was made that the reason why doctors do not even want to be confronted by the issue, is that they do not believe it to be their responsibility. As doctors are responsible for

prescribing medication, it follows that the use of pharmacotherapy will be limited for these patients. The following problem statement follows from this induction: "The fact that alcohol and drug dependence represents a chronic disease is not fully recognized in treatment plans and structures in the Free State."

The role of medical practitioners is intimately interwoven with the role of pharmacotherapy. Their perceptions, experiences and practices shape the therapeutic environment. Their individual approach and clinical practice within the constraints of local resources, eventually determine the role of pharmacotherapy.

1.3 THEORETICAL FRAMEWORK

The study relies on the perceptions of the respondents and thus is phenomenological in nature (Leedy & Ormrod, 2005:139). A post modernistic approach is adopted to reflect on the complexity and the context-dependent nature of the subject. Post-positivist ontology, epistemology and methodology applied. Though an objective truth is thus aimed for, it is admitted that truth itself is at best a relative concept, and although objectivity is applied as a standard, it is admittedly influenced by subjective experience and interpretation (Lincoln & Guba in Toma, 1999:543).

1.4 SCOPE OF RESEARCH

The therapeutic environment applicable to medical practitioners in various settings is used as the central viewpoint. The medical practitioner needs to balance the demands of the biological nature of the condition and the micro environment (local availability of services and facilities, individual patient factors) to facilitate health service delivery within the constraints created by the macro environment (scientific development, training, legal requirements, institutional policies and funding).

1.5 RESEARCH GOAL AND OBJECTIVES

The study aims to provide a critical analysis of current treatment practices regarding pharmacotherapy for drug addiction/dependency in the Free State. It investigates the extent to which pharmacotherapy is utilized in the treatment of alcohol and drug dependency in the Free State as well as aspects of health service delivery that may enable or hinder the use of pharmacotherapy.

Specific objectives:

1. Investigate the way in which drug exposure drives the biological processes in alcohol and drug addiction and the ways in which pharmacological intervention can influence these biological processes through a literature study.
2. Investigate existing treatment practice for drug addicted persons within various regional contexts. Relevant aspects of health service delivery, funding and policy and legal environment is reflected through the experiences of involved practitioners.
3. Develop a framework for the treatment of substance addiction and dependence regarding pharmacotherapy, taking into account the findings of the literature study and local conditions.

1.6 RESEARCH APPROACH AND METHODOLOGY

The study follows an empirical research design (cf. Chapter 4). The research is based on qualitative and quantitative data gathered through a survey among health care workers likely to be confronted with or directly involved in the medical treatment of addicted persons. A questionnaire and a structured interview were used to investigate their involvement in the treatment of addicted persons and the use of pharmacotherapy in this context.

The study population consisted of a randomly selected sample of general practitioners, assigned medical practitioners in government employment, all private psychiatrists willing to participate, health care practitioners providing medical care at specialized treatment centres and selected therapists involved in the treatment of addicted persons.

1.7 ARRANGEMENT OF THE THESIS

Chapter 1 describes the lay-out of the thesis. Chapter 2 deals with the current understanding of the biological nature of addiction/dependency, and the implications for pharmacotherapy in the various phases of addiction treatment. Chapter 3 describes the South African and Free State legal and policy framework as well as organizational aspects of local Health Service delivery. The methodology of the project is described in Chapter 4 and quantitative and qualitative results reflected in Chapter 5. Chapter 6 contains the discussion of the role of pharmacotherapy in the local setting and in Chapter 7 the framework in which addiction treatment takes place is discussed. Chapter 8 lists the recommendations and Chapter 9 contains final remarks and conclusion.

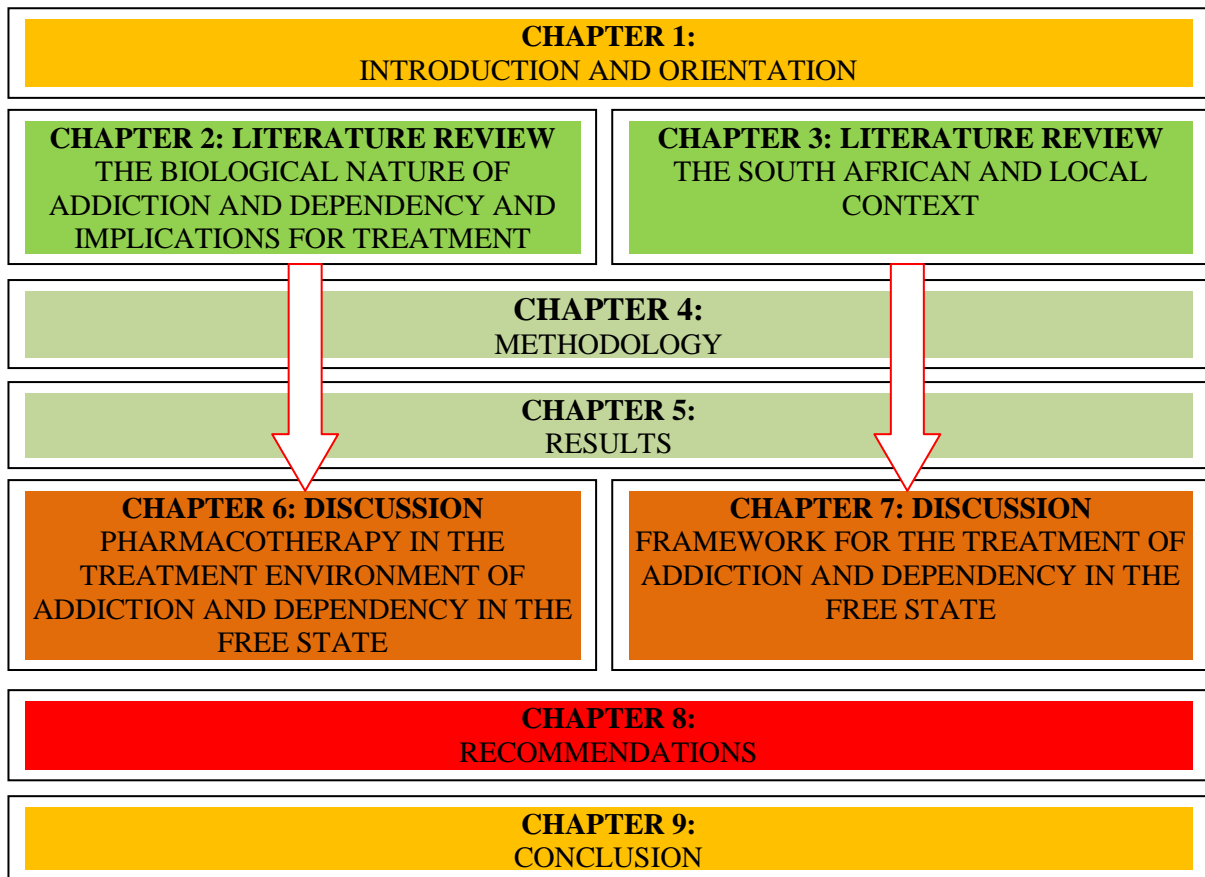


Figure 1.1: Lay-out of the Thesis

CHAPTER 2

THE BIOLOGICAL NATURE OF ADDICTION AND DEPENDENCY AND ITS IMPLICATIONS FOR TREATMENT: A LITERATURE REVIEW

2.1 INTRODUCTION

"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less." - Marie Curie

2.2 THE BIOLOGICAL NATURE OF ADDICTION AND DEPENDENCY

2.2.1 Defining Addiction and Dependency

The terms "addiction" and "dependency" (dependence) are used in the literature to indicate two distinct, yet interrelated entities, "addiction" representing a set of behavioural manifestations that emerge after repeated exposure to a psycho-active drug or alcohol and "dependency" being the characteristic physical manifestations that appear on withdrawal after repeated exposure to the offending drug (O'Brien, Volkow & Li, 2006:764). The characteristic behaviours distinguishing addiction from excessive drug use are compulsive drug-seeking and loss of control over use (Koob, Caine, Parsons, Markou & Weiss, 1997:513), a long-term residual vulnerability for relapse after initial abstinence (Nestler, Barrot & Self, 2001:11042) and persistent anhedonia during abstinence (Koob, Sanna & Bloom, 1998:467). Redish, Jensen and Johnson (2008:415) described addiction as a maladaptive decision-making process driven by drug exposure, while Kalivas and Volkow (2005:1403) called it: "a pathology of motivation and choice". However, "addiction" failed to be accepted as a medical term in the formulation of the DSM IV and "dependence" was chosen to represent the continuum of manifestations mentioned (APA, 2000:192).

The underlying neurobiological processes of both addiction and dependency happen concurrently as progressive adaptive neuronal processes, driven by pharmacological effects of psycho-active drug exposure and this may also blur the distinction between the two concepts, i.e. in the opponent process model Koob *et al.* (1997:519) proposed that motivational and affective "withdrawal" occurs with psychostimulant addiction.

Goodman (1990:1407) integrated the two concepts stating that "the addictive process is the compulsive dependence on an (apparently self-initiated and self-controlled) external action in order to regulate the internal state." He further pointed out that clinical equality of the terms

“addiction” and “dependence” has led to the withholding of especially analgesics in patients requiring additional pain medication for fear of “addiction”.

For the purpose of this thesis, addiction and dependency will be used in their traditional sense as stated in the first paragraph, the latter term as it applies within the context of addiction to alcohol and psycho-active drug addiction, adopting the dictum of Goodman (1990:1405) that (for discussion’s sake) “addiction equals dependence plus compulsion”.

2.2.2 Approaching Addiction and Dependency: Disease or Choice?

The disease concept of addiction to alcohol has been formulated in 1784 by Benjamin Rush (Westermeyer, *s.a.*:3 of 8; Levine, 1979:4 of 10). Rush believed that all mental illness, including addiction to alcohol, was the result of physical causes. Prior to Rush’s writings, “habitual drunkenness” was accepted as a part of normal social life or condemned as sin (Levine, 1979:1 of 10). The work of Jellinek (Hobbs, 1998:2 of 5) and the establishment of the Alcoholics Anonymous movement in 1935 rekindled the disease concept with the difference that the focus now shifted from alcohol as the cause of the disease to the origin of the disease being within the vulnerable individual (Levine, 1979:8 of 10).

The acceptance of a disease concept represents an important transition from a psychogenic to a biogenic model (Milam, 1992:1 of 8). People become addicted to alcohol due to a biologically determined vulnerability and not because they are, as previously believed, inherently evil.

The disease concept is however not universally accepted. The original objection to “medicalization” of addiction and other deviant behaviours was put by Szasz (2007:18-19). The concept of medicalization describes the process by which unwanted human behaviour is unjustly pronounced as “mental disease” that should be treated. Szasz saw medicalization of behaviour as a mechanism for social control by psychiatrists. Another prominent voice against the disease concept of alcohol addiction is the philosopher Herb Fingarette (Milam, 1992: 2 of 8). Instructed by the American Supreme Court to investigate the nature of alcoholism for the purpose of determining legal accountability, Fingarette concluded in his book called "*Heavy Drinking, the Myth of Alcoholism as a Disease*", that alcohol addiction results from serial poor decision making, caused by the addicted person's continuous avoidance of dealing with real life issues. According to Fingarette, the disease concept

merely serves to justify deviant behaviour. In view of the evidence that less than 10% of patients treated in treatment facilities abstain for any period, Fingarette pleaded for a resetting of the goalposts and broadening of treatment options. In the same mindset, Stanton Peele, in his book "*Diseasing of America*" (in Hobbs, 1998: 3 of 5), argues that addiction to alcohol is personal misbehaviour, can be overcome by the individual without help from outside and that the bigger social problem should be addressed through the creation of social environments fostering constructive living.

However, seeing alcohol addiction as a disease, cured through total abstinence, led to the implementation of the 12-step programme (Alcoholics Anonymous World Services, 2009:59-60), based on this principle. Improved outcomes opposed to the earlier practice of detoxification only, subsequently led to the 12-step principles becoming incorporated in many addiction treatment programmes and a common approach to both drug and alcohol addiction in the United States (Stinchfield & Owen, 1998:669). The AA disease concept includes abstinence from pharmacotherapy (Carroll & Rounsaville, 2003: 335). The role of pharmacotherapy in abstinence-based treatment thus became a source of controversy.

During the 1990s the emergence of HIV and its rapid spread among intravenous drug users made the rethinking of intervention strategy imperative (James, 2007:3). Harm reduction strategy emerged, comprising of a specific set of theoretical principles and offering an alternative approach to the disease concept. The principles are summarized as Pragmatism, Prioritizing of goals, Respect and Maximizing intervention options. Important diversions from previous approaches is that the objective of intervention is not necessarily abstinence; it acknowledges the addicted person's right to make good and poor choices, as well as his responsibility to minimize the impact of his poor choices on his own health and the lives of those around him. The focus of intervention is the improvement of quality of individual and community existence. Harm reduction strategies include a variety of policies and interventions, including prevention programmes aimed at high risk individuals, for instance screening and brief motivational intervention in trauma patients in emergency rooms (Bombardier & Rimelle, 1999 in Neighbors, Larimer, Lostutter & Woods, 2006:307; Gentilello, Donovan, Donn & Rivara, 1995 in Witkiewitz & Marlatt, 2006:290). Harm reduction is not anti-abstinence, but offers alternatives for patients not wanting or unable to stop taking alcohol or drugs (Neighbors, *et al.*, 2006:308). It acknowledges that there is not a

single answer to the complex manifestation of addiction and dependency and that various strategies over various disciplines need to be employed (James, 2007:3).

Hayhow and Lowe (2006:236) spells out the ethical dilemmas posed by the involvement of doctors in harm reduction strategies. Firstly it is seen as condoning or even supporting unhealthy behaviour, in the case of drug addiction illegal behaviour; and secondly the doctor compromises his duty to provide the best care possible.

Charlton (2005:457) argued in favour of drug-substitution as a management strategy to reduce harmful effects of alcohol addiction, the selection of the substitute depending on the function of drinking. He recommended that benzodiazepine replacement may be a good alternative where alcohol is used as an anxiolytic to overcome social unease, characteristically resulting in a pattern of small, but very frequent intake. This pattern of drinking is particularly responsible for *physical* damage. The substitution is warranted because benzodiazepines are overall less damaging than alcohol in this respect. Selective serotonin re-uptake inhibitors may be an acceptable alternative substitute due to its positive effects on social phobia.

The problem with benzodiazepine substitution is however, that benzodiazepines are often abused in poly-drug abuse settings to prolong the effects of other drugs such as opioids, cocaine and amphetamine. It is indeed used by addicted persons instead of the primary drug of abuse to alleviate withdrawal symptoms and other negative consequences of primary drug use. Virtually all benzodiazepines have been abused, yet those with rapid central nervous penetration like diazepam, alprazolam, lorazepam and triazolam are popular for primary abuse (Griffiths *et al.*, 1984 in Ashton, 2002:4 of 14). As to the reduced harm in comparison to alcohol, benzodiazepine use at high levels also impairs driving skills (Ashton, 2002:7 of 14), causes physical dependence with potentially life-threatening withdrawal, increases confidence to engage in criminal activity and impairs judgement regarding sexual activity. When benzodiazepines are injected, the addicted person is exposed to similar risks as i.v. heroin users, including thrombophlebitis, deep vein thrombosis, rhabdomyolysis, gangrene and HIV infection. The association between long-term benzodiazepine abuse and cognitive deterioration is well known. Prescriptions from general practitioners are a common source of benzodiazepines which is then diverted to the black market (Ruben & Morrison, 1992 in Ashton, 2002:7 of 14).

Charlton (2005:458) suggested that an alternative, less socially damaging euphoriant would

be the ideal substitute in a drinking pattern of regular bingeing. Here, the purpose of drinking is primarily to become drunk and this type of drinking is not sensitive to either price increases or prohibitive legislation and licensing and typically causes severe *social* harm. Marijuana is, according to Charlton, the obvious candidate for substitution as long-term use is less damaging than alcohol and acute intoxication is not associated with problems of violence and aggression seen with alcohol intoxication.

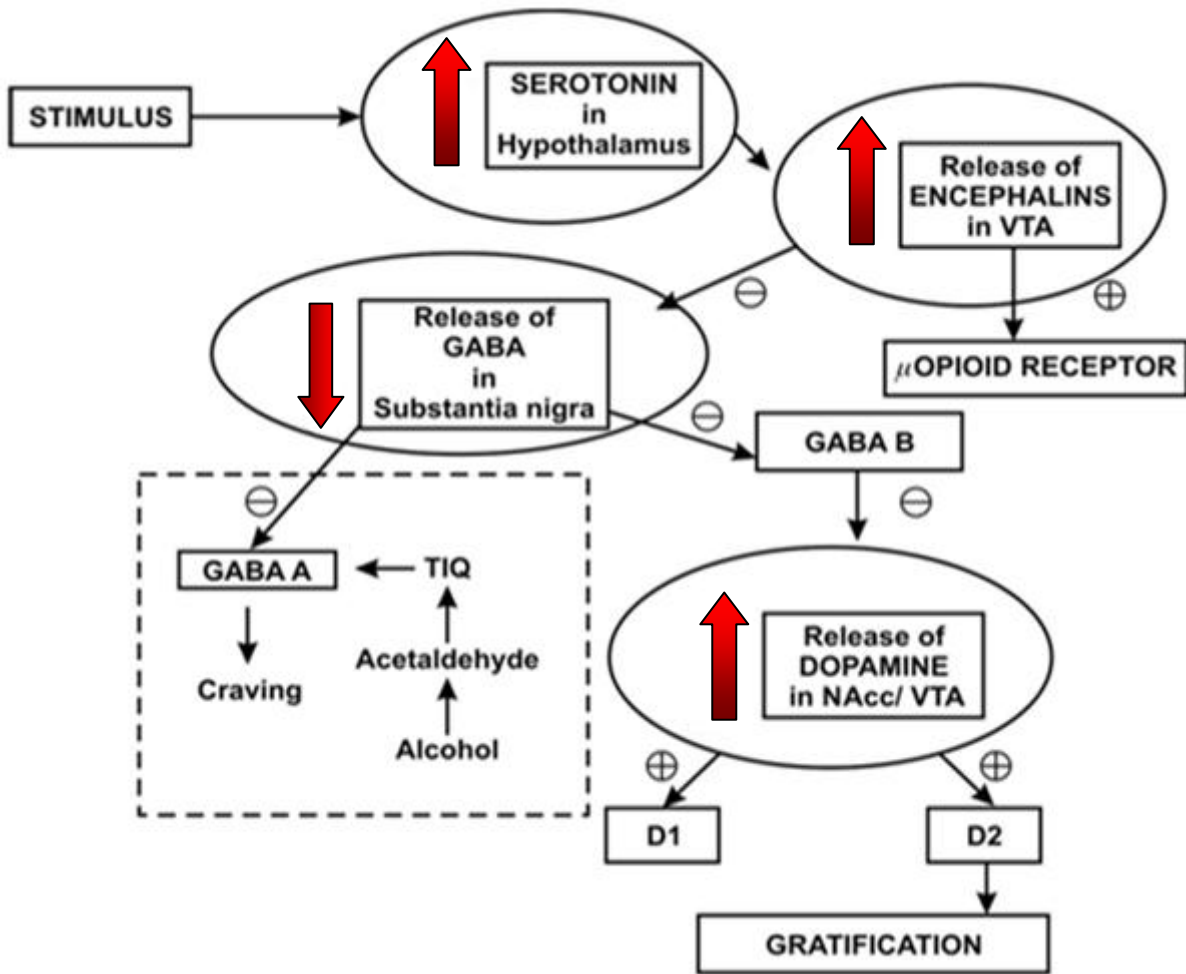
2.3 BIOLOGICAL PROCESSES UNDERLYING THE DEVELOPMENT OF ADDICTION AND DEPENDENCY AND IMPLICATIONS FOR TREATMENT

Acute exposure to neuro-active substances causes dopaminergic stimulation in the reward area of the brain, while repeated exposure leads to neuro-adaptation (Kalivas & Volkow, 2005:1408). Early adaptations are reversed within a few days of abstinence, yet in end-stage addiction, long-term adaptation creates a risk for relapse that may last for years. The cycle of addiction and dependency, withdrawal, abstinence and relapse is accompanied by a succession of neurodegeneration (Tsai, Ragan, Chang, Chen, Linnoila & Coyle, 1998:731) and adult neurogenesis (Crews & Nixon, 2009:121).

2.3.1 The Neurobiology of Reward

Behaviour is biologically regulated by a dual system of reward and punishment, carefully regulated by homeostatic mechanisms (Cohen & Blum, 2002:193). The reward system in the brain, centred in the nucleus accumbens (nAcc) and ventral tegmental area (VTA) is normally activated by physiological stimuli such as food, sleep and sexual activity. Substances causing addiction use this very same system to cause an increase in dopamine activity in the nAcc.

Several neurotransmitters such as serotonin, gamma amino butyric acid (GABA), endogenous opioid peptides and noradrenalin play a part in activating the reward system (Addolorato, Leggio, Abenavoli & Gasbarini, 2005:1211). The balanced interplay of inhibition and excitation of receptors by these neurotransmitters provides the ultimate reward: a feeling of well-being (Blum *et al.*, 2000 in Addolorato *et al.*, 2005:1211). Blum, Cull, Braverman and Cummings (1996:2 of 11) proposed the "dopamine reward cascade" to explain the complex interactions of various neurotransmitters. A rewarding stimulus causes an increase in serotonin levels in the hypothalamus that indirectly activates opioid receptors, causing an increased release of enkephalins in the VTA, in turn inhibiting the release of GABA. Reduced interaction with GABA_B receptors increases the release of dopamine and D2-receptor stimulation (Blum, 2000 in Addolorato *et al.*, 2005:1211). (See Figure 2.1).



(D=Dopamine Receptor; GABA=Gamma Amino Butyric Acid; TIQ=Tetra-Isoquinolines; VTA=Ventral Tegmental Area)

Figure 2.1: The Reward Cascade (Derived from Blum, 2000 in Addolorato, 2005:1211) **and the Action of Acetaldehyde on GABA_A Receptors** (Derived from Cohen in Addolorato *et al.*, 2005:1211)

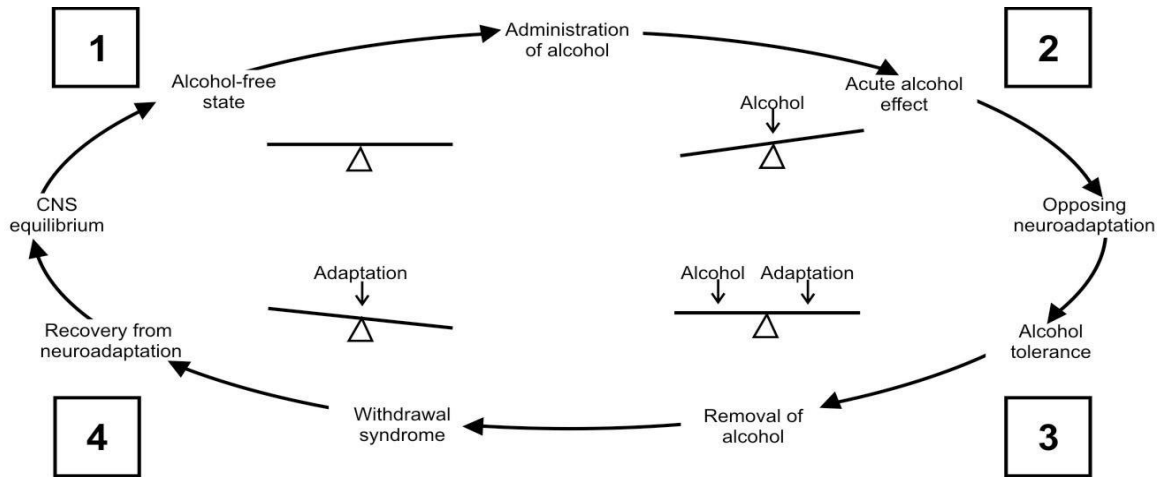
Each addictive substance has its own characteristic entry point into the reward cascade, (Table 2.1), yet ultimately all mechanisms converge to process acute reward in the VTA-nAcc pathway (Koob *et al.*, 1998:467-468). (See Spanagel & Weiss, 1999:523 for various alternative explanations for the exact role of dopamine; Cohen & Blum, 2002:194).

Table 2.1: Reward Mechanisms for Various Psycho-Active Substances		
Substance	Reward mechanism	Comment
Alcohol	Low doses block inhibition of DA neurons in the reward areas by GABA, increased release of DA (Mereu & Gessa, 1985 in Addolorato <i>et al.</i> , 2005: 1211).	Convergence of reward mechanisms creates the possibility of treatment overlap in various addictions. Dopamine-based interventions were generally ineffective (Schmitz, Stotts, Rhoades & Grabowski, 2001a: 167), yet Naltrexone, an opioid antagonist, showed dramatic effects in compliant patients with alcohol addiction (O'Brien, Volpicelli & Volpicelli, 1996:38) and cocaine when used in combination with psychosocial relapse prevention (Schmitz <i>et al.</i> , 2001a:176)
Opioids	Inhibit GABA receptors in VTA; Increase dopamine in reward area (Kreek <i>et al.</i> , 2002 in Van den Brink & Van Ree, 2003:477).	
Benzodiazepines	Allosterically changes GABA receptors, decreased concentration of GABA needed to open chloride channel. No effect on DA (Lingford-Hughes & Nutt, 2003:99).	
Barbiturates	Enhances GABA action, open chloride channels (Nutt & Malizia, 2001:391).	
Amphetamine	Increases release of catecholamines (Sulzer, Sonders, Poulsen & Galli, 2005:424-427).	
Cocaine	Blocks pre-synaptic dopamine, serotonin and noradrenalin transporters, flooding synapses in nAcc (Van den Brink & Van Ree, 2003:480).	
Δ 9-Tetrahydrocannabinol (THC)	CB1 receptor activation modulates activity of GABAergic neurons, increases dopamine release in nAcc (Vaughan, 2001:110).	

(DA=Dopamine; CB1=Cannabinoid1; GABA=Gama Amino Butyric Acid; VTA=Ventral Tegmental Area; nAcc=Nucleus Accumbens)

2.3.2 Neuroadaptation and Neuroplasticity

The Himmelsbach hypothesis, formulated in 1941 (Littleton, 1998:14), presented the dynamic neurological processes accompanying the cycle of alcohol dependency and withdrawal as explained in Figure 2.2.



1. Neurotransmitters are balanced during the alcohol-free state. 2. Disruption of neurotransmitter balance occurs due to alcohol dependency. 3. Allostatic shift of normal homeostatic parameters overcomes the imbalance. 4. On withdrawal, the allostatic shift is exposed and changes in the reward neurotransmitters reversed to stabilize reward function.

(Redrawn from: Littleton, 1998:17)

Figure 2.2: Neuroadaptation in Alcohol Addiction/Dependency and Withdrawal According to the Himmelsbach Hypothesis

Balancing adaptations occur within specific neurotransmitter systems (homologous adaptation) as well as across neurotransmitter systems (heterologous adaptation). New set-points for physiological parameters lie outside the normal homeostatic range, a so-called "allostatic state", maintaining appearances of an intact reward function (Koob, Ahmed, Boutrel, Chen, Kenny, Markou, O'Dell, Parsons & Sanna, 2004:748). Counter-adaptive processes in the reward area fail to recover when drug exposure is discontinued and the new set-points create a chronic vulnerability in decision-making processes (Redish *et al.*, 2008:426).

On repeated administration of psycho-active substances, behaviour sensitization occurs; that is the augmentation of behavioural response to the drug (Wolf, 2003:248). A new habit develops, inappropriately taking preference above other reward stimuli, signifying structural re-arrangement of neural networks, thus causing persistent changes in reward and motivational pathways (Nestler, 2004:210). These neuroplastic changes are linked to the longevity of a tendency to relapse. (See Table 2.2.) Saal and Malenka (2005:145) reviewed the role of synaptic plasticity in the dopamine system and concluded that psychoactive substances at least partially utilize the endogenous system designed for stress-mediated behavioural change.

<i>Process</i>	<i>Underlying mechanism</i>	<i>Implications for Treatment</i>
<i>Neuroadaptation</i>	Functional adaptation of neurotransmitters develops in response to disruption of neurotransmitter function caused by alcohol with new set points of normality. Withdrawal reverses allostasis and causes a reverse disruption of neurotransmitter balance (Littleton, 1998:17).	Clinically evident as tolerance and withdrawal (Littleton, 1998:17). Treatment of withdrawal aims to balance neurotransmitters.
<i>Neuroplasticity</i>	Transcription factors alter gene expression (Nestler, 2004a:25-27). Neuroplastic (morphologic) changes in reward and motivational structures via NMDA receptors (Parsons, Danysz & Quack, 1999:758; Dodd, Beckman, Davidson & Wilce, 2000:512). Saal <i>et al.</i> (2003, in Wolf, 2003:248) demonstrated that neuroplasticity occurs after single doses of nicotine, ethanol, amphetamine, morphine and cocaine, and is more profound with high stress.	Neuronal plasticity facilitates learning of new behaviour. Disruption is clinically evident as behavioural sensitization and a long-standing tendency to relapse (Wolf, 2003:251). Disulfiram is used as deterrent to learn counter addiction behaviour (Brewer, 1993: 383). Acamprosate counteracts neuroplasticity (Rammes, Mahal, Putzke, Parsons, Spielmanns, Pestel, Spanagel, Zieglgänsberger & Schadrack, 2001:757).

2.3.3 Reversal of Neuroadaptation and Pharmacotherapy in Detoxification

The main goals of detoxification are to safely attain abstinence and motivate cognitive and behavioural change to prepare for further rehabilitation (Raistrick, 2000:348). On its own, it is however unlikely to attain lasting effects. The relative excess of excitatory neurotransmitters during withdrawal of alcohol and other sedative-hypnotics may manifest with symptoms ranging from very mild to life-threatening and may require medical intervention. Neurotransmitter changes implicated in alcohol withdrawal are: a reduction in dopamine, opioid peptide, serotonin and GABA, and an increase in corticotrophin releasing factor (Koob et al., 1998:470). Changes in GABA and glutamate systems are probably most prominent in causing symptoms of withdrawal (Lingford-Hughes & Nutt, 2003:99). Pharmacotherapy in withdrawal of this group of drugs is therefore based on drugs that enhance GABA action.

The neurotransmitter systems involved in allostatic changes differ in various drugs of abuse (Lingford-Hughes & Nutt, 2003:97-99). Alcohol (Bayard, McIntyre, Hill & Woodside, 2004:1443), opioids (Krambeer, Von McKnelly, Gabrielli & Penick, 2001:2405) and benzodiazepines (Ashton, 2002:8-9 of 14) cause drug-specific withdrawal syndromes on abrupt cessation of use and may necessitate medical intervention. Stimulant withdrawal is characterized by irritability and depression that may require sedation or antidepressant therapy (Miller & Gold, 1998:5 of 12).

2.3.3.1 Alcohol Withdrawal

Withdrawal from alcohol can range from minor to potentially life-threatening symptoms (Bayard et al., 2004:1444) and is treated with drugs that show cross-tolerance with alcohol (Bayard et al., 2004:1448). The benzodiazepines offer symptomatic relief of withdrawal. Longer-acting benzodiazepines reduce both the risks for the development of convulsions and delirium, providing a smoother withdrawal with less breakthrough or rebound. They may however cause over-sedation in vulnerable patients such as the elderly. The addiction and dependency potential of benzodiazepines differs between those with rapid onset of action (diazepam, alprazolam and lorazepam) and those with a slower onset of action (chlordiazepoxide, oxazepam, halazepam); the latter group having a lower potential for addiction and dependency (Mayo-Smith, Cushman, Hill, Jara, Kasser, Kraus, Nauts, Saitz, Smith, Sullivan & Thiessen, 1997:6-7 of 29). Shorter-acting preparations, such as lorazepam are indicated in patients with significant liver disease (Miller & Gold, 1998:3 of 12). Ulrichsen, Bech, Allerup and Hemmingsen (1995:455-456)

demonstrated the protective effect of benzodiazepines against the progression of seizures over repeated episodes of withdrawal (“kindling”).

Sedative hypnotic agents like chlormethiazole and phenobarbital have similar effectiveness to the benzodiazepines in reducing the symptoms of withdrawal (Mayo-Smith et al., 1997:7-8 of 29) and phenobarbital also prevents kindling (Ulrichsen et al., 1992 in Ulrichsen et al., 1995:455). Though a long-acting barbiturate offers a low addiction and dependency potential, a higher risk for respiratory depression exists, especially in combination with alcohol. Dosing regimens can be either symptom triggered or given in structured regimens. Loading dose regimens with long-acting benzodiazepines such as diazepam or chlordiazepoxide, involves a loading dose that is given initially and then tapered.

Carbamazepine is widely used in Europe and its effectiveness has been proven (Bayard et al., 2004:1448; Mayo-Smith et al. 1997:10 of 29). It offers several advantages: it prevents seizures, shows less psychiatric distress, and more rapid return to work. In the case of relapse it does not add to central nervous system or respiratory depression when used in combination with alcohol. It may also stem kindling. In seven day protocols, hematologic and hepatotoxic effects are minimal. Kasser, Geller, Howell and Wartenberg (2002:8 of 62) remarked that carbamazepine is effective in mild cases only and that anticonvulsants are neither routinely recommended, nor for long-term treatment unless indicated for an unrelated indication. Bayard et al. (2004:1448) pointed out that while carbamazepine decreases craving after withdrawal, is not sedating and has little abuse potential, there is insufficient evidence that it prevents seizures and delirium.

Neuroleptic drugs such as the phenothiazines and haloperidol reduce withdrawal symptoms, but are less effective than benzodiazepines. Although effective in calming agitated patients, their detrimental effect on seizure threshold should be considered (Mayo-Smith et al. 1997:10 of 29).

Adjunctive therapies in alcohol detoxification (Mayo-Smith et al., 1997:9 of 29) include beta blockers to reduce the autonomic arousal component of withdrawal. Removing autonomic symptoms in it-self may however mask the development of more serious withdrawal and preclude severity assessment of withdrawal. Beta blockers with central nervous system penetration such as propranolol may in their own right precipitate delirium. Though the effective use of the central acting alpha adrenergic agonist clonidine in reducing withdrawal symptoms is well known, its effects on the development of delirium and seizures have not been investigated.

Recurrent withdrawals have been linked to the progressive deterioration of withdrawal symptoms (Lechtenberg & Worner, 1991:225), as well as craving (Malcolm, Roberts, Wang, Myrick & Anton, 2000:162) and seizures (Becker, 1998:26; Moak & Anton, 1996:140). The mechanism of this phenomenon is currently still unresolved, but has been attributed to "priming" (stronger withdrawal responses follow each consecutive alcohol exposure) and/or "kindling" (Ballenger & Post, 1978:3) (repeated inadequately treated withdrawals lead to escalation of symptom severity). This has implications for both treatment as well as a drinking pattern of periodic binge-drinking and abstinence. The risk for convulsions and other withdrawal symptoms increases and there is an increased conditioned withdrawal response, linking the withdrawal environment as a cue for stimulating craving and eventually relapse. Recurrent withdrawals increase the excitatory amino acid glutamate (De Witte, 2004:1330). The imbalance between excitatory and inhibitory amino acids underlies the neuroplastic changes leading to progressively increasing craving (De Witte, 2004:1335) and seizure activity (Becker, 1998:30) with each withdrawal. Up-regulation of *N*-Methyl-*D*-Aspartate (NMDA) glutamate receptors and perturbation of calcium channels leads to neurotoxicity and progressive cognitive impairment. The kindling effect is also seen in progressive activation of the HPA axis (Becker & Littleton, 1996 in Becker, 1998:31), the prolonged stimulation of central glucocorticoid receptors contributing to seizure susceptibility and neural damage.

Treatment of early withdrawal episodes delays the onset of withdrawal seizures (Ulrichsen *et al.*, 1992 in Becker, 1998:30). Repeated administration of sedative hypnotics may however cause withdrawal seizures (Becker, 1998:30).

2.3.3.2 Opioid Withdrawal

The most successful strategy in opioid detoxification is the use of agonist therapy (Van den Brink & Van Ree, 2003:479). This involves the administration of appropriate agonists initially administered in dosages related to the dose of the specific drug used. The initial dose is then progressively tapered.

Methadone is both the most tested and most effective agent according to various Cochrane reviews (Jimenez-Lerma *et al.*, 2002 in Van den Brink & Van Ree, 2003:478). Adjunctive therapy with a calcium channel blocker like nimodipine may improve methadone-tapering regimens. Methadone is indicated for inpatients, intravenous users, those with medical and

psychiatric complications and those with a history of poor compliance on withdrawal (Miller & Gold, 1998:8 of 12).

Buprenorphine, a partial μ opioid agonist, blocks the effects of morphine, while its intrinsic opioid-like effects may contribute to better compliance. The partial agonist effect limits respiratory depression. A long duration of action enables once daily dosing and minimal withdrawal occurs (Vocci, Acri & Elkasjef, 2005:1433). A long plasma half-life and slow dissociation from opioid receptors, mimicking a tapering regimen, makes the use of a single high dose of buprenorphine feasible (Kutz & Reznik, 2002 in Van den Brink & Van Ree, 2003:480).

The α_2 agonists clonidine and lofexidine are used as adjunct or alternative to methadone in opioid withdrawal for symptom relief. Lofexidine (not available in South Africa) is less likely to cause hypotension and is particularly suited for prison settings where methadone cannot be used (Howells, Allen, Gupta, Stillwell, Marsden & Farrell, 2002:173). Clonidine is preferred in intra-nasal heroin users, outpatients and well-motivated patients (Miller & Gold, 1998:6 of 12).

2.3.3.3 Sedative-Hypnotic Withdrawal

Benzodiazepine withdrawal is very similar to barbiturate or other sedative-hypnotic withdrawals and does not usually cause marked elevation in blood pressure or pulse (Miller & Gold, 1998:4 of 12). An equivalent dose of a long-acting benzodiazepine is calculated according to the daily dose of the abused drug and 50% of this dose is given as a starting dose. The drug is then tapered over 7-10 days or 10-14 days. When benzodiazepines were taken for years, tapering over 8-12 weeks is indicated, tapering the dose by approximately 25% per quarter of the withdrawal period.

2.4 ABSTINENCE AND NEUROGENESIS

Previously it was thought that the number of neurones in adults is constant (Nixon, 2006: 291). Nixon and Crews (2004:9719) demonstrated the suppression of hippocampal neurogenesis by chronic alcohol ingestion in a rat model, persisting for 5 weeks after withdrawal of alcohol and followed by a compensatory increase in cell proliferation with continued abstinence. This may signal partial recovery of cognitive and affective function. Powrozek, Sari, Singh and Zhou (2004:257) noted that alcohol, stress, opioids and methamphetamine all have detrimental effects on neurogenesis, while the therapeutic effects of antidepressants, exercise and an enriched environment are accompanied by neuroplastic effects in the hippocampus. Neurogenesis is

however not necessarily beneficial and may underlie the development of psychiatric illness (Parent, 2002 in Nixon, 2006:291).

2.5 CRAVING AND RELAPSE

Craving typically leads to the first drink/drug intake and loss of control and relapse follows (Addolorato *et al.*, 2005:1210; Bottlender & Soyka, 2004:360). Cohen, 1978 in Addolorato *et al.*, 2005:1211 noted that high levels of TIQs and beta-carboline (via acetaldehyde) and the neuropeptide "diazepam-bound-inhibitor" (DBI) in the hippocampus inhibits GABA and so enhances alcohol craving. With excess of GABA, benzodiazepine receptor function is enhanced, with reduced alcohol intake. (See Figure 2.1). Verheul, Van den Brink & Geerlings (1999:205-207) (Table 2.3) and Anton (2001, in Addolorato *et al.*, 2005:1213) (Table 2.4) proposed that the type of craving indicates the level of neurotransmitter dysregulation and can subsequently be used to select appropriate pharmacotherapy. Various mechanisms for the different types of craving are proposed (Table 2.5). Of particular importance is the potential role of acetaldehyde as this relates directly to the use of disulfiram in alcohol addiction/dependency (*cf.* 2.5.1).

Table 2.3 Neurotransmitter Involvement in Various Types of Craving According to Verheul *et al.*, 1999:205-207.

<i>Type</i>	<i>Underlying mechanism</i>	<i>Manifestation of Alcohol Addiction</i>	<i>Suggested Therapy</i>
<i>Reward</i>	Dopaminergic/opioidergic dysregulation	Early onset, family history; desire reward: spontaneous search for alcohol, unable to abstain, binge drinking	Naltrexone GHB
<i>Relief</i>	GABAergic/glutamatergic dysregulation	Late onset; need tension relief: reactive drinking; withdrawal symptoms	Acamprosate GHB Baclofen
<i>Obsessive</i>	Serotonergic deficit	Cannot control intrusive thoughts about alcohol; compulsive drinking, alcohol related damage	SSRI Baclofen Topiramate Ondansetron

(GHB=Gammahydroxybutyrate; SSRI= Selective Serotonin Re-uptake Inhibitor)

Table 2.4 Neurotransmitter Involvement in Various Types of Craving According to Anton (2001)
(Compiled from Addolorato et al., 2005:1213)

<i>Type of craving</i>	<i>Neurotransmitter Systems Involved</i>
Abstinence-related craving	GABA and glutamatergic
Memory of reward-related craving	Dopaminergic, glutamatergic and opioid
Stress-induced craving	Serotonergic

Table 2.5: Proposed Mechanisms of Craving and Implications for Treatment

<i>Type of craving</i>	<i>Underlying Mechanism</i>	<i>Implication for Treatment</i>
Induced by drug exposure	Central accumulation of Acetaldehyde diverts metabolism of dopamine to morphine-like TIQs, stimulating μ receptors to trigger reward (Blum & Trachtenberg, 1987:33-34).	Response to disulfiram may vary; some experience an enhanced reward from drug taking (Quertemont, 2004 in Quertemont & Didone, 2006:3 of 12).
Induced by stress	Acute intake of drugs of abuse activates HPA axis (Mendelson <i>et al.</i> , 1971 in Lovallo, 2006:197), HPA axis activation perceived as reward. Once abstinent, activation of the HPA axis revives the memory of action and craving is activated with subsequent relapse (Goeders, 2002:788). Chronic high alcohol intake may suppress HPA axis (Haddad, 2004:370).	Alternative response of HPA axis may determine degree of addiction (Haddad, 2004:371). Blunted HPA axis response associated with more rapid relapse (Junghanns <i>et al.</i> , 2003 in Lovallo, 2006:198), and inherited vulnerability (Moss <i>et al.</i> , 1999 in Lovallo, 2006:199). However not useful test: affected by liver function.
Induced by environmental clues	Sensitization of reward system to cues associated with reward occurs as part of incentive learning (Koob <i>et al.</i> , 1998:474; Childress, Mozley, McElgin, Fitzgerald, Reivich & O'Brien, 1999:15).	Differential activation of limbic structures may explain why pharmacotherapy in cocaine withdrawal is so challenging: drugs enhancing deficient dopamine function
Relief craving	Residual deficit in brain reward function caused by drug exposure leads to a negative emotional state when abstinent (Koob <i>et al.</i> , 1998:469). Drug use brings relief.	in one region will probably elicit cue-induced craving by stimulating the amygdala (Childress <i>et al.</i> , 1999:15).

(TIQs=Tetra-Isoquinolines; HPA axis=Hypothalamic Pituitary Adrenal axis)

2.5.1 The Dichotomous Role of Acetaldehyde in the Maintenance of Addiction

Acetaldehyde not only disrupts the balance between inhibitory and excitatory neurotransmitters, but it has also been shown that central acetaldehyde sparks a preference for alcohol and increases alcohol intake (Myers, 1989:438) (See Figure 2.3), while peripheral accumulation, such as caused by the inhibition of aldehyde dehydrogenase by disulfiram, will cause most individuals to limit alcohol intake to avoid a disulfiram reaction (Deng & Deitrich, 2008:3). (See Figure 2.4.). Quertemont (2004 in Quertemont & Didone, 2006:3 of 12) reported that some patients on disulfiram experience the disulfiram-ethanol interaction (caused by increased acetaldehyde) as pleasurable. Others observed that acetaldehyde administration increases dopaminergic neuronal activity and may therefore contribute to the rewarding effect of alcohol (Foddai, Dosia, Spiga & Diana, 2004:533). Acetaldehyde also diverts the degradation of dopamine, forming morphine-like TIQs (Blum & Trachtenberg, 1987:33-34). TIQs replace the function of encephalins, causing temporary relief in genetically predisposed persons with compromised opioid systems. In the long term, further depletion of encephalins occurs via a negative feed-back system, increasing craving and maintaining continued alcohol intake (Blum & Trachtenberg 1987:35).

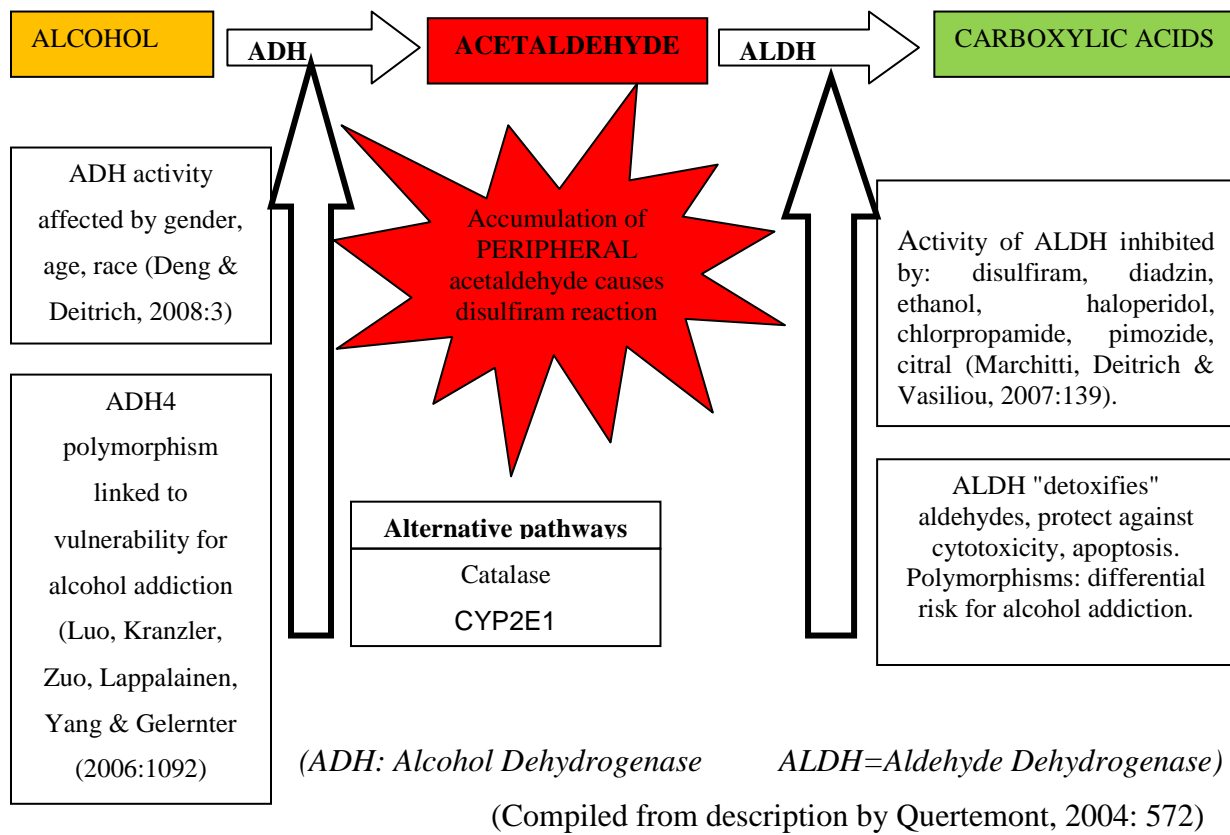
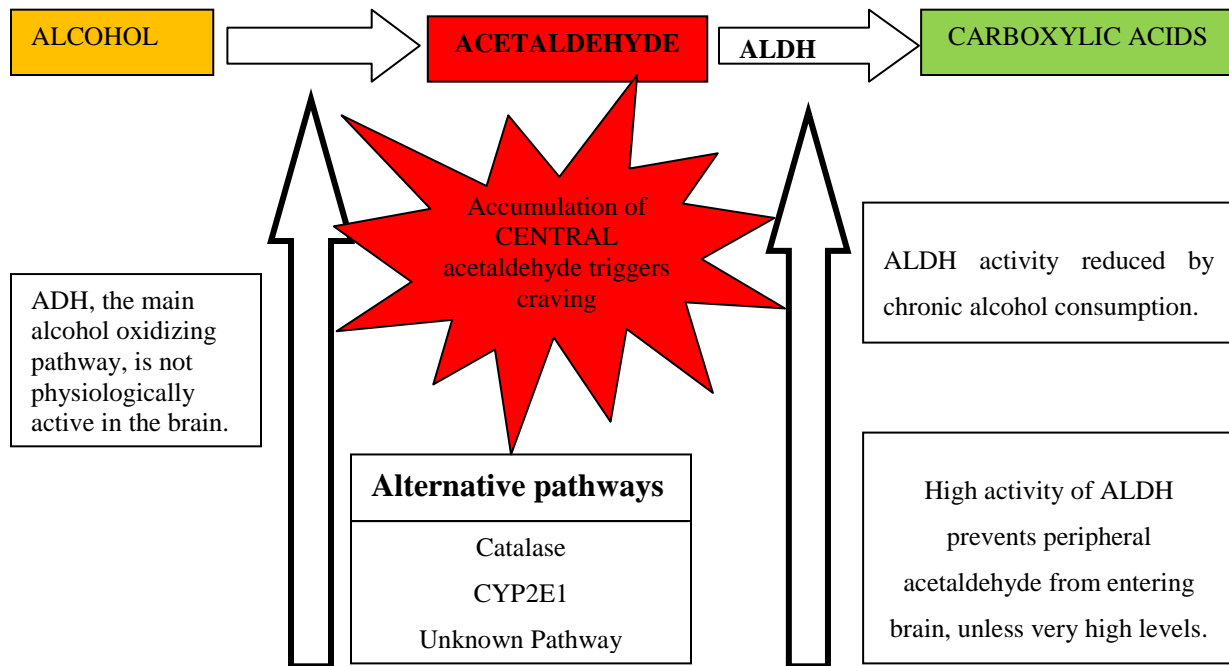


Figure 2.3: Peripheral Metabolism of Alcohol



(Compiled from description by Quertemont, 2004:572)

Figure 2.4: Central Metabolism of Alcohol

Acetaldehyde has also been shown to play a role in the maintenance of opioid addiction (Myers, 1989:440).

2.5.2 Pharmacotherapy in Rehabilitation-Relapse Prevention and its Impact on Treatment Effectiveness and Outcome

While alcohol detoxification programmes succeed in their purpose of attaining abstinence under controlled conditions, the real challenge in alcohol addiction treatment lies in preventing relapse (Volpicelli, Alterman, Hayashida & O'Brien, 1992:876). Relapse prevention therapy, a form of cognitive-behaviour therapy, has become a key element of most psychosocial interventions aimed at preventing relapse and supporting social rehabilitation (McGovern, Wrisley, Drake, 2005:1270). Psychosocial intervention in preventing relapse has limited success with both inpatient and outpatient rehabilitation programmes having a relapse rate of about 50% within the first 3 months (Miller et al., 1986 in Volpicelli et al., 1992:876; Nathan, 1986 in Volpicelli et al., 1992:876). In a meta-analysis Irwin, Bowers, Dunn and Wang (1999:7 of 12) found relapse prevention therapy to be effective in improving psychosocial functioning, but with

less impact on actual substance use. The effect is not influenced by in- or outpatient treatment settings.

2.5.2.1 Pharmacotherapy in Alcohol Relapse Prevention

2.5.2.1.1 Disulfiram

An inhibitor of aldehyde dehydrogenase, disulfiram causes the accumulation of acetaldehyde when taken concurrently with alcohol. The aldehyde causes adverse symptoms such as nausea and vomiting, flushing and in severe cases, cardiac instability. The objective is to create aversion to alcohol (Brewer, 1993:383). The disulfiram reaction may however also be acutely dangerous (Laplane et al., 1992 in Marchitti et al., 2007:143). Acetaldehyde is neurotoxic and has been implicated in basal ganglia damage and even Parkinsonism. At higher doses, it may precipitate psychotic and depressive symptoms by inhibiting dopamine beta-hydroxylase, resulting in an excess of dopamine and decreased synthesis of noradrenalin (Fischer, 1989 in Petrakis, Nich & Ralevski, 2006:645). Patients taking disulfiram must be aware of alcohol in ordinary consumed products and the potential for drug-interactions. Liver function monitoring is indicated (Swift, 1999:1484).

The use of disulfiram promotes complete abstinence, yet it may be a placebo effect. While various studies show opposing results, in a large multi-site study conducted on more than 600 veterans, disulfiram- and placebo-treated patients had similar outcomes, with compliance to either of the study medication being the strongest link with positive outcome (Fuller, Branche, Brightwell et al., 1986 in Petrakis et al., 2006:645). Other placebo-controlled studies on the effectiveness of disulfiram in preventing relapse in alcohol dependent persons failed to show conclusive evidence of clinical advantage (Hughes et al., 1997 in Swift, 1999:1483). Fuller et al., 1986 in Swift (1999:1484) however reported that disulfiram 250mg per day caused a decrease in drinking only in patients who became ill due to drinking on top of the disulfiram. Though it could reduce drinking after relapse, it neither improves continuous abstinence, nor does it delay relapse. Compliance is a major factor (Chick et al., 1992 in Swift, 1999:1484) and directly observed administration of disulfiram improves response.

Disulfiram also inhibits several plasma esterases involved in the metabolism of cocaine as well as dopamine- β -hydroxylase (DBH) (Caroldi & DeParis, 1995 and Goldstein et al., 1964 in George, Chawarski, Pakes, Carroll, Kosten and Schottenfeld, 2000:1081). These mechanisms cause unpleasant effects (anxiety, dysphoria and paranoia), decreasing both alcohol and cocaine

use in patients addicted to both. George et al. (2000:1084) demonstrated a significant increase in the period of abstinence as well as a more rapid onset of abstinence with the use of disulfiram compared to placebo in a population of buprenorphine-maintained subjects addicted to both opioids and cocaine. Reductions in use are sustained after 1 year (Carroll et al., 2000 in Volkow & Li, 2005:12). Davidson, Gow, Lee and Ellinwood (2001:15) warned that disulfiram aggravates dopamine-induced neurotoxicity associated with stimulants. Disulfiram is also not efficacious in all cases; it is especially doubtful whether it is efficacious in women (Nich et al., 2004 in Vocci & Ling, 2005:99). Genotyping studies suggest that individuals with low DBH gene activity are sensitive to the effects of disulfiram (Zabetian et al., 2001 in Vocci & Ling, 2005:99).

2.5.2.1.2 Naltrexone

Clinical effectiveness of naltrexone for alcohol addiction was demonstrated in various studies (Petrakis, Poling, Levinson, Nich, Rounsaville, 2005:1135). The effect may be due to the ability of the drug to cause HPA axis activation (O'Malley et al., 2002 in Kreek, Schlussman, Bart, La Forge & Butelman, 2004:336). FDA approval for the use of naltrexone in the treatment of alcohol addiction was based on a proven safety record achieved through previous use in opioid detoxification, as well as evidence of its effectiveness provided by several studies, but especially the work of Volpicelli et al., 1992 (in Volpicelli, Volpicelli & O'Brien, 1995:792) and O'Malley et al., 1992 (in Volpicelli et al., 1995:794). The FDA recommended that naltrexone should be used in the context of intensive psychosocial therapy (Volpicelli et al., 1995:796). Cumulative evidence on the effectiveness of naltrexone from several RCTs is summarized in Table 2.6 from a meta-analysis by Srisurapanont & Jarusuraisin (2005:120).

Table 2.6: Naltrexone vs. Placebo in Alcohol Dependency at ≤ 3 months					
<i>Outcomes at ≤3 months</i>	<i>Number of trials (n)</i>	<i>Weighted event rates</i>		<i>RRR (95% CI)</i>	<i>NNT (CI)</i>
		<i>Naltrexone</i>	<i>Control</i>		
<i>Relapse or returned to heavy drinking</i>	7 (822)	28%	43%	36% (18 to 49)	7 (5 to 13)
<i>Returned to drinking</i>	10 (1014)	55%	65%	13% (0 to 24)	10 (6 to 100)
<i>Discontinued medication</i>	18 (1776)	35%	43%	18% (3 to 30)	13 (7 to 100)

(RRR: Relative Risk Reduction; NNT: Number Needed to Treat)

(From: Srisurapont & Jarusuraisin, 2005:120)

Anton, O'Malley, Ciraulo, Cisler, Couper, Donovan, Gastfriend, Hosking, Johnson, LoCastro, Longabaugh, Mason, Mattson, Miller, Pettinati, Randall, Swift, Weiss, Williams and Zweben, 2006:2013) showed similar outcomes for naltrexone, naltrexone combined with specialist-delivered cognitive behavioral intervention (CBI) and CBI alone. Pharmacotherapy with naltrexone for relapse prevention is recommended in the setting of intensive psychosocial support.

Oslin, Berrettini, Kranzler, Pettinati, Gelernter, Volpicelli & O'Brien (2003:1547) remarked that the advantageous effect of naltrexone is not universal and that contradicting evidence in the literature could partially be explained by differences in patient response and patient compliance. Their research showed that the variance in patient response could be due to mu-receptor gene polymorphism. A once-a-month injection of naltrexone, Vivitrol ®, recently FDA approved for the treatment of alcohol disorder, may improve patient compliance (Pettinati & Rabinowitz, 2006:15).

2.5.2.1.3 Naltrexone and Disulfiram in Combination

Petrakis et al. (2005:1135) tested a combination of naltrexone and disulfiram in a population of schizophrenic patients. The combination showed no advantage above using either component alone. On disulfiram they found a very good compliance and disulfiram-treated patients reported lower craving than naltrexone-treated patients.

2.5.2.1.4 Acamprosate (Calcium acetylhomotaurinate)

Acamprosate is an aminoacid neurotransmitter analogue of taurine and homocysteic acid with anti-excitatory properties. Its effectiveness in reducing and delaying relapse has been proven in various studies (Tempesta, Janiri, Bignamini, Chabac & Potgieter, 2000:202). Therapeutic effects are possibly related to the interaction of the drug with glutamatergic neurotransmission through the up-regulation of specific NMDA-receptor subunits. Spanagel (2003 in Addolorato *et al.*, 2005:1214), proposed that a hypertrophic glutamatergic system causes withdrawal symptoms and stress, driving relapse, and that acamprosate acts as an anti-craving drug in the prevention of relapse through anti-glutamatergic action. Antagonist effects at NMDA receptors are weak, so the effect on neuronal plasticity must be through another mechanism (Rammes *et al.*, 2001:757). Acamprosate is well-tolerated with the main adverse effects being headache and diarrhoea (Besson, Aeby, Kasas, Lehert & Potgieter, 1998:578). Swift (1999:1486) cautioned that

acamprosate is excreted unchanged in the urine, and should be used with caution in patients with renal impairment.

In a review article, Swift (1999:1486) concluded on the body of evidence provided by several placebo-controlled multi-centre studies from Europe that acamprosate typically doubled the number of patients remaining abstinent during the first 3 months to one year compared to placebo, the only negative study being conducted on patients with mild alcohol dependency.

Bottlender and Soyka (2004:361) recommend that acamprosate be used in patients with a high risk for relapse, indicated by high scores on the Obsessive Compulsive Craving Scale (OCDS).

The drug is registered for use in relapse prevention in abstinent patients. It is available in South Africa under the brand names Besobrial® (Merck) and Sobrial® (Merck).

2.5.2.1.5 Acamprosate and Disulfiram in Combination

Besson *et al.* (1998:573-579) conducted a randomized double-blind placebo controlled study in which the effectiveness of acamprosate in early abstinence from alcohol was proven and better outcome was maintained over a 1-year period. Outcomes included less relapse and increased duration of abstinence (136.9 vs. 74.7 days). The acamprosate group had twice as many abstainers as the placebo group at the end of the study period. A subgroup of 55 patients on both acamprosate and disulfiram showed improved outcome with no adverse interactions.

2.5.2.2 Opioid Relapse Prevention

2.5.2.2.1 Methadone Maintenance

As the most extensively researched and used agent for opioid maintenance, methadone remains the golden standard (Farrell, Ward, Mattick, Hall, Stimson, des Jarlais, Gossop & Strang, 1994:1 of 10; Luty, 2003:280). Cumulative results of randomised studies of methadone maintenance show consistent advantage in outcomes such as criminality and injection-related harm (Luty, 2003:281). Outcome is largely influenced by the maintenance dose (Capelhorn & Bell, 1991 in Luty, 2003:281). Maintenance has been found to be much more effective than abstinence-aimed intervention (Newman & Whitehill, 1979 in Luty, 2003:281) with retention rates of 60% compared to 5%. Research done by McClellan (in Farrell *et al.*, 1994:3 of 10) again pointed out the importance of good support services in improving outcome.

2.5.2.2.2 *Alpha Agonists*

Alpha agonists show the same effectiveness as methadone in detoxification programmes, yet methadone is superior in keeping them involved in treatment according to a Cochrane review of 10 studies (Gowing *et al.*, 2002 in Luty, 2003:282).

2.5.2.2.3 *Buprenorphine*

In a meta-analysis of randomized clinical trials comparing the effectiveness of methadone and buprenorphine, Barnett, Rodgers and Bloch (2001, Abstract) concluded that buprenorphine results were comparable to methadone. Luty (2003:282) mentions that buprenorphine is more likely to be abused through injection than oral methadone and that buprenorphine is more expensive.

2.5.2.2.4 *Naltrexone*

Naltrexone is approved and used in the prevention of relapse of opioid addiction and dependency, but is subject to high drop-out and poor patient compliance (Van den Brink & Van Ree, 2003:478). Schmitz *et al.* (2001a:176) demonstrated the first positive results in a double blind randomized placebo controlled study in cocaine dependent subjects with naltrexone combined with cognitive- behavioural coping skills training.

2.5.2.3 *Stimulant Maintenance*

No effective pharmacotherapy exists for stimulant addiction (Luty, 2003:280).

2.6 NEUROTOXIC EVENTS AND MECHANISMS OF NEUROTOXICITY

Chronic alcohol consumption causes neurodegeneration via oxidative damage and excitotoxicity (Huang, Chen, Peng, Tang & Chen, 2009:66). In addition, alcohol withdrawal is a manifestation of glutamatergic over-excitation, overlying excessive oxidative stress, the clinical manifestation of which reflects the degree of lipid-peroxidation (Huang *et al.*, 2009: 69). (See Figure 2.6.) The various neurotoxic mechanisms relevant to substances of abuse and their implications are summarized in Table 2.7.

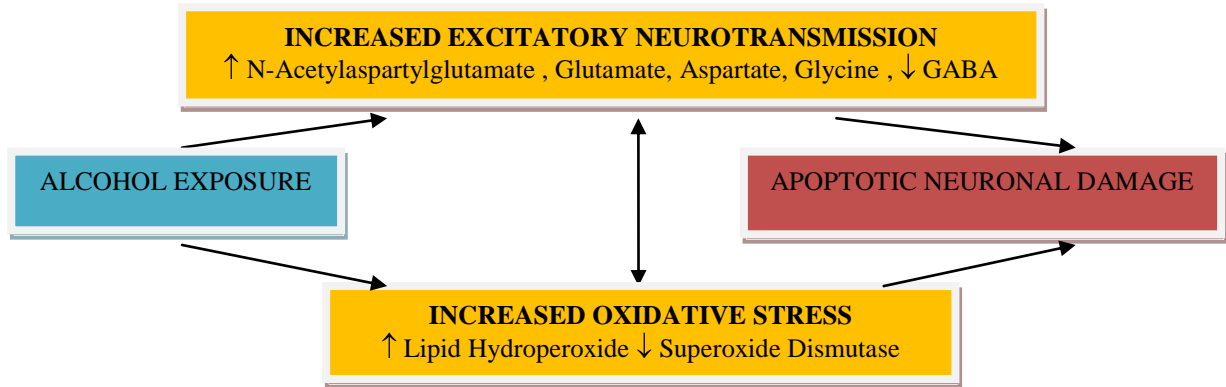


Figure 2.5: Model for Reduced Inhibitory Neurotransmission and Increased Excitatory Neurotransmission and Oxidative Stress during Alcohol Withdrawal

(Adapted from: Tsai *et al.*, 1998:726)

Table 2.7A: Neurotoxic Mechanisms and Implications for Treatment		
<i>Neurotoxic Process and Context</i>	<i>Underlying Mechanism</i>	<i>Implications</i>
<i>Oxidative Stress:</i> chronic alcohol (Marchitti <i>et al.</i> , 2007:136) or neurotoxic stimulant consumption (Davidson <i>et al.</i> , 2001:3).	Reactive oxygen species (ROS) and free radicals damage cellular components and activate apoptosis.	N-acetylcysteine promotes cysteine-glutamate exchange, synthesis of glutathione; prevents oxidative neurodegeneration (Aoyama, Watabe & Nakaki, 2008:233); alters neuroplasticity of cocaine (Madayag, Lobner, Kau, Mantsch, Abdulhameed, Hearing, Grier and Baker, 2007:13974).
<i>Excitotoxicity:</i> Stimulant (Yamamoto & Bankson, 2005 in Krasnova & Cadet, 2009:393) and alcohol exposure (Melendez, Hicks, Cagle & Kalivas, 2005:331). Ischaemic Neurotoxicity Cocaine causes regional cerebral ischaemia via vasoconstriction and thrombo-embolism. (Kosten,1998:133)	Glutamate is the main excitatory neurotransmitter (Farooqui, Ong & Horrocks, 2007:62). Extensive transport systems terminate its action and maintain sub-neurotoxic levels. Ischaemia causes instant reversal of these transporters (Kosten, 1998:139) causing neurodegeneration. (Attwell, 2000:1025S.)	Memantine (Ebixa ®), a glutamate antagonist may prevent glutamate toxicity (Kosten 1998:140). Buprenorphine, aspirin and amiloride are suggested to improve regional cerebral blood flow (Kosten 1998:141),

Selective neurotoxic mechanisms (Table 2.7B) play a major role in the serotonergic damage and cognitive deterioration seen with ecstasy (Kosten, 1998:133; Gouzoulis-Mayfrank, Daumann, Tuchtenhagen, Pelz, Becker, Kunert, Fimm & Sass, 2000:724) and dopamine toxicity seen with amphetamine and its derivatives (Kosten, 1998:133; Davidson *et al.*, 2001:2).

Table 2.7B: Selective Neurotoxicity and Biogenic Aldehyde Production (Marchitti <i>et al.</i> , 2007)	Clinical Implications
<p>Biogenic aldehydes form during breakdown of cell-wall lipids, carbohydrates, amino acids and neurotransmitters (Marchitti <i>et al.</i>, 2007:126), react with among others, glutathione. Monoamine metabolism by MAO_A forms aldehydes DOPAL and DOPEGAL (Marchitti <i>et al.</i>, 2007:129): Intra-neuron accumulation occurs when ALDH is disrupted (Burke <i>et al.</i>, 1998; Li <i>et al.</i>, 2001 in Marchitti <i>et al.</i>, 2007:131); toxic to mother neuron (Eisenhofer, 1992, in Marchitti <i>et al.</i>, 2007:126). Mono-amines+aldehydes=isoquinolines= selective neurotoxins (Groto <i>et al.</i>, 1997; Storch <i>et al.</i>, 2002 in Marchitti <i>et al.</i>, 2007:132).</p>	<p>Linked to development of neurodegenerative disorders like Parkinsonism and Alzheimer's disease (Marchitti <i>et al.</i>, 2007:134).</p>

2.7 VARIATION IN ADDICTION MANIFESTATION AND PHARMACOTHERAPY SELECTION

2.7.1 Typologies

Since the initial categorization of persons addicted to alcohol in five categories by Jellinek, several other typologies, based on clustering of certain characteristics of persons addicted to alcohol were developed (Leggio, Kenna, Fenton, Bonenfant & Swift, 2009:115). Typology development is specifically relevant to pharmacotherapy, as emerging biological evidence suggests a difference in underlying genetic predisposition and pathology and hence, pharmacotherapeutic intervention (Leggio *et al.*, 2009:122).

The Typologies of Babor and Cloninger both use the age of onset as a distinguishing factor (Leggio *et al.*, 2009:116). (See Table 2.8 and Table 2.9.) Among the multi-subtype typologies, Lesch's Typology has gained wide popularity in Europe (Hillemacher & Bleich, 2008:341). Various studies have used Lesch's Typology to demonstrate underlying neurochemical features and the influence of pharmacotherapy in the various categories. It

thus becomes increasingly useful in selecting therapy for a particular patient. Family history, psychopathology and neurobiological features were used to describe the four classes (Cardoso, Barbosa, Ismail & Pombo, 2006:133, Hillemacher & Bleich, 2008:341-344). (See Tables 2.10A to 2.10D.)

Elevated homocysteine levels occur in Lesch type I patients, especially those with a history of alcohol withdrawal seizures. Homocysteine acts as a glutamate agonist at the NMDA receptors (Bleich *et al.*, 2004:496), thus an excitatory neurotransmitter. Hyperhomocysteinaemia causes seizures and can be treated with folate supplementation. (*cf.* Table 2.10A.) Note the important function of activated folic acid (tetrahydrofolate), vitamin B12 and vitamin B6 in detoxifying homocysteine. (See Leggio *et al.*, 2009 for a complete discussion of the various Typologies). Typologies in other addictions than alcohol addiction have not yet been developed.

Table 2.8: Babor's Typology of Alcoholism (Babor <i>et al.</i> , 1992 in Leggio <i>et al.</i> , 2009:116)
BABOR TYPE A
<u>Distinguishing factor:</u> Later onset, fewer childhood risk factors, less severe symptoms, fewer social and physical consequences, less psychopathology and stress, chronic treatment history.
<u>Engagement in treatment:</u> Chronic treatment history.
<u>Biological correlates:</u> Predict response to serotonergic drugs.
<u>Therapy selection:</u> Sertraline 200mg/day for 14 weeks showed positive results compared to placebo (Pettinati <i>et al.</i> 2000 in Leggio <i>et al.</i> , 2009:123). Naltrexone effective in Babor Type A patients in USA (Leggio <i>et al.</i> , 2009:123).
BABOR TYPE B
<u>Distinguishing factor:</u> Earlier onset, more childhood risk factors, familial alcoholism more psychopathology, life stress, less likely to engage in treatment.
<u>Biological correlates:</u> Combined serotonergic and opioidergic dysfunction in early onset (Johnson <i>et al.</i> , 2000 in Leggio <i>et al.</i> , 2009:123). Tyrosine hydroxylase dysfunction: TH Val-81-Met polymorphism more frequent in early onset. (Dahmen <i>et al.</i> , 2005 in Leggio <i>et al.</i> , 2009:118).
<u>Therapy selection:</u> Ondansetron with naltrexone (Johnson <i>et al.</i> , 2000 in Leggio <i>et al.</i> , 2009:124). Avoid fluoxetine for maintaining abstinence or reducing drinking, unless co-morbid mood disorder: caused deterioration in drinking related outcomes compared to placebo (Kranzler <i>et al.</i> , 1996 in Leggio <i>et al.</i> , 2009: 122).

Table 2.9: Cloninger's Typology of Addiction to Alcohol (Compiled from Leggio *et al.* 2009)

CLONINGER TYPE 1 (80%) (MILIEU LIMITED)

Distinguishing factor: Adult onset (> 25years)

Background: Male/female: influenced by childhood family environment.

Typical presentation: Take alcohol for anxiety relief, can abstain from drinking temporarily, desire to avoid harm, respond better to treatment.

CLONINGER TYPE 2 (20%) (MALE LIMITED)

Distinguishing factor: Adolescent onset (<25years)

Background: Male: Inherit disease from father.

Typical presentation: Antisocial behaviour. Hostile toward society: drink for pleasure; very severe course: drink very heavily, unable to abstain, no desire to avoid harm.

Biological correlates: Combined serotonergic and opioidergic dysfunction (Johnson *et al.*, 2000 in Leggio *et al.*, 2009:123). Tyrosine hydroxylase dysfunction: TH Val-81-Met polymorphism more frequent in early onset (Dahmen *et al.*, 2005 in Leggio *et al.*, 2009:118).

Therapy Selection: Ondansetron with naltrexone (Johnson *et al.*, 2000 in Leggio *et al.*, 2009:124). Avoid fluoxetine for maintaining abstinence or reducing drinking unless there is co-morbid mood disorder: caused deterioration in drinking related outcomes compared to placebo (Kranzler *et al.*, 1996 in Leggio *et al.*, 2009: 122).

Table 2.10A: LESCH TYPE 1 (Model of Allergy): Biological Correlates and Therapy

Selection (Compiled from Hillemacher & Bleich, 2008; Ramskogler, Walter, Hertling, Riegler, Gutierrez & Lesch, *s.a.*; Leggio *et al.*, 2009).

Typical presentation: Family history of alcohol addiction. Severe alcohol withdrawal relatively early in course, drink to relieve these. Often epileptic fits during withdrawal (Hillemacher & Bleich, 2008:341). Craving unremarkable with abstinence, but immediate and strong after even small amount of alcohol consumed. Recurrent detoxification causes strong kindling (Hillemacher, Bayerlein, Wilhelm, Bönsch, Poleo, Sperling, Kornhuber and Bleich, 2006: 67).

Biological correlates: Alcohol elimination and metabolism impaired: develop chronic high formaldehyde level while drinking (*cf.* aldehyde toxicity). Hyperhomocysteinaemia due to genetic MTHFR deficiency: seizure risk during withdrawal (Bleich, Bayerlein, Reulbach, Hillemacher *et al.*, 2004:496). Kindling due to high glutamic acid levels (Walter *et al.*, 2006; Hillemacher *et al.*, 2006 in Hillemacher & Bleich, 2008:343). Craving related to plasma ghrelin and leptin in Lesch Type I (Hillemacher *et al.*, 2007 in Leggio *et al.*, 2009:121).

Therapy Selection: Withdrawal: Folic acid supplementation reduces homocysteine levels (Bleich *et al.*, 2004:497). Relapse prevention: Drug of choice: Acamprosate (More effective in this group: Kiefer *et al.*, 2005 in Hillemacher & Bleich, 2008:343). Naltrexone/GHB may be added, Disulfiram if under high drinking pressure (Ramskogler *et al.*, *s.a.*:14). Flupenthixol increases relapse (Walter *et al.*, 2001 in Hillemacher & Bleich, 2008:343).

(*MTHFR*=Methyl Tetra hydrofolate Reductase; *GHB*=Gamma Hydroxy Butyrate)

Table 2.10B: LESCH TYPE 2 (Model of Anxiety or Conflict): Biological Correlates

and Therapy Selection (Compiled from Hillemacher & Bleich, 2008; Ramskogler *et al.*, *s.a.*; Leggio *et al.*, 2009)

Typical presentation: Alcohol self-medication for anxiety. Low self-esteem, dominated by partner. Craving prominent, may be aggressive or self-destructive when drinking. Nicotine co-dependency (Hillemacher *et al.*, 2006 in Hillemacher & Bleich, 2008:343).

Biological correlates: Lack tryptophan and serotonin. High levels of beta-carbolines. Craving linked to high prolactin levels, associated with anxiety conditions: ("Relief craving") and plasma leptin levels (Type I and II) (Hillemacher *et al.*, 2007 in Leggio *et al.*, 2009:121).

Therapy Selection: Relapse prevention: Psychotherapy most important. Medication for underlying psychiatric symptoms (Ramskogler *et a.*, *s.a.*:16). Reversible MAOI effective (mimic MAO inhibition of beta-carbolines), sedating antidepressants if insomnia. Acamprosate drug of choice (Lesch, 2001 in Hillemacher & Bleich, 2008:343). Avoid sedatives: shifting risk.

Table 2.10C: LESCH TYPE 3 (Model of Depression): Biological Correlates and Therapy Selection (Compiled from Ramskogler et al., s.a.; Hillemacher & Bleich, 2008).

Typical presentation: Alcohol self-medication for depression. Effective at first, later deteriorate. Alcohol free periods. May be self-destructive. Family history of alcohol addiction/affective disorder. Rigid personality (Ramskogler *et al.*, s.a.).

Biological correlates: Neurotransmitters involved in depression.

Therapy Selection: Relapse prevention: Psychotherapy important. Craving an urge for self-treatment: antidepressant therapy crucial (Ramskogler *et al.*, s.a.:19). Lithium and Carbamazepine are effective in some patients. Neuroleptics promotes early relapse (Walter *et al.*, 2001 in Hillemacher & Bleich, 2008:343; Room & Makela, 2000 in Ramskogler, s.a.:19, while naltrexone reduces the severity of relapse (O'Brien, Volpicelli & Volpicelli, 1996 in Ramskogler *et al.*, sa:19).

Table 2.10D: LESCH TYPE 4 (Model of Adaptation): Biological Correlates and Therapy Selection (Compiled from Hillemacher & Bleich, 2008; Ramskogler et al., s.a.)

Typical presentation: Alcohol used to alleviate social burden in pre-morbid cerebral defects, behavioural disorders and enuresis (Ramskogler *et al.*, s.a.:20). Severe intoxication with low dose of alcohol. Epileptic seizures independent of alcohol intake. Compulsive trait, inability to resist social pressure.

Biological correlates: Factors affecting brain development. High levels of glutamic acid; probably related to frequent repetition of drinking and withdrawal (Walter *et al.*, 2006 in Hillemacher & Bleich, 2008:341). High incidence of thermolabile MTHFR (C677T) variant (Bönsch *et al.*, 2006 in Hillemacher & Bleich, 2008:342).

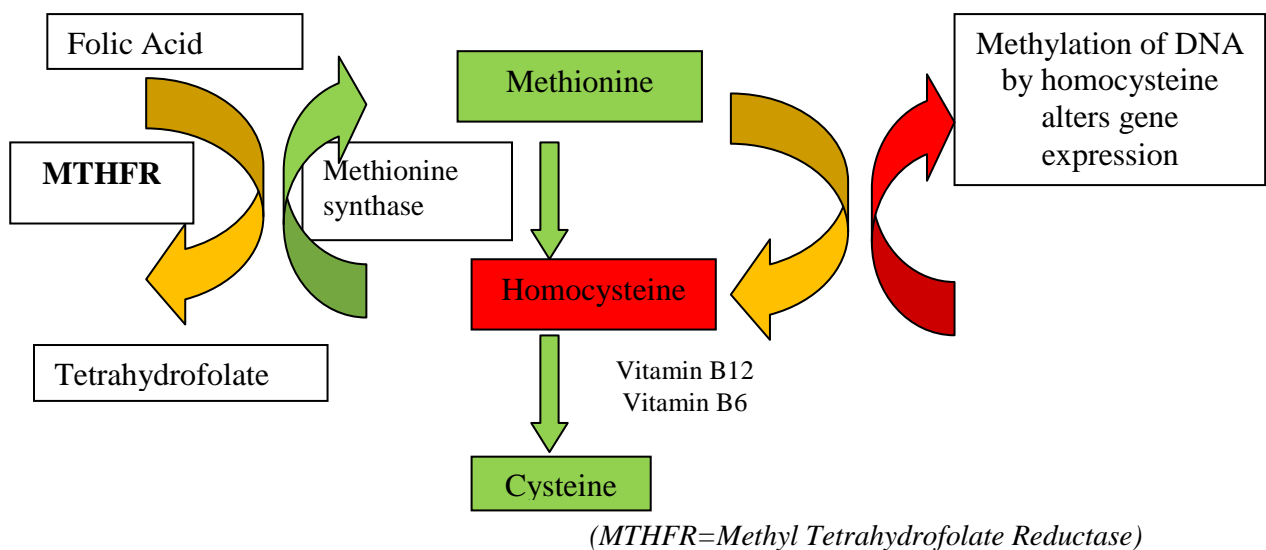
Therapy Selection: Behavioural therapy, self-help group, practice coping with relapse. Pharmacotherapy less important: Noötropics, thiamine, carbamazepine prolong abstinence; naltrexone shortens relapse (Ramskogler *et al.*, s.a.:21).

2.7.2 Dual Diagnosis

The US National Co-morbidity Survey found an odds ratio of 2.4 for co-morbidity between DSM III R mental disorders and drug or alcohol addiction and dependency disorders (Kessler, 2004:730). 42.7% of respondents with an alcohol or drug disorder reported the co-existence of a mental disorder and 14.7% respondents with a mental disorder reported an alcohol or drug disorder. Co-morbidity signifies a more persistent and severe course of illness. The strong association with mental disorders is ascribed to an overlap in both genetic

predisposition and environmental factors between the two conditions (Volkow & Li, 2005:10) as well as the fact that treatment is less effective among dual diagnosis patients (Kessler, 2004:731). There is also significant overlap in the anatomical areas involved in drug addiction and dependency and depression, such as areas responsible for mood regulation, cognition, memory and reward. Drug-induced changes in the limbic and paralimbic structures lead to negative emotional symptoms during early withdrawal. Nixon (2006:291) remarked that the mode of drug exposure may have differential effects on neurogenesis, with stunted neurogenesis causing depression and active cell proliferation causing brain damage and seizures.

In response to an article by Folstein *et al.* (2007) on the homocysteine hypothesis of depression, Hillemecher, Frieling, Muschler and Bleich (2007:1610) pointed out that hyperhomocysteinemia may play an important epigenetic role in the development of various psychiatric disorders causing alteration of gene expression by modifying promoter-DNA methylation. Figure 2.8 shows the metabolism of homocysteine as a potential link between the development of alcohol addiction and psychiatric disorders.



Homocysteine is remethylated to methionine by methionine synthase. Acetaldehyde directly inhibits methionine synthase as does folic acid deficiency, MTHFR is responsible for the activation of folic acid that is important for methionine synthase activity. Deficiencies of Vitamin B12 and Vitamin B6 also contribute to accumulation of homocysteine. Homocysteine causes DNA damage.

*(Adapted from: Coppen & Bolander-Gouaille, 2005:60; Kenyon *et al.*, 1998 in Bleich *et al.*, 2004:493 and Hillemecher *et al.*, 2007:1610).*

Figure 2.6: Homocysteine Metabolism

2.7.2.1 Antidepressants in Addiction Treatment

The use of antidepressants in the treatment of substance addiction and dependency is based on two observations: firstly the high concurrent expression of depression and substance addiction and dependency; and secondly the demonstration of a relationship between low serotonin levels and craving (Nunes & Levin, 2004:1894).

Nunes and Levin (2004:1894) conducted a meta-analysis of the treatment of depression in patients with substance addiction and dependency disorders. Antidepressant therapy contributes to reduction in drinking in patients that experience an antidepressant effect. The medication effect seemed to be larger in patients with alcohol dependency than in other drugs, probably due to an underlying difference in the neurochemistry of depression caused by various substances. Overall the meta-analysis found antidepressant medication to be effective for treatment of depressive symptoms among dual diagnosis patients if used at adequate doses for a minimum period of 6 weeks and where the diagnosis of depression was based on DSM III, DSMIII-R or DSMIV criteria. In particular, the diagnosis of depression should be made after a minimum period of one week of abstinence. The effects on substance use in patients treated with antidepressants were related to the effects on depression, yet sustained abstinence rates were low with a small difference between the pooled results of medication and placebo. Double-blind placebo-controlled studies conducted to demonstrate the effect of serotonin re-uptake inhibition on abstinence showed a decrease in alcohol intake and, in some cases, a significant increase in the number of abstinent days. These effects were however seen in small samples and were short lived. The effects on alcohol consumption in the absence of depression were inconsistent and even worsening of outcomes was reported in studies involving patients with more severe alcohol dependency. The routine use of this group of drugs is therefore contested. Although tricyclic antidepressants seemed to be more effective than the selective serotonin re-uptake inhibitors (SSRIs), Nunes and Levin still consider SSRIs as the safer and thus preferred first line of pharmacotherapy. Evidence-based psychosocial intervention still forms the backbone of treatment and pharmacotherapy is indicated only when these measures are insufficient.

Cocaine-induced depression proves to be resistant to fluoxetine, probably due to the opposing effects of cocaine and antidepressants (Schmitz, Averill, Stotts, Moeller, Rhoades & Grabowski, 2001:212). When there are demonstrable results, it is in the lessening of depressive symptoms, rather than the reduction in substance addiction and dependency. McDowell, Levin, Seracini and Nunes (2000:Abstract) found venlafaxine to be effective in a small population of cocaine abusers with depressive disorder.

2.7.3 Genetic and Environmental Factors in Vulnerability

Genetic factors determining vulnerability to drug-seeking and addictive behaviour have been implicated by both epidemiological and genetic approaches (Volkow & Li, 2005:9). Edenberg and Kranzler (2005:87) refer to addictions as "complex genetic diseases" with genetic factors not only playing a role in vulnerability through pharmacokinetic and pharmacodynamic mechanisms, but also in treatment response and side effect profile. Several genetic variants play a role in the vulnerability to the development of addiction to alcohol (Ratsma, Van der Stelt & Gunning, 2002:522). (See Table 2.11.) Exposure to drugs in utero (Chotro, Arias & Laviola, 2007:182; Malanga & Kosofsky, 2003:53) or during adolescence (Spear, 2000:424-425; Volkow & Li, 2005:6; Grant & Dawson, 1997:106; Grant, Stinson & Harford, 2001:502) or poor nutritional state (Zimatkin & Zimatkina, 1996:421-422) may increase vulnerability to become addicted. (See Table 2.13.) Evidence regarding the influence of nutritional factors are however not robust.

Table 2.11: Genetic Factors in Vulnerability and Treatment Response (Edenberg & Kranzler, 2005:87).		
<i>Factor</i>	<i>Vulnerability</i>	<i>Implications for Treatment</i>
<i>Alcohol metabolism</i>	Polymorphism of genes encoding for ADH, ALDH and GABA _A R subunits contribute to vulnerability to alcohol addiction.	Polymorphisms of D2R genes, opioid receptor genes and serotonin transporter genes cause variation in treatment response
<i>Reward mechanism</i>	D2-receptor deficiency linked to severe alcohol addiction and multiple drug-seeking behaviour (Blum, Braverman, Holder, Lubar, Monastra, Miller, Lubar, Chen & Comings, 2000:Abstract). Optimal D2 stimulation elicit pleasure, too much causes aversion (Volkow, Wang, Fowler, Thanos, Logan, Gatley, Gifford, et al., 1999:1442).	Better retention in treatment and anxiety and craving control with bromocriptine in persons addicted to alcohol with A1 allele of DRD2 (Lawford, Young, Rowell, Qualichefski, Fletcher, Syndulko, Ritchie & Noble, 1995:Abstract). Typologies show promise in distinguishing phenotypes of alcohol addiction with implications for treatment selection (Hillemecher & Bleich, 2008:344).

(ADH= Alcohol Dehydrogenase; ALDH= Aldehyde Dehydrogenase; GABA_AR=Gamma Amino Butyric Acid A Receptor; D2R=Dopamine 2 Receptor)

Table 2.12: Environmental Factors in Vulnerability and Implications for Prevention

<i>Environmental Factor</i>	<i>Implications for Prevention/Treatment</i>
<i>In-utero drug exposure</i>	Zinc prevents alcohol-induced teratogenesis and post natal death in animal study (Summers, Rofe & Coyle, 2009:596). Alcohol causes a transient drop in zinc levels, causing foetal damage. Zinc important in function of ADH.
<i>Adolescent drug exposure</i>	More aggressive intervention in youthful drinkers. Grant & Dawson (1997:106) found that 40% of individuals commencing drinking before the age of 15 developed alcohol dependence later on in life.

(ADH=Alcohol Dehydrogenase)

Table 2.13: Specific Dietary Factors and Implications for Addiction/Dependency Manifestation and Treatment

<i>Nutritional Factor</i>	<i>Effect on Addiction/Dependency</i>	<i>Implications for Treatment</i>
<i>Poor nutritional state</i>	Increase vulnerability to become addicted (Zimatkin & Zimatkina, 1996:421-422).	Dietary measures alleviate symptoms of withdrawal, yet high doses needed. With impaired liver function, hypervitaminosis A, niacin toxicity and iron overload may occur (ADA, 2000:526,566).
<i>Thiamine deficiency</i>	Contributes to alcohol intake by increasing craving via depletion of transketolase (Zimatkin & Zimatkina, 1996:424-425).	Routine supplementation vital during withdrawal (Burns, Price & Lekawa, 2008:s.l.).
<i>Niacin deficiency</i>	Niacin reduces accumulation of acetaldehyde: 10% of population suffers from niacin deficiency: may manifest as addiction to alcohol (Cleary, 1987:167).	Supplementation reduces alcohol withdrawal symptoms (Smith, 1974:329), benefit up to 60% of patients with advanced alcoholism (Cleary,1987:167).
<i>Folic acid deficiency</i>	Responsible for homocysteine breakdown via MTHFR. (See Lesch Type I. (Table 2. 10A). Deficiency common in addiction to alcohol and major depression (Abou Saleh & Coppen, 2006:285).	Patients with low folate levels show poor response to antidepressants (Coppen & Bolander-Gouaille, 2005:60).
<i>Magnesium</i>	Important in potassium and calcium homeostasis. Inhibitory CNS action, decreases acetylcholine release at the neuromuscular junction (Gossman, 2007:8 of 15).	Protects against seizures and arrhythmias (Gossman, 2007:8 of 15). Supplementation indicated in treatment of Delirium Tremens.
<i>Fish Oil</i>		Most important intervention to reduce oxidative stress and neuro-inflammation (Farooqui <i>et al.</i> , 2007:69).

2.8 SUMMARY AND KEY REFERENCES

1. Addiction to alcohol and psychoactive drugs is a behavioural syndrome that may include physical dependency (Goodman, 1990; O'Brien, Volkow & Li, 2006).
2. The two main approaches to the management of addiction are the disease model and harm reduction strategy (Hayhow & Lowe, 2006).
3. Acute reward processing initiates drug-seeking behaviour through dopaminergic stimulation (Cohen & Blum, 2002).
4. A continuum of neuroadaptive processes, including neuroplasticity, and neurodegeneration underlies the development and progression of addiction and dependency (Saal & Malenka, 2005); (Kalivas & Volkow, 2005).
5. A lingering anhedonia, relieved by drug intake, may be explained by a residual deficiency of the reward system or may be due to selective neurodegeneration of monoamine circuits. Hence, the high co-occurrence with depression, both as causative factor or as a result of drug use.
6. Craving is a major driver of relapse; the manifestation may be useful in directing pharmacotherapy (Bottlender & Soyka, 2004); (Addolorato et al., 2005); (*Verheul et al., 1999*).
7. Acetaldehyde plays a central role in mediating acute effects of alcohol intoxication, craving and neurotoxicity (Deng & Deitrich, 2008).
8. Withdrawal of the offending substance causes a reversal of neuroadaptive processes, but more persistent neuroplastic changes remain that are responsible for the tendency to relapse (Littleton, 1998); (Nestler, Barrot & Self, 2001).
9. Active adult neurogenesis occurs in abstinence and is linked with recovery of certain functions, yet may also underlie the development of psychiatric disorders and seizures (Nixon, 2006).
10. Recurrent withdrawal leads to kindling (Becker, 1998).
11. Treatment of addiction and dependency occurs in two distinct phases: detoxification-stabilization during which pharmacotherapy is used to alleviate withdrawal symptoms and relapse prevention-rehabilitation that consists of various psychosocial interventions with limited contribution of pharmacotherapy (Mayo-Smith et al., 1997); (Miller and Gold, 1998).
12. Affective disorders frequently occur in the setting of alcohol or drug addiction, either as a cause or consequence. Effective treatment influences total outcome (Nunes and Levin, 2004).

13. Typologies of persons addicted to alcohol offer a solution for matching patients and pharmacotherapy (Hillemacher and Bleich, 2008).

Chapter 3 describes alcohol and drug addiction and the treatment thereof in the South African and local context.

CHAPTER 3

THE SOUTH AFRICAN AND LOCAL CONTEXT

A REVIEW

3.1 INTRODUCTION

Alcohol and drug use behaviour occurs within a particular social and cultural context as part of social interaction, self-medication and in some cases, communal activity (Parry, 1998:10). Although alcohol was used in excess in South Africa since pre-colonial days, it was the later massive commercialization of beverages that led to general availability (Willis, 2006:6). Against the background of an urbanizing society, alcohol use escalated and despite legal counter-measures, became entrenched in social interaction across cultures (ODC, *s.a.*:7) with current household surveys showing that 50% of men and 20% of women in South Africa drink alcohol (Demers *et al.*, 2001 in Schneider, Norman, Parry, Bradshaw & Plüddemann, 2007:664). The alcohol industry is an integral part of the economy, generating jobs and taxes. Parallel to the rapid expansion of foreign trade in South Africa during the 1994-1998 period, the country became a target for the activities of organized crime groups (UNODC 2002:11 of 33). The transforming society of the country as it emerged from apartheid and international isolation, proved to be a lucrative market for major international drug cartels. Nigerian, other African and Asian groups and the Italian Mafia established local markets for heroin, methaqualone, cocaine and ecstasy (UNODC, 2002:19 of 33) and created new trafficking routes, the latest being the Nigeria-Rio de Janeiro-South Africa route (UNODC, 2007:1 of 2). Deals are financed through “cash or kind” with bartering agreements involving stolen goods, hijacked cars (INSCR, 2001; Shaw, 2001 in UNODC, 2002:11 of 33) and locally produced cannabis as well as imported drugs (Leggett, 2001 in UNODC, 2002:14 of 33). Local production of methaqualone, amphetamine-like stimulants (including ecstasy and methamphetamine) and crack cocaine further increases general availability of drugs (UNODC, 2002:5 of 33). Prices of illicit drugs fell dramatically (see Table 3.1) and illicit drug use escalated in various social settings (UNODC, 2002:27-30 of 33), but especially burgeoning among young people (Parry, 1998:24).

Table 3.1: Street Prices of Illicit Drugs in South Africa (National Estimates) (Rand/Dollar Exchange Rate current at time of collection of information)

	<i>1993 (in US\$)</i>	<i>1997 (in US\$)</i>	<i>2002 (in US\$)</i>
<i>Mandrax (tablet)</i>	9.3	6.8	4.0
<i>Ecstasy (tablet)</i>	18.6	13.5	8.0
<i>Heroin (g)</i>	52.4	42.3	18.0
<i>Cocaine (g)</i>	50.7	42.3	25.0
<i>Cannabis (joint)</i>	0.2	0.2	0.1
<i>Speed (unit)</i>	8.5	8.5	3.8
<i>LSD (unit)</i>	n.a.	8.5	4.2
<i>Hashish (g)</i>	n.a.	0.9	n.a.
<i>CAT (g)</i>	n.a.	n.a.	12.0

(Adapted from: UNODC, 2002:25 of 33)

If illicit drugs become more accessible to the general population, one can expect that the pattern of progressive integration of drug use in the values of society and the economy of the country as seen with alcohol, may be repeated here.

3.2 ADDICTION AND DEPENDENCY IN SOUTH AFRICA AND THE FREE STATE

According to the DSM-IV-TR (APA, 2000:192) the diagnosis of dependence can be made if a cluster of certain cognitive, behavioural and physiological criteria appears indicating that a person continues the use of alcohol or other drugs despite experiencing detrimental effects. The repetitive self-administration may lead to tolerance and withdrawal, signifying physiological dependency.

In general, data on non-communicable diseases in South Africa are scarce (Day & Gray, 2005:304). Routine screening for alcohol or drug use is not done. However, the 1998 South African Demographic and Health Survey (SADHS) (RSA DOH, MRC & Macro International, 2002) did investigate the contribution of several life-style factors to the health status of the South African population. The study used the 4-question CAGE questionnaire, a standard psychological screening tool for alcohol dependency. (See Table 3.2.)

Table 3.2 The CAGE Questionnaire
1. Have you ever felt you should <i>cut</i> down on your drinking?
2. Have people <i>annoyed</i> you by criticizing your drinking?
3. Have you ever felt bad or <i>guilty</i> about your drinking?
4. Have you had a drink first thing in the morning to steady your nerves or get rid of a hangover (<i>eye-opener</i>)?
Scoring: Each question only requires a “yes” or “no” answer. Positive answers score 1 point. A total score of 2 or more is considered clinically significant.

(Adapted from: Ewing, 1984:1906)

The SADHS (RSA DOH *et al.*, 2002:238) reported an overall adult (above 15 years) alcohol dependency rate of 28% for men and 10% for women. The Free State has even higher incidences than the national average for both sexes (see Table 3.3), only surpassed by the Northern Cape and Mpumalanga among the male population and second to Northern Cape in the female population. Note that only 1.9% of the population lived in the Northern Cape in 2005 and 6.7% in the Free State (Day & Gray, 2005:267).

Table 3.3: Alcohol Dependency Across the Provinces in South Africa									
Alcohol dependency (%)	FS	NC	KZN	LP	WC	EC	NW	MP	SA
1998 Female	11.9	18.5	6.9	6.1	11.7	10.9	11.5	11.5	9.9
1998 Male	34.4	38.6	33.5	23.7	27.6	33.7	24.8	38.2	27.6

FS=Free State; NC=Northern Cape; KZN=Kwazulu-Natal; LP=Limpopo; WC=Western Cape; EC=Eastern Cape; NW=North West Province; MP=Mpumalanga; SA=South Africa

(Adapted from: SADHS in Day & Gray, 2005:305)

Claassen (1999:Abstract) used the CAGE questionnaire to screen the rural population of Ammerville (n = 96) in South Africa and found an incidence of alcohol dependency of 56% in adults above the age of 18 years and reported a sensitivity of 100% and a specificity of 78% for the screening instrument. In a meta analysis of 10 studies involving 4562 cases, Aertgeerts, Buntinx and Kester (2004:26) found an overall sensitivity of 71% and specificity of 90% for the CAGE questionnaire at cut-off point >2, with higher sensitivity in ambulant patients than in inpatients.

In a recent survey done among 2049 university students at a South African University, Young and De Klerk (*s.a.*:7 of 13) reported a prevalence of alcohol dependency in 9,9% of students, harmful drinking in 8,5% and hazardous drinking in 32,8%, scored according to the AUDIT (alcohol use disorders identification test) questionnaire, a 10-question screening tool

developed by the WHO (Saunders *et al.*, 1993 in McCusker, Basquille, Khwaja, Murray-Lyon and Catalan, 2002:595). Mc Cusker *et al.* (2002:593) pointed out that while the CAGE questionnaire is better at identifying dependency, the AUDIT questionnaire is more sensitive at identifying hazardous drinking.

There is however an enormous discrepancy between the number of people in need of treatment for addiction and dependency and those accessing treatment (McLellan & Meyers, 2004:764). The South African Community Epidemiology Network on Drug Use (SACENDU) collects epidemiologic data regarding the treatment of drug addiction and dependency cases in several sentinel cities in South Africa from specialist treatment centres (Plüddemann, Dada, Parry, Bhana, Perreira, Carelsen, Kitleli, Gerber, Rosslee & Fourie, 2008). According to this data, alcohol is the most common primary substance of addiction/dependency for which treatment is sought across the country, except in the Western Cape, where it was recently surpassed by methamphetamine (Plüddemann *et al.*, 2008:3).

The major primary psychoactive substances resulting in admissions to treatment centres in the Central region, which include North West, the Free State and Northern Cape, is alcohol (65% of admissions), cannabis (21% of admissions) and cocaine (6% of admissions) (Plüddeman *et al.*, 2008:2). Relative to other provinces, alcohol addiction makes up a higher proportion of cases presenting for treatment (Plüddeman *et al.*, 2008:3). Cannabis is the second most preferred primary substance of addiction overall, but is the most preferred primary drug in persons under 20. Cocaine use is often secondary to other drug use; in the case of the Free State, the preferred combination is with cannabis (Plüddeman *et al.*, 2008:4). 25% of patients from this region presenting for treatment admit to poly-substance use.

Table 3.4 shows the breakdown for the various race groups with an especially high prevalence of dependency among coloured males and females and African and Indian men.

<i>Alcohol dependency (%)</i>	<i>African</i>	<i>Coloured</i>	<i>Indian</i>	<i>White</i>	<i>All</i>
<i>Female</i>	9.6	18.4	1.7	6.1	9.9
<i>Male</i>	29.4	33.6	20.1	9.9	27.6

(Adapted from: SADHS in Day & Gray, 2005:306)

The pattern of drug use differs in the various population groups (Plüddeman *et al.*, 2008: 8) with alcohol and cannabis both presented high in white and black patients, yet cannabis more in black patients, and in combination with mandrax in coloured patients. Inhalant abuse was found exclusively in the black and coloured populations and club and rave drugs and

prescription drugs more in the white population. Blacks are however under-represented in treatment settings (Plüddeman *et al.*, 2008: 2,8).

Compared to other provinces, the Free State thus has a major problem with alcohol dependency and alcohol, cannabis and cocaine addiction/dependency place the highest strain on treatment facilities. A huge treatment need *vs.* actual treatment access gap exists and is particularly large among the black population.

3.3 THE IMPACT OF ADDICTION/DEPENDENCY ON HEALTH IN SOUTH AFRICA

Alcohol use contributes both to death and disability through its causative link to more than 60 conditions (English *et al.*, 1995; Gutjahr *et al.*, 2001; Ridolfo & Stevenson, 1998 in Schneider *et al.*, 2007:665).

3.3.1 Alcohol and Premature Mortality

The 2000 National Burden of Disease (NBD) study, investigating the underlying causes of premature mortality in South Africa, confirmed the important role of alcohol in the burden of disease in the country (Norman, Bradshaw, Schneider, Joubert, Groenewald, Lewin, Steyn, Vos, Laubscher, Nannan, Nojilana, Pieterse & the South African Comparative Risk Assessment Group, 2007:638). Tables 3.5 and 3.6 show the high ranking of tobacco and alcohol as risk factors for death and interpersonal violence and road traffic injury as underlying causes of death.

<i>Rank</i>	<i>Risk factor</i>	<i>% of Total Deaths</i>
1	Unsafe sex/ STDs	26.3
3	Tobacco smoking	8.5
4	Alcohol harm	7.1
6	Interpersonal violence (risk factor)	6.7

(Adapted from: Norman *et al.*, 2007:638)

<i>Rank</i>	<i>Disease, injury or condition</i>	<i>% of Total Deaths</i>
1	HIV/AIDS	25.5
4	Tuberculosis	5.5
5	Interpersonal violence injury	5.3
9	Road Traffic Injury	3.1

(Adapted from: Norman *et al.*, 2007:638)

The National Injury Mortality Surveillance Systems (NIMSS) collects data from mortuaries across 6 provinces (Groenewald, Bradshaw, Daniels, Matzopoulos, Bourne, Blease, Zinyaktira & Naledi, 2008:30). The Free State is not currently represented in these, but the NIMSS data identifies important areas of concern: the high percentage of pedestrian deaths and the link between traffic deaths and alcohol use. The majority of deaths due to violence and traffic were alcohol-positive.

Using data from the 2000 National Burden of Disease study, Schneider *et al.* (2007:668) reported that alcohol caused nearly 37 000 deaths in South Africa in 2000, 7,1% of all fatalities. Trauma is the main mechanism through which alcohol contributed to years of life lost via homicide and violence (45.9%), road traffic injuries (19.6%) and suicides (5.4%).

3.3.2 Alcohol-Attributed Disability

The 2000 National Burden of Disease study measured alcohol-attributable disability in Years Lived with Disability (YLD). Alcohol use disorders/dependency was the main contributor (44.6%) to the total number of years lived with disability, followed by homicide and violence (23.2%), Fetal Alcohol Syndrome (18.1%), epilepsy (3.5%) and road traffic injuries (2.3%). Table 3.7 reflects the contributions of alcohol use disorders/dependency, epilepsy and cirrhosis:

	<i>PAF (%)</i>	<i>Deaths</i>	<i>YLLs</i>	<i>YLDs</i>	<i>DALYs</i>
<i>Alcohol use disorders/dependency</i>	100.0	760	13 052	153 509	166 561
<i>Cirrhosis liver</i>	46.1	2 582	37 567	6 269	43 836
<i>Epilepsy</i>	41.2	1 176	25 037	12 180	37 217
<i>Total (excluding beneficial effects)</i>		36 840	787 749	344 331	1 132 079
<i>% of total burden</i>		7.1%	7.4%	6.2%	7.0%

PAF: Population Attributable Fraction; YLL: Years of life lost, YLD: Years Lived with Disability; DALY: Disability Adjusted Life Years (Adapted from: Schneider et al., 2007:670)

3.3.3 Alcohol and Violence

South African data on violence show exceptionally high levels of interpersonal violence (Norman, Matzopoulos, Groenewald & Bradshaw, 2007a:697). At 9 times the global average, homicide is the leading cause of fatal injury in males. The homicide rate of 64,8 per 100 000, makes South Africa one of the most violent countries in the world. The country also has the highest rate of intimate partner homicide in the world at 8.8 per 100 000. Alcohol is a major

contributor to these figures with 52,9% of fatal and 73,4% of non-fatal cases of interpersonal violence testing positive for alcohol in 2001.

The Sentinel Surveillance of Substance Abuse and Trauma, conducted in Cape Town, Port Elizabeth and Durban from 1999-2000 (Peden, Harris, Suhai, Donson, Maziko, Kawa, Mtotywa, & Nose, 2001:10) found that 58.2% and 45.7% (in 1999 and 2000 respectively) of patients presenting with injuries due to violence and who were in a condition to complete the CAGE questionnaire scored above the cut-off value, indicating possible alcohol dependency. Table 3.8 shows that patients involved in violence or road traffic related injuries were more likely to be suffering from dependency. The reduction in violence-related and traffic-related cases linked to alcohol dependency from 1999 to 2000, was not explained by the authors. They did however mention that language problems played a role in discrepancies seen in city-to-city distribution (Peden *et al.*, 2001: 10).

Table 3.8: Alcohol Dependency in Trauma Patients by Category of Cause of Trauma 1999-2000 (Cut-off point on CAGE questionnaire 2 or more)		
	<i>1999</i>	<i>2000</i>
<i>Violence</i>	202 (58.2%)	143 (45.7%)*
<i>Traffic</i>	47 (40.5%)	22 (24.7%)**
<i>Non-traffic accidents</i>	27 (23.5%)	26 (23.6%)

**ChiSq= 10.4, p=0.001*

***ChiSq=5.6, p=0.017*

(Adapted from: Peden *et al.*, 2001:10)

3.3.4 Alcohol and Road Traffic Injuries

The second highest cause of fatalities in males and highest in females, road traffic accidents account for a fatality rate of 39,7 per 100 000, the highest for any region in the world and almost double the global average (Norman *et al.*, 2007a:698). 46,5% of drivers killed in road vehicle accidents had alcohol levels exceeding the legal limit of 0,05 g/100ml. Further, the majority of victims of train and traffic accidents in the country had blood alcohol levels above legal limits (Van Kralingen *et al.*, 1991 in WHO, 2003:24 of 52).

Data from the Sentinel Surveillance of Substance Abuse and Trauma (Peden *et al.*, 2001:10) show that 40.5% and 24.7% (in 1999 and 2000 respectively) of patients presenting with road traffic injuries and capable of completing the CAGE questionnaire, had possible alcohol dependency.

3.3.5 Trauma and Illicit Drug Use

Peden *et al.* (2001:11) found that cannabis was the most common illicit drug found in trauma patients (Table 3.9), yet cocaine is gaining popularity. Self-report of illicit drug use was low (22.1%) when compared to urine analysis.

	1999 <i>n</i> (%)	2000 <i>n</i> (%)	All <i>n</i> (%)
<i>Amphetamine</i>	0	3 (0.6)	3 (0.3)
<i>Cannabis</i>	220 (36.2)	156 (28.4)*	276 (32.5)
<i>Opiates</i>	23 (3.8)	44 (8.0)**	67 (5.8)
<i>Cocaine</i>	11 (1.8)	38 (6.9)***	49 (4.2)
<i>Methamphetamine</i>	1 (0.2)	2 (0.4)	3 (0.3)

**ChiSq*=8.1, *p*=0.005

***ChiSq*=9.43, *p*=0.002

****ChiSq*=18.54, *p*<0.0001

(Adapted from: Peden *et al.*, 2001:10)

3.3.6 Implications for Health Care

An estimated 25%-30% of general hospital admissions in South Africa are related to alcohol abuse (Albertyn & McCann, 1993 in WHO, 2003:24 of 52), while fetal alcohol syndrome is by far the most common cause of mental disability (Department of Trade and Industry, 1997 in WHO, 2003:24 of 52). Plüddemann *et al.*, 2004 (in Matzopoulos, Matthews, Bowman & Myers, 2007:20) found that the majority of patients injured through violence and presenting to trauma units in Cape Town, Durban and Port Elizabeth tested positive for alcohol.

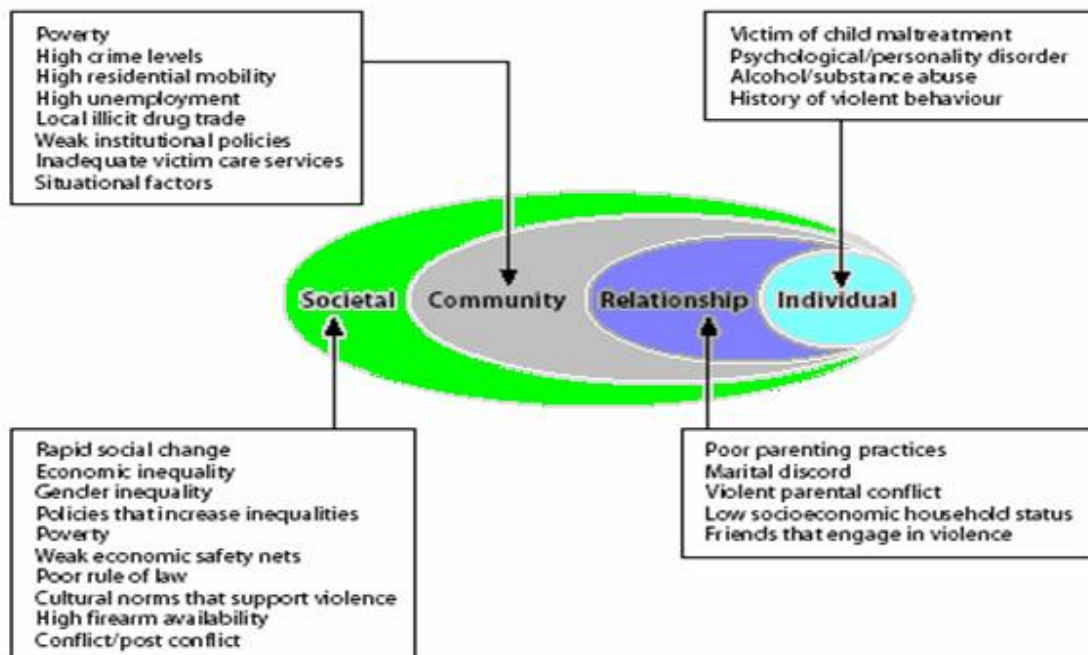
The implications of alcohol and drug addiction to the health of the general population is thus enormous. Even without considering the health implications to the individual addicted person, it should be a major focus for intervention if the health of the nation is to be improved.

3.4 SOCIAL CONSEQUENCES OF ADDICTION AND DEPENDENCY

3.4.1 Influence on Family Life

Through its link with alcohol and drug abuse, addiction and dependency impact negatively on the family and society as a whole through contributing to domestic violence and child abuse (Brady & Rendall-Mkosi, 2005 in Schneider *et al.*, 2007:665); irresponsible sexual behaviour with increased risk of contracting HIV (Morojele *et al.*, 2006 in Schneider *et al.*, 2007:665); and poor school performance (Yamada, Kendix & Yamada, 1993:15 of 33), hindering economic and social development.

Figure 3.1 shows a conceptual representation of the social consequences progressively fanning out from individual towards societal levels.



(From: Butchart *et al.*, 2004 in Matzopoulos, Mathews, Bowman, Myers, 2007:20)

Figure 3.1: Impact of Alcohol and Drug Addiction/Dependency on Society

3.4.2 Alcohol, Drugs and Crime in South Africa

Alcohol and drugs contribute to crime through the criminal activity involved in attaining, distributing and financing illicit drugs (UNODC, 2002:10 of 33). Arrests made with regard to drug-related crime showed a sharp increase from 1998-2001 after an initial decline from baseline in 1994 (SANAB in UNODC, 2002:9 of 33).

Alcohol and drugs also contribute to criminal activity during intoxication (UNODC, 2002:10 of 33). In the 3-Metro Study on Drugs and Crime in South Africa, Parry *et al.* (2004, Abstract) found 45% of arrestees in Cape Town, Johannesburg and Durban to be positive for drugs/alcohol. Between 6% and 23% of arrestees were under the influence of alcohol while committing the crime for which they were arrested, with cannabis and mandrax also being significantly represented (See Table 3.8) (Parry *et al.*, 2004 in Matzopoulos *et al.*, 2007:31). Drug-positive arrestees were more likely to have had a prior arrest Parry *et al.* (2004, Abstract). Cannabis was particularly likely to be positive in perpetrators of violent crimes, ranging from 25% in family violence to 45,8% in committed or attempted murders. The corresponding figures for mandrax, were 16,1% and 20,8%, respectively (Parry *et al.*, 2004 in Matzopoulos *et al.*, 2007:30-31). Taylor *et al.* (2003 in Matzopoulos *et al.*, 2007:30) found

cannabis use in 22% to 28% of violent offenders.

Alcohol and drug addiction is a major factor in social degradation and undermines orderly functioning of the society. Attempts to social upliftment, the intended vehicle for improving health as envisioned by the Primary Health Care paradigm, will be futile if the role of addiction/dependency is ignored.

3.5 ECONOMIC CONSIDERATIONS OF HARM AND INTERVENTION

Abuse affects all layers of society; the difference between rich and poor lies in the type of alcohol/drug involved (Parry *et al.*, 1997 in Parry, 1998:10). Improved economic power has been shown to increase alcohol consumption (Parry, 2000:216) in line with the finding of Maynard & Godfrey (1994:226) that alcohol use is related to price versus disposable income. Godfrey (1989 in Maynard and Godfrey, 1994:227-228) indicated that while treatment appears to be cost-beneficial, cost-effectiveness of interventions varies. Low-cost interventions may equal the results of high-cost intervention, especially if interventions are matched to specific patients.

Maynard & Godfrey (1994:222) pointed out that while social cost estimations serve to fuel political debate, it is at best imprecise and unhelpful in determining the most cost-effective interventions. As a major employer and revenue generator, the alcohol industry contributed R4.2 billion in 2002/3 in tax revenue, yet this was counteracted by an estimated R9 billion in cost attributed to alcohol-related harm. (Brady, Rendall-Mkosi, 2005 in Schneider *et al.*, 2007:664). Social upliftment is not equal to economic empowerment alone. Individualized, targeted intervention may in the end be the most cost-effective, because of improved results.

3.6 LEGISLATION AND POLICIES APPLICABLE TO TREATMENT OF ADDICTION/DEPENDENCY

A wide range of government departments, including the Departments of Health, Social Development, Law and Order and Justice are involved in combating alcohol and drug abuse (RSA DSD, 1999:3). The Departments of Social Development and the Department of Health are specifically concerned with the treatment of addiction and dependency. Within the larger initiative against especially illicit drugs, treatment is regarded as a strategy to disrupt illegal trafficking by reduction of demand (RSA DSD, 2008:14).

3.6.1 The Role of the Department of Social Development

The Department of Social Development is responsible for the coordination of intersectoral actions. *The Prevention and Treatment of Drug Dependency Amendment Act (Act No. 14 of*

1999) (RSA DSD, 1999:3) provided for the establishment of the Central Drug Authority, appointed by the Minister of Social Development and consisting of members of various sectors. *The National Drug Master Plan, 1999* (RSA DSD, 1999a) forms the core plan for the overall management of the drug problem in South Africa. The Central Drug Authority (CDA) is the regulating body responsible for monitoring and implementing the National Drug Master Plan, coordinating the contributions of various departments.

The Prevention of and Treatment for Substance Abuse Act (Act No. 70 of 2008) defines the categories of intervention as demand reduction, limited harm reduction; and supply reduction and obligates the Minister to follow a “multifaceted and integrated approach” and implementing the National Drug Master Plan (RSA DSD, 2008:14). Medical treatment is included in the strategies foreseen by the Act (Section 5(2)c) to “address the physiological and psychiatric needs of the service user” (RSA DSD, 2008:16). The Act establishes the power of the Minister to commission services at various levels, including treatment centres; to set and enforce minimum norms and standards for services at various levels and to de-establish centres if they fail to comply with these norms and standards. One of the stipulated requirements for service providers is the completion of a SAQA-accredited training course (Section 6(3)). According to section 7(1), the Minister may prioritize services and provide financial assistance to or contract service providers, provided they adhere to the minimum norms and standards (RSA DSD, 2008: 22). A service provider providing early intervention service may not withhold treatment to the detriment of the patient. The minister is also responsible for facilitating the establishment of screening programmes to facilitate early intervention and providing families and communities with information on how to access help (RSA DSD, 2008: 21). The Act regulates the admission of both voluntary and involuntary service users to treatment centres (RSA DSD, 2008:40).

3.6.2 The Role of the National Department of Health

The Department of Health’s role is described as reducing drug demand and harm through legislation and policy guidelines (CDA, 2009:2 of 5). The most notable achievement is the implementation of extensive control of tobacco products. Legislation for the control of alcohol is under way. It is involved in the National Drug Master Plan through the development of prevention and awareness programmes. No report on actual performance in implementation of the National Drug Master Plan was submitted for the year 2007/2008 (RSA DSD, 2008a: 53) and the CDA struggles to convene meetings with “departments represented on the CDA” (RSA DSD, 2008a: 54). As far as actual treatment is concerned the Department’s role is envisioned as a mere supportive and advisory role to treatment centres

(CDA, 2009:2 of 5).

The Department of Health however has a bigger role in terms of *The South African Constitution (Act No. 108 of 1996)* (RSA, 1996:1255) that defines health care services as a basic human right and obligates the state to take "reasonable legislative and other measures, within its available resources" to progressively realize this right. As such, all South African citizens may demand access to health services. In line with the Constitution, the government has set for itself the goal of "a health system that provides all citizens with adequate health care at an affordable cost."

The Department of Health's intentions in transformation of the health services were set out in *The White Paper on the Transformation of the Health System in South Africa, 1997*. The document stated the policy objectives of a unified National Health System and outlined the strategies to meet these objectives (RSA DOH, 1997a:1 of 128). It envisioned integrated health services that are widely accessible (RSA DOH, 1997a:6 of 128). Equity with regard to distribution of services into rural areas, with effective referral to comprehensive services and access to high quality low-cost medication will be aimed for (RSA DOH, 1997a:6 of 128). It defined the content of the Primary Health Care Package and different levels of hospitals and placed emphasis on the need to manage patients on the appropriate level of care, specifically limiting inappropriate level care in academic hospitals. In order to increase access to prevention and treatment programmes, a primary health care approach must be followed (RSA DOH, 1997a:6 of 128) including training for both personnel at primary health care level (RSA DOH, 1997a:30 of 128) as well as the community. The White Paper envisioned the integration of general practitioners into service delivery (RSA DOH, 1997a:16 of 128). To prevent duplication and fragmentation of services, inter-sectoral coordination and integration of substance abuse services with other health services must be observed on national, provincial as well as district levels (RSA DOH, 1997a:78 of 128) and NGOs and the community involved.

The National Health Act (Act No. 61 of 2003) spelled out the responsibilities of the National and Provincial Health Departments in fulfilling the obligations set by the Constitution (RSA DOH, 2004:2) and addressing inequity. The Act provided a comprehensive legal framework for delivery of health services in the country including the categorization of health facilities (RSA DOH, 2004:43); and establishment of district health care services and academic complexes and the regulation of private health institutions. It defines eligibility for free services at state institutions (RSA DOH, 2004:18) and introduces the implementation of a "certificate of need" to be issued before opening of new private medical practices to address

maldistribution (RSA DOH, 2004:44).

National Norms and Standards for Primary Health Care, 2000 (RSA DOH, 2000:59) were developed to set out the services that need to be delivered, leaving the “how” of implementation to the provinces and local governments (RSA DOH, 2000:6). The document states that the aim of the PHC clinic involvement in substance abuse cases is specifically to reduce substance abuse in adolescents and its consequences on morbidity and mortality caused by road traffic injuries, mental disease, STDs, HIV and domestic violence (RSA DOH, 2000:59). Primary Health Care clinics serve as an entry point into treatment, identify patients with addiction and dependency, provide basic counselling and refer patients to visiting health care professionals, refer to general hospitals for detoxification, refer to treatment centres and arrange for follow up at social workers. Mental health promotion involves collaboration with education, correctional services, labour, welfare and relevant NGOs and CBOs.

The Medicines and Related Substances Control Amendment Act (Act No. 90 of 1997) set the legal conditions for the possession, prescribing and sales of various schedules of medicines. Subsection 6(g) regulates the repeat prescription of schedule 5 drugs, ruling that when used as anxiolytic or antidepressant, a prescription for a schedule 5 drug may not be repeated for more than 6 months without consulting a psychiatrist (RSA DOH, 1997:15). Subsection 7(b) specifically prohibits sales and administration of scheduled substances or medicine for non-medicinal purposes without ministerial authorization outside an unauthorized institution. Non-medicinal purposes specifically refer to "the satisfaction or relief of a habit or craving for the substance used" in subsection 17(b) (RSA DOH, 1997:22). This has specific relevance to the use of methadone in maintenance programmes.

Note that while the responsibility for drug abuse treatment is grouped with Mental Health under the *Directorate of Mental Health and Substance Abuse*, the *Mental Health Care Act (Act No. 17 of 2002)* (RSA DOH, 2002:2) that governs psychiatric institutions, does not mention drug addiction and dependency *per se*, yet makes general provision for the voluntary (section 25:24) and involuntary commitment (section 26:26) of mentally ill patients to psychiatric institutions.

3.6.3 The Role of the Provincial Department of Health

General hospitals are governed through provincial legislation. *The Free State Hospitals Act (Act No. 13 of 1996)* regulates the admission and discharge from provincial hospitals. The

head of clinical services may prioritize admissions to a general hospital, yet access may not be denied in emergency cases (Section 14(1)) (FSP DOH, 1996:13). Medical practitioners who are not in full-time employment of the provincial administration need permission from the hospital board to make use of the facilities of the particular hospital and are subject to the rules and regulations of the institution and the instructions of the clinical head in such an instance (Section 15) (FSP DOH, 1996:15).

The Free State Provincial Health Act (Act No. 8 of 1999) (FSP DOH, 1999:2) provided for the establishment of provincial and district health authorities and the provisioning of Health Care Services in the province at primary, secondary and tertiary levels of care as well as transport of patients and the provisioning of emergency services. The Act confirms the right to access to medical care, the obligations of service providers (FSP DOH, 1999:11) and the rights of health care users (FSP DOH, 1999:9-11). The department of health is responsible for inter-sectoral collaboration, including agreements with tertiary institutions for training of staff (section 25-27) (FSP DOH, 1999:8-9).

The Provincial Health Act (Act No. 3 of 2009) among others dictated the demarcation of health districts in the Free State (FSP DOH, 2009:6) and empowered the MEC to determine the content of the package of health care provided by state facilities (FSP DOH, 2009:11). According to section 21(2) a public health facility must transfer a user to an appropriate public health facility in the event of being unable to provide the necessary treatment or care. The MEC determines the manner and terms of the referral (FSP DOH, 2009:12).

Placing addiction/dependency treatment under the Department of Social Development in essence reflects a denial of the biological underpinning of the condition. Addiction/dependency, as a subdivision of Substance Abuse, is a priority for the Department of Social Development, while within in the Department of Health, it competes with other pressing priorities. The organization further creates an inherent bias in treatment towards social intervention. Limiting the medical responsibility of Health to detoxification, binds medical intervention to short-term intervention, and short-term expectations, The Department of Health focuses on prevention campaigns, a responsibility shared with other Departments, like the Department of Education, yet there is no special arrangement for the medical treatment of addiction/dependency.

The grouping of addiction/dependency with Mental Health is stigmatizing and may limit treatment possibilities. Although there is a large overlap in psychiatric conditions and addiction/dependency, it is counterproductive to extend the stigma inherent to Psychiatric conditions to addiction/dependency cases.

3.7 TREATMENT SERVICES IN THE FREE STATE

3.7.1 Specialized Treatment Centres

Residential rehabilitation services in the Free State are limited to one registered facility, Aurora Alcohol and Drug Centre affiliated to the South African National Council on Alcoholism and Drug Dependence (SANCA). The centre strives to provide “specialized, accessible and affordable” prevention and treatment services (Aurora, 2005:2). Ethical, social and spiritual aspects are emphasized. At the time of the study, the centre employed two part-time medical doctors who oversaw detoxification of uncomplicated cases.

Table 3.10 shows that doctors are an important referral source to the inpatient centre.

	<i>2003/2004</i>	<i>2004/2005</i>
<i>Social worker</i>	107	101
<i>Employer</i>	72	95
<i>Self</i>	75	63
<i>Doctor</i>	61	58
<i>Family</i>	51	55
<i>Psychologist</i>	17	16
<i>Friend</i>	6	9
<i>Pastor</i>	21	8
<i>Court</i>	1	6
<i>CAD</i>	3	4
<i>Other</i>	5	3

(Adapted from Aurora, 2005:14)

Outpatient-based treatment is provided by the Aurora Alcohol and Drug Centre as well as two SANCA outpatient centres, situated at Sasolburg and Welkom, run by social workers providing group therapy and aftercare services. The residential facility contracts the services of two part-time general practitioners, while the outpatient facilities co-operate with the patient’s own general practitioner for medical assistance or refer to state hospitals in the vicinity. The centre in Sasolburg employs a professional nurse to administer nitric oxide and oxygen therapy. (Telephonic information: Mrs Crous, SANCA Sasolburg 10/8/2005). The centre at Welkom had no medical personnel at the time of the study (Telephonic information: J. Fouche, SANCA Welkom 10/10/2005).

3.7.2 Treatment Services Provided by Government Health Facilities

Health Care services are organized in three levels of care: The primary level consists of Primary Health Care clinics, community centres and district hospitals. The secondary level consists of 5 regional hospitals and the tertiary level is represented by the academic complex that includes Universitas hospital and the Free State Psychiatric Complex. As a local arrangement in Bloemfontein, the district hospital provides detoxification for uncomplicated alcohol withdrawal cases, while the tertiary facility provides detoxification services for persons addicted to stimulants, opiates and sedatives as well as complicated alcohol withdrawals. An outpatient service is provided as well. The Free State Psychiatric Complex provides psychiatric and psychology services and withdrawal of cannabis cases. Psychiatric clinics in rural areas are visited by Psychiatry registrars as part of an outreach programme.

3.8 ASPECTS OF GENERAL HEALTH CARE SERVICES RELEVANT TO ADDICTION/DEPENDENCY

3.8.1 The Primary Health Care Model of Health Care Delivery

The roots of the Primary Health Care paradigm of health service delivery, on which South African Health Services are being modelled, can be found in the shared disillusionment of developing countries with the “medical model” of Health Service delivery inherited from the colonial West (Macdonald, 1992:58). An alternative was created, the guiding principles of which were formally formulated and accepted as the Declaration of Alma Ata in 1978 (WHO, 1978). As such, Primary Health Care is a radical rethinking of the way in which health services need to be organized.

The three ground principles of Primary Health Care are: inter-sectoral cooperation (Macdonald, 1992:11), participation or community involvement in health (Macdonald, 1992:85, 103); and equity. Health is seen as a right, not a privilege, and governments bear the responsibility to provide the necessary social and health services to attain this (WHO, 1978:V). The existing international “medical culture” of health service delivery, reflected in a set of attitudes, policies and practices is seen as inherently unjust (Macdonald, 1992:55). The shortcomings of the medical model include that the accumulation of knowledge inherent to the medical model necessitates increasing specialization of doctors and hence increasing compartmentalization of their patients, dividing body and soul and splitting the body into many different parts. This contributes to unequal access to health care due to urban-centred hospital-based care, and unequal power of doctor and patient that excludes patients and

communities from decision-making processes. Medical professionals are said to have a narrow vision of disease causality and approach health problems as technicalities to be breeched, ignoring the major influence of factors such as poverty and poor living conditions and assuming that patients and communities can control these factors and demanding that they do so (Macdonald, 1992:68). Health in itself is not a medical, but a social goal (Macdonald, 1992:69). Primary Health Care focuses on broader approaches that promote prevention, yet are inclusive of primary medical care. Primary medical care should not be mistaken though for Primary Health Care (Macdonald, 1992:55). Primary Health Care envisions social upliftment as the vehicle to attain health through education, nutrition, provision of houses and safe water and certain medical elements such as immunization, mother and child care and essential drugs (Macdonald, 1992:68). Health Care retains some responsibility for medical care in that it “addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services.”(WHO, 1978:VII).

3.8.2 Funding of Health Care and Equity

Institutionalized discrimination against black people during the apartheid era caused massive economic inequity among South African population groups, which also manifested in unequal access to health care (Mooney & McIntyre, 2008:637). Redistribution of resource allocation thus became a major focus of policy development since 1994, both through macro-economic policy and more specifically the organization of Health Care Services. According to the National Health Accounts Project (Thomas & Muirhead *et al.*, 2000:2) initial policy changes from 1992/93 to 1997/98 led to higher per capita spending on Health Care in the public sector, redistribution of health sector funds across provinces, and the shift of resources to primary health care. From 1998/99, however, these trends were reversed due to a lack of growth and the introduction of GEAR. As provincial governments were now made responsible for spending on Health Care, per capita spending on Public Health Care heavily relies on the ability of the individual provincial health department to negotiate for allocation from the provincial budget (McIntyre, Baba & Makan, 1998:19-20; Thomas & Muirhead *et al.*, 2000:3). In 2009 (Karrim, 2009:*s.l.*), The Mail and Guardian quotes the SAHRC in reporting that the private sector spends R43 billion to service seven million people, while the public sector spends R33,2 billion on 38 million people.

3.8.2.1 Public Sector Spending on Health Care

Low-income formal sector workers, informal sector workers, the unemployed and the poor accounts for 86% of the population. This section of the population is not covered by private

health financing (McIntyre, Garshong, Mtei, Meheus, Thiede, Akazili, Ally, Aikins, Mulligan & Goudge, 2008:3/5). 64,2% is entirely dependent on the tax-funded public sector for their health care needs, while about 30% of non-scheme members pay out-of-pocket for general practitioners and retail pharmacies, relying on the public sector for hospital services (Cornell, Goudge, McIntyre & Mbatsha, 2001:i-ii).

3.8.2.2 Expenditure in the Private Sector

Nearly sixty percent of medical expenditure occurs in the private sector. More than 100 medical schemes provide the bulk of finances in the private sector, benefiting high and middle-income formal sector workers, less than 14% of the population (McIntyre *et al.*, 2008:3 of 5). Enormous escalation of costs, fewer contributors and a fragmented pooling of resources and risks defines the financial realities of the private sector. Medical scheme members also contribute the bulk of out-of-pocket payments for services that are limited or not covered by their benefit package.

3.8.2.3 The Gap in Health Care Professional Distribution

A further source of inequity is the growing gap in distribution of professionals among the public and private sectors. Van Rensburg and Van Rensburg (1999 in Cornell, Goudge, McIntyre & Mbatsha (2001:10) reported that 72,6% of general practitioners and 75,2% of specialists were active in the private sector during 1999. In 2008 McIntyre *et al.* (2008:3 of 5) reflected the disparities in distribution of health care professionals between the two sectors as 1 specialist per 470 people in the private sector, compared to 1 specialist per 10 800 people in the public sector. The corresponding figures for general doctors are: 1 per 590 people in the private sector and 1 per 4 200 in the public sector.

3.8.3 South Africa and the Millenium Development Goals

The acceptance of the United Nations Millenium Declaration in 2000, bound South Africa to a global commitment to address the gap between rich and poor through the pursuit of certain time-defined targets called the Millenium Development Goals (MDGs). The eight goals are to be reached by 2015 (See Table 3.11). Miranda and Patel (2005:0962) questioned the omission of the improvement of mental health as an explicit goal in the MDGs, yet pointed out the crucial role that mental health plays as an underlying cause of several of the major goals.

Table 3.11 The Millenium Development Goals

Goal 1: Eradicate Extreme Hunger and Poverty
Goal 2: Achieve Universal Primary Education
Goal 3: Promote Gender Equality and Empower Women
Goal 4: Reduce Child Mortality
Goal 5: Improve Maternal Health
Goal 6: Combat HIV/AIDS, Malaria and Other Diseases
Goal 7: Ensure Environmental Sustainability
Goal 8: Develop A Global Partnership for Development

(UN Millenium Project, 2006: 1 of 1)

Though South Africa shows variable progress in attaining the MDGs (SARPN: 2007:1/1), there are some serious concerns regarding the quality of Health Care. The South African Human Rights Commission (SAHRC) launched its report “Public Inquiry: Access to Health Care Services” on 16 April 2009 in Johannesburg (Karrim, 2009, *s.l.*). The report reflected the results of visits to 100 facilities across the country, concluding that access to health care was severely hampered by poverty, under-resourced and understaffed facilities especially for patients requiring mental health care services (SAHRC, 2009:50) and poor attitude of staff (SAHRC, 2009:45).

3.9 SUMMARY AND KEY REFERENCES

1. Alcohol addiction/dependence is very common in South Africa and, by virtue of its acute and chronic effects, contributes significantly to mortality, the burden of disease, crime and socio-economic suffering in South Africa (DoH *et al.*, 2002; Norman *et al.*, 2007)
2. Drug addiction is escalating in South Africa and contributes to trauma and crime on various levels (Peden *et al.*, 2001).
3. Specialized treatment centres are subject to legislation and policies of the Department of Social Development (RSA DSD, 2009).
4. A NGO provides withdrawal and rehabilitation services at 3 specialized treatment centres in the province, one of which has in-patient facilities. Private general medical practitioners is an important referral source to this centre (Aurora, 2005).
5. State health care services are subject to the implementation of a Primary Health Care model. Primary medical care is accessed at a Primary Health Care clinic or community centre and referral takes place progressively from level one to three, depending on the scope of practice and services available at a particular institution (RSA DOH, 1997; RSA DOH, 2000; FSP DOH, 1999).

6. For state patients, in-patient treatment (including for alcohol and drug-related reasons) is managed in general hospitals, under legislation of the Provincial Department of Health. Psychiatric in-patients are managed under legislation of the National Department of Health (FSP DOH, 1999; FSP DOH, 2009; FSP DOH, 1996; RSA DOH, 2002).
7. Inequity in resource allocation and maldistribution of medical professionals between the private and state sectors frustrate the goals of Primary Health Care (Mooney & McIntyre, 2008).
8. The South African government has committed itself to the Millenium Development Goals aimed at reducing poverty and improving the health of its citizens (UN Millenium Project, 2006).

CHAPTER 4

METHODOLOGY

4.1 INTRODUCTION

In order to construct a comprehensive description of the current situation in the Free State regarding the treatment of persons suffering from addiction/dependency, a variety of methods were used to capture the viewpoints of a range of professionals who could reasonably expect to be confronted by help-seeking individuals for such treatment.

4.2 RESEARCH DESIGN

The study follows an empirical research design. A multi-leveled descriptive study, this study is *ex post facto*, assuming that the situation that is described is the ultimate product of the existing conditions, in other words as the result of an “experiment in nature” (Leedy & Ormrod, 2005:232). The study field is seen as a complex environment situated in the interface between the addicted patient and the therapeutic environment. This environment is viewed from the perspective of the prescribing medical practitioner, whose attitude, perceptions and practice is shaped by the multiple experienced interactions with addicted patients, the macro environment (scientific, legal, policy and economic factors) and micro environment (local health service and individual patient factors) (*cf.* Chapter 1). A mixed method was used with both qualitative and quantitative elements. The combination of research methods strives to give an enriched perspective of the situation.

4.3 QUANTITATIVE METHOD

Aspects that can be generalized, such as the demographics of the study population, training of respondents, availability of facilities, support networks and involvement and utilization of pharmacotherapy in the treatment of these patients were measured by quantitative methods.

4.4 QUALITATIVE METHOD

A phenomenological perspective was selected to portray the complexities of geographically contextualized therapeutic environments. Aspects assessed in this manner include the respondents’ view of their own individual roles, the role that pharmacotherapy plays, standard *modus operandus* of managing private and state patients, access to and utilization of support structures, facilities and medication.

As a descriptive study, qualitative research methods were used to reconstruct the most common experience through the subjective views and self-reported practices of primary medical contacts and referral level contacts. Qualitative elements are used to enhance description.

4.5 POPULATION

The study population consists of health care workers and allied professionals providing treatment services for addicted persons in individual capacity or employed by an institution in the Free State. The primary focus is on professionals prescribing pharmacotherapy, i.e. private general medical practitioners, private psychiatrists, medical officers and consultants at government hospitals and medical personnel at specialized treatment centres. A small number of non-prescribing professionals that are closely involved in treatment services were included for triangulation purposes.

4.5.1 Description of Study Environments

Three types of study environments are distinguished in each of the three health complexes of the province, namely regional environments, district environments and basic environments.

A regional environment is defined as the area within a 20km radius of a town with a regional state hospital and is represented by representatives of the regional hospital and all government hospitals as well as the private general medical practitioners, private psychiatrists and therapists within that area. It also includes specialized treatment centres for addicted persons that are intended to service that particular region. There are a total of five regional environments in the province.

A district environment is defined as the area within a radius of 20km of a town with a district state hospital (outside a regional environment) and is represented by a representative of the district hospital and all private general medical practitioners, private psychiatrists and psychologists within that area. Twenty district environments were identified across the province.

A basic environment is represented by the private general medical practitioners within a particular town, by definition outside a radius of 20km from a town with a regional or district hospital. A total of 38 such environments were identified.

The selection process took place in three phases: the selection of study environments was followed by the selection of individual respondents and finally a non-prescribers panel was selected from nominations (See Figure 4.1).

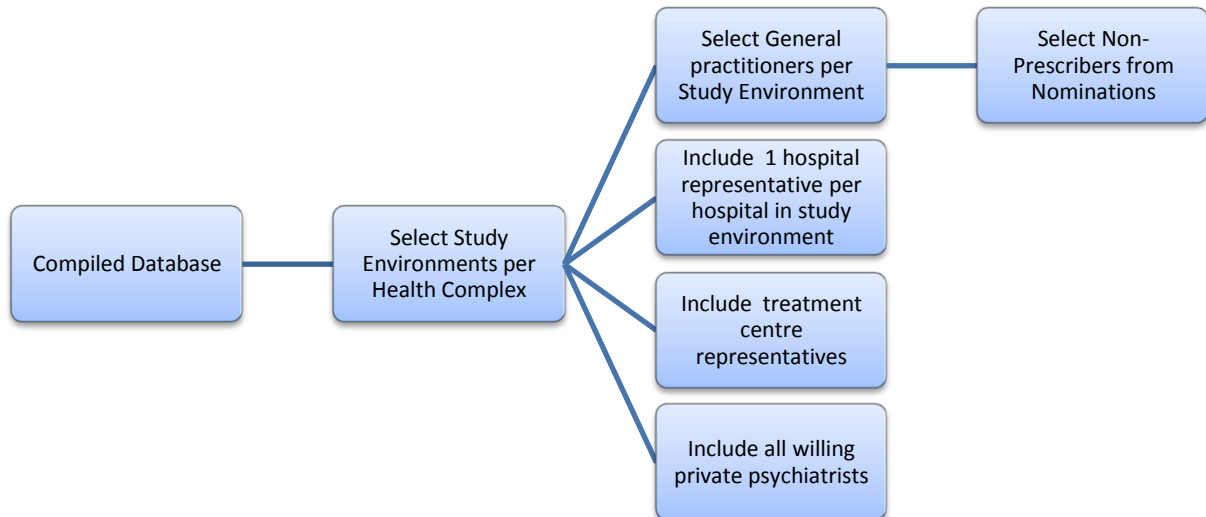


Figure 4.1: Selection Process

4.5.2 Selection of Study Environments

Stratified sampling was performed in order to obtain comparable groups across the three health complexes. A random selection of study environments was done in the following manner: Information regarding the regions and facilities was obtained from the website of the provincial government (<<http://www.fshealth.gov.za>>) as well as the Provincial Head Office. A list of towns was compiled and divided according to the pre-defined study environments (regional, district and basic) within each health complex. The names of the towns were arranged alphabetically within the respective category and numbered (See Appendix A). Figure 4.2 reflects the results of the initial selection process.



Figure 4.2: Results of Initial Selection of Study Environments

4.5.3 Selection of Individual Private General Medical Practitioner Respondents

A database containing all the names of private general medical practitioners that identified themselves as such was compiled from the Telkom telephone directory 2004/5. The names of potential respondents were arranged alphabetically within the respective category and numbered. A random selection was made using Table A.4 page 282 and 283 of Fleiss JL. *Statistical Methods for Rates and Proportions* (1981:282-283). Ten private general medical practitioners per regional environment, up to 5 private general medical practitioners per district environment and up to 5 private general medical practitioners per basic environment were selected.

Three private general medical practitioners from the Bloemfontein area were randomly selected from the remaining list after the initial selection to participate in the pilot study.

4.5.4 Selection of Private Psychiatrists

All psychiatrists indicated as such in the Telkom telephone directory for 2004-2005 were included in the final selection map. One psychiatrist who opened a practice recently was added after being recommended by fellow psychiatrists.

4.5.5 Selection of Representatives of State Hospitals and Private Treatment Centres

The relevant facilities from the various selected towns were also included. The individual respondents from these facilities were selected according to the following guideline: where a specific professional nurse/medical officer/consultant was designated for treating substance addiction and dependency cases in a regional or district hospital, such an individual was requested to participate in the study. If such a person did not exist, one medical officer was

selected on the recommendation of the Head of Clinical Services of that institution, from the Family Medicine or Internal Medicine disciplines (whichever department is responsible for such cases in the particular hospital) in regional and district hospitals. The Head of Clinical Services were not informed regarding the specific content of the questionnaire or interview. All medical staff-members with decision-making function regarding pharmacotherapy in the respective specialized treatment centres within the selected areas were included.

4.5.6 Selection of a Non-prescribers Panel

Convenience sampling was used to include non-prescribing respondents on the grounds that they could provide an additional view-point on the rendering of services. Individuals from the selected towns who were associated with institutions where actual treatment does take place, as well as individuals from these towns that were spontaneously nominated by other respondents to be significant role players, were listed. A selection was done from this list according to the significance of the role played by the particular individual in the treatment of drug and alcohol addiction and dependency. The panel consisted of eleven psychologists and two social workers.*

4.5.7 Validity of Selection Process

The telephone directory was used to recruit private general medical practitioner respondents in order to mimic a real-life search for help. Respondents from various groups were used to enable triangulation of results: A representative sample of private general medical practitioners across the province was selected; all psychiatrists were included as a private general medical practitioner may refer to any one of them and they represented a small enough group; and a convenience sampling of hospital representatives in the studied areas, treatment centres and psychologists was done as they represent a concentration of downstream referral experiences.

*Some may regard the study population as skewed, under-representing social workers and psychologists. Social workers and psychologists have varied practices, they do not necessarily deal with substance abuse cases: The participants in this group were selected from a list of nominations by general practitioners and on the grounds of their involvement in treatment at hospitals and treatment centres: in other words the individuals to whom general practitioners refer. They do not prescribe so do not influence the use of pharmacotherapy directly, yet their attitude towards pharmacotherapy may have an indirect influence.

4.6 EXCLUSION AND REPLACEMENT OF RESPONDENTS

Respondents were excluded and replaced in the following instances:

4.6.1 Decline Invitation

If a randomly selected participant indicated that he/she did not want to participate in the study. A replacement was selected as follows:

- If the person recommended an alternative participant from his own practice, such a person was used, provided that that person's name does not appear on the original name list.
- If there was no such nomination, a replacement was drawn by random selection from the remainder of the original list.

4.6.2 Non-compliance with Appointment Schedule

In the case where a participant was unable to comply with the appointment schedule after three efforts, a replacement was drawn by random selection from the remainder of the original list.

4.6.3 No Longer Practicing

Where selected respondents were no longer practicing or had left a town, the following procedure was followed:

- If the person's practice had been taken over by another practitioner, such a practitioner was seen as the replacement.
- If the practice had been closed down and was the only existing practice in the particular town, an alternative town was selected.

4.6.4 Not Contactable by Phone

Where a selected participant could not be contacted by phone, the telephone number was confirmed with the enquiry service of Telkom at 1023. If the phone number was correct, an alternative participant was selected.

4.7 DATA COLLECTION INSTRUMENTS

4.7.1 Questionnaire (Appendix B)

A questionnaire was developed, consisting of two parts. Items were selected to gather participants' opinions on the role of pharmacotherapy, determine their access to other services as well as their own accessibility, especially for relapsed patients, an overview of problems that they experience and solutions that they propose. The general part of the questionnaire contained demographic details, availability of facilities and services, personal

role and interaction with other therapists, perceived risk, and exposure, confidence in dealing with substance addiction and dependency cases, attitudes and perceptions. The second part of the questionnaire is aimed at individuals directly involved in decision-making regarding pharmacotherapy and assessed the utilization of pharmacologic interventions for various psychoactive substances. Questionnaires were available in Afrikaans and English.

Validity of the Questionnaire

The questionnaire was discussed with the study leaders and biostatistician before use. Inputs were also made by the Evaluation Committee. Respondents were promised anonymity to prevent them from withholding information and could not gain anything from giving false information. They were also not influenced to provide so-called “correct” answers or briefed on expected outcomes. In order to promote a positive attitude by the respondents towards the research process, care was taken to respect the time-schedules of respondents in advance booking and allowing enough time between interviews. The interview was tested during the pilot study.

Reliability of Questionnaire

All the questionnaires were filled in by the researcher during the appointment. The same questions were asked to all respondents and clarification of questions was done in a consistent manner throughout the study. To prevent the discussion during interviews from influencing the answers on the questionnaire, the questionnaires were always completed before the interview. The questionnaire was tested in the pilot study. (*cf.* 4.9)

4.7.2 Structured Interview (Appendix C)

The structured interview followed the completion of the questionnaire and was conducted in either Afrikaans or English according to the respondent’s preference. It focused on issues such as the role of the participant in treatment of substance addiction and dependency cases, respondents’ views on the role of pharmacotherapy, involvement in state patients *vs.* private patients, views on access to treatment, cost of treatment, expectations and measuring of success as well as the participant’s recommendations regarding the improvement of service delivery. The interview was recorded using a micro recorder. Audio tapes were marked with the date and name of the town where the first interview on that particular tape was recorded.

Validity of the Interview

Care was taken to respect the time-schedules of respondents. The interviewer adopted a friendly, collegial approach to respondents. No indication was given of preferred answers. Responses were often rephrased and confirmed during the interview to clarify understanding.

Reliability of Interview

The interview was structured and questions were discussed with the study leaders beforehand. It was tested during the pilot study. Standard neutral qualifiers were used to facilitate participation where clarification was needed.

4.8 PROCEDURE

Selected individuals were contacted by phone. After explaining the purpose of the proposed meeting, an appointment was scheduled for completing the questionnaire if the person agreed to participate in the study. In cases where practitioners said that they did not think that their participation would be useful due to low exposure, it was explained to them that their participation would still be appreciated as this was not a reason for exclusion. In cases where they still did not want to participate, a substitution process was followed to fill the space. Selected respondents were also excluded in cases where there was no answer to telephone calls at three different occasions on three different days during normal working hours. In the case of Qwa Qwa, there were eventually not enough substitutes available.

Appointments in a particular town were grouped together to facilitate logistics. The individual respondents were visited on the booked appointment dates, written informed consent obtained (Appendix D), the questionnaire completed and the structured interview recorded. Short notes were kept during the completion of the questionnaire and interview.

4.9 PILOT STUDY

A pilot study was conducted using 3 randomly selected respondents from Bloemfontein not included in the sample. The pilot study served to determine practical aspects of the questionnaire and interview. Following the completion of the pilot study, the following changes were implemented:

- The aims and objectives were reformulated and described in detail.
- The questionnaire was reorganized according to the reformulated aims and objectives.
- With regard to content, a question on whether the participant wanted to become more involved in the treatment of these patients was added.

4.10 ETHICAL CONSIDERATIONS

The research proposal was approved by the Ethics Committee of the Faculty of Health Sciences of the University of the Free State and was granted the ETOVS number 38/06.

Written permission was obtained from the relevant hospital managements and Human Resources of the Department of Health to conduct the study. Individual respondents signed informed consent. (Appendix D)

Confidentiality was maintained throughout the process. The data typist was not informed regarding the identity of the various participants and was informed regarding the need for confidentiality. Names of individuals and places are not reflected in the final report.

4.11 PROTOCOL TRANSGRESSIONS

The selection of Fauresmith was a protocol transgression, as the town is situated within the 20 km cut-off point from the nearest district hospital. The data obtained from this interview was excluded and Jacobsdal was selected as a substitute.

One interview (NRSM32) was only partially recorded due to a failure of the recording equipment. Efforts to set up a follow-up meeting with the respondent failed. The data was included together with the completed questionnaire and the cryptic notes that were kept during the interview.

4.12 DATA ANALYSIS

4.12.1 Quantitative Data

The contents of the filled questionnaires were coded. The Department of Biostatistics was involved in the analysis of the coded quantitative data. Results were summarized by frequencies and percentages (categorical variables) and means, standard deviations and percentiles (numerical variables). Appendix E reflects how the questions of the questionnaire were reflected in the Results.

4.12.2 Qualitative Data

NVIVO8 (QSR, 2008), a software computer programme for the management of qualitative data through coding and retrieval was used to construct a database. The transcriptions of the recorded structured interviews were loaded as individual files into the programme. Field notes of observations and additional remarks made by the respondents during the completion of the questionnaires were linked to the corresponding files. Attributes of the individual respondents were included in a casebook constructed in the programme.

According to the method described by Miles and Huberman (1994:12), data collection was followed by data reduction and data display before constructing conclusions. The transcribed interviews underwent several rounds of data reduction, followed by coding and

categorization. Due to the fact that the interviews were structured, the answers to particular questions could be grouped as nodes (a node being the total of all responses grouped under a certain code). Text queries were used to auto-code for certain prominent references, e.g. the programme could search the database for a word like multi-professional and present the particular paragraphs where the word was mentioned by various respondents; the results were then reflected as a node. Where a higher degree of judgment was required, coding was done *in vivo* per file, e.g. every file was read, checked for remarks reflecting a particularly stern reaction to relapsed patients and coded individually. The contents of nodes were sub-divided into emerging responses, grouped and progressively reduced to form a compact overview of responses. Descriptive headings of categories were added. Short narratives were used to reflect the broad range of views of the respondents. Direct quotes were included where it was felt that transcription might damage or obscure true intent. Interviews in Afrikaans were translated in English. In order to appreciate the context of comments made by respondents all direct quotes from dialogue are referenced with a four-letter code.

The first letter indicates region: North (N), South(S), and East (E). The second letter indicates study environment: Regional (R), District (D), and Basic (B). The third letter indicates employment: Private (P), State (S), Dual (D), or Treatment Centre (B). The fourth letter indicates profession: Private general medical practitioner (G), Medical officer or consultant (M), Psychiatrist (P), Psychologist (S), Social worker (W) or Professional nurse (V).

The code is followed by an individual file number.

Names of persons and places were replaced with xxxxxx or yyyyyy.

Additional comments that were made by respondents during filling of the questionnaire were written down and included in case memos, which were included in the NVIVO8 database. These responses (e.g. unusual medication used in regimens), were fed into the NVIVO8 programme and then categorized.

Pie graphs and bar graphs were generated by the NVIVO8 programme based on the attributes of individual cases fed into the casebook. Two separate projects with separate casebooks were opened, one containing the information of the whole study population and the other containing the duplicated information of the private general medical practitioner population. This was done to facilitate the generation of pie graphs reflecting percentages.

CHAPTER 5

RESULTS

5.1 POPULATION IN CONTEXT

5.1.1 General Description of Study Population

The Free State province is divided into three Health Complexes for service delivery purposes, the Northern Health Complex (North), Eastern Health Complex (East) and the Southern Health Complex (South). The study population was categorized according to these existing boundaries.

The Southern Health Complex has only one regional environment, situated in an urban environment, while the rest of the region consists of small towns. The Northern and Eastern Health Complexes consisted of two regional environments each. The Northern Health Complex includes two regional environments, one a mining town, the other mainly an agricultural centre. The Eastern region consists of two contrasting regional environments, an agricultural centre and a town that was previously the capital of a homeland, currently the academic and commercial centre of a spread-out rural community. The respective contributions of the various complexes depended on the selection scheme (*cf.* 4.5.2).

Two levels of prescribers were distinguished. The main group consisted of private general medical practitioners selected according to a set selection scheme to represent the first contact level. They were divided according to the region that they belong to according to the referral policy of the province. The referral level consisted of all the private psychiatrists (PP) who were willing to participate, all prescribing health care practitioners from treatment centres (TC) willing to participate and medical officers/consultants (SH), each representing a state hospital.

Thirteen non-prescribing therapists, nominated by other respondents on the grounds of their participation in the treatment of addicted persons, were included for triangulation purposes.

5.1.2 Geographical Representation of Respondents

Figure 5.1 shows that the Eastern Health Complex contributed a smaller number of respondents. This is because not all places intended for private general medical practitioners in the second regional environment of the Eastern Health Complex could be filled due to lack of voluntary respondents in a relatively smaller pool.

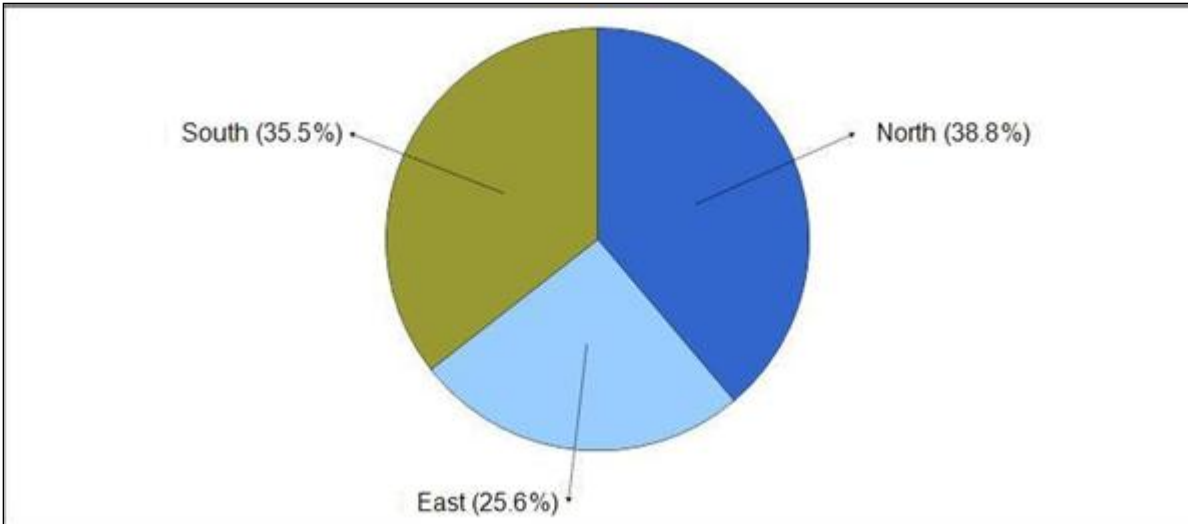


Figure 5.1: Representation per Health Complex (n=121)

In order to ensure that respondents from various types of environments were included, selection was also based on their proximity to government hospitals. The geographical representations are thus a direct result of the selection process.

Figure 5.2 shows that the majority of respondents were from a regional environment within a radius of 20 km from a regional hospital, 20,7% within 20 km from a district hospital and 10,7% outside this radius from a government hospital.

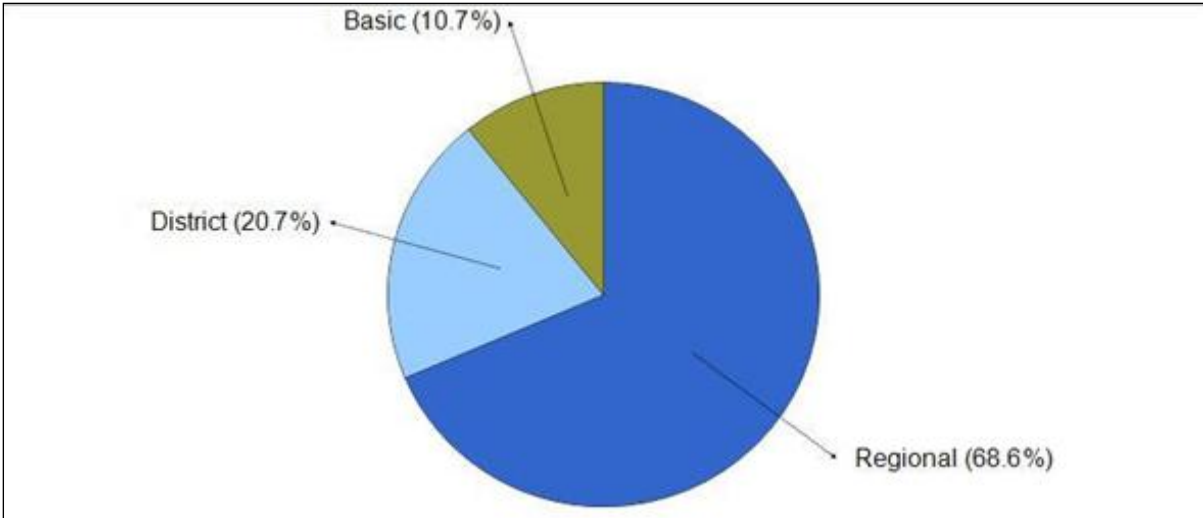


Figure 5.2: Geographical Distribution of Respondents per Defined Study Environment (n=121)

5.1.3 Representation of Professions

Figure 5.3 reveals the relative contributions of the various professional groups to the study population. Note that these groups were selected in different ways as stipulated in Chapter 4.

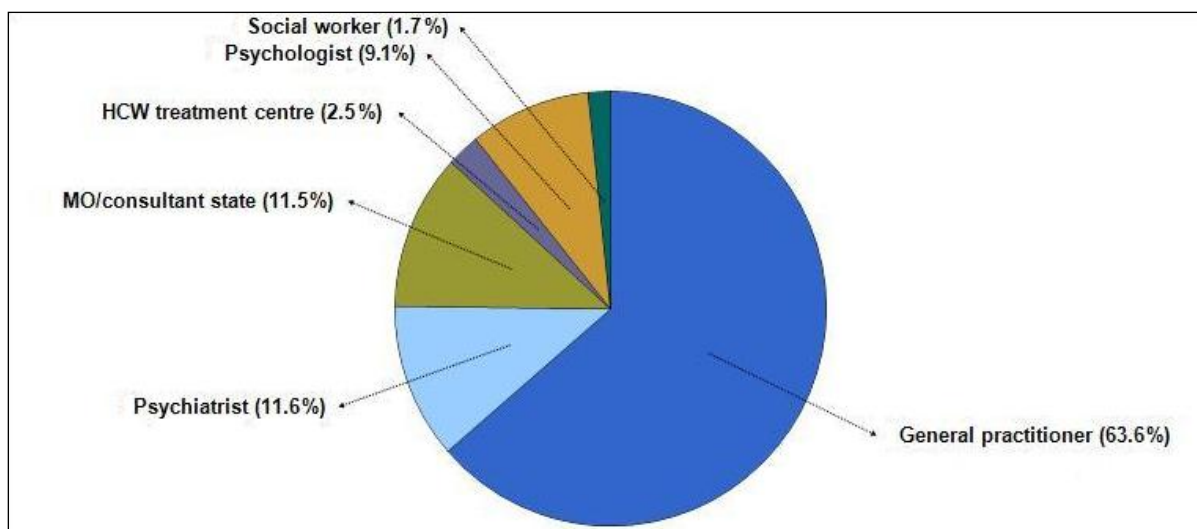


Figure 5.3: Representation of Professions (n=121)

Table 5.1 shows the higher concentration of facilities and services in regional environments. District and basic environments differ only with regard to the proximity of a state hospital.

	<i>Total</i>	<i>Regional</i>	<i>District</i>	<i>Basic</i>
<i>Prescribers</i>	108 (100%)	73 (67,6%)	22 (20,4%)	13 (12,0%)
Private general medical practitioners	77 (100%)	47 (61,0%)	17 (22,1%)	13 (16,9%)
State Medical officers/consultants	17 (100%)	12 (70,6%)	5 (29,4%)	0 (0%)
Private psychiatrists	11 (100%)	11 (100%)	0 (0%)	0 (0%)
Treatment Centre Medical Staff	3 (100%)	3 (100%)	0 (0%)	0 (0%)
<i>Non-prescribers</i>	13 (100%)	13 (100%)	0 (0%)	0 (0%)
Social workers	2 (100%)	2 (100%)	0 (0%)	0 (0%)
Independent psychologists	5 (100%)	5 (100%)	0 (0%)	0 (0%)
Psychologists at institutions	6 (100%)	6 (100%)	0 (0%)	0 (0%)

5.1.3.1 Comments on Distribution of Services

There is a visible loss of private general medical practitioners in rural areas. In many cases, persons listed in the database no longer practiced and in several basic environments (especially in the Southern Health Complex) doctors delivered services in up to three towns.

“We are currently stuck in South Africa in the Eastern Free State for instance from Zastron to Fouriesburg, I am talking about border towns. There are 11 practicing white private general

medical practitioners and in 1999 there were 32. So we have an immense shortage of private general medical practitioners like me with experience. I think many medical doctors leave the country. I think there are not enough incentives created for these guys to stay in our own country and to help with the problem.”(Transl. SDDG36)

“ ...in the rural areas we have a severe crisis with regard to doctors. Especially in the Southern Free State we had an immense decrease in doctors and to give an example ...in 1998.. at that stage there were 34 doctors from Ficksburg in the North to Zastron in the South; at this stage there are only 14 doctors left and many state clinics do not even have doctors. Hobhouse, I know are struggling; they have a doctor about once a month. Wepener now after nearly 2 years of absence of a doctor: got one for three weeks in the clinic. Zastron has a huge crisis with a doctor there: the doctor is only there for one hour and then he is gone. And so we can continue. At sister’s level there is reasonable availability of personnel and the additional services, social workers, occupational therapists; that type of thing needs to be addressed seriously. Psychologists, here we have our psychologists that do come to the clinic about once a month.”(Transl. SBPG33)

Table 5.2 shows that the Southern Health Complex had a relatively high concentration of psychiatrists and treatment environments: here referring to outpatient or inpatient facilities where services to addicted persons are available. The table also reveals that the Northern Health Complex had one private psychiatrist, while there were no psychiatrists in full-time private practice in the Eastern Health Complex.

	<i>Total</i>	<i>North</i>	<i>East</i>	<i>South</i>
<i>Prescribers</i>	108 (100%)	39 (36,1%)	31 (28,7%)	38 (35,2%)
Private general medical practitioners	77 (100%)	32 (41,6%)	25 (32,5%)	20 (26,0%)
State Medical officers/consultants	17 (100%)	5 (29,4%)	6 (35,3%)	6 (35,3%)
Private psychiatrists	11 (100%)	1 (9,1%)	0 (0%)	10 (90,9%)
Treatment Centre Medical Staff	3 (100%)	1 (33,3%)	0 (0%)	2 (66,7%)
<i>Non-prescribers</i>	13 (100%)	7 (53,8%)	1 (7,7%)	5 (38,5%)
Social workers	2 (100%)	2 (100%)	0 (0%)	0 (0%)
Independent psychologists	5 (100%)	4 (80,0%)	1 (20,0%)	0 (0%)
Psychologists at institutions	6 (100%)	1 (16,7%)	0 (0%)	5 (83,3%)

5.1.4 Employment Status of Respondents

Figure 5.4 shows that by far the largest proportion of respondents in this study were from the private sector.

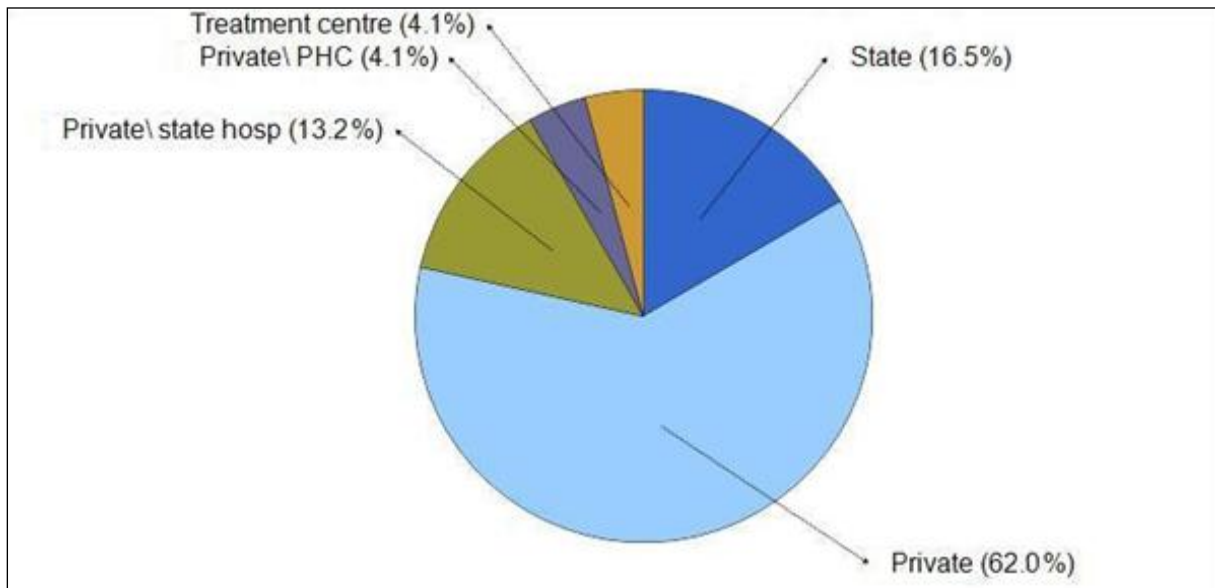


Figure 5.4 Employment Status of Respondents (n=121)

Figure 5.5 shows that about a quarter of private general medical practitioners also had appointments at state hospitals or clinics in relevant departments. Appointments included as relevant are sessions in Casualty department or general sessions at a hospital, sessions at a Primary Health Care clinic or psychiatric clinic. Excluded were sessions in surgical disciplines, forensic medicine and prison appointments. Note that private general medical practitioners working at a treatment centre, or psychiatrists working in hospitals have been categorized according to their place of work and not their occupation because they represent a different level of care.

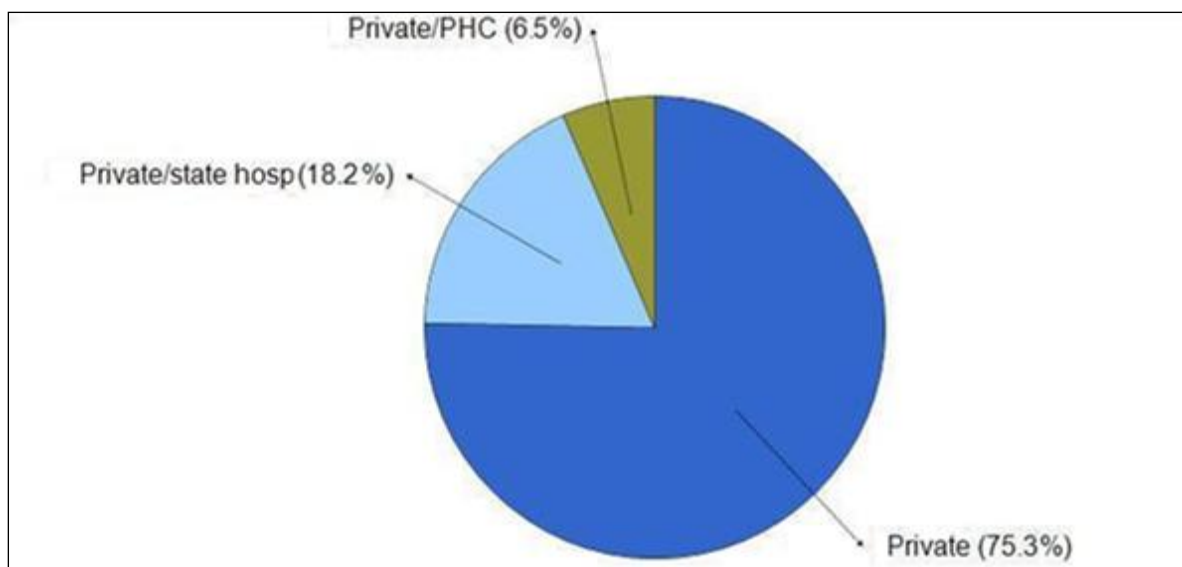


Figure 5.5: Employment Status of Private General Medical Practitioners (n=77)

Table 5.3 shows that a lower percentage of private practitioners in the Northern Health Complex had hospital appointments compared to the other regions, yet more were involved at state clinics.

<i>Employment</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Private only	26 (81,3%)	19 (76,0%)	15 (75,0%)
Private and PHC clinic	4 (12,5%)	1 (4,0%)	1 (5,0%)
Private and relevant hospital department	2 (6,3%)	5 (20,0%)	4 (20,0%)

A general practitioner described the consequences of him not having an appointment at a state hospital for a patient without medical scheme funding as follows: "...because I do not have an appointment at a state hospital, I cannot manage that patient there. Even if I wanted to, I cannot manage him there, because then he gets an account from the state hospital as if he is a private patient. So I am blocked. There is no advantage and there is no other facility where I can admit the patient in xxxxxx."(Transl. NRPG01)

5.1.5 Age and Experience

Figures 5.6 and 5.7 show a deficit of young private general medical practitioners, with a gap developing in the 26-35 year old and 31-35 year old age groups and experience groups of 6-10 years and 11-15 years. This may be a reflection of the increased loss of doctors due to emigration. Private general medical practitioners in the 70-85 year old group were mainly practicing in small towns.

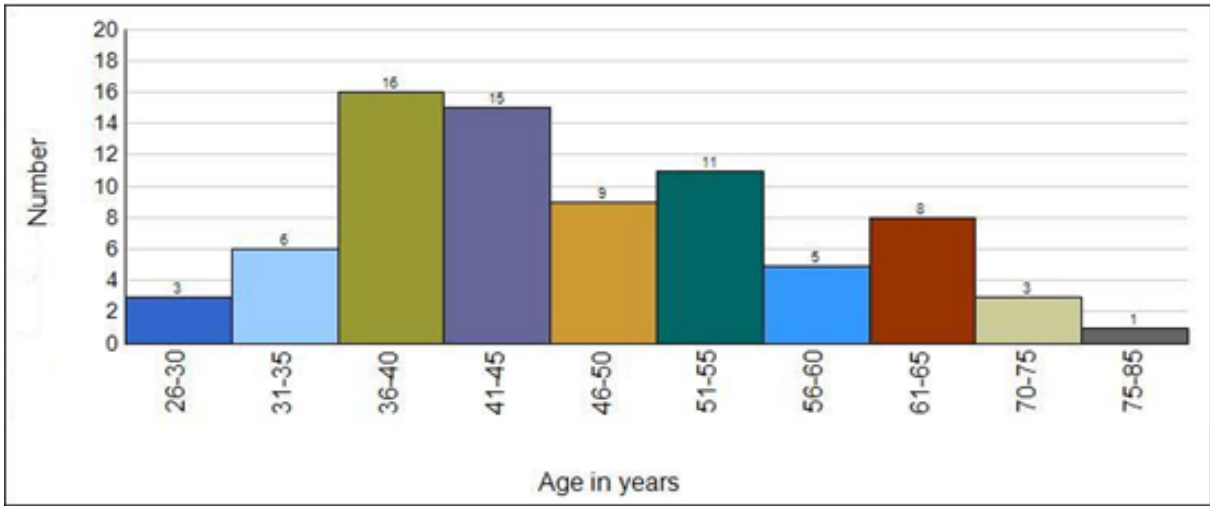


Figure 5.6: Distribution of Private General Medical Practitioners by Age (n=77)

Note that since the *Medical, Dental and Supplementary Health Service Professions Amendment Act, No. 89 of 1997* came into effect in January 1998 newly qualified private general medical practitioners may only register as medical practitioners after completing one year of community service, that follows a one year internship (Reid & Conco, 1999:1). The database was constructed from a 2005 source and some of the interviews took place in 2007. This means that there were no additions to the general practitioner pool of this study population during the three years preceding 2005.

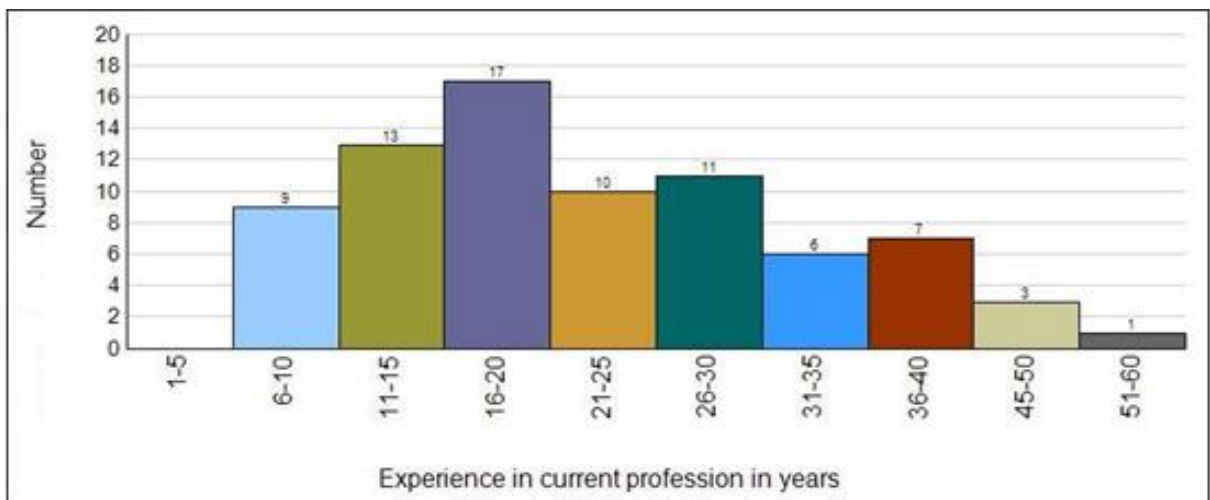


Figure 5.7: Distribution of Private General Medical Practitioners by Experience in Years (n=77)

Table 5.4A shows that the mean age and experience of private general medical practitioners in the Northern Health complex was considerably more than those of the private general medical practitioners in the other areas. The Southern Health Complex had the youngest population. A possible explanation is that young private general medical practitioners prefer

to work in the city. New rural practices are not established, and/or existing ones not transferred when private general medical practitioners retire or leave.

Table 5.4A: Mean Experience and Age of Private General Medical Practitioners per Health Complex

<i>Health Complex</i>	<i>Mean Experience (Range in years)</i>	<i>Mean Age (Range in years)</i>
North (n=32)	27 (7-60)	52 (30-85)
East (n=25)	20 (6-48)	45 (29-73)
South (n=20)	16 (6-31)	41 (31-55)

There was a relatively low mean experience in state hospital representatives (Table 5.4B) compared to private general medical practitioners (Table 5.4A). Pre-specialization experience of private psychiatrists were not taken into account (Table 5.4B).

Table 5.4B: Mean Experience and Age of Practitioners by Level of Referral

<i>Group</i>	<i>Mean Experience (Range in years)</i>	<i>Mean Age (Range in years)</i>
Treatment Centres (n=3)	30,7 (24-38)	53,6 (49-58)
Private Psychiatrists(n=11)	9,1 (4-15)	43,1 (35-62)
State Hospitals (n=17)	12,8 (2-27)	40,8 (26-63)

5.1.6 Gender

Figure 5.8 shows the gender of the total study population in comparison with the gender distribution of private general practitioner respondents.

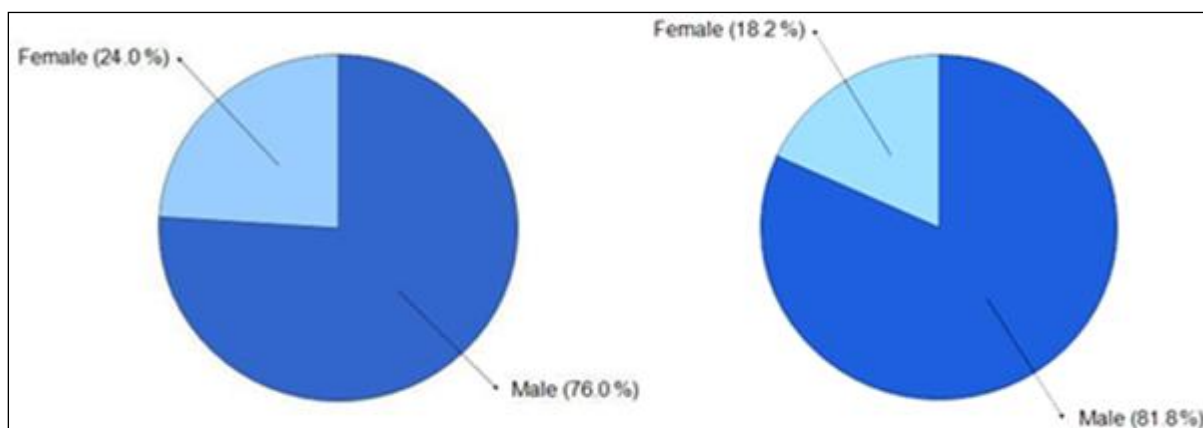


Figure 5.8: Gender of Total Study Population (n=121) (left) and Gender of Private General Medical Practitioners (n=77) (right)

Female private general medical practitioners were less represented in the Northern and Eastern Health Complexes compared to the Southern Health Complex (Table 5.5). Female representation in the South was similar to representation among private psychiatrists and state hospital representatives (Table 5.5B). This may reflect a preference of female doctors for urban environments, specialization and working in hospital settings (Table 5.5B). They were also less represented at the general practitioner population than in the overall population of the study, as can be seen in Figure 5.8.

Table 5.5A: Gender of Private General Medical Practitioners per Health Complex		
<i>Health Complex</i>	<i>Male</i>	<i>Female</i>
North (n=32)	28 (87,5%)	4 (12,5%)
East (n=25)	21 (84,0%)	4 (16,0%)
South (n=20)	14 (70,0%)	6 (30,0%)

Table 5.5B: Gender of Practitioners by Referral Level		
<i>Referral level group</i>	<i>Male</i>	<i>Female</i>
Treatment Centres (n=3)	2 (66,7%)	1 (33,3%)
Private Psychiatrists (n=11)	7 (63,6%)	4 (36,4%)
State Hospitals (n=17)	12 (70,6%)	5 (29,4%)

5.2 TRAINING IN MANAGING SUBSTANCE ADDICTION/DEPENDENCY

Nearly two thirds of private general medical practitioners had pregraduate training in managing substance addiction and dependency cases (Figure 5.9): mostly in Family Medicine and Psychiatry according to individual reports.

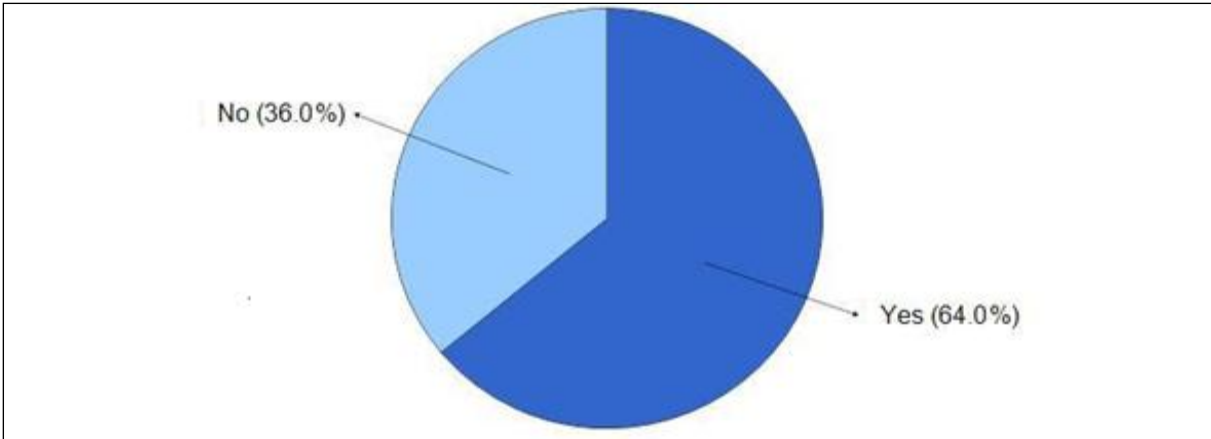


Figure 5.9: Pregraduate Training in Managing Substance Addiction/Dependency among Private General Medical Practitioners (n=77)

Figure 5.10 shows that half of the private general medical practitioners received their primary medical degree from the University of the Free State. The relatively large proportion graduating from the University of Pretoria, represented an older generation of private general medical practitioners (See Table 5.4A), mainly from the Northern Health Complex, who graduated before the University of the Free State existed.

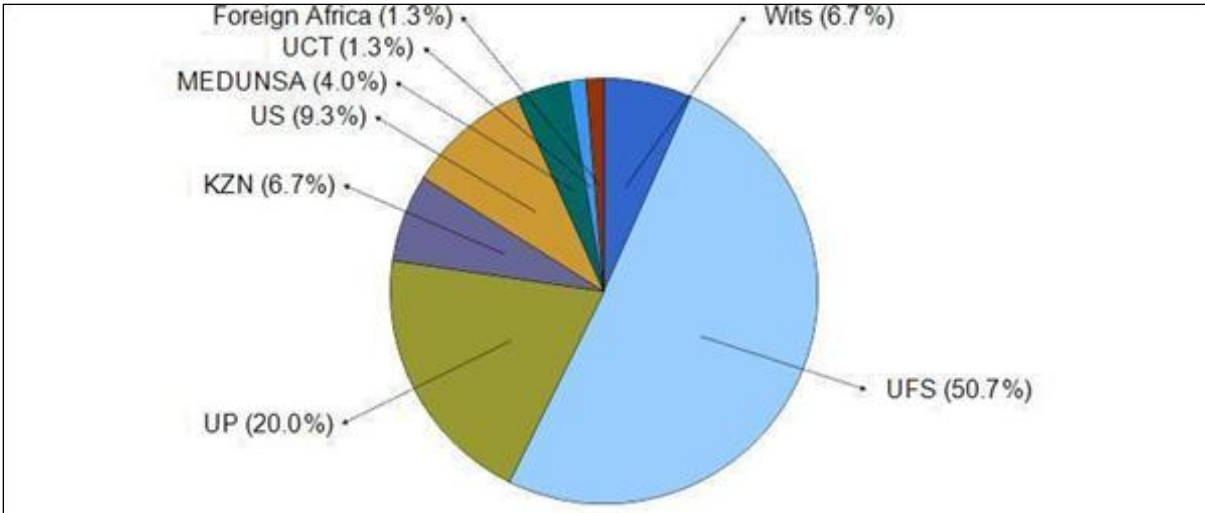
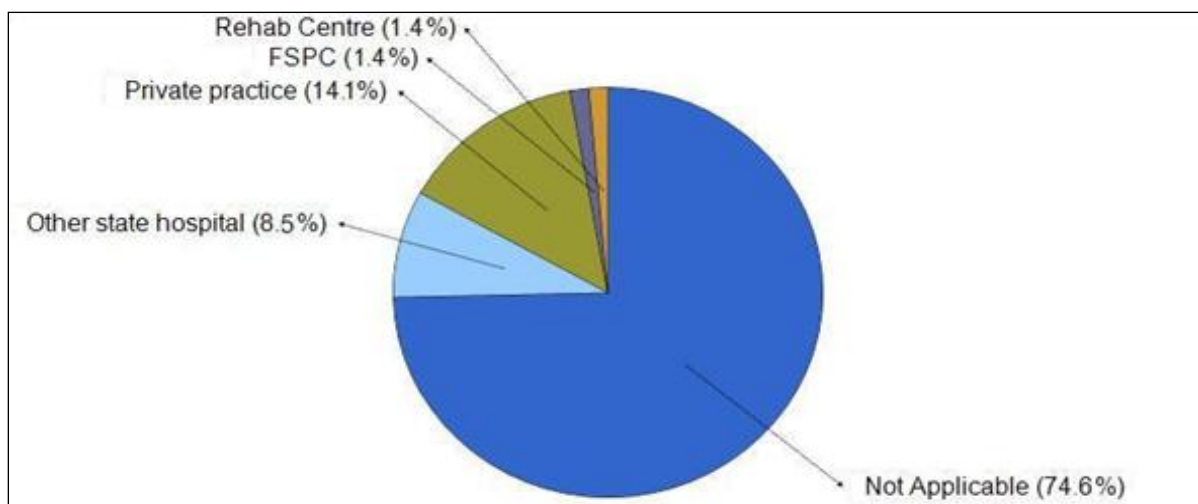


Figure 5.10: Institutions Where Private General Medical Practitioners Received Their Primary Medical Training (n=77)

According to Figure 5.11, the largest proportion of in-service training resulted from frequent contact with cases in private practice, while state hospitals also provided in-service training to a substantial portion of those who did receive in-service training. In the majority of cases, training took place in an unstructured manner.



(FSPC= Free State Psychiatric Complex)

Figure 5.11: Institutions where Private General Medical Practitioners Received In-service Training (n=77)

A larger percentage of private general medical practitioners in the Northern Health Complex had no training in managing substance addiction and dependency (Table 5.6A). This is probably linked to the higher age of this group. Table 5.6A shows that more of them had unstructured in-service training (self-directed experiential training). There was heavy reliance on academic training for private psychiatrists, while personnel at treatment centres were in-service trained. Personnel at state hospitals had a higher percentage of in-service training.

Table 5.6A: Training of Private General Medical Practitioners in Managing Substance Addiction/Dependency per Health Complex

Type of Training	North (n=32)	East (n=25)	South (n=20)
No training	8 (25%)	3 (12%)	3 (15%)
Academic training only			
Pregraduate training only	6 (18, 8%)	13 (52%)	10 (50%)
Postgraduate training only	2 (6,3%)	0 (0%)	0 (0%)
Pre- and postgraduate training	2 (6,3%)	2 (6,3%)	2 (10%)
In service training only			
Unstructured in-service training only	7 (21,9%)	1 (3,1%)	0 (0%)
Academic and in-service training	7 (21,8%)	6 (24%)	5 (25%)
Pregraduate training+ in-service training	4 (12,5%)	4 (12,5%)	5 (25%)
Postgraduate training+ in-service training	1 (3,1%)	1 (3,1%)	0 (0%)
Pre- and postgraduate+ in-service training	2 (6,2%)	1 (3,1%)	0 (0%)

Table 5.6B: Training of Referral Level Practitioners in Managing Substance Addiction/Dependency			
<i>Type of training</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
No training	0 (0%)	0 (0%)	3 (17,6%)
Academic training only	0 (0%)	10 (90,9%)	6 (35,3%)
In-service training only	3 (100%)	0 (0%)	3 (17,6%)
Academic and in-service training	0 (0%)	1 (9,1%)	5 (29,4%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.2.1 Perceptions Regarding Training

Table 5.7 shows that higher percentages of general practitioner respondents in the Northern and Eastern Health Complexes regarded the training of private general medical practitioners in Addiction Medicine as inadequate in general, yet smaller percentages agreed that it affected their personal involvement in the treatment of addiction cases. In the Southern Health Complex half of the private general medical practitioners agreed that there was a general lack of training and the same percentage felt that it influenced their personal involvement. Private psychiatrists showed agreement between their general perception of lack of training and their own lack of knowledge and skills. Medical officers/consultants at state hospitals and personnel at treatment centres had the lowest opinion on general training and were marginally more affected by their own lack of knowledge and skills.

Table 5.7: Perceptions Regarding Training in Management of Addiction/Dependency					
<i>Private General Medical Practitioners</i>			<i>Referral Level Practitioners</i>		
<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Agree with statement: "There is a general lack of training for my profession regarding the management of addiction/dependency."					
25 (78,1%)	20 (80,0%)	10 (50,0%)	3 (100%)	7 (63,6%)	17 (100%)
Agree that a lack of knowledge and skills affects their personal involvement.					
17 (53,1%)	13 (52,0%)	10 (50,0%)	1 (33,3%)	6 (54,5%)	10 (58,8%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.2.2 Recommendations by Respondents Regarding Training

Respondents identified an immediate training need for hospital-based staff, including an algorithm of treatment, screening tool and basic training on how to manage basic issues. A

second need that was identified was specific training for doctors in Motivational Interviewing and a third need was for the adaptation of curricula at medical school to include the preparation of patients for treatment, proper approach to addicted patient and long-term management. It was recommended that there should be more contact with rehabilitation during training so that doctors are made aware of rehabilitation systems and their role in follow-up. In contrast to this, there was also a general feeling that doctors' training does not need to be adapted, but rather that information on prescribing medication to addicted or rehabilitated persons and recognition of cases of hard drug abuse and communication regarding local services and the referral system was lacking. Figure 5.12 summarizes the aspects that respondents raised.

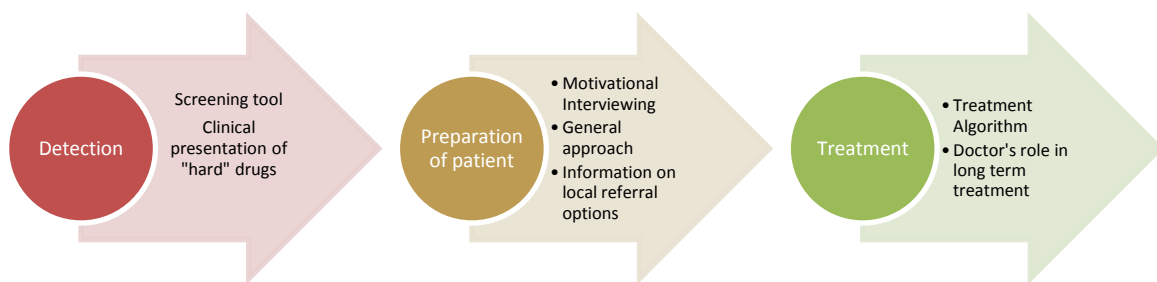


Figure 5.12: Training and Information Needs Identified

5.3 CONFIDENCE IN PROVIDING MEDICAL CARE TO ADDICTED PERSONS

Table 5.8A shows that there was no difference in the confidence of private general medical practitioners in the various regions with regard to dealing with uncomplicated cases of withdrawal. Confidence in dealing with complicated cases was related to the presence of specialist back-up in the vicinity and access to inpatient facilities. Patients with underlying organ dysfunction were clearly seen as the major risk compared to the responses to other scenarios. Respondents in areas where there was a psychiatrist available had more confidence in treating dual diagnosis patients. Private general medical practitioners in the Southern Health Complex were less inclined to become involved in severe withdrawals.

Table 5.8A: Confidence of Private General Medical Practitioners to Provide Medical Care During Alcohol Withdrawal (Indicate positive responses in respective conditions)			
<i>Scenario</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Not Applicable: No detoxification	5 (15,6%)	5 (20,0%)	1 (5,0%)
Mild withdrawal (outpatient only)	18 (59,4%)	15 (60,0%)	11 (55,0%)
Mild withdrawal (inpatient only)	7 (21,9%)	3 (12,0%)	3 (15,0%)
Mild withdrawal (in- or outpatient)	2 (6,3%)	2 (8,0%)	5 (25,0%)
Severe withdrawal, normal organ function, no psychiatric diagnosis	18 (59,4%)	16 (64,0%)	16 (80,0%)
Organ dysfunction	8 (25,0%)	4 (16,0%)	3 (15,0%)
Organ dysfunction (consult specialist)	2 (6,3%)	1 (4,0%)	1 (5,0%)
Psychiatric symptoms	3 (9,3%)	6 (24,0%)	7 (35,0%)
Psychiatric symptoms (consult specialist)	6 (18,8%)	0 (0%)	1 (5,0%)
Dual diagnosis	3 (9,3%)	3 (12,0%)	4 (20,0%)
Dual diagnosis (consult specialist)	4 (12,5%)	0 (0%)	3 (15,0%)

Table 5.8B shows that referral level groups were confident about their own ability to conduct alcohol withdrawal safely in uncomplicated cases. Underlying organ dysfunction and psychiatric manifestations were concerns to them though. Referral level practitioners were more inclined to manage even mild withdrawals on an inpatient basis. Personnel at treatment centres were more comfortable in treating patients on an outpatient basis.

Table 5.8B: Confidence of Referral Level Practitioners to Provide Medical Care During Alcohol Withdrawal (Indicate positive responses in respective conditions)			
<i>Scenario</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Not Applicable: No detoxification	0 (0%)	0 (0%)	1 (5,9%)
Mild withdrawal (outpatient)	2 (66,7%)	4 (36,4%)	8 (47,1%)
Mild withdrawal (inpatient only)	0 (0%)	6 (54,5%)	5 (29,4%)
Mild withdrawal (in- or outpatient)	1 (33,3%)	0 (0%)	2 (11,8%)
Severe withdrawal, normal organ function, no psychiatric diagnosis	3 (100%)	10 (90,1%)	10 (58,8%)
Organ dysfunction	1 (33,3%)	4 (36,4%)	5 (29,4%)
Organ dysfunction (consult specialist)	0 (0%)	5 (45,5%)	3 (17,6%)
Psychiatric complications	0 (0%)	11 (100%)	9 (52,9%)
Dual diagnosis	0 (%)	11 (100%)	8 (47,1%)
Dual diagnosis (consult specialist)	1 (33,3%)	0 (0%)	1 (5,9%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Confidence in providing care for treatment of addiction of other drugs was omitted due to limited positive responses.

5.4 FREQUENCY OF CONTACT WITH HELP-SEEKING PATIENTS WITH ADDICTION/DEPENDENCY

Frequencies are grouped as either “High”, meaning once or more per month or “Low”, meaning less than once per month, except for contact with alcohol addiction where the following terms are used: “occasionally”, meaning less than once per month, “monthly”, meaning at least once per month, but less than once per week and “weekly”, meaning at least once per week.

5.4.1 Frequency of Contact with Help-Seeking Patients with Alcohol Addiction/Dependency

A substantial proportion of private general medical practitioners were confronted with addiction to alcohol on a monthly basis (Figure 5.13). A small proportion of private general medical practitioners were never confronted by persons addicted to alcohol. Note that non-involvement was often a reason why selected potential respondents declined to participate.

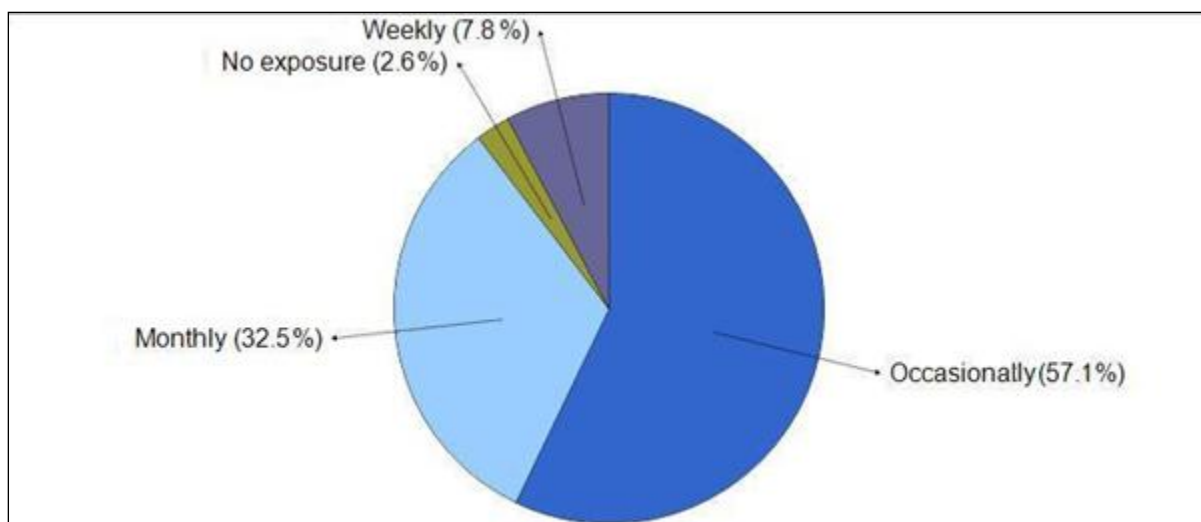


Figure 5.13: Frequency of Contact with Help-Seeking Patients with Alcohol Addiction/Dependency among Private General Medical Practitioners (n=77)

According to Table 5.9A, private general medical practitioners from the Northern and Southern Health Complexes had a higher frequency of contact with help-seeking patients with alcohol addiction/dependency than the Eastern Health Complex. For a considerable percentage across the various regions it was a monthly experience and the Northern Health Complex showed the highest incidence of very frequent interaction between persons addicted to alcohol and private general medical practitioners.

Table 5.9A: Frequency of Contact Between Private General Medical Practitioners and Help-seeking Patients with Alcohol Addiction/Dependency per Health Complex

<i>Frequency of Contact</i>	<i>North(n=32)</i>	<i>East(n=25)</i>	<i>South(n=20)</i>
Never	0 (0%)	2 (8,0%)	1 (5,0%)
Occasionally	17 (53,1%)	16 (64,0%)	10 (50,0%)
Monthly	10 (31,3%)	7 (28,0%)	8 (40,0%)
Weekly	5 (15,6%)	0 (0%)	1 (5,0%)

The low levels of contact reflected in the Eastern Health Complex, may however be due to turning a blind eye as comments in the interviews suggest: "Everyone abuses it (alcohol) to a varying degree". "Very few patients in this setting ask for help". (ERPG12) Medical personnel at treatment centres and private psychiatrists showed an expected high frequency of contact with persons addicted to alcohol (Figure 5.9B). Medical personnel at state hospitals showed a varied response with a substantial portion reporting no or very low level of contact.

Table 5.9B: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Alcohol Addiction/Dependency

<i>Frequency of Contact</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Never	0 (0%)	0 (0%)	3 (17,7%)
Occasionally	0 (0%)	0 (0%)	2 (11,8%)
Monthly	0 (0%)	4 (36,4%)	4 (23,5%)
Weekly	2 (66,7%)	6 (54,5%)	6 (35,3%)
Daily	1 (33,3%)	1 (9,1%)	2 (11,8%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Although nominated by respondents on the basis of their reported involvement in treatment of addiction/dependency cases, only half of the non-prescribers reported monthly or higher frequency of contact with cases of alcohol addiction/dependency (Table 5.9C). The single respondent in this group that did not have contact with such cases, worked at a centre where withdrawals other than alcohol were done.

Table 5.9C: Frequency of Contact Between Non-prescribers and Help-seeking Patients with Alcohol Addiction/Dependency

<i>Frequency of Contact</i>	<i>n=13</i>
Never	1 (7,7%)
Low	5 (38,5%)
High	7 (53,8%)

5.4.2 Frequency of Contact with Help-Seeking Patients with Cannabis Addiction/Dependency

Table 5.10A reveals that interaction between private general medical practitioners and patients with cannabis addiction/dependency was much less than in the case of alcohol addiction/dependency (Table 5.9A). Only a small percentage across the various complexes saw such cases on a regular basis. This may be because cannabis addiction/dependency occurs less often than alcohol addiction/dependency, or that patients are less likely to report it because it is an illegal substance. The most possible explanation is that it more often occurs in poor socio-economic environments, making these patients reliant on state-funded health care rather than on private general medical practitioners.

Table 5.10A: Frequency of Contact Between Private General Medical Practitioners and Help-seeking Patients with Cannabis Addiction/Dependency per Health Complex

<i>Frequency of Contact</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Never	10 (31,3%)	12 (48,0%)	8 (40,0%)
Occasionally	18 (56,3%)	12 (48,0%)	8 (40,0%)
Monthly	2 (6,3%)	1 (4,0%)	2 (10,0%)
Weekly	2 (6,3%)	0 (0%)	2 (10,0%)

According to Table 5.10B, cannabis addiction and dependency cases very frequently presented at treatment centres, private psychiatrists as well as state hospitals. In the case of state hospitals, the level of contacts seems to be on par with that of addiction to alcohol (Table 5.9B). The most likely explanation for this is that cases of cannabis addiction/dependency present at hospitals with acute psychosis and as such is easily identifiable and prompts acute intervention, where as alcohol addiction/dependency is very common, yet patients do not look for help and the causative relationship with physical problems are undetected or ignored.

Table 5.10B: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Cannabis Addiction/Dependency

<i>Frequency of Contact</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Never	0 (0%)	0 (0%)	3 (17,7%)
Occasionally	0 (0%)	3 (27,3%)	3 (17,7%)
Monthly	0 (0%)	5 (45,5%)	2 (11,8%)
Weekly	3 (100%)	3 (27,3%)	7 (41,2%)
Daily	0 (0%)	0 (0%)	2 (11,8%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.10C reveals that a smaller percentage of cannabis addiction/dependency presented for long-term follow-up at therapists than in the case of persons addicted to alcohol (Table 5.9C). A substantial percentage however still reported a high frequency of contact with these cases.

Table 5.10C: Frequency of Contact Between Non-prescribers and Help-seeking Patients with Cannabis Addiction/Dependency (n=13)

<i>Frequency of Contact</i>	<i>Number of reports</i>
Never	4 (30,8%)
Low	5 (38,5%)
High	4 (30,8%)

5.4.3 Frequency of Contact with Help-Seeking Patients with Methaqualone (Mandrax) Addiction/Dependency

Only three private general medical practitioners in the Northern Health Complex reported occasional contact with cases of addiction to methaqualone. Even at referral level practitioners it is only occasional that such cases report (Table 5.10D).

Table 5.10D: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Methaqualone Addiction/Dependency per Health Complex

<i>Frequency of Contact</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Never	0 (0%)	7 (63,6%)	13 (76,4%)
Low	2 (66,7%)	4 (36,4%)	4 (23,6%)
High	1 (33,3%)	0 (0%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.4.4 Frequency of Contact with Help-Seeking Patients with Prescription Drug Addiction/Dependency

For this section the data provided by the questionnaire was complicated by grouping of substances. Opioids for instance include heroine, but the implications for contact between addicted persons and the treatment environment for heroine, as a street drug, and codeine, obtained from pharmacy outlets, differ considerably. Prescriptions drugs and over the counter products are not always readily distinguished from each other. The more detailed verbal accounts were therefore fed into the NVIVO8 programme and the results categorized and finally presented in table format.

5.4.4.1 Frequency of Contact with Help-Seeking Patients with Analgesic or Cough Mixture Addiction/Dependency

The nature of the contact between private general medical practitioners and addicted persons here is that the “patient” targets a doctor in order to get a prescription. Private general medical practitioners’ report that these patients are not looking for help, they want

prescriptions and when confronted, they will see another doctor. Table 5.11A shows that fewer private general medical practitioners in the Eastern Health Complex were exposed to such cases, yet the percentage of individual private general medical practitioners that were often targeted were relatively constant over the three areas.

Table 5.11A: Frequency of Contact Between Private General Medical Practitioners and Help-seeking Patients with Analgesics or Cough Mixtures Addiction/Dependency per Health Complex

<i>Frequency of Contact</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Never	10 (31,3%)	14 (56,0%)	5 (25,0%)
Low	16 (50,0%)	7 (28,0%)	12 (60,0%)
High	6 (18,8%)	4 (16,0%)	3 (15,0%)

Table 5.11B shows that cases involving codeine containing preparations and especially meprobamate-codeine combinations, are persistently presenting across the three regions. The most common brand name mentioned here was Stopayne®.

Table 5.11B: Type of Analgesic or Cough Mixture Addiction/Dependency Presenting at Private General Medical Practitioners

<i>Type of analgesic</i>	<i>Number of positive responses</i>					
	<i>North (n=32)</i>		<i>East (n=25)</i>		<i>South (n=20)</i>	
<i>Frequency of contact</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>	<i>High</i>
MCP comb	9 (28,1%)	3 (9,4%)	4 (16,0%)	2 (8,0%)	5 (25,0%)	1 (5,0%)
Codeine comb	4 (12,5%)	1 (3,1%)	1 (4,0%)	0 (0%)	2 (10,0%)	2 (10,0%)
Pethidine	4 (12,5%)	0 (0%)	1 (4,0%)	0 (0%)	2 (10,0%)	0 (0%)
Opioid (unspec)	6 (18,8%)	3 (9,4%)	0 (0%)	0 (0%)	1 (5,0%)	0 (0%)
Other analgesic	5 (15,6%)	0 (0%)	1 (4,0%)	2 (8,0%)	3 (15,0%)	1 (5,0%)
Cough Mixture	1 (3,1%)	1 (3,1%)	1 (4,0%)	0 (0%)	2 (10,0%)	0 (0%)

(MCP comb=Meprobamate/Codeine/Paracetamol combinations)

Table 5.12A shows that prescription analgesic addiction/dependency frequently presented at treatment centres and private psychiatrists, yet seldom at state hospitals. It appears to be a

private sector phenomenon.

Table 5.12A: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Analgesic or Cough Mixture Addiction/Dependency

<i>Frequency of Contact</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Never	0 (0%)	0 (0%)	7 (41,2%)
Low	0 (0%)	3 (27,3%)	7 (41,2%)
High	3 (100%)	8 (72,7%)	3 (17,6%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.12B again shows that codeine-containing analgesics were the most common type of analgesic addiction and dependency seen across the various referral level environments. There was a persistent high frequency of contact between private psychiatrists and cases of opioid and other analgesic addiction/dependency. Pethidine addiction/dependency is relatively rare.

Table 5.12B: Type of Analgesic or Cough Mixture Addiction/Dependency Presenting at Referral Level Practitioners

<i>Type of analgesic</i>	<i>Number of positive responses</i>				
	<i>TC (n=3)</i>		<i>PP (n=11)</i>		<i>SH (n=17)</i>
<i>Frequency of Contact</i>	High	Low	High	Low	High
MCP comb	0 (0%)	0 (0%)	3 (27,3%)	1 (5,9%)	0 (0%)
Codeine comb	3 (100%)	2 (18,2%)	4 (36,4%)	2 (11,8%)	2 (11,8%)
Pethidine	0 (0%)	1 (9,1%)	0 (0%)	1 (5,9%)	2 (11,8%)
Opioid (unspecified)	1 (33,3%)	4 (36,4%)	1 (9,1%)	3 (17,6%)	1 (5,9%)
Other analgesic	1 (33,3%)	0 (0%)	5 (45,5%)	0 (0%)	0 (0%)
Cough Mixture	0 (0%)	1 (9,1%)	1 (9,1%)	2 (11,8%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives; MCP comb=Meprobamate/Codeine/Paracetamol combinations)

Table 5.13A shows a low level of contact between non-prescribers and cases addicted to analgesics and cough mixtures compared to referral level practitioners (Table 5.12A).

Table 5.13A: Frequency of Contact Between Non-prescribers and Help-seeking Patients with

Analgesics or Cough Mixtures Addiction/Dependency (n=13)	
<i>Frequency of Contact</i>	<i>Number of reports</i>
Never	6 (46,2%)
Low	3 (23,1%)
High	4 (30,8%)

Table 5.13B shows a low level of contact of non-prescribers with opioid addictions, yet relatively higher for other analgesics (Table 5.13B). One must take into account their non-medical background, so it may be that reporting of distinguishing opioid containing preparations may be inaccurate.

Table 5.13B: Type of Analgesic or Cough Mixture Addiction/Dependency Presenting at Non-Prescribers (n=13)		
<i>Type of analgesic</i>	<i>Frequency of Contact</i>	
	Low	High
MCP combination	1 (7,7%)	0 (0%)
Codeine combination	2 (15,4%)	0 (0%)
Pethidine	1 (7,7%)	0 (0%)
Opioid unspecified	1 (7,7%)	0 (0%)
Other analgesic	1 (7,7%)	3 (23,1%)
Cough Mixture	1 (7,7%)	0 (0%)

(MCP=Meprobamate/Codeine/Paracetamol combinations)

Non-prescribers were often involved in the treatment of analgesic/cough mixture addiction/dependency cases in the setting of poly-substance addiction/dependency.

5.4.4.2 Frequency of Contact with Help-Seeking Patients with Sedative-Hypnotic Addiction/Dependency

The bulk of sedative-hypnotic addictions involved benzodiazepines. Again the nature of “help-seeking” takes the form of the “patient” targeting a doctor to get a prescription. Failed attempts cause the patient to switch doctors. Table 5.14A shows that most private general medical practitioners in the Eastern region did not have contact with cases of benzodiazepine addiction/dependency, while the Northern group had a high percentage of high frequency of

contact and the Southern region reported a low frequency of contact with such cases.

Table 5.14A: Frequency of Contact Between Private General Medical Practitioners and Help-seeking Patients with Benzodiazepine Addiction/Dependency per Health Complex

<i>Frequency of Contact</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Never	12 (37,5%)	14 (56,0%)	5 (25,0%)
Low	11 (34,4%)	8 (32,0%)	12 (60,0%)
High	9 (28,1%)	3 (12,0%)	3 (15,0%)

From Table 5.14B one sees that there was a very high frequency of contact among private psychiatrists and treatment centres and a very low level of contact in state hospitals.

Table 5.14B: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Benzodiazepine Addiction/Dependency

<i>Frequency of Contact</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Never	0 (0%)	0 (0%)	8 (47,1%)
Low	0 (0%)	1 (9,1%)	6 (35,3%)
High	3 (100%)	10 (90,9%)	3 (17,6%)
Monthly	3 (100%)	3 (27,3%)	2 (11,8%)
Weekly	0 (0%)	5 (45,5%)	1 (5,9%)
Daily	0 (0%)	2 (18,1%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.14C shows a low frequency of contact with these cases in about half of the non-prescriber respondents.

Table 5.14C: Frequency of Contact Between Non-prescribers and Help-seeking Patients with Benzodiazepine Addiction/Dependency (n=13)

<i>Frequency of Contact</i>	<i>Number of reports</i>
Never	6 (46,2%)
Low	7 (53,8%)

There were occasional reports of contact with non-benzodiazepine addiction/dependency;

among private general medical practitioners: 3 reports from the South, 1 reported by a state hospital and 2 by psychiatrists. Barbiturate addiction/dependency cases reported were 1 each in the Eastern and Northern regions among private general medical practitioners and a low level of contact reported by 2 treatment centre respondents and 3 psychiatrists. Occasional contact with cases of non-benzodiazepine addiction were reported by one non-prescriber, barbiturate addiction cases by one non-prescriber and one reported monthly contact with unspecified sedative addictions.

5.4.5 Frequency of Contact with Help-Seeking Patients with Street and Club Drug Addiction/Dependency (Excluding Cannabis)

Table 5.15A shows a low level of contact with cases of cocaine and ecstasy addiction/dependency in the Northern region. The majority of private general medical practitioners in the Southern region were not confronted by these cases, yet 15% of private general medical practitioners did report contact with cases of cocaine and ecstasy cases. Respondents from the Eastern Health Complex had no contact with cases involving these substances. The very low contact level with methcathinone (CAT) cases in the Northern region and the negative reports on methamphetamine (TIK) in the Eastern regions are of note as the involvement of specific syndicates in these regions was exposed shortly before the study.

Table 5.15A: Frequency of Contact Between Private General Medical Practitioners and Help-seeking Patients with Street or Club Drug Addiction/Dependency per Health Complex		
<i>Private General Medical Practitioners</i>		
<i>Frequency of Contact</i>	<i>Cocaine</i>	<i>Ecstasy</i>
<i>North (n=32)</i>		
Never	29 (90,6%)	28 (87,5%)
Low	3 (9,4%)	4 (12,5%)
<i>South (n=20)</i>		
Never	17 (85,0%)	17 (85,0%)
Low	2 (10,0%)	2 (10,0%)
High	1 (5,0%)	1 (5,0%)

Private psychiatrists had the highest frequency and widest range of contact with cases involving this category of substances (Table 5.15B). Four psychiatrists indicated that they often found a history of ecstasy use in psychiatric patients. One psychiatrist reported the same to be true for heroine and CAT. Cocaine cases were occasionally reported at state hospitals,

while treatment centre respondents reported contact with the whole range of addiction cases.

Table 5.15B: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Street or Club Drug Addiction/Dependency

<i>Referral Level Practitioners</i>						
<i>Frequency of Contact</i>	<i>Cocaine</i>	<i>Ecstasy</i>	<i>Amph</i>	<i>TIK</i>	<i>CAT*</i>	<i>Heroin*</i>
<i>TC (n=3)</i>						
Never	0 (0%)	0 (0%)	1 (33,3%)	1 (33,3%)	1 (33,3%)	1 (33,3%)
Low	1 (33,3%)	0 (0%)	2 (66,7%)	2 (66,7%)	2 (66,7%)	1 (33,3%)
High	2 (66,7%)	3 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (33,3%)
<i>PP (n=11)</i>						
Never	1 (9,1%)	1 (9,1%)	6 (54,6%)	7 (63,6%)	10 (90,9%)	8 (72,7%)
Low	7 (63,6%)	8 (72,7%)	3 (27,3%)	4 (36,4%)	1 (9,1%)	2 (18,2%)
High	3 (27,3%)	2 (18,2%)	2 (18,2%)	0 (0%)	0 (0%)	1 (9,1%)
<i>SH (n=17)</i>						
Never	11 (64,7%)	15 (88,2%)	15 (88,2%)	15 (88,2%)	16 (94,1%)	14 (82,4%)
Low	6 (35,3%)	1 (5,9%)	2 (11,8%)	2 (11,8%)	1 (5,9%)	2 (11,8%)
High	0 (0%)	1 (5,9%)	0 (0%)	0 (0%)	0 (0%)	1 (5,9%)

*Compiled from NVIVO8. (*Amph=Amphetamine; TIK=Methamphetamine; CAT= Methcathinone; TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives*)

Table 5.15C shows a relatively low frequency of contact between non-prescribers and individuals addicted/dependent on street and club drugs.

Table 5.15C: Frequency of Contact Between Non-prescribers and Help-seeking Patients with Street or Club Drug Addiction/Dependency (n=13)

<i>Frequency of Contact</i>	<i>Cocaine</i>	<i>Ecstasy</i>	<i>Amph</i>	<i>TIK</i>	<i>CAT</i>	<i>Heroin</i>
Never	10 (76,9%)	11 (84,6%)	12 (92,3%)	12 (92,3%)	12 (92,3%)	12 (92,3%)
Low	2 (15,4%)	1 (7,7%)	1 (7,7%)	1 (7,7%)	1 (7,7%)	1 (7,7%)
High	1 (7,7%)	1 (7,7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

(*Amph=Amphetamine; TIK=Methamphetamine; CAT=Methcathinone*)

There were no reports of LSD cases except a single private general medical practitioner in the Northern Health Complex and two private psychiatrists that reported that it occasionally presents as an etiologic factor in psychiatric problems.

5.4.6 Frequency of Contact with Help-Seeking Patients with Inhalant

Addiction/Dependency

Table 5.16A shows that inhalant addiction and dependency in general does not present at private general medical practitioners in any of the regions to a significant extent.

Table 5.16A: Frequency of Contact Between Private General Medical Practitioners and Help-seeking Patients with Inhalant Addiction/Dependency per Health Complex

<i>Frequency of Contact</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Never	28 (87,5%)	23 (92,0%)	18 (90,0%)
Low	4 (12,5%)	2 (8,0%)	2 (10,0%)

Table 5.16B shows that inhalant addiction and dependency is only seen at a referral level at state hospitals on a regular basis by a small number of respondents.

Table 5.16B: Frequency of Contact Between Referral Level Practitioners and Help-seeking Patients with Inhalant Addiction/Dependency

<i>Frequency of Contact</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Never	0 (0%)	10 (90,9%)	11 (64,7%)
Low	3 (100%)	1 (9,1%)	3 (17,7%)
High	0 (0%)	0 (0%)	3 (17,7%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.16C shows that non-prescribers were more often confronted with cases of inhalant addiction/dependency.

Table 5.16C: Frequency of Contact Between Non-prescribers and Help-seeking Patients with Inhalant Addiction/Dependency (n=13)

<i>Frequency of Contact</i>	<i>Number of reports</i>
Never	6 (46,1%)
Low	7 (53,9%)

5.4.7 Notes on Frequency of Contact with Help-seeking Patients with Addiction/Dependency

During the selection phase, several prospective respondents declined to participate on the grounds of not seeing patients with addiction. There is a large variation between doctors with

regard to being confronted with such cases. Although the possibility of such cases presenting in hospital settings was expected to be significant, most hospital-based practitioners denied contact with help-seeking patients. Psychiatrists receive selected referrals and often detect addiction while investigating patients for psychiatric problems. Referral down the line dwindles if the level of contact reported by psychologists is taken into account.

5.5 INVOLVEMENT IN TREATMENT

When private general medical practitioners were asked about their involvement in the treatment of addicted persons they mostly referred to their role in the treatment of persons addicted to alcohol, as this is by far the most common addiction that they have to deal with.

5.5.1 The Role of Private General Medical Practitioners

The role of private general medical practitioners in the treatment of addiction/dependency as perceived by themselves varies from total non-involvement by choice, or because it is seen as a specialist field; to an important port of entry into treatment, described as “first contact”, “primary role-player” and “the gatekeeper”. As entry point they are also responsible for identification and diagnosis.

“Well, in terms of the first line.....in terms of you have first access to the patient, first person who works with the patient in terms of motivation to go for treatment and to discuss the various options with him.” (*Transl. SRPG24*)

“First contact and the person that must refer him to the right place.”(*Transl. SRPG25*)

“Importantly is to identify the early presentation of the problem, especially when there is a trend or pattern like either absenteeism from work on particular dates and secondly when someone is unemployed maybe issues of domestic violence. They are indicators that something is wrong. There is dysfunctionality in the home setting and that is when you send out the foot soldiers like social workers to go and check what is going on.”(*SRPG29*)

5.5.1.1 Administrative and Counselling Role

Private general medical practitioners provide a counselling function consisting of ongoing psychological support of the patient or counselling of the family to get them involved or to provide support to the family. They may involve other professionals to take over this function, while they remain themselves responsible for medical management of the patient.

5.5.1.2 Medical Treatment

As initiator of treatment, private general medical practitioners provide withdrawal and/or are involved in relapse prevention. A respondent mentioned that he has to “keep the patient out

of hospital” (ERPG11) as far as possible. A universal obligation of doctors in general is to avoid prescribing potentially addictive medication in these patients.

5.5.1.3 Screening

A grading or evaluation function was described: doctors may refer patients who are self-motivated to go for treatment or handle uncomplicated cases themselves, including withdrawal and refer complicated cases. The patient’s finances are however a major factor in determining whether a patient will be referred for further treatment. Table 5.17A shows that private general medical practitioners in the Northern Health Complex were more likely to become involved in detoxification of persons addicted to alcohol, while private general medical practitioners in the Southern region, with its proximity to treatment facilities will mostly refer. A higher percentage of private general medical practitioners in the Eastern region were not involved in management of these cases compared to other regions.

Table 5.17A: Involvement of Private General Medical Practitioners in Treatment of Alcohol Addiction/Dependency per Health Complex			
<i>Role</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
No involvement	2 (6,3%)	5 (20,0%)	1 (5,0%)
Administrative role	11 (34,4%)	13 (52,0%)	12 (60,0%)
Detoxification	14 (43,8%)	5 (20,0%)	4 (20,0%)
Detoxification and refer	1 (3,1%)	0 (0%)	0 (0%)
Detoxification and follow-up	4 (12,8%)	5 (20,0%)	4 (20,0%)
Coordinate and detoxification	3 (9,4%)	0 (0%)	0 (0%)
Coordinate, detoxification, relapse prevention	6 (18,8%)	0 (0%)	0 (0%)
Medical involvement in follow-up only	5 (15,6%)	2 (8,0%)	3 (15,0%)
Coordinate and follow-up	3 (9,4%)	0 (0%)	1 (5,0%)
Refer and follow-up	2 (6,3%)	2 (8,0%)	2 (10,0%)

Table 5.17B shows that state hospitals have a higher percentage of non-involvement compared to private general medical practitioners. Only 30% of state hospitals provide detoxification and only half of those that do, provide follow-up services.

Table 5.17B: Involvement of Referral Level Practitioners in Treatment of Alcohol

Addiction/Dependency			
<i>Role</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
No involvement	N/A	N/A	5 (29,4%)
Administrative role	N/A	N/A	5 (29,4%)
Detoxification	3 (100%)	9 (87,3%)	6 (30,0%)
Detoxification only	1 (33,3%)	0 (0%)	3 (15,0%)
Detoxification and relapse prevention	2 (66,7%)	9 (87,3%)	3 (15,0%)
Relapse prevention and follow-up only	N/A	2 (18,2%)	1 (5,9%)

(*TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives*)

Private psychiatrists and state hospital presentatives showed a higher level of interest to increase their current involvement in treatment of these patients than private general medical practitioners (Table 5.18).

Table 5.18: Interest to Increase Involvement in Addiction Treatment			
<i>Private General Medical Practitioners</i>			
	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
No	26 (81,2%)	18 (72,0%)	14 (70,0%)
Yes	6 (18,8%)	7 (18,0%)	6 (30,0%)
<i>Referral Level Practitioners</i>			
	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
No	3 (100%)	7 (63,6%)	10 (58,8%)
Yes	0 (0%)	4 (36,4%)	7 (41,2%)

(*TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives*)

It is not uncommon for private general medical practitioners to become involved in the treatment of patients addicted to opioids or benzodiazepine addiction/dependency (Tables 6.19A and 6.20A). State hospitals have a high rate of non-involvement and referral compared to other referral level respondents (Tables 6.19B and 6.20B).

Table 5.19A: Involvement of Private General Medical Practitioners in Treatment of Opioid Addiction/Dependency per Health Complex

<i>Role</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
No involvement	19 (59,4%)	17 (68,0%)	9 (45,0%)
Refer all	7 (21,9%)	6 (24,0%)	10 (50,0%)
Detoxification	4 (12,5%)	2 (8,0%)	1 (5,0%)
Medical involvement in follow-up only	2 (6,3%)	0 (0%)	0 (0%)

Table 5.19B: Involvement of Referral Level Practitioners in Treatment of Opioid Addiction/Dependency

<i>Role</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
No involvement	N/A	N/A	9 (52,9%)
Refer all	N/A	N/A	3 (17,7%)
Detoxification	3 (100%)	9 (87,3%)	5 (29,4%)
Medical involvement in follow-up only	N/A	2 (8,0%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.20A: Involvement of Private General Medical Practitioners in Treatment of Benzodiazepine Addiction/Dependency per Health Complex

<i>Role</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
No involvement	15 (46,9%)	15 (60,0%)	7 (35,0%)
Refer all	7 (21,9%)	4 (16,0%)	9 (45,0%)
Detoxification	7 (21,9%)	6 (24,0%)	4 (20,0%)
Medical involvement in follow-up only	3 (9,4%)	0 (0%)	0 (0%)

Three private general medical practitioners in the Northern Health Complex indicated that they coordinate services for these patients; that is referring to other professionals like a psychologist or social worker while remaining responsible for the medical treatment.

Table 5.20B: Involvement of Referral Level Practitioners in Treatment of Benzodiazepine Addiction/Dependency

<i>Role</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
No involvement: Never see such patients	N/A	N/A	8 (47,0%)
Refer all	N/A	N/A	3 (17,7%)
Detoxification	3 (100%)	9 (87,3%)	6 (35,3%)
Medical involvement in follow-up only	N/A	2 (18,2%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Involvement in stimulant addiction cases was omitted. Treatment for these cases concentrated at treatment centres and private psychiatrists, while general practitioners and state hospitals maintain a referral function.

5.5.1.4 Summary of Role of Private General Medical Practitioners

Most private general medical practitioners saw their role as a largely administrative role where they diagnose the patient, refer appropriately and follow-up after discharge from a centre. Very often, however, they had limited knowledge about available services and the referral system. Private general medical practitioners who start private practice have to find out the best local options for themselves. A passive attitude prevails within environments with a high level of cultural acceptance and diagnosis relies on self-reporting. This may be due to lack of treatment options and a lack of belief in success of intervention. Help-seeking involving other drugs besides alcohol was very low.

5.5.1.5 Recommendations of Respondents Regarding the Role of Private General Medical Practitioners

There are opposing views regarding the positioning of Addiction Medicine: a general practitioner maintained that treatment should be done exclusively by specialists, a psychiatrist remarked that a general practitioner with special interest and appropriate training should be able to perform this task. General practitioners often remarked that they do not have enough time to manage cases like these as they tend to become very dependent. It was also recommended that the experience of private general medical practitioners should be applied in state facilities, as gatekeeper, co-ordinator of services and also as primary service provider. To fulfil this function they will need to be knowledgeable about options for treatment and be more pro-active in their approach to treatment and actively motivate patients to go for treatment.

Quality doctor–patient relationships, characterized by non-judgmental trust and personal care should be fostered and protected to provide continuity of care. It was recommended that this should particularly be emphasized in institutions through measures such as organizing services in such a way that patients are managed by the same personnel every time. Principles such as restoring human dignity and self-discipline, focusing on the person’s expectations and abilities rather than creating inner conflict can be established in such an environment.

It was noted that private general medical practitioners can play a significant role to provide local services, but need to be selected, dedicated for the task and appropriately trained and supported. Specific areas of treatment that were identified for attention are: early detection, prevention of relapse and intervention when relapse threatens.

5.5.2 The Role of Private Psychiatrists

Psychiatrists are exclusively involved in the identification and management of the co-morbid conditions in dual diagnosis patients. The psychiatrist plays the role of coordinator of a multidisciplinary team, facilitating and ensuring continuity of treatment. As such, they play a positive, primary role, involved in detoxification, follow-up and prevention of relapse. Counselling is important in helping the patient to understand the system in which he is living, psychotherapy, education of private general medical practitioners and patients and providing support to the family. Table 5.17B shows that while most were actively involved in detoxification of persons addicted to alcohol, some only become involved during the follow-up phase. This may reflect the influence of local conditions (being the only psychiatrist in the area) or strict application of protocol requiring detoxification before referral. Tables 6.19B and 6.20B show the same pattern of involvement in the treatment of patients addicted to opioids and sedative hypnotics respectively.

5.5.3 The Role of State Hospitals

Table 5.17B also reveals that nearly 30% of state hospitals were not involved in the treatment of alcohol addiction. Another nearly 30% delivered a purely administrative role, while 30% actually provide detoxification services. During the interviews with respondents from this group, it was found that with the exception of two district hospitals that provide detoxification services, district hospitals only treat patients with acute intoxication of alcohol presenting with other conditions or patients with complications of chronic addiction to alcohol. Several representatives stated that they were not equipped to provide such services: lack of knowledge and resources, specifically no seclusion room or non-availability of drugs needed for withdrawal were given as reasons. Two regional hospitals provided “cold” detoxification in alcohol withdrawal cases; others limited their services to detoxification of

patients that present with incidental withdrawal in inpatients being treated for other conditions. One hospital provided withdrawal of drugs other than alcohol. Table 5.19B show that nearly half of state hospitals were not involved in the treatment of cases of opioid addiction and dependency respectively. Nearly a quarter would refer all such cases. The level of involvement in cases of sedative-hypnotic addiction and dependency was similar, but more were likely to become involved in the medical treatment of these cases. (Table 5.20B)

5.5.4 The Role of Treatment Centres

One treatment centre provided a structured inpatient programme. Pharmacotherapy plays a small part in this programme and is mainly involved during detoxification. The major emphasis is on social and emotional rehabilitation that is led by social workers and psychologists. The two outpatient centres provide rehabilitation services with initially daily involvement with the patient, but stay involved with the patient for an extended period. One of these centres did not have a medically qualified person that could prescribe medication, but referred patients to their own doctors. Table 5.17B shows a 100% involvement of treatment centre respondents in alcohol withdrawal and a high level of medical relapse prevention. Tables 5.19B and 5.20B confirm a 100% involvement in withdrawal of cases of opioid and sedative-hypnotic abuse cases.

5.5.5 The Role of Non-prescribing Therapists

Therapists felt that they should be involved from the very start to determine the prospective patient's motivation to undergo treatment and for diagnostic input to the primary causes of drinking. They described their role as a strong supportive role, to set up individualized treatment plans, facilitate the programme, promote motivation/willpower and insight in the disease process, improve skills and implement cognitive behaviour patterns in order to improve relationships. They contribute to aftercare and secondary prevention, encourage family support and present treatment alternatives. Private general medical practitioners utilized psychologists to motivate patients to engage in treatment, and to address underlying issues that may maintain drinking behaviour. There was no standard approach among therapists, methods included individual cognitive-behaviour approaches, group therapy and hypnotherapy.

The role of the social worker as primary agent for engagement and coordination of treatment services was found to be greatly eroded by lack of sufficient personnel and lack of specialization. Patients entering treatment services via private general medical practitioners will not necessarily access services of therapists. This may be due to the extra cost involved in therapy.

5.5.5.1 Recommendations of Respondents Regarding the Role of Social Workers

Respondents remarked that social care services should be available in all towns to make it accessible. Social workers should contact the employer and the family and act as a pre-counsellor, be responsible for pro-active identification of alcohol and drug problems in presentation of related nature: e.g. marital or family violence, child addiction and dependency, manage entry into the treatment system and follow-up of cases. Training of social workers for these purposes needs attention.

5.5.6 Summary of Non-Treatment Roles

Table 5.21A summarizes the non-treatment roles of the various professional groups as described by themselves.

	<i>PGMP</i>	<i>PP</i>	<i>SH</i>	<i>TC</i>	<i>NP</i>
<i>Spectrum of patients</i>	All	Dual diagnosis	Physical co-morbidity	Primary addictions	All
<i>Main spectrum of help-seeking</i>	Alcohol Benzos Analgesics	Alcohol Benzos “Hard” drugs	Cannabis Alcohol “Hard drugs”	All	Alcohol Inhalants
<i>Detection</i>	Not involved Early identification Family/employer refer Physical disease Limited lab tests	Referred Detect in history	Incidental during physical disease Referred	Referred	Referred
<i>Screening</i>	Med/psych screening Grading	Extensive diagnostic lab screening		Lab testing limited No psychiatrist	
<i>Engagement</i>	Motivate for treatment Counsel family	Counsel patient and family			Motivate for treatment Family
<i>Referral</i>	Gatekeeper Coordinate	Coordinate MDT	According to policy		Refer withdrawals to own doctor

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Representatives; TC=Treatment Centre Representatives; Benzos=benzodiazepines; Lab=laboratory; Med/psych=medical and psychiatric; MDT=Multidisciplinary team)

Table 5.21B summarizes the treatment roles of the various professional groups.

Table 5.21B: Treatment Roles of Various Professional Groups					
	<i>PGMP</i>	<i>PP</i>	<i>SH</i>	<i>TC</i>	<i>NP</i>
<i>Detox</i>	Depend on regional organization of services Detox before referral to specialist/ TC OP detox in selected patients (financial or social reasons)	Depend on regional organization of services IP withdrawal of alcohol and other	No involvement Incidental withdrawal “Cold” IP alcohol withdrawal IP Withdrawal of other substances	IP or OP detox	
<i>Rehab/ RP</i>	Medical RP General prescribing in recovered patients Follow-up after discharge from TC Intervente when relapse threatens	Medical RP Follow-up	Medical RP Follow-up at psychiatric services Poor attendance of follow-up by patients	Medical RP Psychosocial services	Promote willpower/ motivation/ insight Cognitive behavioural approach Skills development Improve relationships Hypnotherapy

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Representatives; TC=Treatment Centre Representatives; NP=Non-Prescribers; Detox=detoxification; Rehab=rehabilitation; RP=Relapse Prevention, OP=Outpatient; IP=Inpatient)

5.6 PHARMACOTHERAPY IN TREATMENT

5.6.1 The Role of Pharmacotherapy in Treatment

5.6.1.1 Private General Medical Practitioners

5.6.1.1.1 General Remarks

The role of pharmacotherapy was described by private general medical practitioners as being an absolutely essential role that should continue for an extended period, improving outcome and reducing the pressure on the doctor to prevent relapse. Pharmacotherapy is also seen as supportive to psychotherapy, as only symptomatic treatment and not effective on its own. It is also regarded as under-utilized, partly because of the cost of medication.

“In most cases, I feel they should get something; this thing of easy talk and they make all these promises, it does not work, ... we have seen it over and over that it does not work; if we can get a drug that works like the implant or so.”(*Transl.* ERPG02)

Pharmacotherapy here is thus a first step of engagement in therapy, even a screening for multi-disciplinary involvement.

5.6.1.1.2 Mostly Important During Withdrawal

A common view is that pharmacotherapy does play a very important role to facilitate withdrawal, yet becomes less important once the acute phase is over. The danger of substituting one addiction for another was specifically mentioned in this regard.

5.6.1.1.3 Neuropsychopharmacological Support

The identification and treatment of underlying psychiatric problems are regarded as crucial for the eventual success of intervention. Special attention needs to be given to problems like anxiety and insomnia.

5.6.1.1.4 Pharmacotherapy in Relapse Prevention

Opinions varied regarding the usefulness of pharmacotherapy during relapse prevention. There was support for pharmacotherapy in relapse prevention as an essential support to help some patients to control themselves and improve the chances of success, yet also ambivalence: “Initially it helps; I do not believe in it much, but for those who are afraid, I will give it.”(*Transl.* SDDG37)

Outcome with pharmacotherapy was seen as dependent on patient compliance, therefore patient selection for oral disulfiram is recommended. Patient compliance must be ensured through contracting regarding oral disulfiram or involving a close relative to supervise the use of medication. Disulfiram implants were regarded as highly effective by some, yet there was also disillusionment. Continuous monitoring and motivation is important.

Motivation of patients can take a rather harsh tone: “..... you explain to the guy that this must be taken every morning and you specifically allocate (*sic*) that’s not addicted to the alcohol for example and you say you take this every morning and you explain to him in graphic detail what will happen to him if he drinks a whole bottle with the medication in his blood, because fear is the mother of morality, and you create a fear of consequence, rather than ‘If I drink I am going get drunk, but if I drink the alcohol I am going to feel really bad.’”(ERPG28)

“It is somewhat difficult, I know these patients, I know them personally. If I have threatened him with his liver enzymes that went through the roof and I say to him: ‘Listen, if you want to go on for the next six months, you will die, the previous guy that went on like that, died.’ I personally had about three patients in the practice who literally drank themselves to death. With them I also got to a stage where I got to a liver enzyme study and I could show them ... his ALT and his GGT was around 600, 700, 800 and I could show him and say: ‘See how your stuff looks, I have treated a similar guy as you, he did not stop drinking and within six months he was dead.’ And if I get that guy in spite of me having threatened him and me having told him what was going on, and we are through the whole story, and he still refuses and he continues... Then I leave him. So, I will leave such a guy if he is medically, if he physically had blood tests and so forth and when he gets to that point and he still does not want to listen, then I leave him. So I do look after such a guy physically.”(*Transl.* ERPG03)

5.6.1.2 State Hospitals and Treatment Centres

5.6.1.2.1 Important Role for Pharmacotherapy

Representatives of hospitals and treatment centres saw pharmacotherapy as essential during withdrawal. They also acknowledged that underlying psychiatric problems need to be sorted out and optimal physical condition is important to support the patient’s progress in psychological aspects. Pharmacotherapy therefore should be part of a multi-disciplinary team approach.

5.6.1.2.2 Pharmacotherapy as “Bridging”

There was however also the notion that good non-pharmacological treatment may negate the need for pharmacotherapy:

“I think the medication plays a big role, but there is a big and good role that is played by non-pharmacological therapy. Once that particular aspect is well done, some of the patients will not go further.”(NDSM46)

The lengthy duration of rehabilitation leaves a lot of room for relapse, so pharmacotherapy should bridge this period until recovery is evident:

“... because to get his head clear and to wait to get his head cleared, there are a hundred and

ten chances to relapse again, so it is very important to complete it as soon as possible.”(Transl. SRDP05)

5.6.1.3 Private Psychiatrists

Private psychiatrists regarded the role of pharmacotherapy as an essential and fundamental part of therapy during withdrawal and to facilitate the implementation of other therapies. The treatment of co-morbid conditions is of particular relevance in this group. Maintenance or relapse prevention is important, yet is underutilized due to lack of availability of medication, cost and the work-intensive monitoring that long-term pharmacotherapy requires. A psychiatrist was of the opinion that the field does not require specialist intervention per se, rather the involvement of an interested general practitioner with relevant training in Psychiatry (SRPP31).

“The medical connection in addiction is primarily in withdrawal and evaluation, but you can use a general practitioner that is trained in Psychiatry for evaluation purposes and who is interested to give him professional training in the withdrawal purposes (*sic*). The ideal discipline to do this is Psychiatry, but I do not think it is really necessary for a psychiatrist to do that.....I do not think it is a strong enough field for a specialist discipline, it is more suited for people who got training in it.”(SRPP31)

5.6.1.4 Non-Prescribers

5.6.1.4.1 Pharmacotherapy during Withdrawal

Non-prescribing therapists saw the need for pharmacotherapy during withdrawal, to assist the patient’s willpower or motivation or as an initial bridging until coping mechanisms have been developed. One therapist remarked that medication during withdrawal interferes with initial therapy (SRSS16).

5.6.1.4.2 Pharmacotherapy during Relapse Prevention

There was some support for the use of disulfiram in this group. The main concern was however the fear of substitution of the target substance with another addictive drug. It was explained that addiction often develops in the setting of patients trying to self-medicate and as a psychological crutch. Safe medication should therefore be prescribed with due consideration. The ideal would be to stay without medication. Addressing the underlying problem negates the need for addictive medication as success in prevention of relapse is ultimately dependent on the patient’s motivation.

5.6.1.4.3 Psychopharmacology

There is recognition of the role of pharmacotherapy to balance biochemical imbalances and as psychopharmacology support. An experienced therapist stated that he would not easily

become involved with an addicted patient without the involvement of a psychiatrist. (SRPS21)

5.6.2 Private General Medical Practitioners as Prescribers

Conflicting views regarding general medical practitioners as prescribers in this field were aired: on the one hand pharmacotherapy in addiction medicine is regarded as a specialized area, yet there was also the opinion that private general medical practitioners should familiarize themselves with this field. Private general medical practitioners often found their own lack of knowledge an impediment to using it effectively. They overcome this fear when they use the new medication in conjunction with a psychiatrist. The high cost of medication is prohibitive to effective long-term treatment and hindering the adaptation of treatment to the individual needs of a particular patient. Successful pharmacotherapy was also said to be dependent on a supportive environment and multi-professional intervention.

5.6.3 Perceived Effectiveness of Pharmacotherapy

Private general medical practitioners expressed frustration by the lack of effectiveness of pharmacotherapy in the prevention of relapse, but on closer consideration this is due to lack of adherence: “I do not think it works very well. People do not drink the stuff. They throw it away. You may give it while he is there and then you wait till he drinks. When the control is gone, it’s a whole new ball game and many of these things are addictive.”(*Transl.* NDPG06)
“Antabuse, personally I do not know how effective it is, because those that you prescribe, they don’t drink it. I am at the point where I personally dish out the pills and phone the guy every day at his work to come and fetch his pills. Even that did not work. So does Antabuse work for me? No....If I look at the last three alcoholics we had, everyone started on it, they were all on antidepressants, they all got Antabuse, I think they drank through the Antabuse....We have the pills, we got it from the doctor, but in some or other way they are still not motivated. I recently had a patient who drank at his work. His work took him on about that, threatened that he is going to lose his work and I sat with that guy week in and week out, then he later told me it is not going to work like that.....I have phoned his workplace. I later got one of his colleagues and I still manage his Antabuse. He came for three mornings and then he is on holiday, and then he is still not back and then, yea... Then you give up. I do not believe in giving up, it is just, your hands are tied.”(*Transl.* EBPG06)

5.6.4 Perceived Dangers of Pharmacotherapy

5.6.4.1 Substitution

Recommendations regarding substitution ranged from a request that the role of pharmacotherapy should be limited, based on the fear of substitution to advocating

substitution as the danger of relapse is a bigger threat than cultivating a substitute addiction: “It is very effective.....Definitely, I would put everyone off the alcohol and straight onto benzodiazepines and I would say as much as they want, as long as they are functional. So when they drink 60mg daily when they go to work and they are not beating their wife,....I do not have a problem.”(NRPG26)

A member of the non-prescribers panel said that he frequently sees this substitution of one addiction for another: “I do not get the impression that it (pharmacotherapy) plays a role, I do however get the idea that if it does start playing a role, it tends to substitute for the alcohol and if they abuse alcohol, they will also abuse medication... and it must be structured very strongly, it transforms alcohol dependence into medication. I really find that very often.”(*Transl.* ERPS19)

A therapist mentioned that patients themselves will often stop using maintenance medication, because of a fear to become addicted to another type of medication: “There are many misconceptions of ‘I am already dependent, I do not want to become chemically dependent’, that kind of thing. They want to leave everything as soon as possible, and I think there is a huge void in that field.” (*Transl.* SRBS23)

5.6.4.2 Pharmacotherapy Blamed for Long-term Effects

A representative of a hospital specifically said that their centre prescribed disulfiram, but no longer advocated implants due to problems, including the fact that patients attribute all forthcoming symptoms to the implants. “Yes, we had a lot of trouble with it; the guys came with a lot of things that they regarded as side effects. Three years after the implant was done, he has headache, then it is because of the implant.” (*Transl.* SRSM01)

5.6.5 Summary of the Role of Pharmacotherapy

Table 5.22 summarizes the views of respondents regarding the role of pharmacotherapy in the treatment of addiction and dependency.

Table 5.22: Summary of Views Regarding the Role of Pharmacotherapy

Themes	PGMP	PP	SH and TC	NP
General	Absolutely essential Reduce pressure on doctor to keep patient dry Supportive to psychosocial therapy Symptomatic treatment Not effective on its own Mostly important in withdrawal Underutilized due to cost	Fascilitate implementation of other therapy	Important as bridging Good psychosocial intervention negates the necessity for pharmacotherapy Must be part of MD approach	Needed in withdrawal Bridging Assist willpower
Who should prescribe?	Specialized field GPs should know how	Trained GP		Psychiatrist
Withdrawal	Essential	Fundamental	Essential	Necessary Interfere with early therapy
Relapse Prevention	Essential: improve success Less important May lead to substitution Success depend on patients' motivation/ compliance: thus only in selected patients	Important, yet underutilized	Patients blame implants for long-term effects.	Fear of substitution Recommend disulfiram Better to do it without medication
Psychiatric Medication	Crucial for success Anxiety and insomnia should be treated	Treatment of co-morbid conditions important	Important MD approach	Needed to balance chemical imbalances
Harm reduction	Limit role of pharmacotherapy Should be promoted if it promotes better behaviour		Safe medication should be used Patient not to be given a crutch	Transforms alcohol addiction into medication addiction

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Respondents; TC=Treatment Centre Respondents; NP=Non-prescribers; MD=Multidisciplinary)

5.6.6 Access to Medication

Private general medical practitioners regarded medication options as limited in the state system and availability of medication in general a problem for out-of-pocket paying patients. Unavailability of medication was confirmed by representatives of both state hospitals and treatment centres. Availability of medication in hospitals is problematic, being limited by the Essential Drugs List (EDL), for example: if buprenorphine would be available, opioid dependent patients could have been managed on outpatient basis, now they have to be admitted for a methadone-based regimen (SRSM12). A number of practitioners reported unreliable provisioning of even essential medication like diazepam, in state hospitals.

A therapist commented on the problems of patients to obtain medication: “There are definitely huge problems regarding that, because now the person has to....I would say for instance the patient does not have Medical (Aid) and he is not specifically financially well off. He has high levels of anxiety, so what now? Basically that person must go to a clinic with a letter from me, he must see the doctor at the clinic. The doctor must prescribe medication for that person..... as you know they often do not have ... ‘This month we do not have those drugs available, sorry.’ My personal experience is, rather leave it, because that person now has, say they usually give Nuzac for anxiety, but most of the guys I know he will not get his Nuzac for the full nine months. So I tried that in the beginning. Now I will say: ‘No, let us see, Nuzac costs you R70 per month. Can’t you afford that? Let us see whether we can get you a script somewhere, this fluoxetine costs you R50 per month.’... Now this person is a working person and now he must stand in a queue for a whole day to see a doctor, do you understand what I mean? Those are the practical problems.”(Transl. SRBS23)

Medical scheme funded patients also have problems. One general practitioner described the problem as follows: “The Medical Aids will not pay for disulfiram, which is a major problem. They will pay for as much Valium as you want, but they wouldn’t give you disulfiram, it does not make sense. As long as you put it through as depression. You don’t ever write alcohol when it comes to the Medical Aids because they will not pay for any treatment or medication. So you always write depression.”(NRPG26) Psychiatrists did not find medical schemes unwilling to pay for medication in general, but they did foresee that maintenance drugs would be impossible to obtain for patients dependent on state funding. The cost of disulfiram specifically placed it outside the reach of patients who have to pay for it themselves and implants are unavailable.

Table 5.23 shows that while most private general medical practitioners were in agreement that there is a general lack of access to appropriate medication; respondents from the

Northern Health Complex were less concerned by it. Fewer private general medical practitioners also indicated that lack of access to medication influenced their personal involvement. Treatment centres (they operate from a set list of medications) were not affected by lack of medication, but private psychiatrists (reliant on medical scheme funding) had a high rate of complaining that their involvement is affected by lack of access to medication. State hospitals had the second highest rate of complaining that lack of access to medication negatively affected their involvement in treatment. (This reflects provisioning problems.)

Table 5.23: Perceptions Regarding Access to Medication					
<i>Private General Medical Practitioners</i>			<i>Referral Level Practitioners</i>		
North (n=32)	East (n=25)	South (n=20)	TC (n=3)	PP (n=11)	SH (n=17)
A: Agree with statement: “There is a general problem with access to medication”					
16 (50,0%)	16 (64,0%)	15 (75,0%)	0 (0%)	7 (63,6%)	11 (64,7%)
B: Agree that lack of access to medication affects their personal involvement in the treatment of addiction/dependency					
14 (43,8%)	10 (40,0%)	11 (55,0%)	1 (33,3%)	8 (72,7%)	10 (58,8%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.6.6.1 Recommendations from Respondents Regarding Access to Medication

Respondents noted that availability and provision of medication is one of the major problems in Addiction Medicine and that more drug options should be available to doctors. A pharmacotherapy plan with stipulated guidelines and protocols including information on new drugs should be developed. Private general medical practitioners must know which drugs to avoid in addicted patients and patients should not be given another crutch. The limited range of medication available at state hospitals and unreliable medicine procurement systems need attention.

Table 5.24 summarizes the views of the various professional groups regarding access to medication to treat addiction/dependency cases.

Sector	PGMP	PP	SH	TC	NP
State	Options limited	Options limited	Limited options (EDL) Unreliable procurement	N/A	Red tape, long queues impractical for working person
Private	Unaffordable MSs don't pay for disulfiram Employers may provide	Disulfiram unaffordable Ms pay for medication		Limited options (Codelist) Reliable procurement	

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Respondents; TC=Treatment Centre Respondents; NP=Non-prescribers; N/A=Not applicable; MS=Medical Scheme)

5.7 FACILITIES AND SUPPORT SERVICES

5.7.1 General Availability of Facilities

Table 5.25 shows that a high percentage of private general medical practitioners were of the opinion that there is a lack of facilities for addicted patients. They were personally affected more by a lack of inpatient facilities than outpatient facilities. It was pointed out that there are no facilities for state-dependent patients (NRPG27, NBPG16). Private patients in the Eastern and far Northern regions were often referred outside the province for treatment. Psychiatrists were unanimous that a lack of inpatient facilities limited their involvement in the treatment of alcohol and drug addicted patients. Medical officers/consultants at state hospitals were less affected by lack of facilities, yet indicated a need for both inpatient and outpatient facilities.

<i>Private General Medical Practitioners</i>						<i>Referral Level Practitioners</i>		
<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>			
A: Agree with statement: "There is a general shortage of facilities."								
29 (90,6%)	23 (92,0%)	17 (85,0%)	2 (66,7%)	10 (90,9%)	16 (94,1%)			
B: Agree that lack of outpatient facilities affects their personal involvement in the treatment of addiction/dependency.								
18 (56,3%)	10 (40,0%)	6 (30,0%)	0 (0%)	4 (36,4%)	9 (52,9%)			

C: Agree that lack of inpatient facilities affects their personal involvement in the treatment of addiction/dependency.

24 (75,0%)	14 (56,0%)	15 (75,0%)	0 (0%)	11 (100%)	11 (64,7%)
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(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.7.2 Awareness of Facilities

Table 5.26A shows that very few private general medical practitioners were aware of outpatient detoxification done in the Northern Health Complex, despite having an outpatient treatment centre there. There were cases where practitioners refer either blindly into the state system that may or may not provide services or simply do not know where to refer state-dependent patients for such services. 15% to 25% of private general medical practitioners will undertake outpatient detoxification in selected cases.

Table 5.26A: Awareness of Available Local Outpatient Detoxification Facilities Among Private General Medical Practitioners

<i>Services delivered by</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
None	25 (78,1%)	18 (72,0%)	9 (45,0%)
Self	5 (15,6%)	5 (20,0%)	5 (25,0%)
PHC	1 (3,1%)	2 (8,0%)	1 (5,0%)
Government hospital	0 (0%)	0 (0%)	1 (5,0%)
Private clinic	3 (9,4%)	N/A	3 (15,0%)

A larger percentage of private general medical practitioners in the Northern Health Complex were aware of the rehabilitation services provided there (Table 5.26B).

Table 5.26B: Awareness of Available Local Outpatient Rehabilitation Services Among Private General Medical Practitioners

<i>Services delivered by</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
None	19 (59,4%)	17 (76,0%)	9 (45,0%)
Self	1 (3,1%)	1 (4,0%)	0 (0%)
District or secondary hospital	1 (3,1%)	0 (0%)	0 (0%)
Social worker	5 (15,6%)	5 (20,0%)	3 (15,0%)
Private clinic	10 (31,3%)	N/A	5 (25,0%)

Tables 5.27A and 5.27B show that more or less 50% in the Northern and Southern Health Complexes were aware of private facilities in their vicinity. Local state facilities were known to a considerable percentage of private general medical practitioners in the Southern Health

Complex. Services at state facilities in the Northern Health complex were either not well known, or non-existent. (Of the two regional centres here, one does not admit patients for detoxification, while the other does admit patients for that purpose, yet admittedly does not have facilities that are acceptable to a large section of the population.) District hospitals in the Northern and Eastern Health Complexes do not admit patients for detoxification, yet private general medical practitioners in that particular area were under the impression that they can refer patients there for this purpose.

Inpatient rehabilitation services are available in the Southern Health Complex and in a private hospital in one of the regions of the Northern Health Complex. Limited services are available at one of the regional state hospitals.

Table 5.27A: Awareness of Available Local Inpatient Detoxification Facilities Among Private General Medical Practitioners per Health Complex

<i>Services delivered by</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
None	13 (40,6%)	10 (40,0%)	8 (40,0%)
District hospital	1 (3,1%)	3 (12,0%)	7 (35,0%)
Secondary/tertiary hospital	3 (9,4%)	5 (20,0%)	0 (0%)
Private hospital	15 (46,9%)	7 (28,0%)	2 (10,0%)
Private clinic	2 (6,3%)	N/A	8 (40,0%)

Table 5.27B: Awareness of Available Local Inpatient Rehabilitation Facilities Among Private General Medical Practitioners per Health Complex

<i>Services delivered by</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
None	21 (65,6%)	17 (68,0%)	10 (50,0%)
District hospital	0 (0%)	0 (0%)	0 (0%)
Secondary/tertiary hospital	2 (6,3%)	1 (4,0%)	0 (0%)
Private hospital	5 (16,5%)	N/A	1 (5,0%)
Private clinic	2 (6,3%)	N/A	8 (40,0%)

Table 5.27C shows that about a quarter of practitioners were aware of private professionals providing outpatient services to addicted persons in their area. The majority of private general

medical practitioners were not aware of private practitioners providing rehabilitation services in their local environment.

Table 5.27C: Awareness of Private Practitioners Providing Outpatient Services Among Private General Medical Practitioners per Health Complex

<i>Detoxification services</i>			
	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
No	24 (75,0%)	19 (76,0%)	16 (80,0%)
Yes	8 (25,0%)	6 (24,0%)	4 (20,0%)
<i>Rehabilitation services</i>			
	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
No	20 (62,5%)	14 (56,0%)	14 (70,0%)
Yes	12 (37,5%)	11 (44,0%)	6 (30,0%)

5.7.3 Access to State Facilities

5.7.3.1 Private General Medical Practitioners

5.7.3.1.1 Difficult Access to State Hospitals

Respondents in the Eastern and some parts of the Northern Health Complex concurred that state facilities do not accept such patients for treatment or that it was either impossible or very difficult to get such a patient into a state facility. “At this stage you can only refer him to the local hospital, because you cannot admit him yourself and do detox yourself, so you must refer him and at this stage there is a bed problem and all those things. Like I said, they will probably admit him overnight with a drip and probably discharge the next day if you ask about it. So it is difficult.”(Transl. NRPG27)

“If you have someone with a medical condition like liver failure you can’t just send the person home or just refer him, because every patient we send we have to phone the doctor on duty because the hospital is flooded with all sorts of cases. If I phone him and say I have an alcoholic which I like to send you for in-house treatment, he would say no.” (ERPG28)

5.7.3.1.2 Referral Procedure into State Hospitals

The referral procedure into state hospitals was another frequent topic of discussion. Private

general medical practitioners find the process frustrating: “I am supposed to be the first line, I am supposed to be the first point contact between home and the hospital. I should have the facilities, the knowledge and the skills to handle such problems. I know most people do not prefer to use hospitals. If I can keep them out of hospital, I will do my best to treat such a person, if I have to send to hospital, most patients hate the district hospital, because they know it is community service doctors, or interns with very few medical officers, even if there are medical officers, they are not experienced. So, people are not fools, they know, so when you refer them to xxxxxx, they tell you: ‘You know you are wasting my time, you are actually sending me to a place where I may die. Why can’t you send me to Provincial?’ And you have to explain that you know that it is protocol.there are no lock-up facilities. So if patients are psychotic, they tend to be frantic, they tend to be nervous that patients will get out the windows and die. So they keep them out. ...They will rather send them to xxxxxx and lock them up in xxxxxx.....the personnel are not there.”(ERPG12)

General practitioners reported that they had to try a multitude of things before a patient is accepted at secondary hospital or after a time-consuming process, would find that there were no beds available, or a time lag of several months to get an appointment on an outpatient basis. Referral level-to-level blocks direct access to hospital and specialist care. Other issues raised were: lack of feedback; the fact that patient never sees the same doctor, psychologist or occupational therapist; transport problems and a lack of money to stay at places where services are; and resistance from patients to follow the prescribed referral route.

“We have problems getting in acute patients. Chronic patients are just not accepted..... they are unwilling to admit them..... He is white and swollen because of his anaemia, he is tired, he needs blood and they do not want to admit him. We struggle with acute things.”(*Transl.* ERPG29)

“It is a problem in the state set-up, usually a botheration. It takes a long time before you can arrange an appointment for someone, it is a lot of effort to get someone admitted in the secondary system in a secondary centre. The channels that one must follow often are frustrating both for the patients and the doctor. You often are left with a patient that you cannot help. If it is an acute psychosis or an acute problem, then it is easy, then you can refer him. To refer a patient with such a problem as an outpatient, often means a waiting period for a month or two that there is no support for those patients. So there one is really seriously inadequate.”(*Transl.* EDDG17)

Private general medical practitioners referring to a district hospital in the Southern Health Complex and in one of the Northern Health Complex areas reported that they had no problem

with getting a patient into a state facility for detoxification.

5.7.3.1.3 Recommendations from Respondents Regarding Referral

Respondents recommended that existing primary, secondary and tertiary referral levels should be maintained. A well-managed reporting structure supported by a transparent policy and a referral system that is communicated to all the doctors and patients should be in place. Improved co-ordination and communication between all non-governmental organizations, other available services and professionals are needed to improve referral. A central structure can provide information and help with training, provide guidance and facilitate referral to various professionals. Feedback from treatment and consensus regarding management are crucial elements for proper functioning. Referral structures must be supported by infrastructure. More psychiatric services, rehabilitation, psychology services are needed. Regarding follow-up, respondents recommended follow-up groups, follow-up at the place where they initially got help and follow-up in the community. It was recommended that follow-up at private general medical practitioners should be more structured.

5.7.3.1.4 Private General Practitioner Services as Only Option for State Patients

A number of private general medical practitioners regarded the only treatment option for state patients as: “to manage him on a shoestring budget as an outpatient.” (*Transl.* NRPG38)

“Here are no (state) doctors, so we see most of the people. They cannot go anywhere else. The clinics do not know what to do with them, because here are basically only sisters. So, those patients end up with us and often it is because of pressure from the town, because it is people in the church. The church approaches you, you must do something to this patient’s problem. Our hands are tied. I cannot withdraw that person here, we do not have the facilities, the facility that is here, they cannot afford anyway. So, that person must be referred to the state and that is where our hands are tied. We may not refer to yyyyyy, we may not refer to zzzzzz. We were pertinently told we may only refer to xxxxxx, irrespective of the reason or the emergency and xxxxxx will decide whether they are going to refer further or manage and that is where it ends. If you send the patient this morning, he will be back this afternoon.....there are no doctors here. They only come twice a week or three times a week. You cannot blame them, here are 28 000 state patients. If one or two people come two or three mornings per week, they cannot handle it. What goes on in xxxxxx hospital, I don’t know, but patients, despite the reason, virtually refuse to go there. There is no support, so this is unfortunately a problem, because these persons are not regarded as ill or as acute, so those people are treated even worse I would say than the rest....You don’t get him past xxxxxx ” (*Transl.* EBPG06)

5.7.3.1.5 Loss of Continuity after Referral in the State System

A common complaint was that the referring general practitioner has no control or knowledge of what happens to the patient after referral.

“In the private system, I follow up my patients with referral letters back from the doctors. In the state system, the patient gets lost....Yes, and I also do not know whether the state is in fact managing him further.”(EDPG31)

5.7.3.1.6 Lack of Support Services during Follow-up Phase

Several respondents expressed their concern about follow-up of patients who underwent detoxification. Psychiatric services for this purpose were described as inadequate, there is a lack of continuity and clinics continue treatment without proper review.

5.7.3.1.7 Special Groups of Patients

The following groups of patients were reported to be especially problematic to sort out: Aggressive patients are not accommodated in the private system and have to be referred to the state for detoxification; patients who relapsed several times (limited to 2 admissions); patients with pethidine and “hard” drug addiction/dependency, to get patients without medical scheme funding (from a private background) into the state system. Dual diagnosis patients are particularly problematic as psychiatric services require the patients to be detoxified before referral, yet inpatient detoxification services are not readily available.

A general practitioner described the problem of having a violent patient: “In the private system if you maybe have a patient that is somewhat violent; then the private psychiatrist says: ‘Sorry, I do not do withdrawal, send him to the state that he can be withdrawn and I will manage him further when they have withdrawn him.’ So, that is my biggest problem: the state is not always immediately available to withdraw the patient and the private system just says no, I don’t withdraw. What do you do then?” (*Transl. SBPG 33*)

5.7.3.1.8 The State/Private Divide

A particularly worrying trend is the development of alienation between the private and state systems where the perception is that a patient referred by a private general practitioner is penalized for having used the private system:

“You see, when you refer a patient for x-rays: if he goes via you as a private practitioner, then they expect him to pay something for the X-rays, but through the clinic it is completely free, it has happened.”(*Transl. NBPG47*)

“There is actually an antagonism from the state and the clinic against the private guys. If a state patient, we see many state patients here that we do not even charge, but if I write him a letter on this note, then they say at the clinic or the hospital, but you have money to pay to see

a private doctor, so go back, we do not manage you. This is the type of relationship we have at this stage.....so I do not even give a letter to someone, it counts against him.” (*Transl. NRPG01*)

Private general medical practitioners thus perceived the state system as one that they are officially excluded from, cumbersome to access and discriminatory towards their patients through policies that aim to force patients to use either exclusively private or exclusively public services. A substantial number of private general medical practitioners indicated that they did not have enough knowledge regarding the available services, especially for patients without medical scheme funding. A number of private general medical practitioners referred these patients to the PHC clinics, or to government hospitals, yet it seems this represents a “blind” referral process. Even in areas where the respondents from the hospitals in those areas indicated that they do not provide services for such patients, there were cases where private general medical practitioners still described this as their *modus operandus* for these patients.

Access in the Bloemfontein region was found to be better than elsewhere, yet some private general medical practitioners were not familiar with the local division of responsibilities, leading to frustration with inappropriate referral attempts to the psychiatric complex.

5.7.3.2 State Hospitals

Access to state hospitals for detoxification is limited. Most district hospitals and even regional hospitals do not provide inpatient detoxification. Where services are available, it may involve admission to a psychiatric ward. Respondents from state hospitals blamed the workload of medical officers/consultants as the reason for problems. They also presented a lack of a clear-cut protocol and appropriate facilities; high bed occupancy; and a fear of being flooded with such cases as reasons for non-involvement. One respondent specifically referred to it that there is a difference between state dependent patients and those whose medical scheme funds became exhausted. While local psychiatric services were seen by some as adequate, some respondents in this group maintained that there were no support services for after care. A state hospital that did provide extensive rehabilitation services revealed that patients do not present themselves for rehabilitation sessions, despite telephonic reminders.

5.7.3.3 Private Psychiatrists

Private psychiatrists were of opinion that there are not enough facilities for state patients; they are therefore not helped unless serious health-related complications occur. The practice of detoxification without rehabilitation as occurs in state facilities is unacceptable.

5.7.3.4 Non-Prescribers

Therapists in the Northern region maintained that there were no facilities for state patients. Respondents in the Southern region do have access to detoxification for these patients, yet were uncertain about what to do with patients addicted to drugs other than alcohol. There were reports of difficulty in accessing rehabilitation facilities. Reasons given were: the limited capacity of the treatment centre, procedural hindrances and a policy regarding relapsed patients and patients with unacceptable behaviour. Access to psychiatric services was described as frustrating and best avoided. Retaining a patient in treatment during detoxification or rehabilitation was identified as a particular problem.

5.7.3.5 Recommendations by Respondents Regarding Facilities and Services in State Hospitals

There is strong support for the notion that existing state structure should start providing services to addicted patients, in particular that district hospitals should provide detoxification services. Respondents were however sceptical about the ability of state hospitals and clinics to provide services. Specific recommendations include improving the medication procurement system and improving capacity and psychiatric support in clinics and hospitals. Several respondents referred to the importance of providing a dedicated space, providing privacy, being locally accessible and of acceptable standard. In smaller centres local outpatient facilities with a visiting multi-professional team on a weekly basis, would suffice. Another line of thought supported the establishment of alternative state-funded inpatient facilities for detoxification. Suggestions for facilities ranged from the establishment of specialized centres with comprehensive services to outpatient services with specialist support in smaller centres. About half of the psychiatrist respondents identified the establishment of a specialized rehabilitation unit as a critical element in improving services.

Respondents from the Eastern and Northern regions pleaded for a dedicated addiction centre per region, in particular rehabilitation facilities. It was noted that privately funded ventures will not be able to survive with existing medical scheme policies. Specialized units should therefore be for both state and privately funded patients. Facilities for patients without medical scheme coverage are critically needed, especially the capacity to follow up state patients locally. An alternative route for providing access for state patients is the expansion and improvement of existing treatment centres through state funding. Central specialized facilities should be supported by referral facilities in the communities from where patients can be registered and referred.

Several respondents in the Southern Region were satisfied with current services in region. There were however individual pleas for a co-ordinated system for private and state patients

and an affordable specialized service.

Table 5.28 summarizes the views of referring parties into the state system regarding access to state facilities.

Table 5.28: Summary of Views of Referring Groups Regarding Access to State Facilities		
<i>Themes</i>	<i>Referring parties (PGMP, PP, NP)</i>	<i>SH</i>
<i>Referrals not accepted</i>	<ul style="list-style-type: none"> Due to competition with acute cases Due to lack of appropriate facilities No doctors in state No facilities for state patients 	<ul style="list-style-type: none"> Lack of appropriate facilities Staff not trained Fear of being flooded
<i>Difficult access</i>	<ul style="list-style-type: none"> Long waiting lists Many preliminary steps to be taken before accepted Resistance of patients to be sent to state facility Not enough facilities Access to psychiatric services frustrating, best avoided Patient penalized for visiting a private doctor Difficult to access rehabilitation services 	<ul style="list-style-type: none"> Limited bed-capacity Admission in psychiatric ward not acceptable for some patients
<i>Communication</i>	<ul style="list-style-type: none"> Do not know about state-run services No feedback from state facilities Written referral to the detriment of a patient 	<ul style="list-style-type: none"> No clear-cut protocol
<i>Continuity</i>	<ul style="list-style-type: none"> Patients does not see the same doctor Lack of support in follow-up Local psychiatric services sufficient Detoxification without rehabilitation unacceptable 	
<i>Specific Problems</i>	<ul style="list-style-type: none"> No options for Violent patients, Behaviour problems, Repeated relapses, Dual diagnosis patients, -Out-of-pocket paying self-employed patients Retention in treatment 	<ul style="list-style-type: none"> SH in urban region work with private sector Receive patients whose MS benefits are depleted
<i>Needs</i>	<ul style="list-style-type: none"> District hospitals to provide detoxification Dedicated local facility, especially rehabilitation and follow-up services Medication procurement to be addressed 	<ul style="list-style-type: none"> Appropriate facilities Training of staff Distribution plan

	Psychiatric support in clinics need attention Specialized rehabilitation unit	
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(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Representatives; NP=Non-Prescribers; MS=Medical Scheme)

5.7.4 Access to Private Facilities and Services

5.7.4.1 Private General Medical Practitioners

5.7.4.1.1 General Remarks

Private general medical practitioners generally described private sector services in positive terms with easier and more rapid referral, multi-disciplinary services and with proper feedback. They reported more continuity in the management of these patients in the private sector and more patients staying involved in their treatment, reporting back when they relapse.

5.7.4.1.2 Medical Scheme Funded Patients

Access to private facilities is mostly dependent on authorization from the medical scheme of the patient. Respondents often reported that medical schemes do not pay for services if alcohol is mentioned. If the medical scheme does not pay for the treatment, the financial status of the patient is the thin thread on which treatment or not hangs.

“Yeah, look the medical funds do not pay when you send them to institutions, but it is common that a person with a drinking problem drinks out all his money. If for instance he has one thousand rand he will just drink it out. Yes, the problem lies with the unemployed.”

(Transl. NRPG35)

5.7.4.1.3 Out-of-Pocket Paying Private Patients

There are no inpatient treatment options for out-of-pocket paying patients.

“Money is a big problem. The private hospitals are too expensive and the state does not have a facility here currently.” *(Transl. NRPG04)*

“No, I cannot accommodate all the patients in the private system, although we do see state patients that are willing to pay for a consultation or two. It is unfair to burden those people with additional costs through private treatment, you refer them back to the state with your diagnosis, and let them go through the correct channels to get the best treatment at a fair price or for free.” *(Transl. ERPG09)*

“The private paying patients that have to pay for everything from the beginning, this is where funds are also a problem. Often these are farmers, or people who work for themselves. It is a matter of if he does not work he earns nothing. So it comes down to it that the private paying patient’s problem is that he does not always have the time, because to him time is money, to

take time off to attend to his problem. So usually by the time that you have to help that patient, he has nothing left to lose...” (Transl. EDDG17)

“... if people have a problem, they will devise means to pay, if they can't pay, you still refer them to your hospital and the hospital will send them to xxxxx and everybody hates the hospital in xxxxxx”. (ERPG12)

5.7.4.1.4 Private Sector Capacity

Capacity problems in the private sector do occur at times with insufficient provision of beds. There are long waiting lists for patients to see psychiatrists.

5.7.4.1.5 Ethical Dilemmas in Funding

Many private general medical practitioners remarked that they would never disclose the fact that a patient is addicted to alcohol when admitting patients to hospital or even when referring the patient for therapeutic support in fear of losing medical scheme funding for current or future treatment.

“Look, there we have the hospital; (it) is relatively comfortable. Maybe we do bend the rules a little with the specific diagnosis to get the person admitted and then we have to work carefully with the medication as well so that the medical scheme does not refuse to pay for the person and then we use the psychologists and psychiatrists and even referrals to larger centres.”(Transl. ERPG18)

One respondent explained that like other services, access to social services is determined by medical scheme funding.

“...You don't ever write alcohol when it comes to the medical aids, because they will not pay for any treatment or medication. So you always write depression. When I send someone to xxxxxx, I don't say it is for alcohol, I say it is for depression, because then they will pay, but they wouldn't pay for alcohol.Even the referrals. You never, ever write alcohol, OK. I have no experience with the hard drugs.”(NRPG26)

5.7.4.2 Private Psychiatrists

Psychiatrists exclusively treat dual diagnosis patients. Within the Southern region, they were routinely involved with withdrawal from a variety of substances. They had however no access to private hospital facilities; and were therefore obliged to refer to physicians. On the other hand, they experienced fewer problems than private general medical practitioners did with medical scheme funding.

Medical scheme funds were described as discriminating against psychiatric patients in general. The limitation set by medical schemes of three days for detoxification and the fact that they do not pay for the medication, obliges the doctor to “always say that it is for

depression”. Another consequence of medical schemes not regarding addiction as a legitimate disease is that rehabilitation units fail financially.

5.7.4.3 State Hospitals

One respondent from a state hospital offering detoxification services confirmed that they work together with private psychiatrists and psychologists in the interest of the patient.

5.7.4.4 Non-Prescribers

A non-prescribing therapists confirmed: “... if you mention to the medical aid that they have a problem with alcohol, they stop paying, even with admission, if you were to admit, they always ask you if there is an element of alcohol and if you say yes none of them is getting better treatment.” (NRPS11)

A therapist indicated that in the case of medical scheme funding running dry, doctors would be paid first, while payment for other professionals is rejected. A therapist complained that some doctors on purpose would only refer the patient to her after the patient’s medical scheme benefits has been exhausted.

“What is very bad, I think they also know that, is a group that exhausts half of the medical scheme funds and when the medical scheme is exhausted, then he phones xxxxxx. It is very bad if that happens or if a psychiatrist keeps someone in hospital, he is going to exhaust the medical scheme and for the rest of the time if the patient becomes ill, then there is no money left. That is bad for me.” (*Transl.* NRPW28)

A non-prescriber in a state hospital defined the term “private patient” as follows:

“I am not sure whether I understood you correctly; private patients are usually the poly substance dependent patients, after their medical scheme funds are depleted, after repeated admissions, then they usually end up with us.” (*Transl.* SRSP19)

5.7.5 Access to Therapeutic Support: Referral between Professional Groups

5.7.5.1 Private General Medical Practitioners and Social Workers

While private general medical practitioners in urban areas had access to social workers for private patients, many did not make use of them. There was scepticism about the efficacy of social intervention. State social services were described as overburdened, not dedicated to this task, insufficient, having a high turnover of personnel and difficult to access from the private sector. Several private general medical practitioners have no access to a social worker, or reported that a social worker is available “only on paper.”

5.7.5.2 Private General Medical Practitioners and State Psychiatric and Psychology

Services

Though access to psychiatric services and psychologists for state patients was confirmed by private general medical practitioners, they were very critical of these services. Complaints included that psychiatric services do not have the capacity to follow up patients, to the extent that the number of appointments made for visiting psychologists and psychiatrists was fixed. There were frequent reports that the referral process is ineffective, that it is a struggle to get appointments and that after following a long and cumbersome referral chain, a patient may end up at a hospital without services in that particular field. Some private general medical practitioners were not aware whether there is access to psychologists or psychiatrists for state patients. A psychologist at a state hospital remarked: “Psychologists are much more available these days, it appears to me the state is just applying them in the wrong way, they are more utilized to treat the personnel than to treat patients. We see more personnel at the hospital.”

5.7.5.3 Private General Medical Practitioners and Treatment Centres

In general there is a good relationship between private general medical practitioners and treatment centres. A general practitioner remarked that the management of local treatment centre does not believe in the use of pharmacotherapy (NRPG27).

5.7.5.4 Private Psychiatrists and Social Workers

There was a wide variety of responses from psychiatrists regarding the involvement of social workers. Reasons for not involving them include unavailability, lack of funding, inadequacy of level of services.

“Social workers (are) available, but level of service that these patients need is extremely high due to financial problems, family violence and lack of trust.” (Transl. SRPP31)

5.7.5.5 Private Psychiatrists and Psychologists in the State System

A psychiatrist mentioned that a shortage of psychologists in the state system contributes to high relapse.

5.7.5.6 State Hospital and Treatment Centres and Social Workers

About half of the respondents from treatment centres and hospitals said that they had easy access to a social worker in their institution. There were also reports of problems with no or limited access. Problems mentioned were that services rendered by social workers are very superficial due to understaffing/overburdening.

5.7.5.7 State Hospitals and Treatment Centres and Psychiatric Services

With regard to referral for psychiatric services a rural medical officer had the following to say: “There is also a protocol for when you may send a patient and when not. The patients who tried to commit suicide or have it in mind get preference there and certain protocol on

when patients will be seen, so you would not be able to help the patient immediately, he will have to wait 4 or 5 months for help. Then it is either too late or he does not need it any more, because he is no more there.”(Transl. EDSM15)

The ruling that patients should be withdrawn prior to referral to psychiatric services, as only patients with residual psychiatric symptoms are accepted, is seen as creating a dead-lock in treatment options. (SRSM01, SRSM12)

5.7.5.8 Non-Prescribers

Access to social workers or psychiatric services varied from “no problems” to “no access”. Access to psychiatric services is being limited by protocols and limitation of the number of appointments per clinic. There may also be a problem with maintaining continuity of care after discharge from institutions as a number of therapists confirmed that social workers and psychologists were overloaded.

5.7.5.9 Summary of Views on Access to Private Services

Table 5.29 summarizes the views of referring parties in the private sector on access to private services.

<i>Themes</i>	<i>PGMP</i>	<i>PP</i>	<i>NP</i>
<i>Access</i>	-Easy access -Rapid referral -Medical schemes do not pay for treatment* -Medical Schemes restrict benefits*	-No bed allocation for psychiatry at private hospitals -Medical Schemes obliged by law to pay for treatment*	-Medical Schemes do not pay if alcohol involved*
<i>Capacity</i>	-Waiting lists at private psychiatrists -Insufficient beds at times		
<i>Communication</i>	Proper feedback		
<i>Specific Problems</i>	Some private service providers withhold information from medical schemes if alcohol is involved because of fear of losing funding. Prescribing is adapted to mask alcohol-related diagnosis. * No options for out-of-pocket paying patients State hospitals receive patients after medical scheme benefits are depleted		

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; NP=Non-Prescribers)

*Acute withdrawal is an emergency and covered in terms of the Prescribed Minimum Benefits that Medical Schemes are obliged to pay for by law (RSA DoH, 1999:56). Up to 3 weeks per year hospital-based treatment for substance addiction/dependency is paid for (See 5.7.6.5).

5.7.5.10 Multidisciplinary Care per Health Complex

Table 5.30 shows that private general medical practitioners in the Northern Health Complex were less affected by poor referral structure and lack of multi-disciplinary team members than respondents from other regions. Private psychiatrists had the least problems with therapeutic support, probably because they operate in a multidisciplinary environment and receive referrals of patients who mostly have medical scheme funding. (Private psychiatrists also reported fewer problems with payment from medical scheme funds.) Half of the state hospital respondents had a problem with a clear-cut referral pathway and even more were affected by a lack of multi-disciplinary team members.

Table 5.30: Perceptions Regarding Availability of Therapeutic Support					
<i>Private General Medical Practitioners</i>			<i>Referral Level Practitioners</i>		
<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
A: Agree that lack of visible referral structures affect their personal involvement in the treatment of addiction/dependency.					
20 (62,5%)	18 (72,0%)	14 (70,0%)	1 (33,3%)	4 (36,4%)	9 (52,9%)
B: Agree that lack of multi-disciplinary members affect their personal involvement in the treatment of addiction/dependency.					
21 (65,6%)	21 (84,0%)	16 (80,0%)	1 (33,3%)	4 (36,4%)	11 (64,7%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

The Northern Health Complex was affected most by lack of medical detoxification, education programmes and group therapy (Table 5.31A). The Eastern and Southern Health complexes reported a lack of group therapy, educational programmes and medical relapse prevention.

Table 5.31A: Non-Availability of Local Services Experienced by Private General Medical Practitioners per Health Complex			
<i>Type of service</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Medical Detoxification	9 (28,1%)	2 (8,0%)	5 (25,0%)
Religious support	1 (3,1%)	3 (9,4%)	4 (20,0%)
Psychological support	3 (9,4%)	5 (20,0%)	2 (10,0%)
Psychiatric support	6 (18,8%)	7 (21,9%)	5 (25,0%)
Group therapy	12 (37,5%)	8 (25,0%)	9 (45,0%)

Support to family	9 (28,1%)	5 (15,6%)	5 (25,0%)
Medical relapse prevention	5 (15,6%)	2 (6,25%)	6 (30,0%)
Educational programmes	13 (40,6%)	8 (25,0%)	9 (45,0%)

Table 5.31B shows better access to local services at treatment centres and private psychiatrists. Private psychiatrists and especially state hospitals were less likely to involve religious support. State hospitals had less access to medical treatment (detoxification, relapse prevention and psychiatric support) as well as a poorer support network in the community with a relative lack of family support, group therapy and educational programmes compared to other groups.

Type of service	TC (n=3)	PP (n=11)	SH (n=17)
Medical detoxification	0 (0%)	0 (0%)	5 (29,4%)
Religious support	0 (0%)	3 (27,3%)	10 (58,8%)
Psychological support	0 (0%)	0 (0%)	1 (5,9%)
Psychiatric support	0 (0%)	0 (0%)	3 (17,7%)
Group therapy	0 (0%)	1 (9,1%)	7 (41,2%)
Support to family	0 (0%)	1 (9,1%)	5 (29,4%)
Medical relapse prevention	1 (33,3%)	1 (9,1%)	8 (47,1%)
Educational programmes	0 (0%)	4 (36,4%)	9 (52,9%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.32A shows that private general medical practitioners in the Northern Health Complex were more likely to become involved in the medical treatment of patients. They were also more likely to deliver services that are not generally regarded as their responsibility, like religious support, psychological support, psychiatric support and group therapy. They had a higher degree of involvement in supporting the family than other regions.

Type of service	North (n=32)	East (n=25)	South (n=20)
Medical detoxification	16 (50,0%)	8 (32,0%)	4 (20,0%)
Religious support	3 (9,4%)	0 (0%)	1 (5,0%)
Psychological support	5 (15,6%)	0 (0%)	0 (0%)
Psychiatric support	5 (15,6%)	0 (0%)	0 (0%)
Group therapy	4 (12,5%)	0 (0%)	0 (0%)

Support to family	7 (21,9%)	3 (12,0%)	3 (15,0%)
Medical relapse prevention	22 (68,8%)	8 (32,0%)	5 (25,0%)
Educational programmes	5 (15,6%)	2 (8,0%)	0 (0%)

Table 5.32B shows that private psychiatrists, in cooperation with their teams, delivered the widest range of services. This reflects the treatment environment where they work and also the resources of the patient population they serve. State hospitals offered a more limited range of services. Medical services, psychological services and social services were not universally accessible. There is a relatively poor team structure with the best representation in detoxification and psychology services.

Table 5.32B: Support Services Delivered by Referral Level Practitioners or Member of Team in Institution

Type of service	TC (n=3)	PP (n=11)	SH (n=17)
Medical detoxification	3 (100%)	11 (100%)	8 (47,1%)
Religious support	0 (0%)	6 (54,5%)	1 (5,9%)
Psychological support	2 (66,7%)	9 (81,7%)	11 (64,7%)
Psychiatric support	0 (0%)	11(100%)	6 (35,3%)
Group therapy	3 (100%)	8 (72,7%)	5 (29,4%)
Support to family	3 (100%)	9 (81,7%)	8 (47,1%)
Medical relapse prevention	2 (66,7%)	9 (81,7%)	5 (29,4%)
Educational programmes	3 (100%)	7 (63,6%)	4 (23,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Private general medical practitioners, especially in the Northern Health Complex, tend to use networking possibilities in their region (Table 5.32C), yet were less likely to involve social workers than other groups would (Tables 5.33A and 5.33B).

Table 5.32C: Support Services Delivered by Unrelated Local Professionals in Support of Private General Medical Practitioners

Type of service	North (n=32)	East (n=25)	South (n=20)
Medical detoxification	0 (0%)	0 (0%)	1 (5,0%)
Religious support	23 (71,9%)	7 (28,0%)	6 (30,0%)
Psychological support	12 (37,5%)	5 (20,0%)	7 (35,0%)
Psychiatric support	9 (28,1%)	2 (8,0%)	4 (20,0%)
Group therapy	8 (25,0%)	2 (8,0%)	2 (10,0%)
Support to family	9 (28,1%)	2 (8,0%)	3 (15,0%)

Educational programmes	2 (6,3%)	0 (0%)	1 (5,0%)
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Referral level practitioners have relatively less well-developed networks (Table 5.32D) and State hospitals suffer from poor access to both formal teams as well as networking.

Table 5.32D: Support Services Delivered by Unrelated Local Professional in Support of Referral Level Practitioners

<i>Type of service</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Medical detoxification	0 (0%)	0 (0%)	0 (0%)
Religious support	3 (100%)	2 (18,2%)	2 (11,8%)
Psychological support	1 (33,3%)	2 (18,2%)	0 (0%)
Psychiatric support	3 (100%)	0 (0%)	2 (11,8%)
Group therapy	0 (0%)	1 (9,1%)	1 (5,9%)
Support to family	0 (0%)	1 (9,1%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.33A: Routine Referrals from Study Groups to Social Workers in Alcohol Abuse Cases

<i>Private General Medical Practitioners</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Not applicable	17 (53,1%)	16 (64,0%)	11(55,0%)
As needed	7 (21,9%)	3(12,0%)	5 (25,0%)
Routine	8 (25,0%)	6(24,0%)	4 (20,0%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Not applicable	0 (0%)	4 (36,4%)	3 (17,7%)
As needed	0 (0%)	2 (18,2%)	1 (5,9%)
Routine	3 (0%)	5 (45,5%)	13 (76,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.33B: Routine Referrals from Study Groups to Psychologists in Alcohol Abuse Cases

<i>Private General Medical Practitioners</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Not applicable	8(25,0%)	13(52,0%)	7(35,0%)
As needed	4(12,5%)	3(12,0%)	3(12,0%)
Routine	20(62,5%)	9(36,0%)	10(50,0%)

<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Not applicable	0 (0%)	0 (0%)	4 (23,5%)
As needed	0 (0%)	2 (18,2%)	2 (11,8%)
Routine	3 (100%)	9 (81,8%)	11 (64,7%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Tables 5.33C and 5.33D show that private general medical practitioners were less likely to involve social workers and psychologists in the treatment of benzodiazepines than other groups would, while they were also less likely to refer benzodiazepine addiction cases to other disciplines compared to alcohol addiction cases.

Table 5.33C: Routine Referrals from Study Groups to Social Workers in Benzodiazepine Abuse Cases

<i>Private General Medical Practitioners</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Not applicable	28 (87,5%)	22 (88,0%)	18 (90,0%)
As needed	0 (0%)	1 (4,0%)	2 (10,0%)
Routine	4 (12,5%)	2 (8,0%)	0 (0%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Not applicable	0 (0%)	3 (27,3%)	13 (76,5%)
As needed	0 (0%)	2 (18,2%)	0 (0%)
Routine	3 (100%)	5 (45,5%)	4 (23,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Table 5.33D: Routine Referrals from Study Groups to Psychologists in Benzodiazepine Abuse Cases

<i>Private General Medical Practitioners</i>	<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>
Not applicable	26 (81,3%)	20 (80,0%)	17 (85,0%)
As needed	0 (0%)	1 (4,0%)	2 (10,0%)
Routine	6 (18,8%)	4 (16,0%)	1 (5,0%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
Not applicable	0 (0%)	1 (9,1%)	13 (76,5%)

As needed	0 (0%)	0 (0%)	0 (0%)
Routine	3 (100%)	10 (90,9%)	4(23,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.7.6 Cost and Funding

5.7.6.1 Cost

Many respondents did not know the cost involved in detoxification, yet had a vague idea that it was very expensive or unaffordable. Cost estimation is difficult, because the cost of several services should be accounted for: “ I have no idea, because it depends on how long the patient is going to lie in xxxxx, what are the psychiatrist’s fees, how much per day, what medication he uses, how long he needs to use the medication and if there are any other tests. Usually if a patient goes to hospital for addiction to alcohol, the first thing is full chemical tests, full blood count, liver functions, renal functions, enzymes, that sort of thing. Those things amount to an awesome sum.”(*Transl.* ERPG09)

Estimations for private inpatient facilities ranged from R16 000 to R30 000 per acute episode, or from R1000 to R1500 per day for a hospital bed. A private psychologist quoted R450 per hour medical scheme fee and R150 per hour for patients without medical scheme (NRPS09) for outpatient treatment. General practitioner cost for outpatient treatment was estimated at R100 to R130 for the first consultation with reduced follow-up fees, often tailored to patient’s income. Estimations of monthly costs ranged from R200 to R1500 per month. Medication cost was estimated R300 per month (NRPS14). A psychiatrist quoted a consultation fee of R700 per consultation, inpatient consultations at R200 to R300 per day. A social worker charges according to patients’ income.

Estimates for inpatient treatment at an NGO ranges from R6000 to R7000. Special tariffs apply for patients without medical scheme. Outpatient facilities charge according to income. State patients pay a minimal fee at hospitals and clinics, while out-of-pocket paying patients referred to state hospitals are charged on a sliding scale according to their income.

“...at private hospitals it cost you a fortune, if they are treated at the state hospitals, then they have to pay private (fees) anyway.” (*Transl.* ERPG04)

There are costs involved for state patients: “...with the shortages we have locally, it is about travel costs and accommodation costs when they have to go away. Often, maybe not as much as for the private patient, but often that patient also has costs to get here. A shuttle service is available, but many go on their own and wherever they go, they often wait for very long, and must get food. Sometimes there is family accompanying them who also have to stay over and sleep over.” (EDDG17)

Table 5.34 reflects estimations for cost of services obtained from some respondents.

Service	PGMP	PP	SH	TC	NP
Initial Consultation	R100-R130	R700	According to income	N/A	Psychologist R450/h for MS R150/h for non-MS Social worker: according to income
Inpatient treatment		Consultation: R200-R300/day Bed: R1000- R1500/day R16000-R30000/ admission		R6000-R7000/ admission Special rates for non-MS patients	
Outpatient treatment	R200- R1500/month			According to income	
Follow-up	<R100 According to income		Free		

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Representatives; TC=Treatment Centre Representatives; NP=Non-Prescribers; N/A=Not Applicable)

5.7.6.2 Medical Scheme Funding Policies

According to prescribers medical scheme policies determine access to treatment to a large extent.

5.7.6.2.1 No Benefits for Alcohol/Drug Related Illness

Private general medical practitioners reported that medical schemes in general do not pay for admission or treatment for alcohol-related problems. Lack of medical scheme funding forces them to manage patients on an outpatient basis, leading to a higher relapse rate. Some doctors use an alternative diagnosis or in the case of dual diagnosis, do not disclose the fact that alcohol is involved to the medical scheme to ensure continued funding of treatment.

5.7.6.2.2 Limited Benefits for Alcohol/Drug Related Illness

Respondents reported that medical schemes that do pay, have limited benefits, limiting the duration of detoxification to three days and rehabilitation treatment to two weeks, which does not allow for adequate treatment. They further have “confusing protocols on referrals” (SRPP14).

5.7.6.2.3 Effect of Medical Scheme Funding Policies on Medication Provision

General practitioners indicated that they are specifically cautious in prescribing alcohol-specific medication to patients so that medical schemes are not able to pick up that it is an alcohol related condition, as this will make further treatment impossible. A psychiatrist who does follow medical scheme instructions complained of: “medication algorithms that are based on economy and not efficacy”. (SRPP14)

5.7.6.2.4 The Effect of Medical Scheme Policies on State Hospitals

The refusal of medical schemes to pay and limitations set by them have an indirect effect on state hospitals as medical scheme funded patients land up in state facilities as a result of that.

5.7.6.2.5 Therapeutic Nihilism and Medical Scheme Obligations

A psychiatrist offered an opposing view on the medical scheme debate: he blamed the ignorance of doctors and “therapeutic nihilism” for the fact that many patients are not referred because they are not identified. Medical schemes are obliged, according to PMB Code 182. (Prescribed Minimum Benefit) to pay for 21 days for depression (3 weeks per year). They are also forced to pay for any withdrawal. “Doctors do not know this” (SRPP07).

5.7.6.3 Low Cost Options

The low cost option for patients without medical scheme is that the private general medical practitioner would do the detoxification himself, use low cost options at a treatment centre for rehabilitation and get help from churches. A psychiatrist recommended follow-up at a general practitioner and the use of low cost medication (generic medication). NGOs offer special tariffs (SDDG37). In state hospitals fees are determined according to the patient’s income. For the lowest category it is free to R18 to R25 to open a file and the rest pays according to income. Follow-up sessions are free. Costs for medical scheme patients are determined by medical scheme tariffs.

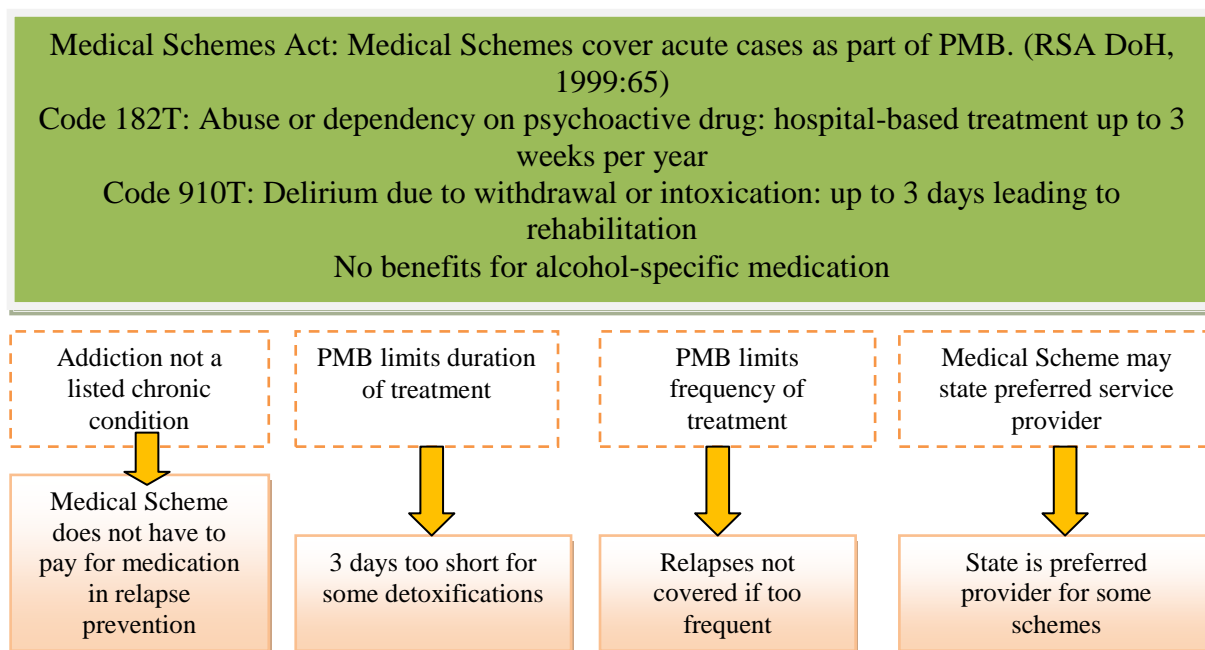
5.7.6.4 Recommendations from Respondents Regarding Funding

Respondents remarked that services should be more affordable or that funding should be such that everybody can be accommodated. Currently access to medication is dependent on whether the patient can pay for it (for out-of-pocket paying and medical scheme funded cases).

5.7.6.5 The Funding Dilemma of Private Service Providers

The Medical Schemes Act provides for Prescribed Minimum Benefits (PMB), a package of acute life-threatening conditions that medical schemes have to cover. Withdrawal states are included in the PMB, yet addiction is not listed under the list of chronic conditions. Some medical schemes specifically indicate it as an exclusion from benefits or would refer to self-induced conditions as exclusion. Figure 5.14 reflects the funding dilemma facing private

general medical practitioners and other service providers. (cf.7.3.3.3)



(PMB: Prescribed Minimum Benefits)

Some private service providers respond to the practical dead-end of exclusion from benefits by withholding information from the medical scheme. This is unlawful, yet they claim that disclosure jeopardize payment for current and future claims.

Figure 5.14: Funding Dilemma of Private Service Providers

5.8 PERCEPTIONS AND ATTITUDES

5.8.1 Perceptions Regarding Addicted Persons

Table 5.35 shows that all groups mainly disagreed with the statement that drug addicts are criminals. 35,4% doctors at state hospitals chose to stay neutral (not reflected here) or expressed a negative perception regarding addicted patients.

Table 5.35: Perceptions Regarding Addicted Persons and Criminality					
Private General Medical Practitioners			Referral Level Practitioners		
North (n=32)	East (n=25)	South (n=20)	TC (n=3)	PP (n=11)	SH (n=17)
Agree with statement: “Drug addicts are criminals”					
2 (6,3%)	2 (8,0%)	1 (5,0%)	0 (0%)	0 (0%)	3 (17,7%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

There were remarks from the interviews that reflect a decidedly negative perception: “Just talking to them, the promises and those are many; we all know that they are all manipulators etcetera.” (Transl. ERPG02) “The guys lie to you anyway, so I rarely use it (laboratory

monitoring).” (Transl. SRPP07)

5.8.2 Perceptions Regarding the Nature of Addiction

Table 5.36 reflects almost unanimous support for the notion that addiction represents a chronic disease, yet respondents were undecided on whether it is primarily a social problem or a psychiatric problem. Personnel at treatment centres saw drug and alcohol addiction as incurable, while the other two groups were more optimistic regarding the long-term outcome.

5.8.2.1 Cultural Acceptance of Alcohol Addiction

There were comments among private general medical practitioners regarding the general acceptance of alcohol addiction in local culture. In QwaQwa a general practitioner said: “...culturally speaking men are beer drinkers and it’s not something to be proud of... Many people think there is a stigma; there is not a stigma around alcoholism... At school the kids are loitering because they have nothing else to do ...There is very little to do, poverty, misery is the problem.” (ERPG28). In a rural area, another general practitioner said: “With the number of alcoholism cases that you have among the black community is terrible. But they think that there is nothing wrong with it....actually it is part of their culture, if you look here we are close to xxxxx we also have many coloured people and the coloured community is the people who drink, they are fond of it.” (Transl. NBPG16). In urban Southern Health Complex a general practitioner remarked: “Especially among the students, alcohol abuse is a huge problem.” (Transl. SRPG20)

Table 5.36: Perceptions Regarding the Nature of Addiction					
<i>Private General Medical Practitioners</i>			<i>Referral Level Practitioners</i>		
<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>	<i>TC (n=3)</i>	<i>PP (n=11)</i>	<i>SH (n=17)</i>
A: Agree with statement: “Addiction is a SOCIAL PROBLEM, not a health problem.”					
7 (21,9%)	6 (24,0%)	2 (10,0%)	0 (0%)	0 (0%)	2 (11,8%)
B: Agree with statement: “Addiction is a PSYCHIATRIC PROBLEM.”					
7 (21,9%)	10 (40,0%)	6 (30,0%)	2 (66,7%)	3 (27,3%)	3 (17,6%)
C: Agree with statement: “Addiction is a CHRONIC DISEASE.”					
29 (90,6%)	24 (96,0%)	19 (95,0%)	3 (100%)	11 (100%)	16 (94,1%)
D: Agree with statement: “Addiction is INCURABLE.”					
8 (25,0%)	11 (44,0%)	8 (40,0%)	3 (100%)	4 (36,4%)	4 (23,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.8.3 Perceptions Regarding Treatment

5.8.3.1 The Perceived Value of Intervention

Private general medical practitioners were generally convinced that it is worthwhile to intervene in both alcohol and drug addiction (Table 5.37). In the interviews they qualified their belief in the value of treatment: it lies in the results for individual patients: “Some patients do well for a long time and then they relapse.” (SRPG03) “Unpredictable, but in some cases it makes a huge difference in someone’s life.” (SDPG41) “In some people, treatment makes a massive impact.” (EDDG17)

<i>Private General Medical Practitioners</i>			<i>Referral Level Practitioners</i>		
North (n=32)	East (n=25)	South (n=20)	TC (n=3)	PP (n=11)	SH (n=17)
Agree with statement: “Treatment of drug addiction is a waste of money”					
4 (12,5%)	3 (12,0%)	2 (10,0%)	0 (0%)	2 (18,2%)	0 (0%)
Agree with statement: “Treatment of alcohol addiction is a waste of money”					
4 (12,5%)	3 (12,0%)	2 (10,0%)	0 (0%)	1 (9,1%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Despite poor outcome, the motivation for intervention remains: “...even those who are not socially functional, they still come from a family. ...socially now, but they are well enough to stay away from the drug for their family, it may not be for the community, but for the family it is something that you would better their lives, the individuals in the family....the direction not only for the patient, it is for the family also.”(ERPG21) “Overall, treatment does change their lives. There are those one or two cases that did not work. ... You can’t say in the beginning who is going to relapse, you have to give everyone who comes to you for help a try.”(ERPG24). “Usually we do see a very good positive effect; for many people it makes a huge difference in their lives.”(Transl. EDDG17) “I think definitely there is a positive outcome, there are many relapses by the nature of the condition, (but) there are patients that are completely dry. I think the important thing is, those patients saw that things can improve and the fact that they have seen it, creates the longing there to know: if I really want to, things may improve for me.” (Transl. EDPG30)

More psychiatrists were sceptical about the value of treatment. They were more positive about the value of treatment of alcohol addiction than for drug addiction. (Table 5.37)

5.8.3.2 The Perceived Quality of Treatment Services

Despite the higher concentration of services in the Southern region, there were more practitioners in the Northern and Eastern regions that were satisfied with the quality of

services rendered in their region (Table 5.38A).

Table 5.38A: Perceptions of Private Prescribers Regarding Quality of Treatment in Their Respective Health Complexes (Private General Medical Practitioners and Private Psychiatrists)			
<i>North (n=32)</i>	<i>East (n=25)</i>	<i>South (n=20)</i>	<i>PP (n=11)</i>
Agree with the statement: ‘Optimal services are rendered in this region’			
8 (25,0%)	5 (20,0%)	1 (5,0%)	0 (0%)

(PP=Private Psychiatrists)

Respondents from state hospitals were less satisfied with services in their institutions (Table 5.38B).

Table 5.38B: Perceptions of Practitioners in Institutions Regarding Quality of Treatment in Their Respective Institutions		
	<i>TC (n=3)</i>	<i>SH (n=17)</i>
Agree with the statement: ‘Optimal services are rendered at this institution’		
	3 (100%)	5 (29,4%)

(TC=Treatment Centres; SH=State Hospital Representatives)

Several private general medical practitioners elaborated on their concerns regarding the quality of services rendered in clinics and hospitals. A general practitioner remarked that it will not help to improve access to services if the quality is that poor. Hospital admission was even described as “risky” or “dangerous” (SDDG36, SDPG41, ERSM26, NRPG39). Specific factors mentioned were: unsympathetic attitude of staff in general and specifically towards alcohol addicted persons; lack of resources including the lack of even basic medication (NDSM21, SDPG41, NRPG27, NBPG16, SDDG43, NDPG24, NDPG45, EDPG30), understaffing (SDDG43, SRSP19) and lack of training of staff and poor continuity resulting in patients being sent back without receiving treatment.

“Number one, in our case, I know the state hospitals do not have the infrastructure or the know-how or the time to treat such things. What happens is: I cannot hospitalize him, so I must treat him with little money as an outpatient. It is one of our big problems, but we try.”

(Transl. NRPG38)

“The problem comes with the treatment that the patient gets at the hospital, the patient does not get optimal treatment at the hospital and from the hospital it is then to the clinic and at the clinic the sister just says we just carry on. This is the big problem, this is the big problem that must be addressed. From the hospital to the clinic there is a big continuity crisis and that is what we must address. We get there in the middle and now you send the patient and they say no, the patient must return to the clinic, then you send him to the clinic, and they say but no

sir, you must continue with your treatment.” (*Transl.* SRPG22)

Medical doctors at state hospitals explained the reasons why services are not rendered at state hospitals as: lack of training for themselves and nursing staff; unavailability of medication; lack of private, isolation or lock-up facilities; overburdened bed capacity, and no such patients presenting for treatment (SDDG43, EDPG30, ERSM26, SDDG43, NDSM21, NDSM21).

5.8.3.2.1 Recommendations by Respondents regarding Quality of Services

Respondents recommended that staff shortages in state health care facilities should be addressed in all disciplines of the multidisciplinary team. It is important to appoint the “right” personnel: knowledgeable, motivated and with the proper attitude towards these patients. Personnel should be exclusively dedicated to the task and appropriately supported. In particular posts should not be filled based on the race of the candidate and personnel must be able to talk the language of the patients. To attract more experienced people, facilities need to be upgraded. The right team, motivated and with specialized knowledge should be established centrally, then build progressively to the peripheral areas. Private psychologists and psychiatrists should be involved in the state system.

5.8.3.3 Specialized Treatment and Stigma

“In a small town like xxxx it is bad when it comes to the stigma that clings to the fact that you were once in your life at a centre or were an alcoholic, and the community, you know, they will easily give you a nickname “drunk Piet“ or such. There are people here that went through a tough time. They will recover and then after a while they will move away and make a new beginning somewhere else. They will still keep contact, but sometimes one grants them that. I will tell you the small town mentality does not allow you to forget your problem. It makes it sometimes difficult to carry on and turn over a new leaf.”(ERPG17) Respondents noted that there is especially a stigma attached to specialized treatment and that stigmatization takes place when psychiatrists and psychologists become involved in the treatment process.

5.9 PERSPECTIVES ON SUCCESS AND FAILURE OF INTERVENTION

5.9.1 Expectations of Treatment

5.9.1.1 Private General Medical Practitioners

5.9.1.1.1 Abstinence

It was a general expectation among the private general medical practitioner respondents that

absolute abstinence should follow optimal therapeutic intervention. This was however tempered by an alternative view that abstinence is an unrealistic goal and that a high relapse rate and low success is to be expected.

5.9.1.1.2 Scepticism

The odd respondent had high hopes that the patient will rehabilitate; some were sceptical: "...alcohol and drugs have a terrible cure rate in spite of anything that you may do, whether it is 100% appliance that you give, a multidisciplinary team, psychiatrist and social workers, it does not help. You can give someone the best help that money can buy and give treatment that costs thousands of rands, yet in six months he is back where he started before the treatment and in another six months, he is still at the same place."(*Transl.*SRPG04)

5.9.1.1.3 Personal Growth

Some expected the initial intervention to produce personal growth in terms of motivation to stop drinking and stay sober, developing coping skills, insight, compliance and commitment to treatment, adhering to regular follow-up and reporting threatening relapse. One elderly general practitioner expressed the futility of abstinence without personal growth: "Have you ever heard of a dry alcoholic? It is an alcoholic that stops drinking and then he makes life hell for his wife and family, but he does not go back to the bottle. He is an unpleasant person to live with and if you go in on this, you will see I am telling the truth. He is really unpleasant. He becomes ...over certain things he becomes so obsessive that he exercises, or that he does anything. But nothing to please his family. He is strict with his family; he is strict with his employees. He is obsessive about not smoking, he is obsessive about not drinking. He is obsessive about not smoking and then one day he is back." (*Transl.* NDPG06)

5.9.1.1.4 Recovery

There are expectations that the patient should experience physical recovery and that underlying psychiatric and social problems should be sorted out summarized as social rehabilitation, readiness to contribute in his family and community and recovered productivity. The patient's social network should be activated to support him.

5.9.1.1.5 Linking with Treatment Services

Some saw the initial process as the opportunity to link the patient to the appropriate professionals. It is also the time that decisions regarding pharmacologic interventions are made and here some said, it is important that the patient should not be put on benzodiazepines or other addictive treatment. Expectations from the treatment process include the expectation of proper feedback with clear guidelines and telephone numbers for the general practitioner that must follow up the patient. Psychologists and psychiatrists

should also become involved in ensuring that patients attend follow-up.

5.9.1.2 Private Psychiatrists

Psychiatrists expected that the patient should have a disease concept, equipped with knowledge of the disease and how to prevent relapse. In case of threatening relapse, he should seek help as soon as possible. He must apply what he has learnt about his disease and maintain follow-up appointments. He must also develop motivation and coping skills; as there is very little support outside, they must rely on themselves to stay sober (SRPP31). Acute physical and psychiatric conditions should be resolved. Abstinence stays the ultimate goal, yet relapse is expected. A support network must be established, involving the AA, family and a psychologist. “In our society alcohol is so freely available and accessible, for instance, if you walk into a restaurant, they ask you what are you going to drink even before you have ordered food. When you and your friends go to watch rugby, you drink. For some people it may not be a risk, but for that person that is an alcoholic, it is big problems. Alcohol is so widely available in society and to make that person aware of how high the exposure is, you have to make them aware that it is not a disease like depression. It is not like you are going to a restaurant and the waiter asks you whether you want more depression, but if you are an alcoholic, alcohol is placed before you all the time. The struggle is enormous, and the patient must be made aware of it....Yes, they have to come to that realization that there is no help for them in the community, and that they have to work hard and must be strong to get through it.” (Transl. SRPP31)

5.9.1.3 State Hospitals and Treatment Centres

Total abstinence or at least to prolong abstinent periods was the goal for most respondents in this group. For some any improvement would be welcome. Reconstruction of the family, regaining personal dignity, health, self-motivation and re-integration into society and employment are specific aims. One respondent from a treatment centre expected patients to maintain involvement in the organization.

During the intensive phase of treatment, acute withdrawal as well as diagnosis of physical, psychiatric, psychological and social problems should take place, leading to the generation of a progress report and long-term intervention plan that must accompany back referral. The plan must include regular follow-up to identify relapse early as well as contacts when relapse threatens. A top-up treatment after one year was also suggested. If medication is involved, it should be monitored by a doctor. There should also be activation of a proper support infrastructure to prevent relapse.

5.9.1.4 Non-Prescribers

Therapists view the first episode of withdrawal and rehabilitation as an opportunity for some patients to reach sobriety, and as the start of a long-term process that involve cycle of relapse through which the patient should learn more about himself and his condition and how to control it. “I do not expect anything. Every day that the guy is clean, is a gain. What I expect is that you can at least get the first three months, motivate him through the first three months and to prepare him. Experience, see the people feel better, are more motivated. Expect a relapse after a month, but the hope is that it would not happen and that one should just work through those phases first.” (*Transl.* NRPS14).

An experienced therapist indicated that he had different expectations, depending on the treatment centre involved: a patient referred to the inpatient treatment centre is expected to break behaviour pattern; if a patient is referred to a medical specialist run establishment, he expects improved global functioning, especially psychiatric help and diagnostic work-up.

Other opinions were that acute problems should be resolved, the patient should have gained insight and knowledge and the application thereof, it should be possible to use this patient in the future to motivate others, the patient should experience quality of life with improved psychosocial functioning and engage in an aftercare programme and individual therapeutic aims should be reached.

5.9.2 Outcomes of Treatment

5.9.2.1 Private General Medical Practitioners

Outcome was generally described as poor or variable. Most respondents noted a 60% to 70% relapse rate. There were also estimates of 90% to 99.9%. “The relapse is still severe in spite of all those things that are done... alcoholism is very difficult.” (*Transl.* ERPG02). Relapse was often seen as an inevitable outcome. “...the maximum I have seen a guy being sober is maybe six months and 50% to 60% relapse within six months.” (NDPG19) “They have their good periods and they have relapses. I expect it from all of them that went for treatment, this is a chronic disease, this is not about willpower and to be cross with them for relapsing is nonsense. This is a disease and it should be treated as such.” (NRPG26) “In my experience there is always a relapse somewhere along the line, whether it occurs spontaneously or whether it is triggered by something else.” (SRPG02) “I would say the overwhelming majority relapse after the first two to three months.” (*Transl.* SBPG39) “Well, the guys that went private and returned; they have follow-up appointments. There are some of them that do well and some relapse into the depths and you see that quarterly.” (*Transl.* NBPG16) “Most relapse within 1 year.” (NG05)

“I think the person’s dependency is not addressed adequately. The reason why the problem developed, I think we cannot solve, because it is about finances, it is about work pressure, it is about adaptation disturbances. Many times you know what happens, adaptation in the new world in politics, the political changes and pressure. ...Half of my adult population has emotional conditions. So our society is not well. And lifestyles have changed. People do not exercise, people do not eat right. So I think the initial, the etiological factors are not resolved.”(*Transl.* ERPG18)

Optimistic estimates ranged from 50% to 60% success rate. “I think the outcome is good, it works... The fact that we can see the effect it has on patients means that it works.” (ERDG23). “95% of them are better, but what I cannot tell you, is how long that treatment will help for that guy.”(*Transl.* ERPG09) “Most of them are extremely thankful.”(*Transl.* NRPG30) “Yes, especially when their mental state improves, then it goes well with them, then it is actually nice to follow them up.”(*Transl.* SRPG15)

The advantage of the intervention may also be seen in the patient’s experience of life: “I want to say a good portion of patients understand their problem and actually do something about it. A large group of these same patients, something happens outside their control that puts them back into relapse.”(*Transl.* NDPG20) “After treatment they are happier, they have heightened self-esteem and they feel proud of themselves. Others will relapse and they dodge you, they feel ashamed.”(NRDG08)

5.9.2.2 State Hospitals and Treatment Centres

Most respondents in these groups were non-committing to pessimistic about the outcome. A treatment centre respondent reported that there was more success with alcohol withdrawal than with other types of addiction. Positive comments included that there will be a new life after treatment for some patients; that patients should not expect too much in the beginning. One consultant at a hospital reported a very positive outcome: patients are selected for treatment, there is a strong input from the social workers and patients receive a lot of individual attention. Patients with poor prognosis are managed acutely only (SRDP05).

Pessimistic remarks included that there is no hope for such patients and that patients disappear because they get murdered. Reasons for poor response given were underlying personality disorders, the influence of the patient’s social situation and unemployment, over-confidence and stress. One participant mentioned that treatment does not change the causative factors that drove the patient to addiction and dependency, yet another noted that some patients gain insight of the extent of their problem through contact with other patients in treatment centres.

5.9.2.3 Private Psychiatrists

Psychiatrists confirmed varied results, high relapse rates and disappearing patients. As healing is a slow process, a quality doctor–patient relationship is important to maintain a patient’s commitment to his own treatment process. “Results vary: some patients maintain a long-term relationship and come back with problems, others drink themselves to death.” (NRPP15)

A psychiatrist cautioned that one should distinguish between a slip and relapse: “If a guy slips and he phones me the next morning and he goes and sees the psychologist and sorts it out, then it has minimal impact. If he is left on his own and he feels bad the next morning, then he is going to drink to feel better and then the next day he has a relapse. So many times guys have slips, with which I do not have a problem, if only I can prevent relapse.”(Transl. SRPP07)

Factors playing a role in determining success are the condition itself (in primary addiction to alcohol the outcome is poor); the patient’s insight into his problem and his motivation to overcome the problem. One respondent remarked that pharmacotherapy does influence the outcome, another noted that pharmacotherapy can facilitate follow-up, as the patient on medication must maintain contact to complete treatment, monitoring can thus be done. Ultimately the responsibility lies with the patient, it is himself who chooses to use addictive substances. (SRPP31)

5.9.2.4 Non-Prescribers

Therapists confirmed the better prognosis in younger patients, patients who stay in therapy, and those who complete a treatment programme. Success is related to the patient’s ability to learn coping skills and problem solving skills as an alternative to drinking during therapy. Many patients however disappear, though some reappear when they relapse. Therapists appear to be patient in waiting for results and patients are taught to recognize signs of impending relapse and to report in such instances. Relapse occurs due to limited social support. Any recovery will need to be based on cognitive knowledge of the condition so rehabilitation intervention is worth it, but it does take time (SRBS23), (SRSS27).

5.8.2.5 Summary on Outcomes of Intervention

Table 5.39 reflects the comments of the various professional groups regarding outcomes of intervention.

Table 5.39: Summary of Comments of Various Professional Groups Regarding Outcomes of Intervention

<i>Themes</i>	<i>PGMP</i>	<i>PP</i>	<i>SH and TC</i>	<i>NP</i>
<i>General remarks</i>	Terrible cure rate Results poor Results vary	Results vary High relapse	No hope New life possible Be patient for results	Rehabilitation takes time, expect relapse.
<i>Expectation of treatment</i>	Absolute Abstinence Abstinence unrealistic Personal growth Physical /psychiatric recovery Linking with treatment services	Disease concept Knowledge of condition Recognise threatening relapse and seek help Acute physical and psychiatric problems resolved	Diagnostic process Reconstruction of family Regain personal dignity	Acute problems resolved Break behaviour pattern Improved functioning Gain insight/skills
<i>Outcome</i>	60%-70% relapse Maximum period of abstinence 6 months Majority relapse within 3 months 95% are better Patients disappear	Patients disappear when they relapse	Some disappear	
<i>Reaction to relapse</i>	Resume treatment as long as patient is willing Stricter approach Abandon patient if no commitment or repeated relapses	Will continue treatment May terminate treatment of repeated relapses	Treatment should not be denied Determine reason for relapse Refer accordingly	Sympathetic Use experience of relapse to prevent next relapse

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Representatives; TC=Treatment Centre Representatives; NP=Non-Prescribers)

5.9.3 Determinants of Success

5.9.3.1 Personality Traits

Most respondents ascribed success to the personality traits of an individual: personality, motivation, personal attitude, willpower, decision making, perseverance and his commitment to stay involved in the treatment process. Several respondents mentioned that the decision to

go for treatment must be the result of the patient's own desire to achieve sobriety and not in response to external motivation.

External factors mentioned were: social background, family set-up, employment and the influence of the community. "...Here and there one gets the sad cases that just do not recover and that is where I feel it is about willpower and support from someone. Some people's circumstances are also so desperate that one can often say no wonder such a person just does not have...for such a person there is no light at the end of his tunnel. So that is what is sad. You get some people that just get so desperately hopeless that nothing can motivate them on why it is worth it to continue."(*Transl.* EDDG17)

One participant mentioned that the severity of the addiction will probably play a role in the relapse rate, and one noted that patients with underlying psychiatric disorders have a better prognosis. A psychiatrist mentioned that as the prognosis in older patients is worse, younger patients must be aggressively followed up.

5.9.3.2 Selection

In order to use available funding responsibly, private general practitioners suggested that the motivation of the patient to go for treatment should play a role in deciding whether expensive intervention should be attempted. Pressure by family and employers is not enough to provide the long-term drive that a prospective patient will need to eventually succeed. This observation was confirmed by therapists, who claimed that they cultivate such motivation through their therapeutic intervention.

"We select ours. The ones that are the chronic alcohol abuse ones with a family history, I don't even touch. I give them vitamins and I just refer them to a hospital, a state hospital. I am bad about that in that respect, but I select out. Like there was a genuine heroin abuser. I think I have I had one, but he just disappeared. I really don't believe there is a chance for them, the heavy drug people, the ecstasy and the heroin guys. I really think their results are poor poor poor."(NRPG26)

5.9.3.3 Factors Regarding Intervention

Incomplete or inappropriate treatment, particularly in regard to the failure to provide proper rehabilitation, lack of support in the form of formal support groups like AA or informal involvement in the community.

"There are those who do well without us having something to do with it. There are those who do poorly and some even die, sometimes even the whole family is eliminated by this thing....(Success is) not necessarily linked to the input of the doctor, but definitely linked to the rehabilitation team, it includes the family, church, clinic, the AA and all those places.

Every one has a part to fulfil in his place, but then the patient returns and he is at home again and I think the home plays a major part. Then it is home, church and work.”(Transl. NRDG42)

Many practitioners saw socio-economic factors as important prognostic indicators: The problem in town is: it is a small place and everybody drinks too much, and how do you change your friends, because you are supposed to move away from your friends, and there are only so many people that you can be friends with. And I think that is where the problem lies.”(Transl. NBPG16) “Once again back to the state system or for the people who cannot afford it, it is very bad and it is sad. I think if there is something that makes me despondent, it is that. You see the family, you see the children, you see the decay and it does not help to talk to the liquor stores. It is sad, those hands-chopped-off feeling cannot be broken by anything, it is very frustrating.”(Transl. EBPG06) “Patients experiencing economic and social problems are the patients with poor success rates and they usually go back to the same problems and very quickly relapse then.”(Transl. SBPG39) “It is acceptable in the community to drink as much alcohol as you want, I would fear that they may relapse because of the community.”(ERPG21)

5.9.3.4 Disappearing Patients

Many practitioners reported that it is not possible to determine the outcome, as many patients simply do not return for follow-up, changing their doctor to avoid confrontation. In this regard rural practitioners have the advantage of being informed by the community. The family is an important link and are often the ones looking for help.

5.9.3.5 Summary of Factors that Influence the Success of Intervention

Table 5.40 lists the factors that respondents regarded as factors that influence success.

Table 5.40 Factors Promoting Success and Failure		
<i>Factors</i>	<i>Promote Success</i>	<i>Hinder Success</i>
<i>Social aspects</i>	Strong social network Membership of AA, CAD	Limited social pool limit possibility of changing friends Lack of social support network Cultural acceptance of drinking Poor socio-economic status Positive family history
<i>Condition itself</i>	Patients with psychiatric diagnosis do better	Primary addiction to alcohol Hard drugs
<i>Personal aspects of patients</i>	Younger patients do better Motivation/Attitude/willpower: Should be personal internal motivation	Personality Disorder: early relapse
<i>Programme characteristics:</i>	Inpatient treatment Program Completion Patient selection	Incomplete treatment, especially lack of rehabilitation Inappropriate treatment
<i>Pharmacotherapy:</i>	Does influence the outcome, can facilitate follow-up, as the patient on medication must maintain contact to complete treatment, monitoring can thus be done.	

(PGMP=Private General Medical Practitioners; PP=Private Psychiatrists; SH=State Hospital Representatives; TC=Treatment Centre Representatives; NP=Non-Prescribers)

5.9.4 Perspectives on Relapse

5.9.4.1 Private General Medical Practitioners

Table 5.41 shows that private general medical practitioners in the Southern Health Complex were ambivalent with regard to the role of willpower and the psychological basis for relapse compared to the other regions. Doctors in state hospitals tended to see a larger role for willpower in relapse. A substantial percentage of private general medical practitioners believed that relapse occurs due to a psychological craving. Most respondents agreed that relapsed patients should be readmitted.

Table 5.41: Perceptions Regarding Relapse					
<i>Private General Medical Practitioners</i>			<i>Referral Level Practitioners</i>		
North (n=32)	East (n=25)	South (n=20)	TC (n=3)	PP (n=11)	SH (n=17)
Agree with statement: "Relapse occur due to lack of willpower"					
19 (59,4%)	12 (48,0%)	7 (35,0%)	1 (33,3%)	3 (27,3%)	9 (52,9%)
Agree with statement: "Relapse occur due to psychological craving"					
19 (59,4%)	11 (44,0%)	8 (40,0%)	2 (66,7%)	6 (54,5%)	11 (64,7%)
Agree with statement: "Patients should be readmitted if they relapse"					
25 (78,1%)	23 (92,0%)	13 (65,0%)	2 (66,7%)	9 (81,8%)	14 (82,4%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Private general medical practitioners expressed a range of attitudes and approaches to relapsing patients: The responses ranged from unconditional continuation of treatment to a re-evaluation of the patient's personal motivation for treatment and willingness to change, and the absence of pressure from family or employer. The re-evaluation process may also include an assessment of the reasons why relapse occurred. Opposite actions may follow: relapse can be interpreted as a signal that a patient needs more specialized treatment, or it may be interpreted as a sign that rehabilitation should be down-scaled because it would be a fruitless expense. Availability of funding however necessarily overrules any other consideration on whether a patient will receive treatment after relapse.

Very significant is the reference to the doctors' emotional responses when confronted by a relapsed patient. They are disappointed by relapse. They may need to keep themselves motivated to stay committed to the patient or maintain involvement based on ethical considerations or social pressure (NBPG16). The doctor may become increasingly demotivated, sceptical or impatient with repeated relapses (SRPG03), even though they may continue helping the patient. Doctors reported that they experienced guilt for not being able to resolve the problem, and would work harder on providing support or checking up on the patient, consciously reminding themselves and patients to maintain hope. Though doctors would continue to help the patient as long as he wanted help, their emotional response may be acted out in a negative approach. Treatment may be resumed after relapse with a "stricter", "slightly aggressive" or "angry" approach, threatening the patient with the physical consequences and death (ERPG02) or using stringent monitoring to "hurt him where it matters" (SRPG15). The doctor may threaten to withdraw, yet essentially plays the bluff and always helps if asked. The doctor may also terminate his involvement in the patient's

treatment, as “there comes a point that you realize that some people do not want to be helped” (NBPG17). The cut-off point should be determined on an individual basis.

5.9.4.2 State Hospitals and Treatment Centres

The common sentiment in these groups was that treatment should not be denied. The patient’s willingness to go for treatment and rehabilitation should be taken into account, the reason for the relapse should be determined and referral should be accordingly. The time from detoxification to relapse was proposed as a marker for determining whether a patient will get another chance as patients with severe personality dysfunction relapse early. These patients will be admitted for shorter periods for detoxification, and then referred.

5.9.4.3 Private Psychiatrists

Psychiatrists would in general encourage the patient to come back for treatment after relapse. Even when a psychiatrist feels like terminating the doctor-patient relationship, he is obliged to continue for ethical reasons. Patients however tend to “disappear”; or change their psychiatrist when they relapse. Referral after repeated failures may be a softer way of terminating the doctor-patient relationship. Only one psychiatrist admitted to having a set policy on relapsing patients, allowing at most three relapses during the first six months, if more the patient is ‘irresponsible and then you leave him’ (*Transl.* SRPP09).

5.9.4.4 Non-Prescribers

All therapists involved, expressed a sympathetic attitude to relapsed patients. The relapse is seen as an integral part of the condition and utilized as a learning opportunity for the patient (ERPS19). As such, patients are encouraged to stay in therapy. There is also acknowledgement that the patient may only become receptive to treatment later on (NRPS41). Patients mostly terminate therapy if they do not reach their own goals or for financial reasons.

5.9.5 Laboratory Monitoring

5.9.5.1 Private General Medical Practitioners

“I like it, if I have a guy so tight and we worked a bit on him. When I see him again and I do liver functions again and so on and I show him, look how your stuff have come down.”(*Transl.* ERPG02)

Most private general medical practitioners do not use laboratory measures to monitor patients. It may be done in special cases, like on the patient’s request. Reasons for not using laboratory services are: cost; the fact that it threatens the patient’s return; and unavailability of local laboratory facilities. Respondents that do use laboratory services regularly, use it for diagnostic purposes and monitoring organ function. A single general practitioner uses GGT

as standard screening in all patients and carbohydrate efficient transference in occupational medicine. Reasons given for using laboratory tests were: to convince a patient to go for treatment; if you suspect that the patient is not honest; and to check compliance.

“GGT as a deterrent; we can see when you drink.”(*Transl.* ERPG03)

Respondents not using laboratory methods would rely on self-report by the patient, and feedback from the family and the community or the employer.

“You know this place is so small, you see him sitting in the bar when you walk or drive past there and you hear people talk. It is the parameters that I use; I do not know whether it is scientifically correct; because one is part of the community. I expect that people will come back and that they will have the frankness to say, ‘I relapsed’, and that they will not be rejected because of that.”(*Transl.* SBDG35)

5.9.5.2 State Hospitals and Treatment Centres

Monitoring within a treatment centre is very important, yet its use is limited by funding. In hospitals, it is rare to do alcohol levels, yet cannabis screening is more common. Tests were in general not done routinely, but when the need arises to determine organ function and for diagnostic purposes.

5.9.5.3 Private Psychiatrists

A single psychiatrist would do surprise tests in professional people; most were however not supporting routine testing. Reasons given for this were that it threatens the trust relationship with the patient, that psychiatrists receive secondary referrals on which the diagnostic work-up has already been done and that it escalates costs. The ones that reported that they do use laboratory services, would limit their requests to the monitoring of organ function. Patients or their family may request monitoring, or it may be used to resolve conflicting reports: “Sometimes, especially when a patient says he does not drink and his wife says that he does.”(*Transl.* NRPP15)

“.....fear is a very poor motivator. Fear lasts for two days. You cannot guard him every day. Although if you go and look, then monitoring in some programmes is better, but it is expensive. The guys lie to you anyway, so I use it in exceptional cases.” (*Transl.* SRPP07)

“.....the follow-up alone is not good enough, but because the resources are so limited, it is difficult to do regular laboratory testing. And on the other hand, I feel that it should not really be done for two reasons. Personally I feel I would have used it, but it is about creating a trend in a patient. It will not really help if the patient does not want to be helped. If you do the tests and he did drink, then you have caught him out, what then? The patient must strongly believe that it is his responsibility to persevere and not go drinking.”(*Transl.* SRPP31)

5.9.5.4 Non-Prescribers

A therapist confirmed that testing positive on breathalyzer and screening for cannabis during treatment at the treatment centre will lead to expulsion from the treatment programme.

5.9.6 Non-Laboratory Measures in Monitoring

5.9.6.1 Private General Medical Practitioners

“For me it is not whether he stays sober or really dry, if he can be reincorporated to his full potential in his family and in his work conditions. And if life makes sense to him.” (*Transl.* ERPG03)

Most private general medical practitioners measure success of treatment in terms of abstinence, the period of abstinence or the relapse rate. Improvement in quality of life reflected by positive reports of functioning in the family, community and employment were also widely supported. Reduced or controlled drinking is an alternative target. Expectations of personal growth, moral change “insight that what he is doing is wrong” (NRDG08), stress management skills, self-motivation and the cultivation of sufficient coping skills and the degree to which depression and anxiety recovers were also suggested as measures of success (SRPG15). The maintenance of a trust relationship with the doctor and continued involvement in a follow-up, or involvement in a support group and reporting when relapse threatens was also proposed.

5.9.6.2 State Hospitals and Treatment Centres

An institution that provides detoxification services maintained that they have successful detoxification, measured against a low mortality rate. They were however aware that their effort might not be long-lived (SRSM01). Abstinence, relapse and improved functioning were seen as important pointers, although difficult to measure and without a system to record results and patients were followed up in the community or by psychologists and social workers. It was suggested that feedback from patients and family should be obtained and continuity of care instituted. One respondent suggested that the patient’s ability to survive without antidepressants and psychotherapy signifies success.

5.9.6.3 Private Psychiatrists

Abstinence measures, including the period of abstinence and reduced alcohol intake, were suggested by most psychiatrists as the measure of successful treatment. The patient’s insight in the problem and motivation is important: he must know the warning signs for possible relapse and report early if relapse occurs, maintain regular follow-ups or join a support group. Reaching individual goals, improved quality of life, the patient’s mental health and reduction in absenteeism has also been suggested as indicators of success. It was also noted that it is not

possible to know what happens to many patients eventually.

5.9.6.4 Non-Prescribers

The psychological state of the patient: becomes more at peace and calm, the patient becomes involved in positive actions, and gains motivation and insight. He is learning from his experience so that abstinent periods become longer. The patient starts to integrate therapy sessions into everyday life, shows behavioural change and psychosocial functioning improves. Abstinence measures were also important for a large number of therapists.

5.10 UTILIZATION OF PHARMACOTHERAPY

5.10.1 Alcohol Withdrawal

It is important not to take away all symptoms, only make it safe and tolerable. (SRDP05)

5.10.1.1 Benzodiazepine Use in Alcohol Withdrawal

Table 5.42A shows that while most respondents would routinely use benzodiazepines in alcohol withdrawal, there are a number of private general medical practitioners in the Northern and Eastern Complexes and a treatment centre that do not use benzodiazepines routinely in these cases. One general practitioner stated that he does not use benzodiazepines due to their side effects (NDPG05). Two psychiatrists recommended the use of lorazepam. One uses it as adjunct when a patient still has symptoms (anxiety, insomnia) on diazepam (SRPP28), the other when the blood pressure increases as this means that the dosage of the benzodiazepines is not enough (SRPP11). The need for intravenous diazepam signals that a patient should be referred to a physician (SRPP28).

<i>Private General Medical Practitioners</i>	<i>North (n=20)</i>	<i>East (n=10)</i>	<i>South (n=8)</i>
Standard	14 (70,0%)	8 (80,0%)	8 (100%)
Selected patients/PRN	5 (25,0%)	1 (10,0%)	0 (0%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=8)</i>
Standard	2 (66,7%)	10 (100%)*	8 (100%)
Selected patients/PRN	1 (33,3%)	1 (10,0%)*	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

*One of the participants indicated that while he uses long acting benzodiazepines in standard regimens, short-acting benzodiazepines are added in selected cases.

5.10.1.2 Adrenergic Blocker Use in Alcohol Withdrawal

Adrenergic blockers are not commonly used for alcohol withdrawal (Table 5.42B). A general practitioner explained that a beta-blocker would mask the development of tachycardia. The pulse rate is used as a monitoring parameter: if the pulse rate is above 90, the diazepam dose needs to be increased (ERPG18). Clonidine is used in standard regimens by private general practitioners in the Northern and Eastern Health Complexes, while all referral level participants were emphatic about not using it.

Table 5.42B: Pharmacotherapy for Alcohol Withdrawal: ADRENERGIC BLOCKERS			
<i>Private General Medical Practitioners</i>	<i>North (n=20)</i>	<i>East (n=10)</i>	<i>South (n=8)</i>
Beta blockers			
Standard	3 (15,0%)	0 (0%)	1 (12,5%)
Selected patients/PRN	10 (50,0%)	1 (10,0%)	0 (0%)
Do not use	7 (35,0%)	9 (90%)	7 (87,5%)
Clonidine			
Selected patients/PRN	6 (30,0%)	1 (10,0%)	0 (0%)
Do not use	14 (70,0%)	9 (90,0%)	8 (100%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=8)</i>
Beta blockers			
Standard	0 (0%)	0 (0%)	1 (12,5%)
Selected patients/PRN	0 (0%)	1 (10,0%)	3 (37,5%)
Do not use	3 (100%)	9 (90%)	4 (50,0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.10.1.3 Clothiapine Use in Alcohol Withdrawal

The use of clothiapine during alcohol withdrawal is relatively popular among private general medical practitioners in the Northern Health Complex (Table 5.42C). Most private psychiatrists would not use it at all. Note that some practitioners use standard regimens containing both benzodiazepines and clothiapine, others use standard regimens containing clothiapine as the main sedation, with benzodiazepines added as necessary. Reasons for not using clothiapine are fear of causing convulsions (SRPP30, SRPP26, SRPP11); and deaths due to intra-arterial administration (SRSM18).

Table 5.42C: Pharmacotherapy for Alcohol Withdrawal: CLOTHIAPINE			
<i>Private General Medical Practitioners</i>	<i>North (n=20)</i>	<i>East (n=10)</i>	<i>South (n=8)</i>
Standard	12 (60,0%)	3 (30,0%)	2 (25,0%)
Selected patients/PRN	7 (15,0%)	5 (50,0%)	4 (50,0%)
Do not use	1 (5,0%)	2 (20,0%)	2 (25,0%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=8)</i>
Standard	0 (0%)	1 (10,0%)	2 (25,0%)
Selected patients/PRN	2 (66,7%)	3 (30,0%)	4 (50,0%)
Do not use	1 (33,3%)	6 (60,0%)	2 (25,0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.10.1.4 Antidepressant Use in Alcohol Withdrawal

A surprising percentage of respondents across professional groups use antidepressants as standard therapy during withdrawal of alcohol (Table 5.42D).

Table 5.42D: Pharmacotherapy for Alcohol Withdrawal: ANTIDEPRESSANTS			
<i>Private General Medical Practitioners</i>	<i>North (n=20)</i>	<i>East (n=10)</i>	<i>South (n=8)</i>
Standard	3 (15,0%)	2 (20,0%)	1 (12,5%)
Selected patients/PRN	8 (40,0%)	4 (40,0%)	1 (12,5%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=8)</i>
Standard	1 (33,3%)	2 (20,0%)	1 (12,5%)
Selected patients/PRN	1 (33,3%)	3 (30,0%)	1 (12,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.10.1.5 Anticonvulsant Use in Alcohol Withdrawal

There was a very low level of standard use of anticonvulsants; they were used mostly in high-risk patients. Carbamazepine was the preferred anticonvulsant. (See Table 5.42E).

5.10.1.5.1 Carbamazepine in Alcohol Withdrawal

Table 5.42E: Pharmacotherapy for Alcohol Withdrawal: ANTICONVULSANTS: Carbamazepine			
<i>Private General Medical Practitioners</i>	<i>North (n=20)</i>	<i>East (n=10)</i>	<i>South (n=8)</i>
Standard	1 (5,0%)	1 (10,0%)	1 (12,5%)
Selected patients/PRN	5 (25,0%)	3 (30,0%)	2 (25,0%)
Do not use	14 (70,0%)	6 (60,0%)	5 (62,5%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=8)</i>
Selected patients	1 (33,3%)	4 (40,0%)	3 (35,0%)
Do not use	2 (66,7%)	6 (60,0%)	5 (62,5%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

Respondents indicated that they use carbamazepine in patients with previous withdrawals complicated by *Delirium Tremens* or seizures; concurrent mood disorders, epilepsy or cardiomyopathy; or if the current withdrawal is severe or complicated by seizures or *Delirium Tremens*. Long-standing alcohol addiction, irritable patients and heavy drinkers were also indicated as situations where carbamazepine would be used.

5.10.1.5.2 Barbiturates in Alcohol Withdrawal

Barbiturates were not used as standard therapy for this indication by any of the respondents. Selected cases would receive barbiturates for concurrent epilepsy (ERPG28, ERPG18); symptomatic relief of headache (SRPG25) or anxiety in poly-substance addiction cases (SRPP07); heavy drinkers or a history of convulsions (SRPP07).

5.10.1.5.3 Valproate in Alcohol Withdrawal

Valproate was also not used as standard therapy in withdrawal. It was used in selected cases for mood disorders or epilepsy, if a patient convulses, if expecting complications, in irritable patients. A private psychiatrist respondent remarked that valproate is not indicated (SRPP26).

5.10.1.6 Unusual Utilization of Pharmacotherapy in Withdrawal

Two respondents from the Northern Health Complex indicated that they use morphine in high doses for *Delirium Tremens* or in critically ill patients (these patients are often ventilated) (NRPG38, NRPG34). Several private psychiatrists reported using piracetam (Noötropil®) during acute withdrawal of alcohol (SRBP10, ERPG18, SRPP11). Etifoxine (Stresam®) as an anxiolytic was recommended by one private general practitioner (SRPG25). One treatment centre provides Psychogenic Analgesic Nitrous Oxide (PAN) therapy.

5.10.1.7 Nutritional Supplementation during Alcohol Withdrawal

Vitamin B Complex is the most commonly used supplementation across all groups for the purpose of relapse prevention with standard use ranging from 85% (private general medical practitioners in the Southern Health Complex) to 100% of referral level prescribers. Private general medical practitioners in the Southern Health Complex used thiamine more often in their standard regimen (62,5%). It is also used as standard supplementation by private psychiatrists (50%); state hospitals (25%) and treatment centres (66,7%). Magnesium is supplemented routinely by 37,5% of respondents in the Southern Health Complex, (but none of the other general practitioner groups), two treatment centres, a private psychiatrist and a state hospital. Routine supplementation with nicotinamide as single component is practiced by a general practitioner in the Southern Health Complex and a state hospital. Folic acid supplementation was reported by a single Southern Health Complex institution.

5.10.2 Alcohol Relapse Prevention

“The use of pharmacotherapy during relapse prevention promotes contact.” (NRPG27)

5.10.2.1 Disulfiram in Alcohol Relapse Prevention

Table 5.43A shows that treatment centres use disulfiram in their standard regimen for alcohol relapse prevention, while 50%-70% of the other groups use disulfiram for selected cases.

<i>Private General Medical Practitioners</i>	<i>North (n=23)</i>	<i>East (n=9)</i>	<i>South (n=9)</i>
Standard	5 (21,7%)	3 (30,0%)	2 (28,6%)
Selected patients	11 (47,8%)	6 (60,0%)	5 (71,4%)
Do not use	7 (30,4%)	0 (0%)	2 (28,6%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=7)</i>
Standard	3 (100%)	1 (10,0%)	0 (0%)
Selected patients	0 (0%)	5 (50,0%)	5 (71,4%)
Do not use	0 (0%)	4 (40,0%)	2 (28,6%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

The grounds for selection for disulfiram treatment are patient motivation and cooperation (SDDG36; SRPG03; NBPG17; SRPG02), on request by patient, family or employer (SRBP10, SRPP30, SDDG37, SRPP26; SRPG03 ERPG05), if the patient can afford it (SRPP32; EDPG31; ERDP20; NDPG05; NRPG34). It may however also specifically be prescribed for “stubborn drinkers with limited insight” (ERPG03) and patients needing help

with self-control (ERPG05). Other reasons for disulfiram use were previous relapses (SRPG03) and patients going for treatment in an institution (SRPP14).

Many respondents were not in favour of disulfiram. Reasons given for this was that the drug is ineffective (NRPG38, EBPG25, NBPG16) and risky (SRPG24, ERPG28, SRPP31). Disulfiram is often unavailable (SRSM18, ERSM07, NDPG05, NRSM07, SRPP11) and unaffordable (ERPG28, ERPG29, SDPG41). Some solved these problems through obtaining disulfiram from the employer or via a state hospital (NRPG26; SRSP19). The use of disulfiram implants was problematic due to red tape (ERPG02, NRPG27) and general unavailability (ERDP20, NRPG36).

5.10.2.2 Acamprosate in Alcohol Relapse Prevention

Acamprosate was virtually unknown to the study population. Two private general practitioners have prescribed it before. One commented on it being very expensive (SRBP10). One Private Psychiatrist uses it as part of a standard regimen (SRPP11), while three others have experience in prescribing acamprosate. One confirmed that it was very expensive (SRBP10); another was not impressed with the results (SRPP26).

5.10.2.3 Nutritional Supplementation during Alcohol Relapse Prevention

Vitamin B Complex is the most widely used pharmacotherapeutic agent to prevent relapse (Table 5.36C1). Isolated cases of non-use occur in the various general practitioners groups and one state hospital. One treatment centre specifically recommended administration of a series of 7 booster injections of Vitamin B Complex every 3 months; or whenever severe craving occurs. There were singular reports of use of other supplements in general practitioner groups, no use reported by state hospitals. 30% of Private Psychiatrists and 2 of the treatment centres routinely prescribe thiamine in this phase of treatment.

5.10.2.4 Benzodiazepine Substitution during Alcohol Relapse Prevention

Table 5.43B shows that benzodiazepine substitution for alcohol addiction is practiced by private general medical practitioners in the Northern Health Complex as well as some state hospital respondents. There were respondents that felt strongly that benzodiazepines were only indicated during the detoxification phase. (ERPG28, NRDG33, ERPG03, ERPG05, ERPG18). Others had no problem with prescribing benzodiazepines for an extended period, using lorazepam (SRBG06), diazepam (NRPG26; NBDG18) and alprazolam (NRPG30, NBDG40).

Table 5.43B: Benzodiazepines in Alcohol Relapse Prevention			
<i>Private General Medical Practitioners</i>	<i>North (n=23)</i>	<i>East (n=10)</i>	<i>South (n=7)</i>
Standard	3 (12,9%)	0 (0%)	0 (0%)
Selected patients/PRN	5 (21,5%)	1 (10,0%)	0 (0%)
Do not use	15 (65,2%)	9 (90,0%)	7 (100%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=7)</i>
Standard	0 (0%)	0 (0%)	3 (42,8%)
Selected patients/PRN	1 (33,3%)	1 (10,0%)	1 (14,4%)
Do not use	2 (66,7%)	9 (90,0%)	3 (42,8%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.10.2.5 Antidepressant Use During Alcohol Relapse Prevention

Table 5.43C shows a variable tendency to use antidepressants as relapse prevention. It is especially high in the Eastern Health Complex that has no private psychiatrists.

Table 5.43C: Antidepressants in Alcohol Relapse Prevention			
<i>Private General Medical Practitioners</i>	<i>North (n=23)</i>	<i>East (n=7)</i>	<i>South (n=7)</i>
Standard	4 (17,4%)	3 (42,9%)	1 (14,3%)
Selected patients/PRN	10 (43,4%)	3 (42,9%)	5 (71,4%)
Unspecified	7 (30,4%)	1 (14,3%)	1 (14,3%)
<i>Referral Level Practitioners</i>	<i>TC (n=3)</i>	<i>PP (n=10)</i>	<i>SH (n=6)</i>
Standard	1 (33,3%)	3 (30,0%)	1 (14,3%)
Selected patients	1 (33,3%)	6 (60,0%)	5 (71,4%)
Unspecified	0 (0%)	1 (10,0%)	0 (0%)
Do not use	1 (33,3%)	0 (0%)	0 (0%)

(TC=Treatment Centres; PP=Private Psychiatrists; SH=State Hospital Representatives)

5.10.3 Benzodiazepine Withdrawal and Maintenance

Respondents were comfortable with withdrawing benzodiazepines without referral. Methods used were very gradual withdrawal of the original drug (suggested by 17 participants) and changing to an equivalent dose of diazepam, followed by slow withdrawal of the diazepam (suggested by 10 participants). Alternatives to diazepam were clonazepam and alprazolam SR. Respondents emphasized that not all cases are for withdrawal. The duration of use, the dose, the age and the personality of the patient should be taken into account in deciding

whether a patient should be withdrawn (SBPG33, SRPP11).

Psychiatrists recommended several tapering regimens: Calculate the months of withdrawal by counting one month of withdrawal for every year of dependence or divide the number of years on benzodiazepines by two. Alternatively, gradually taper the benzodiazepine every two weeks depending on response. It was also emphasized that successful management of the underlying anxiety disorder is critical in successful management (SRPP31, SRPG03, SRPG04, SRPP26, NDDG43). Substitution with hydroxyzine or paroxetine was recommended. Underlying depression and insomnia should also be addressed. Withdrawal after long-term use can be dangerous therefore patients may need to be hospitalized.

5.10.4 Cannabis Withdrawal

Cannabis does not cause a withdrawal picture, but cases often present with acute psychosis. Recurrent episodes may follow. Management involves the use of antipsychotics and sedation.

5.10.5 Opioid Withdrawal and Maintenance

The following strategies were followed by individuals that become involved in the treatment of patients addicted to opioids: (3 general practitioners, 7 private psychiatrists, 2 state hospitals and 2 treatment centres responded to this section).

5.10.5.1 Substitution

Methadone-based withdrawal regimens were used by psychiatrists, 1 treatment centre and 2 hospitals. Maintenance with methadone is only prescribed by one psychiatrist in private practice and one state hospital, both in selected patients for heroin addiction only.

PAN combined with nutritional supplementation is done by a treatment centre.

5.10.5.2 Sedation

Benzodiazepines in combination with methadone were recommended by 1 state hospital and one private psychiatrist. Benzodiazepine-based regimens without the use of opioids were followed by 3 private psychiatrists. One psychiatrist recommended the use of clothiapine (Etomine®), adding carbamazepine for pain, as well as propranolol for symptomatic relief.

5.10.5.3 Symptomatic Relief

Clonidine is recommended by a psychiatrist, 2 state hospitals and a general practitioner for the withdrawal of codeine. Diclofenac for pain, antidepressants, Vitamin B Complex, thiamine and hydroxyzine were recommended as adjuncts for symptomatic relief.

Tapering down as a strategy is used for managing addiction and dependency of codeine containing analgesics (ERDP20), (SBPG33), (SRPG03).

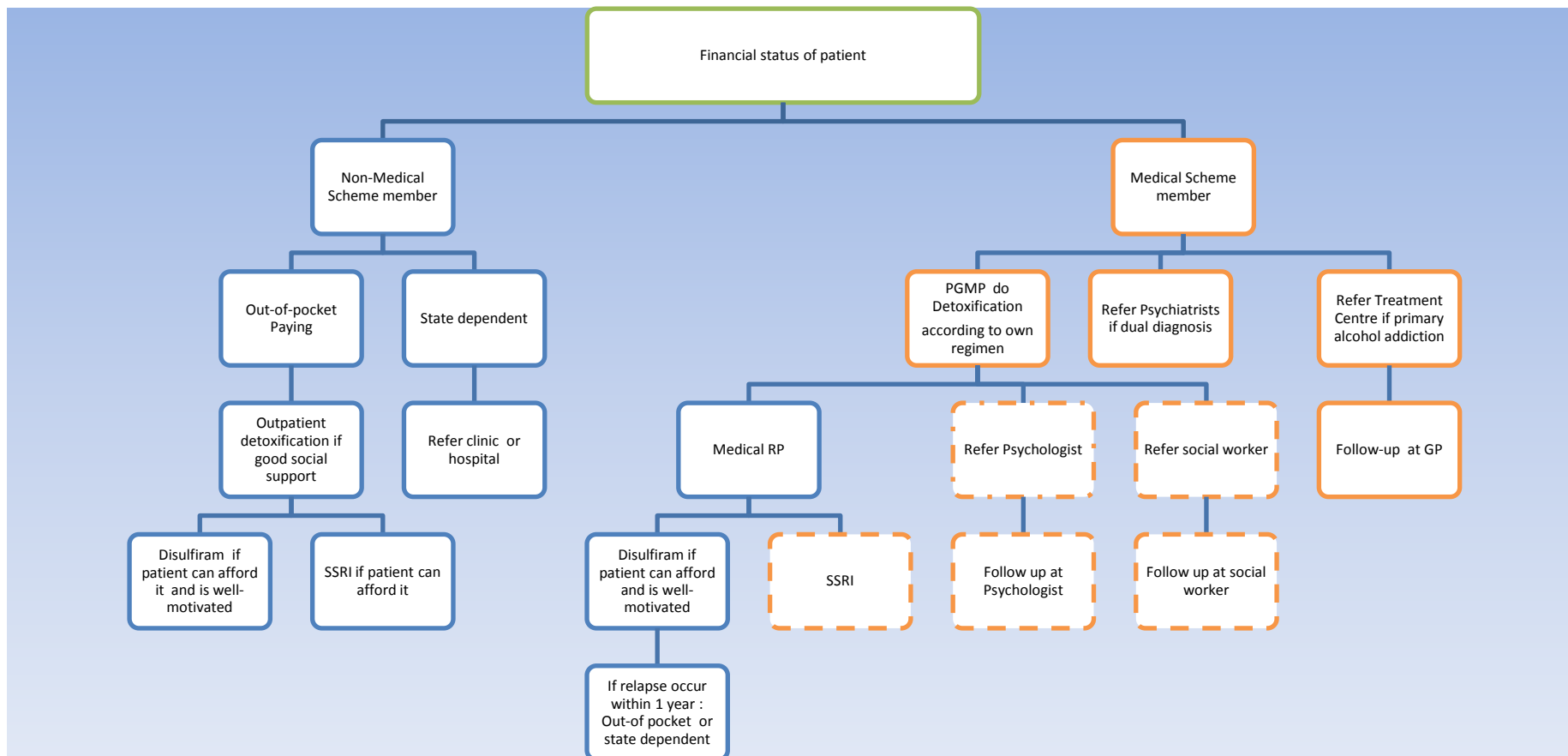
A psychiatrist mentioned the use of thiamine in maintenance treatment for opioid addiction. A treatment centre recommended Vitamin B12 and “Powerade” to prevent relapse.

5.10.6 Cocaine Withdrawal and Relapse Prevention

Ten respondents provided benzodiazepine-based regimens. Adjuncts include bromocriptine in selected patients, haloperidol, quetiapine, olanzapine or clothiapine if the patient is psychotic or aggressive and antidepressants or mood stabilizers for depressive symptoms. A psychiatrist provided the most comprehensive strategy: Lorazepam i.m. combined with Diazepam p.o. and selected patients will receive bromocriptine, TADs or sedative SSRIs and Haloperidol *p.r.n.* (SRPP09). Antidepressants recommended include SSRIs, TADs, mirtazapine, citalopram and sertraline. A psychiatrist mentioned the use of Vitamin B Complex and thiamine. PAN is also supplemented by Vitamin B Complex and Vitamin B12 injections.

5.11 SUMMARY OF CURRENT DECISION-MAKING PROCESS IN TREATMENT SELECTION

Figure 5.15 illustrates the common decision-making process that private general practitioners follow in determining treatment. The medical scheme and financial status of a patient dictates the options.



(PGMP=Private General Medical Practitioner; RP=Relapse Prevention)

The blue outline indicates a financially vulnerable path that may end in non-treatment. The orange outline indicates medical scheme funded intervention, yet some medical schemes may exclude addiction-related interventions (orange broken line).

Figure 5.15: Flow Chart of Decision-Making Process of Private General Medical Practitioners

5.12 KEY FINDINGS

The private general medical practitioners in the various Health Complexes give an indication of the geographical distribution of addiction/dependency cases.

1. With regard to demographic information, regional differences were observed in the distribution of age and gender with an older population in the Northern Health Complex and concentration of female doctors in the city.

2. Regarding frequency of contact there were regional differences with the Northern Health Complex reporting higher frequency of help-seeking of alcohol, cannabis and benzodiazepine-related cases. A high level of cultural acceptance in the Eastern Health Complex may contribute to the low level of help-seeking for alcohol-related cases reported, yet there is a similar trend of analgesic and cough mixture addiction/dependency and sedative hypnotic addiction/dependency also being significantly lower than in the other two regions. Street and club drugs were virtually unheard of in the Eastern Health Complex. Frequency of contact with help-seeking alcohol addiction cases is relatively high among private general medical practitioners in the Southern Health Complex. Contact with cases addicted to analgesics/cough mixtures, street/club drugs and sedative hypnotics were higher than other regions.

3. Frequency of contact with help-seeking also showed interprofessional variance with help-seeking at private general medical practitioners being prominent, while state hospitals had a lower than expected exposure to help-seeking for alcohol addiction, yet frequent encounters with help-seeking for cannabis. Private psychiatrists had high relatively high frequency of contact with benzodiazepine-related cases.

4. Data on training showed regional differences: private general medical practitioners from the Northern Health Complex had less academic training, yet were simultaneously more directly involved in the medical management of alcohol addicted patients, relying on self-directed experiential learning.

5. With regard to perceived confidence there were no differences across the regions, excluding confidence as a factor that determines involvement in treatment.

6. With regard to the level of involvement in the treatment of addicted/dependent patients there were clear regional differences. Private general medical practitioners in the Northern Health Complex are more likely to take personal responsibility for the detoxification phase, admit the patient to hospital if necessary and refer to other professionals as needed. Organization of services differs in various regions due to the availability of services,

especially with regard to distribution of psychiatrists. Good networking in Northern Health Complex, involving social workers, private hospital facilities, step-down facilities and CAD probably contribute. In the Southern Health Complex psychiatrists are more accessible, yet there are still reports of long waiting lists. In the urban area, there are more inpatient options for treatment extending across the state-private boundaries.

7. Options for state-dependent patients are area-dependent. While there is good access in the Southern Health Complex, access in the Northern Health Complex ranges from no inpatient services in one region to admission in a psychiatric ward not of an acceptable standard to some patients. Follow-up services at psychiatric clinics with visiting personnel have limited capacity.

8. Medical scheme funding status and the individual medical scheme policies determine access to facilities, support services and medication in the private sector. Limited benefits or absence of benefits prevent optimal pharmacotherapy directly through the non-availability of and stigmatization caused by alcohol-specific drugs and indirectly through inappropriate prescribing. Current medical scheme funding, based on the provision of PMB by the Medical Schemes Act does not satisfy the funding needs for addiction treatment.

9. Dysfunctional relationships exist between private general medical practitioners and medical schemes and private general medical practitioners and state-run institutions. With regard to medical schemes, unethical practices emerge to ensure funding for treatment such as the withholding of relevant information and referral to social workers after benefits are exhausted. With regard to state-run institutions, private general practitioners are denied their role as legitimate access points into the health system, leading to obstruction of clinical communication between health care professionals, fewer treatment options for poor patients and a longer chain of referral. Perceptions of private general medical practitioners regarding state services are extremely negative. These include perceptions regarding access as well as quality of services rendered.

10. Outpatient services at Treatment Centres have conflicting approaches to addiction/dependency treatment. One centre was reported not to support pharmacotherapy, while another use medical intervention as part of their standard treatment.

The inpatient treatment centre provides a relatively affordable service, yet is limited with regard to diagnostic capabilities such as laboratory testing and access to a psychiatrist. Although medication is limited to a list of standard drugs, listed drugs are always available. Referral outside the province to specialized treatment centres was common practice in the Northern Health Complex and Eastern Health Complex.

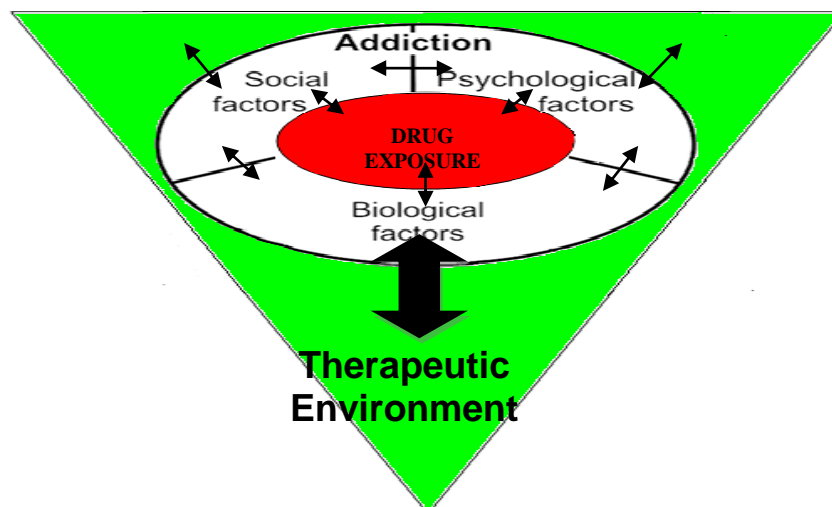
11. There is a lack of awareness regarding referral options among private general medical practitioners.
12. There are several treatment practices in the Northern Health Complex that diverge from standard treatment guidelines, e.g. the use of clothiapine and morphine.
13. There is a low level of use of pharmacotherapy in relapse prevention due to limited medication options and selection criteria based on financial considerations or personal motivation, not medical reasons.
14. There are divergent views regarding the application of harm-reduction strategy among doctors and between different professional groups. Among non-prescribers the fear of substitution may lead to well-meant, but misplaced advice regarding non-addictive pharmacotherapy.
15. Perceptions of medical practitioners regarding the health system concentrated around difficult entry and poor quality of services in the state system and access to the private system being ruled by medical scheme policies.

CHAPTER 6

DISCUSSION: PHARMACOTHERAPY IN THE THERAPEUTIC ENVIRONMENT OF ADDICTION AND DEPENDENCY IN THE FREE STATE

6.1 THE THERAPEUTIC ENVIRONMENT OF ADDICTION AND DEPENDENCY TREATMENT

The therapeutic environment of addiction treatment in this thesis refers to an area demarcated by the institutions and individuals providing therapeutic services and the treatment practices they choose. (See Figure 6.1). The ideal treatment environment is multi-disciplinary due to the multi-factorial origin and consequences of addiction. It is however undeniable that biological factors play a fundamental role in both determining vulnerability (*cf.* 2.7.3; *cf.* Table 2.12), expression of addiction (*cf.* Table 2.10A-D; *cf.* Table 2.13) and treatment response (*cf.* Table 2.10A-D; *cf.* Table 2.12; *cf.* Table 2.13).



Social, psychological and biological factors affect the manifestation of drug exposure which in turn affects the inclination to drug exposure. These factors also interact with the therapeutic environment in a two-way fashion. Here the focus is on the patient-doctor interface: where biological aspects are considered and manipulated through pharmacotherapy.

Figure 6.1: Conceptual Representation of Addiction, driven by Drug Exposure, within a Therapeutic Environment

6.2 THE GENERAL ROLE OF PHARMACOTHERAPY

The involvement of medical doctors in the treatment of alcohol and drug addiction in the first place is linked to the assumption that addiction to alcohol and drug addiction is a disease. The overwhelming majority of respondents in this study agreed that addiction is a chronic disease (*cf.* Table 5.36). While referral level practitioners mostly disagree with the view that addiction/dependency is a social, rather than a health issue, a substantial percentage of private general practitioners in the Northern (21,9%) and Eastern Health Complexes (24,0%) saw the condition as primarily a social problem. A high percentage of respondents from all categories saw it as a psychiatric problem (*cf.* 5.8.2; *cf.* Table 5.36). Although there is an almost universal acceptance of a disease concept of alcohol/drug addiction, the content of the disease concept differs substantially with implications for accepting ownership of the problem.

The acceptance of a disease concept does however not automatically indicate the acceptance of a biological origin or support for the role of pharmacotherapy in treatment. The original disease concept of alcohol addiction excludes pharmacotherapy (*cf.* 2.2.2; Carrol & Rounsaville, 2003:335). The nature of the prevailing disease concept in the study population can be essentially described as psychogenic rather than biogenic (Milam, 1992:1 of 8) with numerous references to the role of motivation and willpower as character traits and the role that it determines successful intervention (*cf.* 5.9.3.1), the notion that pharmacotherapy serves as a “bridging” to facilitate psychosocial intervention (*cf.* 5.6.1.2.2).

The central issue regarding the use of pharmacotherapy in addiction is whether addiction *per se* and not its complications (including dependency) can be treated with pharmacotherapy. When compared to other chronic disease states, the addictive state does show some commonalities, i.e. a discernable pathophysiology and a progressive loss of function. Ultimately however, it is the fact that it responds to medical treatment that favours the concept of addiction as a medical disease. The difference is that the pathology is expressed in behaviour, affecting personal and social expression and function before affecting physical function (*cf.* 2.5). Initial treatment paradigms thus developed in other spheres.

Physical and behaviour aspects are currently still approached as two distinct problems. This is reflected in the views of respondents on the role of pharmacotherapy (*cf.* 5.6.1; *cf.* Table 5.22). Participants agreed that it plays an important role in withdrawal or to treat psychiatric complications, yet opinion is split on the role of pharmacotherapy during maintenance. Remarks made by respondents indicated that they do not universally regard pharmacotherapy for addiction *per se* as acceptable practice: “Not everybody needs medication”; “it is better to do it without medication” and “good non-pharmacological measures may make

pharmacotherapy unnecessary.” Apart from representing a split in opinion within a multi-disciplinary treatment environment, these remarks reflect an inherent ignorance of or rejection of the primary biological nature of addiction.

Respondents in this study were in general optimistic about the inherent value of (current) intervention, based on positive results in some of the patients (*cf.* 5.8.3.1) and few saw it as a waste of money (Table 5.37). In contrast, they expressed low expectations and poor results in terms of abstinence (*cf.* 5.9.2.1). Between 23,5% (state hospital respondents) and 100% (treatment centre respondents) regarded addiction as an incurable disease (*cf.* Table 5.36). Quality of life measures seem to be more attainable with current treatment practice (*cf.* 5.9.6.1; *cf.* 5.9.6.4).

6.3 PHARMACOTHERAPY IN WITHDRAWAL OF ALCOHOL

The vast majority of respondents in this study saw pharmacotherapy as part of an abstinence-directed strategy (*cf.* 5.9.1.1.1; *cf.* 5.9.4). That is despite the fact that many of them agreed that abstinence is an unrealistic goal for many patients (*cf.* 5.9.1.1.1).

There was general acceptance among the respondents from various professional groups that pharmacotherapy plays an important role in withdrawal of alcohol (*cf.* 5.6.1.1.2; *cf.* 5.6.1.2.1; *cf.* 5.6.1.3; *cf.* 5.6.1.4.1; *cf.* Table 5.22). An alternative view in the non-prescriber panel is that “it is better if you can do it without medication” and “not everybody needs medication”. This idea is rooted in early AA thinking that true abstinence includes staying without medication (Carrol & Rounsaville, 2003:335) and is probably a transfer of this idea regarding maintenance of sobriety to the withdrawal phase. From the literature, it is clear that non-treatment of withdrawal is particularly dangerous. Seen in the light of evidence on the neurotoxic nature of withdrawal (*cf.* Table 2.7) and the kindling effect of repeated withdrawals (*cf.* 2.3.3.1; Ballenger & Post, 1978:3, Lechtenberg & Worner, 1991:225; Malcolm *et al.*, 2000:162; Moak & Anton, 1996:140), it is important that the decision about whether medication should be used during withdrawal be made by a medically qualified person.

Considerable fragmentation of pharmacotherapy practice in withdrawal was seen by geographical area and professional group (*cf.* Table 5.42A; *cf.* Table 5.42C; *cf.* 5.10.1.6). The standard method of alcohol withdrawal is the use of long-acting benzodiazepine, such as diazepam to replace alcohol effects and counteract the relative excess of excitatory neurotransmitters caused by withdrawal (Bayard *et al.*, 2004: 1446; Mayo-Smith *et al.*, 1997:148; Miller & Gold, 1998: 3 of 12; Kosten & O’Connor, 2003:1787). The

benzodiazepines not only suppress the symptoms of withdrawal, but have neuroprotective properties (Sarnowska, Beresewicz, Zabłocka & Domanska-Janik, 2009:169). The finding of several general practitioners in the Northern and Eastern Health Complexes avoiding the use of benzodiazepines in the withdrawal period was thus surprising (*cf.* Table 5.42A) and one may speculate that the practice of using clothiapine as the primary sedation during withdrawal may have an influence on the long-term course of a particular individual's alcohol addiction. Clothiapine has a high risk of causing extrapyramidal reactions, and like other antipsychotics, it lowers the seizure threshold and may also cause orthostatic hypotension and cardiac arrhythmias (SAMF, 2008:457). The use of antipsychotics in general is said to be detrimental for craving in Lesch Type I patients (*cf.* Table 2.10A). A combination of benzodiazepines and clothiapine bears the risk of respiratory suppression. Neuroleptic use should therefore be considered individually, taking into account the typology of the particular patient and individual risk factors.

Holbrook, Crowther, Lotter, Cheng and King (1999:651) conducted a meta-analysis of randomized controlled trials comparing benzodiazepine use in alcohol withdrawal with several alternative drugs, including carbamazepine and propranolol. Carbamazepine was comparable in effectiveness to low dose benzodiazepines. Benzodiazepines showed a lower drop-out rate during the first 7 days than any other alternative. Benzodiazepines are thus definitely still the preferred drug for alcohol withdrawal, with carbamazepine and propranolol being recommended as adjunctive therapy if high doses of benzodiazepine cannot be given. A possible exclusion is patients with known hepatic, cardiac or respiratory problems who may be more sensitive to adverse effects of benzodiazepines (Holbrook *et al.*, 1999: 654). Gillman and Lichtigfeld (1990a:1006) warn about neuroleptic use during alcohol withdrawal on the grounds that dopamine antagonism aggravates withdrawal symptoms, delirium and seizures and may lead to the development of the neuroleptic malignant syndrome with increased mortality.

A similar example of fragmentation of treatment practice is the report of morphine use during severe alcohol withdrawal (*cf.* 5.10.1.6). No supportive literature could be found for this practice. It is however in support of the observation of Gillman and Lichtigfeld (1990a:1006) that opioid agonism reduces withdrawal symptoms. The miserly use of nutritional supplements during withdrawal is matter of concern. Dietary deficiencies are common in alcohol abuse and affect both withdrawal and craving (Zimatkin & Zimatkina, 1996:425; Cleary, 1987:167; Coppen & Bolander-Gouaille, 2005:6; Abou Saleh & Coppen, 2006:285). Yet, some private general medical practitioners do not use thiamine (*cf.* 5.10.1.7) and no one

reported using folic acid that has been proven to be of a major importance in Lesch Type I, reducing the risk for convulsions (*cf.* Table 2.10A; *cf.* Figure 2.8).

The general use of the noötroptic drug piracetam by private psychiatrists as part of their alcohol withdrawal regimen was unexpected, but reflects an awareness of the need for neuroprotection during withdrawal (*cf.* 5.10.1.6). Literature on the effectiveness of piracetam for this specific indication is limited and the level of evidence supporting its use is low. Brandão, Paula-Barbosa and Cadete-Leite (1995:285) demonstrated the neuroprotective effect of piracetam on the hippocampus during alcohol withdrawal in a rat model and Gabryel, Adamek, Pudelko, Małeckı and Trzeciak (2002:28) demonstrated neuroprotective effects against ischemia in a rat model. Significantly improved cognitive function with piracetam *vs.* placebo during alcohol withdrawal was confirmed in a double blind study by Buranji, Skojilic and Kozaric-Kovacic (1990:Abstract). The outstanding effect of this drug is its lack of toxicity and the fact that it does not interfere directly with neurotransmitter secretion. Besides improving learning and memory in normal subjects (Dimond, 1976 in Barnas, Miller, Ehrmann, Schett, Giinther & Fleischhacker, 1990:361) piracetam also causes a modest dose-dependent improvement in cognitive function in patients recovering from alcohol addiction (Barnes *et al.*, 1990:364). Dencker, Wilhelmson, Carlsson and Bereen, 1978 (Abstract) compared the effectiveness of piracetam (Noötropil®) and chlormethiazole (*synonym:* chlordiazepoxide, Librax®) to reduce acute alcohol withdrawal symptoms and found improved results with piracetam.

Traditionally the object of pharmacotherapy support during withdrawal was to provide a safe and (relatively) comfortable preparation for psychosocial intervention (*cf.* 2.3.3; Raistrick, 2000:348). In the light of the biological nature of addiction that is emerging, this is no longer enough. Withdrawal should be recognized for the cumulative neurotoxic event that it is, and managed purposely to limit the potential damage of the intervention, not just for the immediate situation, but to prevent long-term damage. Together with the lack of standardization demonstrated by the study, this indicates that standard withdrawal guidelines are needed.

Within the state system the situation regarding withdrawal is precarious in some areas, as basic drugs needed for withdrawal are reported to be unobtainable in some hospitals (*cf.* 5.6.6; *cf.* Table 5.24). These procurement systems need to be revised. State hospitals (Table 5.23) urgently need to revise their drug lists to support medical intervention in withdrawal and relapse prevention.

6.4 PHARMACOTHERAPY IN RELAPSE PREVENTION IN ALCOHOL ADDICTION

Respondents in this study had opposing views regarding the use of medication in alcohol relapse prevention. Some echoed earlier AA doctrine which in particular saw pharmacotherapy intervention during relapse prevention as controversial (*cf.* Carrol & Rounsaville (2003:335). Patients are reported to stop their maintenance medication for fear of substitution (*cf.* 5.6.4.1). Their fear is shared by several private general medical practitioners and non-prescriber respondents (*cf.* 5.6.4.1). As such, it is imperative to distinguish between abstinence-directed intervention and harm reduction strategy as goals in a particular patient. Abstinence-directed intervention should not end in substitution and every effort should be made to prevent substitution in such a case. In the case of harm reduction strategy, however, substitution is an acceptable and even intended outcome. Goal-setting is thus an important item in the comprehensive planning of therapy. To prevent contradictory efforts from various team members, this should be a multi-disciplinary decision, involving the patient and his/her caretaker as well. Note also that the non-medical background of therapists may lead to their transference of ideas regarding pharmacotherapy in relapse prevention to pharmacotherapy in withdrawal.

6.4.1 Abstinence-Orientated Pharmacotherapy During Relapse Prevention

6.4.1.1 The Disulfiram Experience

6.4.1.1.1 General Comments Regarding Disulfiram

Only three drugs aimed at maintaining abstinence are currently registered for relapse prevention in alcohol addiction (*cf.* 2.5.2). Disulfiram was the only one of these that was widely known and prescribed by the study population. There were divergent opinions as to the usefulness of the drug (*cf.* Table 5.43A; *cf.* 5.10.2.1). Some prescribers were complaining about the lack of access to disulfiram, while others regarded it as ineffective and dangerous. Respondents in this study noted a number of negative experiences with disulfiram, describing it as “unpredictable”, “costly”, “dangerous”, “ineffective”, “stigmatizing”, “a symbolic gesture” and “risky to sneak into porridge” (*cf.* 5.10.2.1). Those who do prescribe disulfiram are thus most careful about selecting patients (*cf.* Table 5.43A). The high cost of the drug, intensive supervising involved and variable response limits its use.

6.4.1.1.2 Selection Criteria for Disulfiram

Criteria for selecting disulfiram for treatment are mainly the financial capability of the patient and the degree of motivation. Respondents recommended it only for well-motivated patients

(*cf.* 5.10.2.1). This is in line with recommendations in the literature (Brewer, 1993:384). Translated into the language of the emerging biologic paradigm, the addicted person suffers from an impaired reward system, unable to respond to normal stimuli. The reward system is the major structure affecting motivation itself and has an important function in the complex process of learning. At this point there is no way of measuring the degree of impairment or recovery. Some of the main treatment modalities are based on affecting motivation and cognition, yet it is expected from the patient to demonstrate a motivated attitude towards therapy before it starts. If relapse is the marker for lack of willpower, motivation or determination in a psychogenic paradigm, it signals the degree of impairment of the mesolimbic system in a biologic paradigm.

6.4.1.1.3 Disulfiram and Substitution

Disulfiram does not pose the risk of substitution, and the mechanism by which it acts, namely as a deterrent, is acceptable to psychologists, as it allows patients to expose themselves to drug-induced cues and practise their response-prevention (Hether, 1998 in Brewer, 1993:383). In this study psychologists expressed concern regarding substitution, yet did recommend disulfiram.

6.4.1.1.4 Disulfiram and Stigmatization

A major obstacle to the use of disulfiram in the local setting is the alcohol-specific nature of the drug causing “medical” stigmatization. Information regarding the involvement of alcohol in a patient’s disease is kept from the medical scheme, as it may affect payment for future treatment (*cf.* 5.7.4.1.5). Medical scheme patients are thus unlikely to get the drug prescribed (*cf.* 5.6.5; *cf.* 5.7.4.4).

6.4.1.1.5 Variability in Effectiveness of Disulfiram

The difference in opinion regarding the effectiveness of disulfiram in this study (*cf.* 5.10.2.1) is not surprising: genetic differences determine the response to disulfiram (Zabetian *et al.*, 2001 in Vocci & Ling, 2005:99). The type of alcohol addiction should be taken into account when selecting pharmacotherapy and evaluating response (See Lesch’s Typology: Table 2.10A). A variable response on disulfiram is well-known and may partly be explained by the differential metabolic pathways at work in a particular individual to metabolize alcohol or an individual’s response to acetaldehyde (Quertemont, 2004:572) or the time it takes for an individual to produce new ALDH (Brewer, 1993:386). Peachey *et al.* (in Brewer, 1993:386) demonstrated that patients could reduce the effect of disulfiram by taking regular small doses of alcohol. Brewer (1993:387) also pointed out that there is a considerable variation in dosage needed: in some cases the “symbolic” presence of disulfiram is enough to act as a deterrent,

while in others the standard dose of 200mg to 300mg per day needs to be increased to 400 to 500 mg per day. Despite contradicting results in placebo-controlled research studies (*cf.* 2.5.2.1.1) disulfiram is a highly effective drug if used correctly in the appropriate patient at the right dose (Brewer, 1993:387). Brewer cited several studies indicating the effectiveness of disulfiram in strictly supervised EAP and probation programmes leading to dramatically reduced absenteeism and reduction in alcohol related crime as well as good results in poor prognosis patients who failed to respond to repeated inpatient treatments. Success is however dependent on stringent monitoring (Brewer, 1993:384), motivation provided by probation and threats of discharge in the mentioned studies.

Currently, failure to reach or maintain abstinence, despite the use of disulfiram, is sometimes seen as a valid reason for terminating the doctor-patient relationship (*cf.* 5.9.4.1). This may be because failure to maintain abstinence despite disulfiram is seen as a sign of poor motivation. Lack of access to alternative treatment options may also contribute to the inappropriate use of patients for whom it is not indicated.

6.4.1.2 Other Abstinence-Orientated Medications

Acamprosate is virtually unknown in the study population; the few having tried it, remarked on the high cost (*cf.* 5.10.2.2). Being alcohol-specific and costly, its low use may be linked to the disulfiram experience.

Naltrexone is registered in South Africa for the purpose of preventing relapse in alcohol addiction treatment, but is no longer actively marketed.

One of the treatment centres uses nitrous oxide and oxygen gas therapy on an outpatient basis for a wide variety of addictions (*cf.* 5.10.1.6). As outpatient facility, this treatment option is available to local residents and patients from the surrounding areas. The centre facilitates long-term involvement. The centre claims that they have good results. Literature regarding the topic is relatively scarce. Gillman and Lichtigfeld (2004:1186) published the results of a randomized control study comparing the effect of psychogenic analgesic nitrous oxide (PAN) to the use of diazepam 5 mg, preceded by a benzodiazepine loading dose for alcohol withdrawal and demonstrated a significantly improved result for PAN. The same authors reviewed their experience of 10 years of using PAN in more than 7 000 cases of mild to moderate alcohol withdrawal (Gillman & Lichtigfeld, 1990:545). They hailed it as the most rapid way of detoxification with significant savings in terms of hospitalization and saving on the use of sedatives. Minimal risk for dependence exists and 85% to 95% of patients need only one session. Besides alleviating symptoms of withdrawal, it also shows anti-craving effects. Disadvantages are the initial cost of equipment and training and that it is initially staff

intensive. The only contraindications for the therapy are chronic obstructive airways disease and Delirium Tremens. It is also effective for the treatment of opioid and nicotine withdrawal. (Gillman, 1989 in Gillman & Lightigfeld, 1990:546). A Cochrane review on the effects of nitrous oxide in alcohol withdrawal in inpatients concluded that nitrous oxide is “as effective as sedatives for managing mild to moderate alcohol withdrawal states.” (Gillman & Lichtigfeld & Young, 2007:8-9). The authors admitted that further high quality, independent confirmation of this evidence is still lacking.

Vitamin B Co is the most widely used therapy for relapse prevention, some specifically using it to reduce craving (*cf.* 5.10.2.3).

The lack of pharmacotherapeutic options during relapse prevention limits the degree of individualization of treatment necessitated by the variation of manifestation of alcohol addiction (*cf.* Table 2.10A-D).

6.4.2 Pharmacotherapy as Harm Reduction Strategy

6.4.2.1 Harm Reduction and Best Evidence Practice

While abstinence saved many lives, it is an unrealistic goal for many (*cf.* 5.9.1.1.1). The tendency to relapse, even after years of abstinence, remains a reminder that some of the underlying neurophysiologic adaptations are long-standing, if not permanent (*cf.* 2.3.2; 2.6). Pharmacotherapy as harm reduction is an accepted principle in many chronic diseases, for instance the use of statins and ACE inhibitors to reduce cardiovascular risk in a smoker (Hayhow & Lowe, 2006:235), yet poses specific ethical dilemmas when applied to addiction treatment (Hayhow & Lowe, 2006:236). From the point of individualized care, harm reduction strategy becomes an option and best evidence practice for the patient who does not comply with life-style changes. The objective is to stem deterioration, to conserve function in whatever residual capacity, ignoring the patient’s value system as a target of intervention. In the interest of meaningful survival, pharmacotherapy becomes a default mechanism for failure of lifestyle change.

Substitution therapy is proven to be the most effective way of managing opioid addiction (*cf.* 2.5.2.2). In the current study, not even psychiatrists use substitution in these cases (*cf.* 5.10.5). Private general medical practitioners do not become involved with these patients. One state hospital provides methadone replacement. This is probably related to the provision of the Medicines and Related Substances Control Act (RSA, DoH, 1997:22) that prohibits the use of scheduled drugs for the treatment of craving *per se* outside a registered facility. In other countries substitution with buprenorphine has transformed the treatment of opiate addiction from specialist-run centre-based programmes to general practitioner-run

decentralized interventions. High enrolment of heroin addicted persons was reported in France where general practitioners are allowed to prescribe buprenorphine without any special training involved and supported by policies to promote office-based care (Fatseas & Auriacombe, 2007:363).

6.4.2.2 Benzodiazepine Substitution in Alcohol Addiction

Respondents in the study had varying opinions on the usefulness of pharmacotherapy and its relative value, ranging from strong support for substitution in alcohol addiction (*cf.* 5.6.4.1) to scepticism on the ability of pharmacotherapy to play a role at all (*cf.* 5.6.3).

Charlton (2005:457) argued in favour of drug-substitution as a management strategy for alcohol addiction, specifically noting the use of benzodiazepines for settings where alcohol is used to relieve social phobia. However, virtually all benzodiazepines have abuse potential and prescriptions from general practitioners are a common source of benzodiazepines which is then diverted to the black market (Ruben & Morrison, 1992 in Ashton, 2002:7 of 14). General practitioners are therefore rightfully weary of being targeted by benzodiazepine-seeking patients (*cf.* 5.4.4.2). Benzodiazepines with rapid central nervous penetration like diazepam (Griffiths *et al.*, 1984 in Ashton, 2002: 4 of 14) are preferred agents of abuse compared to oxazepam. Alprazolam, lorazepam and triazolam also are popular for primary abuse.

As to the reduced harm in comparison to alcohol, benzodiazepine use at high levels also impairs driving skills (Ashton, 2002:7 of 14), causes physical dependence with potentially life-threatening withdrawal, increases confidence to engage in criminal activity and impairs judgement regarding sexual activity. When injected, the addicted person is exposed to the blood-borne risks of intravenous heroin users, including thrombophlebitis, deep vein thrombosis, rhabdomyolysis, gangrene and HIV infection.

The decision to use benzodiazepines as harm-reduction for alcohol addiction should therefore be made with due consideration of the individual situation and stringently monitored.

6.4.2.3 Antidepressants as Harm Reduction in Alcohol Addiction

12,5% to 20% of prescribing respondents include antidepressants as standard treatment in relapse prevention (*cf.* Table 5.42D). Selective serotonin re-uptake inhibitors (SSRIs) are very frequently prescribed by private general medical practitioners during alcohol relapse prevention (*cf.* Table 5.43C). Seen against its lack of results in this regard (*cf.* 2.7.2), it is probably overprescribed. Reasons for this may be that it is readily available and includes a range of prices. While medical schemes do pay for antidepressants, it may also help to

conceal the real diagnosis of a patient (*cf.* 5.6.6). Compared to alcohol-specific drugs, antidepressants are non-stigmatizing.

The regular use of antidepressants in patients addicted to alcohol reflected by the responses of both general practitioners and psychiatrists may however also be a true effort to harm reduction. While psychiatrists after all deal exclusively with dual diagnosis patients, for whom it is indicated, in the case of private general medical practitioners including it in standard treatment (*cf.* Table 5.43D), there may be a misconception that it is beneficial in all cases of alcohol addiction. The literature does not support the standard use of antidepressants to reduce drinking in the absence of depression (*cf.* 2.7.2.1; Nunes & Levin, 2004:1894).

6.4.2.4 Conclusion on Pharmacotherapy as Harm Reduction

The general fear of using pharmacotherapy as harm reduction results in the situation that patients not able to adhere to abstinence-directed treatment are currently left with no treatment at all. While pharmacotherapy as harm-reduction has great allure, it must be a highly individualized decision, based on clinical findings and stringently monitored to prevent further harm. A pragmatic approach may benefit more patients than an absolute abstinence or no treatment approach.

6.5 THE ROLES OF VARIOUS PROFESSIONAL GROUPS IN THE USE OF PHARMACOTHERAPY

6.5.1 Private General Medical Practitioners

Private General Medical Practitioners are often confronted by help-seeking for alcohol addiction (*cf.* Table 5.9A). Though they expressed different opinions regarding the role of pharmacotherapy, especially in relapse prevention (*cf.* 5.6.1.1.4) and are severely restricted in terms of access to medication (*cf.* 5.6.6), they nevertheless play an important role in managing these patients especially in under-resourced areas (*cf.* Table 5.32A). In general they showed a fragmented approach in withdrawal and relapse prevention as described in 5.10.1 (*cf.* Table 5.42A; *cf.* Table 5.42C; *cf.* 5.10.1; *cf.* Table 5.43B).

General practitioners play a limited role in the treatment of other addictions besides alcohol. Most are however confident about their ability to treat benzodiazepine and analgesic addictions. While many general practitioners in this study felt confident in managing benzodiazepine withdrawal, few would refer these patients to social workers (*cf.* Table 33C) and psychologists (*cf.* Table 33D). This reflects a lack of awareness of the important role of intensive psychotherapy in these cases. Sewewright *et al.*, 1993: (in Ashton, 2002: 10 of 14) reported a 90% relapse rate within 1 year for patients with benzodiazepine

addiction/dependency. Elsesser and Sartory (1998: 210) quoted several studies investigating the impact of psychological intervention with a success rate of up to 70%.

6.5.2 Private Psychiatrists

Psychiatrists are confronted by a larger variety of drug problems (*cf.* Table 5.15B) and use a larger variety of medication. In therapy, the psychiatrists in this study tended to use universal detoxification strategies: tailored to the management of a group of drugs rather than individual drugs. Some psychiatrists add noötropics. Another trend in this group was the frequent use of atypical antipsychotics.

6.5.3 State Hospitals Respondents

State hospital respondents reported less confidence in managing complicated cases of alcohol withdrawal than other referral level respondents, yet comparable to confidence expressed by private general medical practitioners (*cf.* Table 5.8A-B). They were however more confident in managing psychiatric complications than private general medical practitioners. This reflects their common involvement in psychiatric cases and relatively low level of involvement with alcohol withdrawal cases. Reasons given for not being involved with alcohol withdrawal cases include: being ill-equipped, lack of knowledge and resources, specifically having no seclusion rooms and non-availability of medication for both withdrawal and relapse prevention (*cf.* 5.5.3). State hospital respondents who do use pharmacotherapy in withdrawal, use benzodiazepine-based withdrawal regimens (*cf.* Table 5.42A).

6.5.4 Non-Prescribers

The role of non-prescribing therapists in promoting pharmacotherapy or hindering pharmacotherapy by their attitude towards the subject should not be underestimated. If the therapist involved with a patient's motivation is anti-pharmacotherapy, the chances of compliance would be low. Also bear in mind their non-medical background: they may not always correctly distinguish between potentially addictive and non-addictive agents or may carry over perceptions regarding pharmacotherapy in relapse prevention to withdrawal. On the other hand their support for therapy may enhance patient compliance. Training in pharmacotherapy should thus include other potential members of the multidisciplinary team.

6.6 DECISION MAKING IN TREATMENT SELECTION

Decision-making can be described as a two-part process: screening for the existence of addiction/dependence; and matching of treatment options. Treatment options being limited in

the local setting, in many cases it comes down to determining whether to treat or not (*cf.* Figure 5.15).

6.6.1 Biological Factors in Decision Making on the Point of Intervention

Early intervention as a principle of the management of substance abuse relates to intervention in high risk behaviour before addiction/dependency occurs. Though essentially thus outside the treatment sphere, an initial screening process is implied that distinguishes between risky/harmful behaviour and actual addiction/dependency. Private general medical practitioners in this study intervened in the setting of self-report (seldom), family or employer insistence or when overt organ damage occurs (*cf.* Table 5.21A; *cf.* 5.9.5.1), state hospitals respondents intervened when patients present with organ dysfunction or incidentally withdraw during admission for another reason (*cf.* 5.5.3; *cf.* Table 5.21A). If Primary Health Care clinics do screening for distinguishing between risky behaviour and addiction, one would expect more referrals to end up at state hospitals (*cf.* Table 5.9.B) or treatment centres (*cf.* Table 3.9). It seems that this is not happening. The implication for medical intervention is that it is only implemented at a late stage in the addiction process, mostly when organ damage has already set in. Although addiction is regarded as a disease process by most of the respondents, the treatment process followed does not reflect a level of awareness of the biological processes of addiction that is acute enough to ensure either early pharmacotherapeutic or other forms of intervention.

6.6.2 Biological Factors in Decision Making on Level of Intervention

Dual diagnosis patients are referred to psychiatrists, and they exclusively see dual diagnosis patients (*cf.* 5.5.2; *cf.* Table 5.21A). The identification of psychiatric conditions is seen by some as a critical point in successful intervention (*cf.* 5.6.1.1.3; *cf.* Table 5.40). The perception of higher success in this group of patients (*cf.* 5.6.1.4.3; 5.9.1.4) is contrary to literature that shows a poorer outcome for dual diagnosis patients (Sheehan, 1993:131). The local perception may be due to the intensity of multi-disciplinary intervention, including specialist psychiatrist intervention, compared to the relatively low level of intervention in non-dual diagnosis cases.

Laboratory monitoring is not standard because it increases cost and may damage the doctor-patient relationship (*cf.* 5.9.5.1). Laboratory tests are mostly done by general medical practitioners to monitor organ function (*cf.* 5.9.5.1-5.9.5.3) and by treatment centres to check compliance (*cf.* 5.9.5.4), so it does not influence decision making in early cases. Patients with organ dysfunction are regarded as high risk and are likely to be referred to a physician for management (*cf.* Table 5.8A).

A second level of screening by a private general medical practitioner is suggested for the purpose of risk estimation, especially with the view to do office-based withdrawal as well as screening for possible psychiatric or physical conditions. The level of risk private general medical practitioners are willing to take seems to depend on the proximity and back-up of specialists and facilities (*cf.* Table 5.8A). Organ dysfunction is an important point of intervention for many private general medical practitioners (*cf.* 5.3), yet also seems to be the most feared risk factor (*cf.* Table 5.8A-B). It is important to bear this in mind as participation of general practitioners in treatment would be essential to ensure general access to medical treatment.

6.6.3 Economic Considerations

The main determinant of treatment for addiction is the medical scheme status (*cf.* 5.7.6.2; *cf.* 5.7.4.1.2; *cf.* 7.3.3.3) or financial capability of the patient (*cf.* 5.5.1.3; *cf.* 5.7.4.1.3). The balancing of need and resources determines access to treatment, the level of treatment, whether rehabilitation will be attempted, continuation of follow-up, the pharmacotherapy involved and whether re-admission will be considered.

The majority of medical practitioners reported problems with medical scheme policies as being exclusive of addiction treatment (*cf.* 5.7.6.2.1) or at best severely limiting benefits (*cf.* 5.7.6.2.2). Without medical scheme funding or personal finances, state-funded treatment becomes the only option. Yet access to these services is limited. Most district hospitals and even some regional hospitals do not provide inpatient detoxification (*cf.* Table 5.17B).

Fingarette (in Westermeyer, *s.a.*: 6-7 of 8) and Milam (1992: 4 of 8) blamed service providers in addiction treatment for wilfully maintaining the revolving door phenomenon, in order to protect their vested interests. There is no evidence that any of the groups in this study are benefiting from large scale treatment of persons addicted to alcohol or drugs. Most medical practitioners indicated that they do not want to expand their current involvement with these patients (*cf.* Table 5.18). It is however plausible that altered treatment practice, especially with regard to the relative contribution of the various disciplines may challenge ideas of existing service providers and evoke resistance to change.

It is more likely that the tendency for intermittent patient-activated involvement (*cf.* 5.9.2.1), and frequent change in doctor/therapist on relapse (*cf.* 5.9.2.3; *cf.* 5.9.2.4) may be the actual reasons for the revolving door phenomenon. Limiting medical intervention to the withdrawal phase contributes to create a short-term involvement with short-term objectives from the medical practitioners' side.

The influence of cost on the selection of pharmacotherapy is direct, through prohibitive high

cost of medication (*cf.* 5.6.1.1.1) and indirect through diversion tactics employed to mask a patient's real diagnosis in order to prevent stigmatization and exclusion from medical scheme funding (*cf.* 5.6.6; *cf.* 5.7.4.1.5). Inappropriate prescribing may escalate costs without adding real value in treatment outcomes.

6.6.4 Personal Motivation/Willpower

In order to use available funding responsibly, some practitioners in the study suggested that the motivation of a patient to go for treatment should play a role in deciding whether expensive intervention should be attempted (*cf.* 5.9.3.2). Pressure by family and employers is not enough to provide the long-term drive that a prospective patient will need to eventually succeed. This observation is confirmed by some of the therapists, who also claim that they cultivate such motivation through their therapeutic intervention (*cf.* 5.5.5; *cf.* Table 5.21).

The relationship between pharmacotherapy in addiction and willpower is contestable. Eventually the effectiveness of any medication is dependent on patient compliance. The addicted population has inherent problems with motivation (*cf.* 2.2.1; Kalivas & Volkow, 2005:1403), so lack of compliance is a common reason for failure to see benefits from pharmacotherapy, as some respondents described (*cf.* 5.6.3). The irony is that the use of disulfiram, the main agent for abstinence-based intervention, is recommended for a well-motivated patient (*cf.* 5.10.2.1). Brewer (1993:384) pointed out the obvious fact that a well-motivated patient will do well on any treatment. Given the pathophysiology of addiction (*cf.* 2.2.1) one may also argue that the degree of motivation would merely reflect the degree of addiction and that patients with a milder degree of impairment will have greater response.

Given the importance of patient compliance, any long-term pharmacotherapy intervention should be undertaken within the setting of a multi-disciplinary team to enhance the outcome (*cf.* 2.5.2.1.2). From the viewpoint of pharmacotherapy, the psychosocial intervention serves to enhance patient compliance with the treatment regimen, hence the improved results. From the viewpoint of psychosocial therapists, the medication is needed to bridge a period of vulnerability, until their therapeutic intervention can start working to produce the patient's willing capitulation to treatment, fueled by psychologically induced willpower.

But is willpower truly inducible? Perhaps what we witness in the recovering patient is rather the healing power of neurogenesis, brought on by abstinence (Crews & Nixon, 2009:121). Yet, abstinence-induced recovery is incomplete (Koob *et al.*, 1998:469). Repeated alcohol/drug exposures cause morphologic changes in brain structures that leaves long-standing and even permanent damage to the decision making process (Redish, Jensen & Johnson, 2008:415). Cumulative damage occurs to neurons through cycles of drug exposure,

withdrawal and relapse (Ballenger & Post, 1978:3).

6.6.5 Failure to Implement New Pharmacotherapeutic Strategies

Practices like the continued use of clothiapine (*cf.* Table 5.42C) and the failure to implement Acamprosate (*cf.* 5.10.2.2) reflects a great deal of inertia in the system to respond to scientific developments. Carrol & Rounsaville (2003:335) cited the failed marketing of naltrexone, despite the proven effectiveness of the drug. They pointed out that the minor role played by physicians in addiction treatment and the fact that non-clinical staff who were playing the major role in addiction treatment at the time were not exposed to the same information as doctors, contributed greatly to this failed marketing. In addition, in line with AA belief, patients at the time believed that true sobriety excludes the use of pharmacotherapy in the maintenance phase. These conditions are confirmed by the diversity of views on the role of pharmacotherapy, especially among the non-prescribers group and the reports of “fear of substitution”.

Marinelli-Casey, Domier & Rawson (2002:984) noted that though a lag in implementation of new research-based therapies is common to most chronic diseases, it is particularly acute in the case of addiction treatment mainly due to poor communication between researchers and practitioners, strict regulation of pharmacotherapy in this field and funding. Parallel conditions locally evident are: lack of information claimed by private general medical practitioners (*cf.* 5.2.2), pharmacotherapy for craving *per se* being prohibited outside institutions (RSA DOH, 1997:22) and medical scheme funding restrictions (*cf.* 5.7.6.2). Marinelli-Casey *et al.* suggested that deliberate effort should be made to bring researchers and practitioners together in conferences and that implementation should be undertaken simultaneously at multiple levels. In the local situation there is clearly a need for regular communication between decision-makers in facilities and private general medical practitioners.

Figure 6.2 summarizes the factors that promote or hinder pharmacotherapy in addiction and dependency treatment.

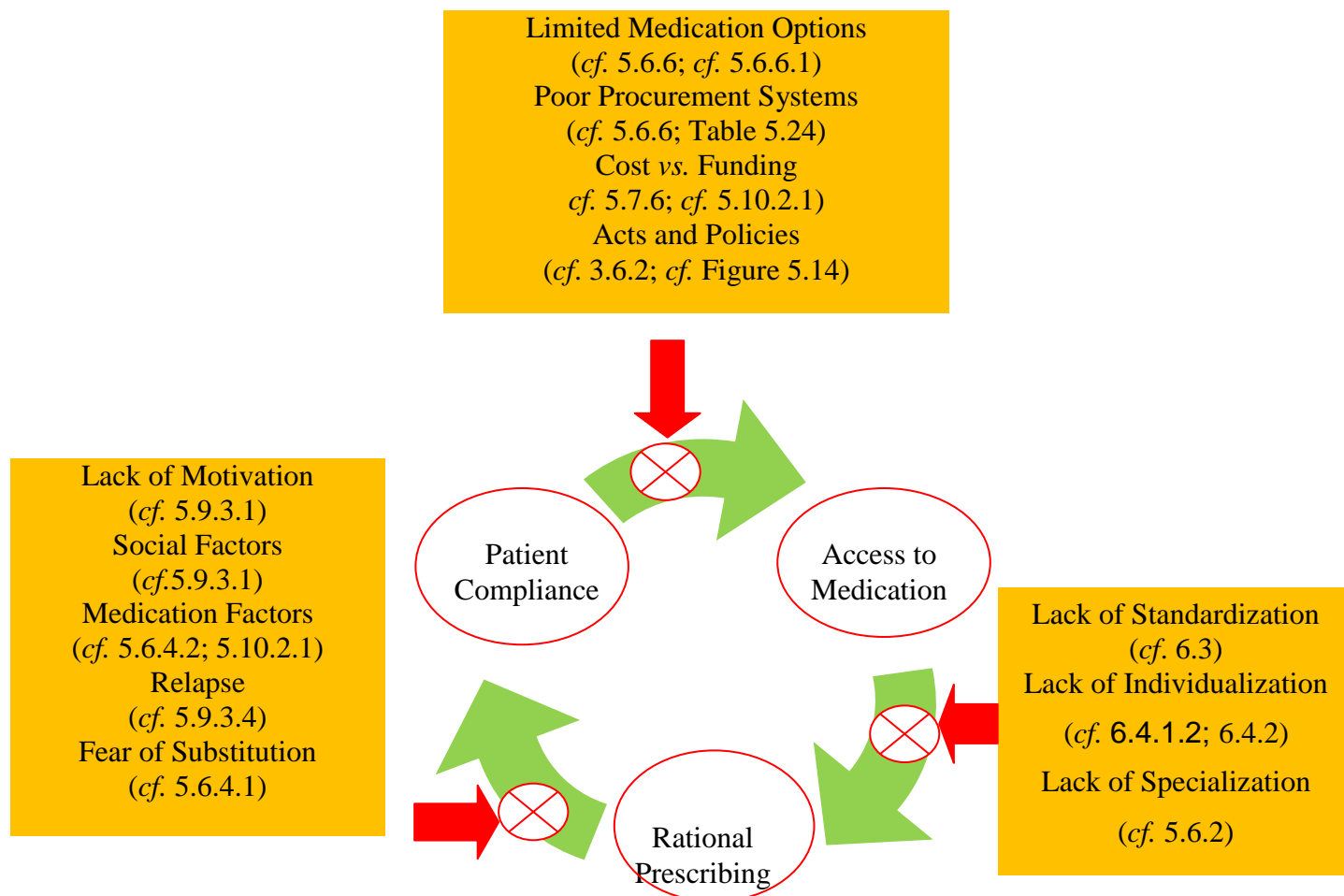


Figure 6.2: Factors Promoting and Hindering the Use of Pharmacotherapy in Addiction Treatment

6.7 CONCLUSION

The study showed that the decision making process in treatment selection is dominated by socio-economic considerations and the lack of support services, at the cost of disease factors. Pharmacotherapy in withdrawal of alcohol varies considerably from standard treatment guidelines, while pharmacotherapy for alcohol relapse prevention and opioid maintenance is limited, despite proven effectiveness.

CHAPTER 7

DISCUSSION: AN INTEGRATED FRAMEWORK FOR THE TREATMENT OF ADDICTION AND DEPENDENCY IN THE FREE STATE

7.1 HELP-SEEKING AND HELP-GIVING IN ADDICTION AND DEPENDENCY TREATMENT

At the heart of the interface between the patient and the therapeutic environment lies the exchange of help-seeking and help-giving behaviour. The challenge is to identify the factors that promote and hinder these behaviours on the opposite sides of intervention, define the conditions that promote these and devise focused strategies to foster these vital elements of the voluntary patient-prescriber relationship. The current study suggested a relatively low level of help-seeking within a population where alcohol dependence is particularly common (*cf.* Table 3.2; Day and Gray, 2005:305). The need-treatment gap in addiction is a universal problem. McLellan and Meyers (2004:764) reported that in 2001 there were 4,8 million adults and 1,1 million youths in need of substance addiction and dependency treatment in the USA. Less than 1,5 million adults and fewer than 100,000 youths received treatment. Reasons given by McLellan and Meyers (2004:764) for lack of engagement in treatment can be split into factors preventing help-seeking and factors preventing help-giving.

Factors Preventing Help-seeking	Factors Preventing Help-giving
-Perception of no effective treatment	-Low detection
-Stigmatization	-Lack of access to facilities
-Denial	-Lack of maintaining infrastructure: leadership, workforce and information systems.

(Compiled and adapted from McLellan & Meyers, 2004:764)

Help-seeking involving drugs other than alcohol, prescription medication and cannabis are very low in general. This may be because of a relatively low prevalence in a mostly rural environment. Factors that hinder help-seeking in general are: cultural acceptance among communities and doctors (*cf.* 5.5.1.4; *cf.* 5.8.2.1) and the perception of poor success of intervention (*cf.* 5.9.2.1). In an environment with a prevailing sense of futility, high cost vs.

limited results, a lack of treatment options, and where service providers themselves lack belief in the success of intervention, there is little incentive for improving help-seeking.

An interesting finding in this study is that the pattern of help-seeking differs between the various professional groups with regard to the various addictions.

7.1.1 Help-seeking and the Private General Medical Practitioner

In line with reports on admissions to treatment centres, alcohol addiction is the most common addiction-related cause of help-seeking presenting at private general medical practitioners (Figure 5.9A). Frequent contact with alcohol addiction is a common occurrence for a substantial proportion of general practitioners. However in the light of the high reported provincial average for dependency (*cf.* Table 3.2) the frequency of contact with help-seeking alcohol addicted persons (*cf.* Table 5.9A) seems to be low. In addition, several prospective general practitioner respondents declined to participate on the grounds of not seeing help-seeking addicted patients at all (*cf.* 4.6.1). A small number of private general medical practitioner respondents also said that they never encounter help-seeking by these patients (*cf.* Table 5.9A).

Weaver, Jarvis and Schnoll (1999:913) described the various roles played by the primary health care physician in addiction treatment as detection, brief intervention; and maintenance of a therapeutic relationship. In the local situation the eventual involvement of private general medical practitioners ranges from no involvement to providing medical care through detoxification and relapse prevention (*cf.* Table 5.17A).

7.1.1.1 Private General Medical Practitioners and Detection

The context of help-seeking at private general medical practitioners in the current study was mostly that the family or employer report problems or demand that a person should undergo treatment. Alternatively the doctor only becomes involved at the point where organ dysfunction sets in (*cf.* 5.5.1.4). A single general practitioner said that he routinely screens patients using laboratory tests. The detection process can therefore be seen as an essentially passive approach. In a German study, Rumpf *et al.* (2001:136) reported a wide range in physicians' ability to detect alcohol related patients, generally lower in private practice than in hospital-based doctors. In general however, Rumpf *et al.* found that physicians' ability to detect problem drinkers is underestimated. Detection rates are boosted by using designed screening tools, yet according to the authors merely serve as reminders for the doctors to intervene, rather than influencing detection itself. In the current study, private general medical practitioners reported a higher level of contact with help-seeking persons addicted to alcohol (*cf.* Table 5.9A) than hospital-based doctors (*cf.* Table 5.9B). It is however unlikely

that this is due to their increased ability to detect alcohol-related problems. It is more likely that it is related to the nature of the patient-doctor relationship and the way services are organized in the two systems, for instance that patients do not see the same doctor or therapist every time they visit a state hospital (*cf.* 5.5.1.5; *cf.* 5.8.3.2).

7.1.1.2 Private General Medical Practitioners and Referral

Most of the private general medical practitioners actively involved in the treatment of these patients fulfilled an administrative function (*cf.* Table 5.17A). This function is however undermined by lack of information regarding referral possibilities (*cf.* 5.2.2; *cf.* 5.7.3.1.3) as well as marginalization and isolation from state facilities (*cf.* 5.7.3.1.6). When seen from the perspective of treatment centres, general practitioners are nevertheless an important conduit into treatment centres (*cf.* Table 3.9; Aurora, 2005:2).

True clinical criteria for referral will depend on the severity of the withdrawal expected based on the clinical presentation, the number of previous withdrawals, previous history of severe withdrawal or history of convulsions, the presence of organ dysfunction or severe psychiatric symptoms and the course of the withdrawal episode (Kosten & O'Connor, 2003:1793). In the current study, the medical scheme and financial status of the patient is the most important determinant of where a patient can be referred.

Access to state hospitals vary considerably ranging from collaborative arrangements between the private and public sectors in some areas and total breakdown of communication in other areas. The provision of written referrals to hospitals is discouraged by current hospital policies (*cf.* 5.7.3.1.8). This appears to be a strategy aimed at limiting state obligations to provide services in a capacity-strained environment. While it is natural that in a setting of competition for beds, acute conditions get preference, prioritizing services on the grounds of a patient being referred by a private service provider seems not defensible.

7.1.1.3 Private General Medical Practitioners and Medical Treatment

The common involvement of general practitioners in the medical treatment of persons addicted to alcohol can be attributed to local organization of services (like in the Northern Health Complex) and in some cases as a less expensive treatment option in financially challenged cases (*cf.* 5.7.6.3). Challenges in providing detoxification services are: lack of access to state facilities, lack of medical scheme funding or restrictive medical scheme policies.

Private general medical practitioners expressed a relatively high level of confidence for providing outpatient withdrawal for mild alcohol withdrawal cases (*cf.* Table 5.8A). It should be remembered that alcohol and sedative hypnotic withdrawal may be potentially life-

threatening. Any individual or institution providing outpatient-based detoxification services for alcohol should be prepared to provide personal (or proper substitute) 24-hour availability for the duration of the withdrawal period, proper guidance to the patient on what to expect during withdrawal and what symptoms to watch out for and daily follow-up during the withdrawal period (Hayashida, 1998 in Asplund *et al.*, 2004:552-553).

Medical involvement in relapse prevention is limited by limited availability of medication (*cf.* 5.6.6), cost of medication (*cf.* 5.7.6.1) and the cost of laboratory monitoring (*cf.* 5.9.5.1).

7.1.2 Help-seeking and State Hospitals

State hospital respondents had more contact with help-seeking cases of cannabis addiction/dependency than with cases of help-seeking persons addicted to alcohol. This can be explained by common use of cannabis in the state-dependent population and the dramatic presentation of cannabis psychosis, necessitating hospital treatment. Help-seeking in cannabis addiction/dependency is thus driven by psychiatric complications. For hospital-based practitioners the opportunity clearly exists to detect cases of alcohol addiction, yet almost 30% of respondents in these settings never had contact with help-seeking patients with alcohol addiction/dependency or only saw such cases occasionally (*cf.* Table 5.9B).

State hospital respondents had the lowest frequency of contact with cases of analgesic; cough mixture and sedative-hypnotic addiction/dependency. Frequency of contact with club and street drug addiction/dependency (excluding cannabis) was low, with the only significant finding a low frequency of contact with cocaine addiction/dependency cases. It seems that these types of addiction are thus related to socio-economic status. Inpatient services for state patients are limited to one regional centre per complex and two district hospitals in environments selected for the study. Services in the some regional hospitals are not distinguished from general psychiatric care (*cf.* 5.7.3.2). In other centres where psychiatric services are not provided, services to addicted persons are limited to acute withdrawal presenting in inpatients due to hospitalization for other illnesses (*cf.* 5.5.3; *cf.* Table 5.21B). In comparison to the general practitioner population, doctors in state hospitals tend to be younger and less experienced (*cf.* Table 5.4A; *cf.* Table 5.4B). They however had a relatively high level of in-service training (*cf.* Table 5.6 A; *cf.* Table 5.6B).

According to the official Norms and Standards for Primary Health Care Clinics in the event of outpatient treatment not being provided by a specific clinic due to insufficient staff, or lack of training, or if the patient needs to be removed from his environment to control access to the substance involved, hospital referral is indicated (RSA DOH, 2000:59).

7.1.2.1 Caveats in State Hospital-based Practice

Respondents in this study indicated that involvement in treatment of addicted persons in the state is hampered by facilities not being adequate for such cases, competition for bed occupancy, a restricted range of medication and unreliable medication provision, staff being unavailable, untrained or unwilling and patients being unable to comply with follow-up schedules, due to lack of transport (*cf.* 5.5.3; *cf.* 5.6.6; *cf.* 5.7.3.1.2).

According to the literature general hospital settings provide ample opportunity to intervene, especially in trauma and emergency care settings, ante-natal clinics, HIV, TB and hypertension clinics (Emmen, Schippers, Bleijenberg & Wollersheim (2004; 3 of 5). It does however require the inclination to intervene, recognizing acute intoxication pictures of various drugs of abuse, withdrawal pictures and acute complications and outlining brief intervention for alcohol intoxicated patients, violence, trauma, domestic violence.

It is within the power of the Clinical Head of a hospital to prioritize services within that hospital (FSP DoH, 1996:13) and it is foreseeable that addiction-related cases will enjoy lesser priority compared to more acute cases in the light of limited bed-capacity and that would explain the problems with referral into state hospitals (*cf.* 5.7.3.1.2). Splitting the responsibility between various hospitals in a region and especially down-referral to district hospitals could counteract flooding.

7.1.3 Help-seeking and Treatment Centres

The private sector is generally regarded as effective (*cf.* 5.7.4.1.1), yet costly (*cf.* 5.7.6.1). Bed capacity is sometimes inadequate (*cf.* 5.7.4.1.4). Treatment Centres, as expected, reported contact with the widest range of addictions and reporting high levels of contact with alcohol addiction (*cf.* Table 5.9B), cannabis addiction (*cf.* Table 5.10B), analgesics and cough mixtures (*cf.* Table 5.12A), benzodiazepines (*cf.* Table 5.14B) and cocaine and ecstasy (*cf.* Table 5.15B). They receive cases of primary drug addiction and dependency and do not manage dual diagnosis cases, the latter being referred to private psychiatrists. The lack of involvement of psychiatrists may cause dual diagnosis cases to be missed and contribute to relapse. Financial considerations are the main issue determining the eventual management of a patient and treatment centres provide a relatively affordable service (*cf.* 5.7.6.3).

7.1.4 Help-seeking and the Private Psychiatrist

Psychiatrists see a concentration of referred patients and detect abuse in the history during work-up of psychiatric problems. They exclusively deal with dual diagnosis patients (*cf.* 5.7.4.2). Cases of benzodiazepines and street and club drugs (excluding cannabis) are most commonly reported by private psychiatrists (*cf.* Table 5.14B; *cf.* Table 5.15B). The finding

points to the link with self-medication for underlying psychiatric problems; the higher exposure to benzodiazepines of a higher socio-economic population and long-term psychiatric complications of club and street drugs.

7.1.5 Help-seeking and the Non-Prescriber Therapist

Inhalant-addiction cases mostly present at non-prescribers (*cf.* Table 5.16C). This pattern reflects the influence of socio-economic factors and psychological connotations of inhalant abuse: social workers involved in cases with poor socio-economic conditions, psychologists involved with young people with emotional problems. Nearly half of non-prescribers had never been confronted by cases of analgesic, cough mixture or sedative-hypnotic addiction/dependency. They also have very low frequency of contact with cases of street and club drug addiction/dependency. Their main involvement is thus in the management of alcohol addiction/dependency cases. It seems that non-prescribers are often not involved in addiction cases, due to lack of funding or poor patient compliance. Note that while the non-prescriber respondents in this study received relatively few alcohol addicted cases, social workers are the main conduit in to treatment centres for this condition (Aurora, 2005:2).

7.1.6 Help-seeking and Stigmatization

Chez, Andres, Chazotte, Lewis and Ling (2001:195) described two kinds of stigmatization: Social stigmatization of the condition and medical stigmatization of the doctors who treat these patients. In the current study several respondents referred to the social stigma, to the point where it is more scandalous to receive treatment for addiction than to be seen drunk in public (*cf.* 2.8.2.1; *cf.* 2.8.3.1.1). Stigmatization of medical doctors was not reported; yet medical scheme policies do bring an extra dimension to stigmatization that influences treatment. The doctor dare not prescribe alcohol-specific drugs for fear of disclosing a patient's condition and risking forfeiting medical scheme benefits (*cf.* 5.6.5).

7.2 STRATEGIES TO ENHANCE HELP-SEEKING

Strategy should be to have a two-pronged approach: improve help-seeking and improving the success of intervention. This should be accomplished against the background of sustained efforts to increase public awareness and in combination with and in mutual support of psychosocial intervention.

7.2.1 Screening and Brief Intervention

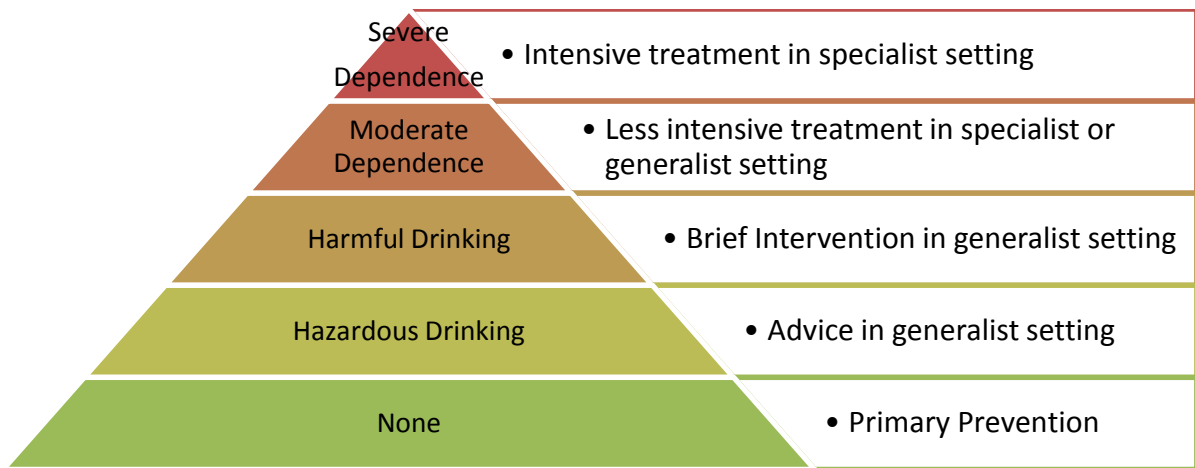
Laboratory screening is expensive and in most rural areas impractical as a screening tool. Questionnaires like the CAGE and AUDIT are widely accepted screening tools for alcohol dependency (Gray and Day, 2005: 304; McCusker *et al.*, 2002:593). None of the respondents

in this study referred to using any screening tools. Laboratory testing is used for two main reasons: during the initial phase to determine baseline organ function; and long term to monitor organ function, some use serial GGT as a motivation tool, or to verify patient compliance (*cf.* 5.9.5.1).

Hearne, Connolly and Sheehan (2002:87) reported that despite the availability of low-cost screening tools, few populations are routinely screened for alcohol abuse. Detection rates are low and referral in detected cases substantially lower.

Brief intervention follows screening with the questionnaire like the AUDIT or CAGE or laboratory testing like GGT (NIAAA, 1999:1 of 6) and consists of feedback to the patient on his drinking status, information regarding the potential health risks and advice on how to cut back on drinking in an empathic manner. Some studies suggest that it may reduce or stop drinking in non-alcohol dependent cases (Fleming *et al.*, 1997; Kristenson *et al.*, 1983 and Wallace *et al.*, 1983 in NIAAA, 1999: 3 of 6) and may be used to motivate alcohol-dependent patients into treatment (Chafetz *et al.*, 1962 in NIAAA, 1999:3 of 6). There are however also several studies that do not support the efficacy of such intervention in a variety of clinical settings. Emmen *et al.* (2004; 3 of 5) conducted a systematic review on the effect of brief intervention in general hospital settings on alcohol consumption and found inconclusive evidence for positive outcome with only one study with a short follow-up showed positive outcome. Havard, Shakeshaft and Sanson-Fischer (2008:374) conducted a meta-analysis of the effect of screening and brief intervention in emergency care and found that while intervention had a demonstrable effect on alcohol-related injuries in the following 6 months; it had no effect on alcohol consumption at 3 or 12 months. O'Connor and Whaley (2007: 255) reported that brief intervention in pregnant women resulted in 5 times better outcome in terms of abstinence and significant improvement in birth weight, length and gestation of newborns. Beich, Gannik and Malterud (2002:3-4 of 5) investigated the experience of private general medical practitioners who performed screening and brief intervention in their practices. The doctors reported that they felt in general sceptical about the outcome of their interventions, that it was difficult to integrate in their everyday practice and that it damages the doctor-patient relationship.

Figure 7.1 shows the graded intervention that follows the use of a screening instrument like the AUDIT questionnaire.



(Adapted from Institute of Medicine Report, 1990 in Heather, 2005:10)

Figure 7.1: Graded Help-giving in Alcohol Addiction Based on Outcome of the AUDIT Questionnaire

Figure 7.2 summarizes the factors that hinder help-seeking at the various entry points into treatment. Screening is not currently done routinely, yet entry would be futile if there is poor service delivery.

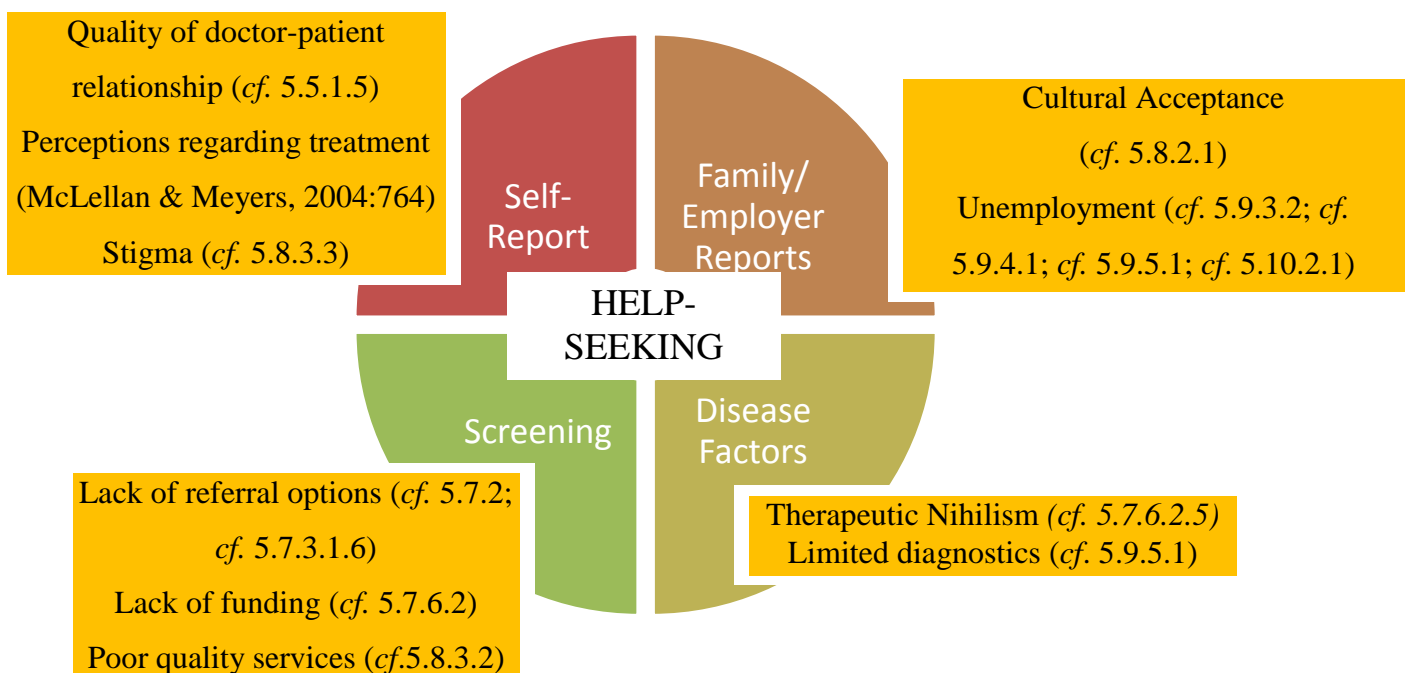


Figure 7.2: Factors Hindering Help-seeking by the Various Ports of Help-seeking

7.2.2 The Patient-Doctor Relationship

The finding that within a population of high use of alcohol there are several private general practitioners that never see help-seeking for this condition, probably relates to the fact that a particular quality of patient-doctor relationship must exist for self-report of addiction problems to occur (*cf.* 5.4.1). Effective aftercare would be direly dependent on a long-term relationship between patient and doctor/therapist.

The ability to maintain a long-term therapeutic relationship with patients is a key function of private general medical practitioners in their day-to-day functioning. It is clear though that maintaining a long-term relationship with patients with addiction remains a challenge for health care workers in all categories: Private general medical practitioners reported the phenomenon of disappearing patients (*cf.* 5.9.3.4); psychiatrists also experienced that patients change to their colleagues when they relapse (*cf.* 5.9.2.3). A state hospital that provided extensive follow-up services reported a low return rate despite regular phone calls and varied services (*cf.* 5.7.3.2). The phenomenon is probably related to the fact that the doctor-patient relationship changes when a patient relapses (*cf.* 5.9.4). Some doctors see it as a legitimate reason to end a relationship, proving non-committal (*cf.* 5.6.1.1.4) Some practitioners, realizing patients' inability to sustain enough willpower to remain sober, see it as their personal responsibility to keep the patient dry (*cf.* 5.9.4.1) This is in line with observations regarding lifestyle changes in other chronic diseases (Hayhow & Lowe, 2006: 235). The patient's failure then becomes the doctor's failure to motivate sufficiently. The doctor's increased efforts through increased monitoring also do not pay any dividend. Eventually it becomes clear that it must be the patient's fault, persisting in his evil ways.

Another factor hindering long-term involvement is socio-economic considerations: services are concentrated at regional level and follow-up involves transport cost and absence from work (*cf.* 5.7.3.1.2).

Figure 7.3 shows the exchange of help-seeking and help-giving at the patient-doctor interface, precariously balanced on the patient-doctor relationship. Several factors threaten to disturb the balance.

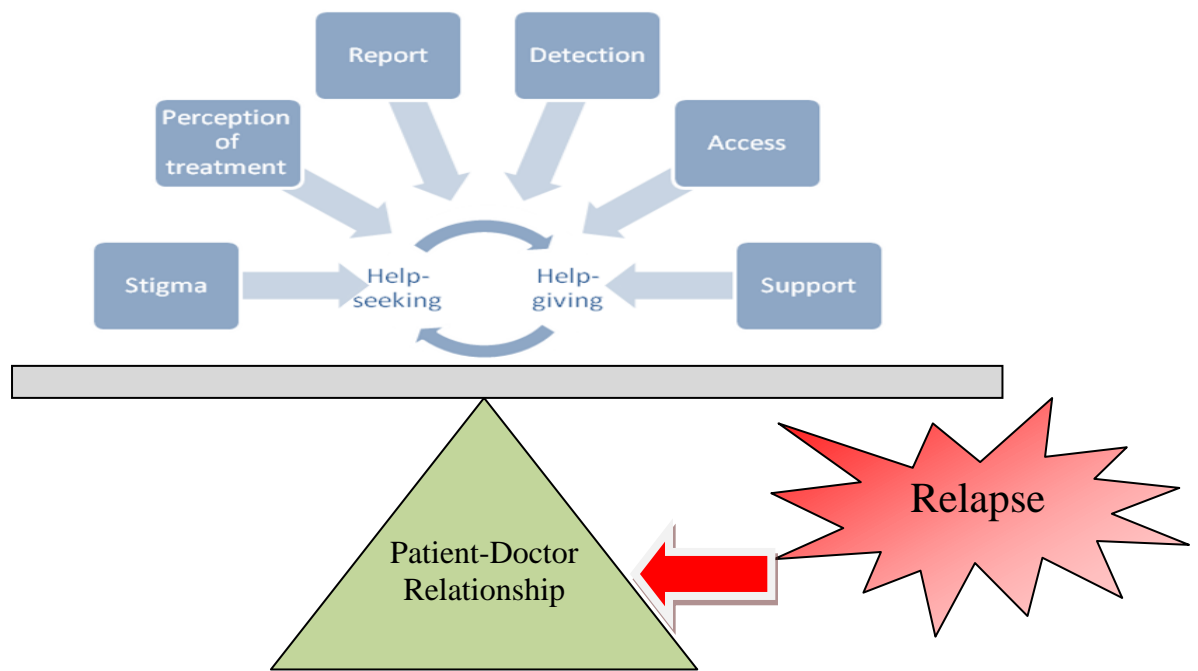


Figure 7.3 Help-Seeking, Help-Giving and the Doctor-Patient Relationship

Despite the fact that general practitioners also experience defaulting patients, it seems as if they are the best placed to provide the personalized service that promotes a long-term relationship that is needed for continued support: they have a wider geographical coverage than any of the other groups, they are less expensive than psychiatrists, they usually get to know families and their problems, they provide a personalized service, they provide continuity of service. Most of all, help-seeking patients with alcohol addiction/dependency often report to them (*cf.* Table 5.9A) and receive help from them (*cf.* Table 5.17A).

Figure 7.4 demonstrates that help-giving depends on detection, whether through self-report or screening. Access to facilities and funding is crucial in selecting the appropriate treatment for a particular patient. Due to the multi-factorial origin of addiction, treatment is necessarily multi-disciplinary.

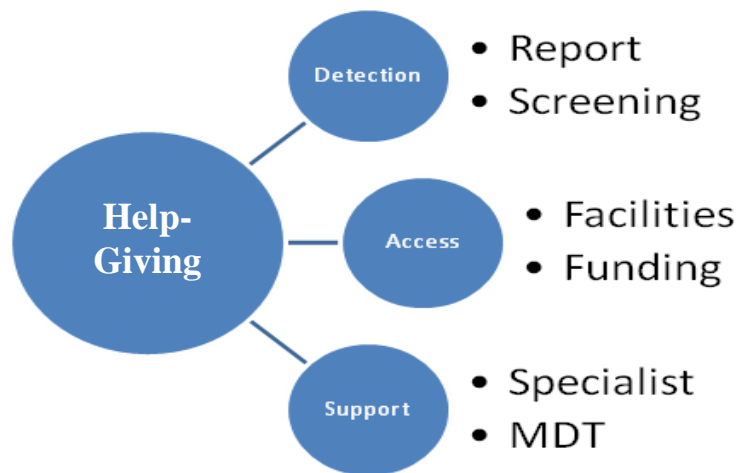


Figure 7.4: Factors Affecting Help-giving by Private General Medical Practitioners

7.2.4 Conclusion on Help-seeking

While routine screening and brief intervention may increase detection and initial engagement, it is unlikely to foster sustainable involvement if organizational and operational issues are not addressed (Ford, Klag, Whelton, Goldsmith and Levine, 1994:335). The current manifestation of help-seeking may be indicative of inherent factors that enhance this behaviour. An interesting finding in the current study is that the various professional groups reported different patterns of help-seeking with regard to the type of alcohol/drug involved. Alcohol addiction cases reported more at private general medical practitioners. This may indicate that factors promoting help-seeking for this condition is best in this setting, as opposed to the fact that cannabis cases present more at state hospitals. State hospitals currently clearly do not have the right combination of factors to promote help-seeking in patients with alcohol addiction.

Contributing factors may be:

- The doctor-patient relationship in general practitioners practices and state hospitals differs, especially with regard to continuity of service. The relationship of the private general practitioner is extended to the family. Perceived privacy and trust may also contribute.
- Socio-economic reasons: Mostly employed population vs. mostly unemployed or low-income population. Unemployment within an environment of unemployed people may cause a different reaction than unemployment within a population of employed people.
- Cultural acceptance in state-dependent populations with high unemployment
- Hospital policies/practice policies discouraging help-seeking
- Patients' low expectancy to be helped at a state hospital

7.3. MEDICAL HELP-GIVING IN A SYSTEM: THE BIOLOGICAL THERAPEUTIC ENVIRONMENT

7.3.1 A Fragmented Treatment Environment: The Public-Private Health Service Divide in Health Service Delivery in Addiction Treatment

The current health care scenario in South Africa is characterized by a deep divide between an expensive privately funded health care system, the access to services being limited and directed by medical scheme policies and an overburdened government system (Mooney & McIntyre, 2008:637). Private institutions are able to provide extensive services, as long as money and in particular private medical scheme funding keeps open the door (McIntyre *et al.*, 2008:3 of 5). Failing that, the former private patient also becomes dependent on the state (*cf.* 5.7.3.2).

The study confirmed a marked difference in the experience of general practitioners of service delivery in the two sectors (*cf.* 5.7.3.1.3; *cf.* 5.7.3.2; *cf.* 5.7.4.1.1). Lack of detoxification services (*cf.* Table 5.17B) in the majority of state hospitals and lack of support services (*cf.* 5.7.3.1.6) deprive state-dependent patients of treatment (*cf.* 5.8.3.2).

Locally, the bulk of addiction treatment is currently provided within the private sector and is thus dependent on medical scheme funding (*cf.* 5.7.4.1.2) or private funding (*cf.* 5.7.4.1.3). Economic considerations play an overwhelming role in the decision-making process in allowing treatment or not (*cf.* 5.7.4.1.3), determining the level of treatment (*cf.* 5.7.6.3), involvement of multi-disciplinary team members (*cf.* 5.7.4.4), as well as in the selection of pharmacotherapy (*cf.* 5.6.2).

Perceptions of private general practitioners regarding the unwillingness of medical schemes to pay for addiction-related interventions lead to fraudulent practices, while medical scheme benefit exhaustion leads to shifting of responsibility to state facilities (*cf.* 5.7.6.2.4). The widespread occurrence of this perception in a business environment is unlikely to be due to being uninformed. It is more likely that private general practitioners cannot solve the addiction problems they are confronted with within the limitations of the PMB.

Between 30,0% and 65,3% of general practitioners, 52,9% of state hospital respondents and 36,4% of private psychiatrists reported that lack of inpatient facilities hinders their own involvement (*cf.* Table 5.22). Access to treatment services for state dependent patients is area-dependent with several respondents indicating that there is no access to treatment services for these patients in their region (*cf.* 5.7.2). Where there is access to hospital treatment, it may involve admission in a psychiatric ward, sharing accommodation with psychotic patients (*cf.* 5.7.3.2).

Many general practitioners expressed frustration with the referral of patients within the state system (*cf.* 5.7.3.1.1; *cf.* 5.7.3.1.2). Several general practitioner respondents complained that referrals are undesired and to the detriment of a referred patient (*cf.* 5.7.3.1.8). The involvement of general practitioners in state services *per se* via contractual agreement is an acceptable principle with 18,8% to 25% of general practitioners already involved in state-run services that may involve services to addicted persons (*cf.* Table 5.3). It is also an expressed ideal in the *White Paper for the Transformation of the Health System* that envisioned the incorporation of private practitioners into the system (RSA DoH, 1997:16 of 128). It is however the terms of the involvement that is at stake here: private general medical practitioners are currently not seen as a legitimate entry point into the state referral system. This leads to the gatekeeper function being duplicated, the general practitioner's recommendation subjected to reviewing by nursing staff, the referral chain becoming longer and a general alienation of general practitioners. There is also lack of disclosure (*cf.* 5.7.3.1.8) and feed-back (*cf.* 5.7.3.1.5) between professionals. The long referral chain in particular may, in the case of addiction treatment, lead to treatment being abandoned because of fading motivation.

Failing to secure medical scheme funding and with no access to state facilities, treatment is based on out-of-pocket payment. Almost a quarter of general private health care financing is via direct out-of-pocket payments, two thirds of this made by medical scheme members (McIntyre and Thiede, 2007:43). Day and Gray (2007:220) reported that out-of-pocket expenditure on health equals nearly 30% of public sector expenditure in 2006/07. Medical schemes also increasingly shift expenditure towards so-called saving plans, which represent a further shift to out-of-pocket funding (Day and Gray, 2007:316). Corresponding figures for addiction treatment is not available, but due to exclusions and limitations will probably reflect much higher out-of-pocket payments.

Non-medical scheme members paying out-of-pocket for day-to-day medical expenses and using state hospitals (Cornell, Goudge, McIntyre & Mbatsha, 2001:i-ii), are most vulnerable to policies from both sides. They are regarded an unwanted burden to the state, rather than an asset that contribute to their own treatment (*cf.* 5.7.3.1.8). They are also the group that is most vulnerable to lose their jobs due to their addiction or lose their income during treatment. The current public sector health policy that forces patients to exclusively use state funded services is thus counter-productive and excludes this group of patients from all treatment options (*cf.* 5.7.4.1.4).

Access to private hospital facilities is determined by business priorities and is greatly affected

by medical scheme policies. Private hospital policies also do not allow for a bed allocation for psychiatric patients in general (*cf.* 5.7.4.2). Many private medical practitioners reported problems with payment from medical scheme funds for services for alcohol- or drug-related conditions and either no payment (*cf.* 5.7.6.2.1) or limited benefits (*cf.* 5.7.6.2.2) apply. Private hospital treatment however constitutes a very expensive option (*cf.* 5.7.6.1).

The cumulative effect of policy on public and private fronts is denial of treatment. This situation causes a severe ethical dilemma for private general medical practitioners in particular: some practitioners admitted to fraudulent practices in order to overcome the dead-end ally of no access to treatment for addicted persons. They would not disclose the fact that a patient is addicted to alcohol when admitting patients to hospital or even when referring the patient for therapeutic support in fear of losing medical scheme funding (*cf.* 5.7.4.1.5).

It should be asked whether it is fair that Medical Schemes should be responsible for the bulk of addiction treatment, directly or indirectly. In the face of the evidence provided in chapter 3 (*cf.* 3.3; *cf.* 3.3) addiction/dependency is clearly a problem of national importance and of enormous dimensions. The government is committed and obligated via the constitution to provide access to Health and Social Care, subject to the fiscal ability (RSA, 1996:1255).

It has also committed itself via the MDGs (*cf.* Table 3.11) to address poverty, poor education and health. Within a Primary Health Care paradigm, addiction/dependency, as a major driver of trauma, disease, crime and poverty in this country, deserve a prominent place on the agenda of major role players such as the Department of Health. As an issue of national concern the treatment of addiction and dependency need to be included in discussions on the proposed National Health Insurance.

7.3.1.1 Medical Practitioners and the New Act

Ironically a new opportunity to integrate private practitioner services in a state funded system may be provided by the Department of Social Development through a new Act: The Prevention of and Treatment for Substance Addiction and Dependence Act of 2008 (RSA DSD, 2008). Not only does the minister of Social Development take responsibility for the development of strategy that includes medical treatment (RSA DSD, 2008:16), but is also allowed to contract or provide funding to service providers (RSA DSD, 2008:18). All service providers involved in treatment of addicted persons need to register (RSA DSD, 2008:18) and are subject to the fulfillment of minimum standards, namely appropriate training and proving their ability to provide aftercare. Provisions are subject to prioritization and seem to be directed towards traditionally defined vulnerable groups: women, children and previously disadvantaged groups.

The study showed that the majority of general practitioners are not eager to increase their current involvement in the treatment of addicted persons (*cf.* Table 5.18). Reasons for this are: lack of time, a sense of futility of intervention, lack of support from hospitals and lack of access to therapists and lack of funding. It may imply that if not properly managed, the implementation of the Act may have the unintended effect of reducing treatment options. Though the Act provides for comprehensive services, medical services are not described clearly. The role of medical practitioners seems however to be limited as contracted or assigned parties in the running of treatment centres and halfway houses (RSA DSD, 2008:34). In the light of the conditions under which general practitioners do offer their services currently, support structures and facilities should be provided, for instance an agreement with local hospitals for back-up services is a caveat that should be negotiated. Further, the need for demonstration of additional skills and the need to provide ongoing aftercare may have the effect that few doctors will take up this burden. Implementation should thus be carefully approached and aimed at involving general practitioners through supported engagement.

The ability to provide aftercare would be a prerequisite for registration of community-based service providers in the new Act (RSA DSD, 2008:24). Community-based services are obliged to consist of a professional nurse, social worker and mental health care practitioner, providing obligatory services ranging from sport activities to homecare.

“Detoxification” is defined as a medical intervention in an institution (RSA DSD, 2008:8) and “Outpatient services” are also treatment centre-based (RSA DSD, 2008:10). It appears as if this Act is in fact expanding the role of treatment centres to provide obligatory outpatient and reintegration services, and limiting the role of medical practitioners.

The regulations for this Act have not yet been published. Specific provision will have to be made for an interim period of implementation and the role of medical practitioners needs to be spelled out clearly. Failure to secure the involvement of private general medical practitioners and private psychiatrists will result in fewer biological treatment options being available than before. Of particular concern is whether private general practitioners will be convinced to become involved in these services in the light of the Act requiring additional training and comprehensive service delivery from registered service providers. Continued registration will also be subject to approval by the Department of Social Development. Failure to attract private general practitioners will seriously impede the already limited role of biological intervention in this field.

7.3.2 Influence of the Policy and Legal Environment on the Biological Therapeutic Environment

7.3.2.1 Inter-Sectoral Collaboration and Fragmentation

Under South African legislation, the Department of Social Development is responsible for the National Drug Master Plan, coordinated via the Central Drug Authority. The treatment of Addiction disorders is a joint responsibility of the Departments of Social Development and Health. While treatment is a priority in the Department of Social Development, it does not necessarily occupy the same priority within the Department of Health.

The Department of Social Development has extensive policy guidelines regarding the treatment and regulation of treatment, yet leaves the treatment to NGOs with limited capacity and does not provide sufficient numbers of and sufficiently trained personnel to support treatment in communities (*cf.* 5.7.5.1; *cf.* 5.7.5.4; *cf.* 5.7.5.6; *cf.* 5.7.5.8).

The Department of Health is responsible for providing medical services as well as psychology services. Regarding its involvement in addiction treatment, it engages in prevention programmes (*cf.* 3.6.2), yet there is a lack of local arrangements for medical treatment *per se*, which cannot be undertaken by any other department (*cf.* 5.5.3). Addiction Medicine is a neglected field though addiction is a major driver of morbidity and mortality in this country.

7.3.2.2 Organization of Addiction Treatment Services

The positioning of addiction treatment services under the Department of Social Development, creates a bias towards social intervention as treatment for addiction. Limiting the responsibility of the Department of Health for medical services to the provision of detoxification services (RSA DoH, 2000:59) relegates their function to a patient-activated or mostly social-service-activated intermittent intervention with short-term goal-setting. Based on the evidence of the experience of general practitioners of state psychiatric services, the grouping of addiction treatment with Psychiatry, itself a marginalized discipline with under-resourced services in rural areas impedes its implementation in the PHC paradigm (*cf.* 5.7.3.1.6; *cf.* 5.7.3.4; *cf.* 5.7.5.2). Likewise, in the private sector there is no bed allocation in hospitals for psychiatrists (*cf.* 5.7.4.2).

In both public and private Health Service sectors, Addiction Medicine finds itself positioned as a peripheral issue within a marginalized discipline.

General practitioners serve private patients, that include both medical scheme funded patients and out-of-pocket paying patients. They are thus strategically placed to serve as entry point

into both private and public services. Most general practitioners saw their role as a largely administrative role where they diagnose the patient, refer appropriately and in some cases follow up after discharge from a centre. However, some general practitioners were ill-equipped to fulfil this function in the state system by not being informed about available services. This results in blind referrals to state hospitals that do not provide addiction treatment services (*cf.* 5.7.2), and frustrated attempts to refer patients to the Free State Psychiatric Complex (*cf.* 5.7.3.1.6). For many out-of-pocket paying patients “shoe-string” regimens of private general medical practitioners represent the only form of treatment (*cf.* 5.7.3.1.4).

Current services do not perform as a unit: there are common complaints of lack of feedback from especially state hospitals (*cf.* 5.7.3.1.4; *cf.* 5.7.3.1.5) on referred patients. Likewise, some general practitioners would not make official written referrals, because it is to the detriment of the patient to have evidence of having visited a private general practitioner (*cf.* 5.7.3.1.8). There is therefore no communication system neither for operational nor information purposes. Policy transfer to general practitioners is non-existent.

7.3.3 Primary Health Care Approach and Specialized Care in Perspective

Traditionally, addiction treatment has been separated from mainstream medicine, not only locally, but globally (Merrill, 2002:361; Wesson & Ling, 1996:ABSTRACT). Growing from a non-medical background, a unique treatment paradigm developed (*cf.* 2.2.2). The self-inflicted nature of addiction caused it to be written out of private funding, while the major social consequences of the condition, lead to placement of treatment services under the Department of Social Development. The most visible sign of separation though, is the fact that treatment is mostly inpatient specialized treatment centre-based.

7.3.3.1 The Case for the Involvement of Private General Practitioners

Unravelling of the neuropathology of the condition and the expansion of pharmacotherapeutic options makes it possible not only to treat addiction, but in many cases to intervene at a less specialized level (O’Malley, Rounsaville, Farren, Namkoong, Wu, Robinson & O’Connor, 2003: ABSTRACT). In European countries and Australia health service delivery in addiction treatment is shifting from a specialized centre-based treatment to general practitioner/ primary health care provider driven outpatient systems (Prater, Miller & Zylstra, 1999:1175). This shift has particularly been facilitated by the demonstration of greater cost efficiency of outpatient *vs.* inpatient detoxification programmes for mild-to-moderate alcohol withdrawal cases (Hayashida, Alterman, McLellan, O’Brien, Purtill, Volpicelli *et al.*, 1998:358). Recent reports confirmed the success of buprenorphine-based

opioid withdrawal and maintenance in general practitioner–run outpatient services in France and Germany (Fatseas & Auriacombe, 2007:358; Michels, Stöver & Gerlach, 2007:1 of 13). Besides the cost-advantage, general practitioner-based services also increase accessibility, through their wider geographical coverage (*cf.* Table 5.1). A more cost-effective strategy, outpatient-based withdrawal however requires a high degree of commitment from both the doctor and the patient (Asplund, Aaronson & Aaronson, 2004:545). Comprehensive addiction treatment includes services to various grades of addiction, physical complications and psychiatric complications that may need hospital-based care or specialist intervention. The recruitment and adequate preparation of private general medical practitioners as well as hospital-based medical personnel in various departments is thus critical.

An expanded role for private general medical practitioners will however require:

- Adequate screening of patients for eligibility for outpatient treatment
- Daily monitoring
- Recognition of signs and symptoms that warrant referral
- Knowledge about referral system, therapeutic support
- Agreements with state hospitals for hospital back-up and transport

7.3.3.2 Primary Health Care in the State System

The multi-faceted nature of addiction, makes addiction treatment the ultimate testing ground for the principles of Primary Health Care: access, inter-sectoral cooperation and equity. In reality though, access for these patients to state hospitals is severely limited due to lack of suitable facilities, competition for hospital beds with physical conditions, staff attitude and training (*cf.* 5.8.3.2). Several general practitioners indicated that they are the sole service providers for addicted patients in their area, and do so without hospital back-up (*cf.* 5.7.3.1.4; *cf.* 5.7.6.3).

The following two scenarios can be considered regarding integration in state-funded institutions:

1. The integration of primary health care into addiction treatment. In practice this will mean that existing treatment services should include primary health care for related health conditions. This will mean that treatment centres need to employ medical personnel.
2. The integration of addiction treatment into primary health care. This seems to be the intention from the Department of Health. Choosing the existing Psychiatric services to deliver this service, seems however to be an unfortunate choice, as the capacity of these services are already under pressure (*cf.* 5.7.3.1.6; *cf.* 5.7.3.4; *cf.* 5.7.5.2). In the interest of wider accessibility, and the fact that alcohol addiction often leads to other physical health

problems, the better option would be to use existing services like hypertension clinics, TB and HIV clinics to screen for and intervene in alcohol/drug addiction/dependency. In this way, multiple entry points for addicted patients into clinic or hospital-based treatment will be provided.

In a randomized control study Weisner, Mertens, Parthasarathy, Moore and Lu (2001:1719) demonstrated that patients with substance abuse-related medical conditions showed significantly higher abstinence rates when treated in an integrated care model as opposed to separate services for their respective conditions.

7.3.3.3 The Role of Medical Specialists

Regulations of section 29(1) of Medical Schemes Act No 131 of 1998 (1998:11) defines the Prescribed Minimum Benefit (PMB) package, a core benefit package that medical schemes are obliged to cover. It does not exclude the services of medical practitioners as reported by McIntyre and Thiede (2007:43), yet private general medical practitioners are either unaware to a large extent of the PMB provisions (unlikely) or under more pressure to evade its limitations. Limitations in terms of time allocation for withdrawal (3 days) and frequency of treatment (3 weeks per year for rehabilitation) are inadequate for some cases. The PMB and more over its limitations may contribute to the entrenchment of addiction medicine at a specialist level as come-backs are inherent to the condition. This may also contribute to the phenomenon of “disappearing” patients.

The scarcity of psychiatrists and the cost attached to specialist intervention does not make them a viable entry point into treatment. In the local environment, however, psychiatrists play an important part in the organization of private services. Services can develop around them as private general practitioners have more confidence in providing services if they have local consultation/referral options (*cf.* 5.3; *cf.* Table 5.8A). The general practitioner-psychiatrist and general practitioner-physician links appear to be important in supporting a general practitioner-based service.

7.3.4 Fragmentation of Multidisciplinary Care

A multidisciplinary approach to the multi-factorial phenomenon of addiction of dependency has long been a cornerstone of treatment. Respondents in this study noted multidisciplinary involvement as an important factor in improving poor outcome (*cf.* 5.7.3.1.3), but adding to the cost of intervention (*cf.* 5.5.5; *cf.* 5.7.6.1).

The multi-disciplinary nature of treatment for addiction, places a special burden on this field, as does the need for long-term intervention and monitoring. However, major decisions sometimes need to be made with the consideration of other team members. It is also

preferable that team members do not take on tasks that they are not qualified for.

The downside of a multidisciplinary approach is that it is difficult to maintain, especially in a mostly rural environment. The study found that primary agents for intervention are absent even at regional level (*cf.* 5.1.3.1; *cf.* 5.7.5.4). In particular, the role of the social worker as primary agent for engagement and coordination of treatment services is greatly eroded by lack of sufficient personnel and lack of specialization (*cf.* 5.7.5.1; *cf.* 5.7.5.4).

Psychologists are mainly utilized to motivate the patient to engage in treatment, and to address underlying issues that may maintain drinking behaviour. Diverging approaches may however be followed, there is no standard approach. If one compares the frequency of contact with help-seeking for alcohol addiction reported by private general medical practitioners (*cf.* Table 5.9.A) to the frequency of contact reported by non-prescribing therapists (*cf.* Table 5.9.C), one would have expected a higher frequency in the last group if referrals were consistent. It seems however as if referral downstream from the private general medical practitioner dwindles. A high percentage of private general medical practitioners admitted that a lack of a clear referral structure and lack of multi-disciplinary team members affect their involvement (*cf.* Table 5.30). Cost consideration and competition for available funding may also be major reasons (*cf.* 5.7.4.4).

In the rare instances where multi-disciplinary services are available, addiction treatment is not necessarily a priority in the schedule or within the expertise of potential team members (*cf.* 5.7.5.1). Even in institutions with multi-disciplinary services, they may be utilized for treating personnel, rather than patients (*cf.* 5.7.5.2). Frequent lack of feedback from treatment centres and hospitals (*cf.* 5.7.3.1.5) further confirms that current services do not perform as a unit.

Admittedly participants were not prompted to include dieticians in the discussion; no-one however mentioned this group as essential to the team. In the light of the role that nutrition plays in both the manifestation of alcohol addiction and treatment response (Zimatkin & Zimatkina, 1996:421-422; *cf.* Table 2.12; *cf.* Table 2.13), dieticians or nutrition specialists should play a prominent part in the biological treatment of such patients.

While a multi-disciplinary approach has been the stronghold of addiction medicine, it is also the Achilles heel. The requirement for specialists in various fields to be involved in the treatment of these patients, necessarily led to this treatment being in urban facilities. In this study the level of available services varies across the different regions, especially with regard to the degree of urbanization (*cf.* Table 5.1). The cost of multi-disciplinary involvement may make this unattainable in the private sector. The organization of private services in the

Northern Health Complex is however exemplary of how a network of private general practitioners, an experienced private social worker with a special interest in addiction-related problems, psychologists, a psychiatrist and a physician provide multiple treatment options in a relatively under-resourced setting.

The Prevention of and Treatment for Substance Abuse Act of 2008 obligates community-based service providers to provide a pre-determined range of services. State-provided community-based multi-disciplinary services are also envisioned (DSD, 2008:24). This may lead to the exclusion of medical practitioners and thus pharmacotherapy as a treatment modality.

7.3.5 Research and Training

Marinelli-Casey, Domier & Rawson (2002:984) identify the human factor as the main reason for the lag in implementation of new research-based therapies. Though the phenomenon is common to most chronic diseases, it is particularly acute in the case of addiction treatment mainly due to poor communication between researchers and practitioners; strict regulation of pharmacotherapy in this field; and funding. Marinelli-Casey *et al.* suggested that deliberate efforts should be made to bring researchers and practitioners together in conferences and that implementation should be undertaken simultaneously at multiple levels.

In the local scenario, education and training forms the traditional conduit through which scientific development is translated into treatment practice. The study shows that nearly 2/3 of private general medical practitioners have pre-graduate training in the management of addiction and dependency cases (*cf.* Figure 5.10). Nearly 50% received their primary medical training from the University of the Free State and a further 20% from the University of Pretoria. 74,6% of them had no in-service training, while 14,1% relied on unstructured training in private practice (self-training) and approximately 10% had in-service unstructured training in state hospitals (*cf.* Figure 5.12).

Specific patterns that were observed: Northern Health Complex General practitioners (older) reported a higher incidence of no training (25%); relied less on academic training only (approximately 30%) and more on self-training in private practice (21,9%), while the younger population of the Southern Health Complex had a low percentage (15%) of general practitioners with no training, 60% had academic training only and 25% had a combination of academic and in-service training (*cf.* Table 5.6A). While 90% of private psychiatrists relied on academic training, practitioners at treatment centres are in-service trained and state hospital respondents had the highest percentage of combined academic and in-service training (nearly 30%) (*cf.* Table 5.6B).

State hospital employees in this study population were younger with less experience on average than general practitioners (*cf.* Tables 5.4A; *cf.* Table 5.4B). While more state hospital representatives reported a negative or low rate of contact with help-seeking individuals with alcohol addiction compared to general practitioners (*cf.* Table 5.9A; *cf.* Table 5.9B), they reported a very high level of contact with individuals seeking help due to cannabis addiction/dependency compared to both general practitioners and private psychiatrists (*cf.* Table 5.10A; *cf.* Table 5.10B). State hospital respondents had the lowest opinion of training: they were unanimous in saying that training for their profession was inadequate, yet 60% would admit that it influenced their own involvement, compared to nearly 50% in the other major categories (*cf.* Table 5.7). They also reported reduced confidence in managing cases of mild withdrawal as outpatients (47,1% compared to nearly 60% in general practitioners) (*cf.* Table 5.8A; *cf.* Table 5.8.B).

In contrast, many of the less well-trained Northern Complex respondents (*cf.* Table 5.6A) are involved in detoxification of their patients by necessity (*cf.* Table 5.17A). Specialist support is available, but to a limited extent (*cf.* Table 5.2). Formal training therefore does not automatically breed confidence; the difference lies in actually having to perform detoxification in an environment with adequate support.

State hospitals are important centres for training of doctors, who ultimately end up in both the public and private sectors. Approximately 10% of the current study population received in-service training at state hospitals (*cf.* Figure 5.12). A training vacuum is thus forming regarding practical management of addiction cases when hospitals exclude themselves from providing addiction treatment services (*cf.* Table 5.17B).

7.3.6 Other Structures

To many general practitioners a local AA group would be the answer to poor outcome (*cf.* 5.9.3.3). The AA, CAD and similar groups rely on clients who successfully reached abstinence to initiate and maintain a support group. A poor success rate will therefore generate less potential members. Successful clients may also lack impact if dispersed over a large geographical area. It may be a successful strategy in larger towns and according to evidence there are active groups in Bloemfontein and Kroonstad; it is however less likely to get off the ground in smaller towns. The new Act allows for registered community-based organizations to provide similar structures where patients can benefit from each other's experiences (RSA DSD, 2008: 24). These groups have been proven to contribute to success of intervention; it is however important to note that the disease concept of these groups may not support medical intervention.

7.4 CONCLUSIONS

-Current service delivery to addicted persons is characterized by fragmentation at various levels.

-An integrated framework of interventions at various levels is needed to expand and optimize treatment options.

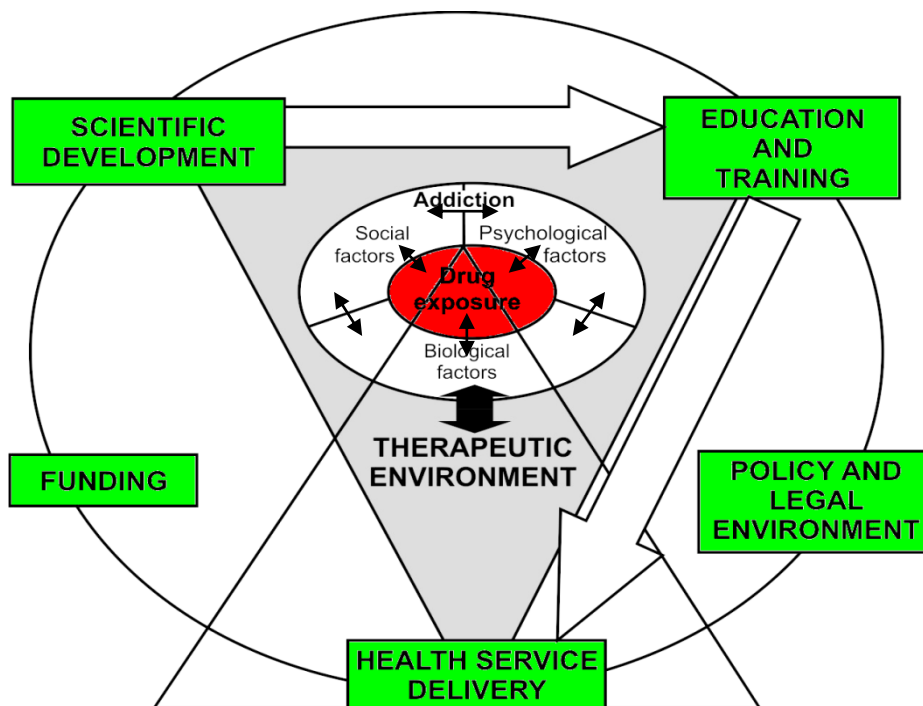
CHAPTER 8

RECOMMENDATIONS

8.1 AN INTEGRATED FRAMEWORK FOR THE TREATMENT OF ADDICTION AND DEPENDENCY IN THE FREE STATE

Based on the degree of fragmentation at various levels in the local environment highlighted in chapter 6 and 7, an integrated framework for the treatment of addiction and dependency is recommended to create a functional therapeutic environment for addicted persons.

Figure 8.1 reflects the relationships between factors that are critical in creating and maintaining a biological treatment environment.



The intersection of the two triangles represents the biological therapeutic environment that is primarily created through Health Service Delivery. Health Service Delivery in turn is affected by Legislation and Policies and Funding. Scientific development influences Health Service delivery via Education and Training. The outer circle represents the environment that allows or inhibits the establishment and maintenance of an effective and safe therapeutic environment.

Figure 8.1: Conceptual Representation of the Relationships between Factors Critical in Maintaining the Therapeutic Environment

At the very centre of the biological therapeutic environment is the fact that addiction and dependency is a medical condition, currently separated from mainstream health care. The acceptance of addiction as a disease is thus crucial to this framework.

Specific recommendations are formulated to the following effect:

1. The integration of the biological aspects of addiction treatment into a primary health care approach (*cf.* 6.2, *cf.* 6.4).
2. The integration of public and private sector health service delivery in addiction treatment (*cf.* 7.3.1).
3. The integration of different levels of care in addiction treatment (*cf.* 7.3.3).
4. The integration of research, training and service delivery (*cf.* 7.3.5).

8.2 RECOMMENDATIONS REGARDING PHARMACOTHERAPY

In the light of the discrepancy between current use of pharmacotherapy (*cf.* 5.10) and the potential utilization of pharmacotherapy (*cf.* Chapter 2), the following recommendations are made to optimize pharmacotherapeutic interventions.

8.2.1. Development of Standardized Guidelines

Standardized Treatment Guidelines should be developed to counteract divergent non-evidence-based intervention (*cf.* 6.3; *cf.* 6.4). This guideline should be a consensus document based on evidence (levels 1 to 4) and developed by a recognised body.

Based on the literature discussion in Chapter 2, and the comments of respondents with regard to the use of pharmacotherapy (*cf.* 5.10) the following broad principles are recommended:

- Withdrawal should be recognized as a neurotoxic event and the long-term implications of non-treatment for abstinence and neuronal survival should be considered.
- The neuroprotective properties of drugs used during withdrawal: benzodiazepines, piracetam
- The effects of drugs on craving and seizure threshold should be considered, therefore neuroleptics should be avoided.
- Long-term effects of drugs on kindling should be considered, for instance the use of carbamazepine in mild withdrawals.
- Standard advice regarding the optimal use of disulfiram regarding supervision, “burning off effect”, paradoxical response, dose adjustment and alcohol challenge should be provided to doctors.
- The guidelines should be integrated with guidelines of other conditions that are frequent co-morbidities, for instance, hypertension and major depression.

8.2.2. Individualization of Treatment

Individualization of treatment should be implemented to optimize the use of pharmacotherapy (*cf.* 6.4.1.2; *cf.* 6.4.2). The study showed a high level of discontent with maintenance pharmacotherapy for alcohol addiction (*cf.* 6.4.1.1). This can in part be attributed to a mismatch between the biologic heterogeneity of manifestations of alcohol addiction and the range of available medication options (*cf.* 6.4.1.2). A more individualized approach implies that there should be multiple options for pharmacotherapy:

8.2.2.1 Increasing Medication Options

Cost and Funding:

- Medical scheme funding should not be exclusive of alcohol-specific medication.
- Alcohol-specific medication should be made available on the EDL.
- Previous government intervention led to price cuts on medication in the private sector and for HIV medication. Making addiction and dependency treatment a priority can muster these initiatives.

Procurement:

- Procurement procedures in hospitals need to be revised so that basic medication can be guaranteed (e.g. Diazepam)

Awareness

- Acamprosate should be more accessible and doctors made aware of it.
- Naltrexone is currently not marketed; it is possible that Vivitrol® may be an effective and viable option locally.
- Based on the fact that pharmacotherapy as harm-reduction in cases of opioid addiction is currently recognized as the most effective form of intervention (*cf.* 2.5.2.2), pharmacotherapy as harm reduction strategy outside institutions should be made possible through amending the *Medicines and Related Substances Control Act* (RSA, DoH, 1997:22).
- Buprenorphine should be made available to hospitals and doctors registered to deliver addiction treatment in urban areas to facilitate outpatient treatment of these patients.
- Substitution therapy under strict monitoring in cases of alcohol addiction should be allowed in cases where currently non-treatment would be the norm. Patients with poor compliance or recurrent relapse or patients who refuse formal treatment, should not be abandoned. Harm reduction strategies are especially relevant for older patients. In these patients the measure of success should not be abstinence, but the continuation of a therapeutic relationship. Pharmacotherapy should take into account that drug-alcohol interactions may take place.

8.2.2.2. Individualized Treatment Selection

The patient's typology, individual goals and an integrated decision-making process should guide medication selection.

In order to facilitate long-term intervention as opposed to short-term episodic intervention (*cf.* 7.3.2.2), a long-term pharmacotherapy plan should be devised and should include contingency plans for withdrawal and relapse prevention (for abstinence-based plan) or substitution and maintenance (for harm reduction plan) and crisis intervention when relapse threatens. A follow-up schedule should be included. Treatment selection should be based on integrative clinical decision making, taking into account patient, disease and drug variables as illustrated in Figure 8.2.

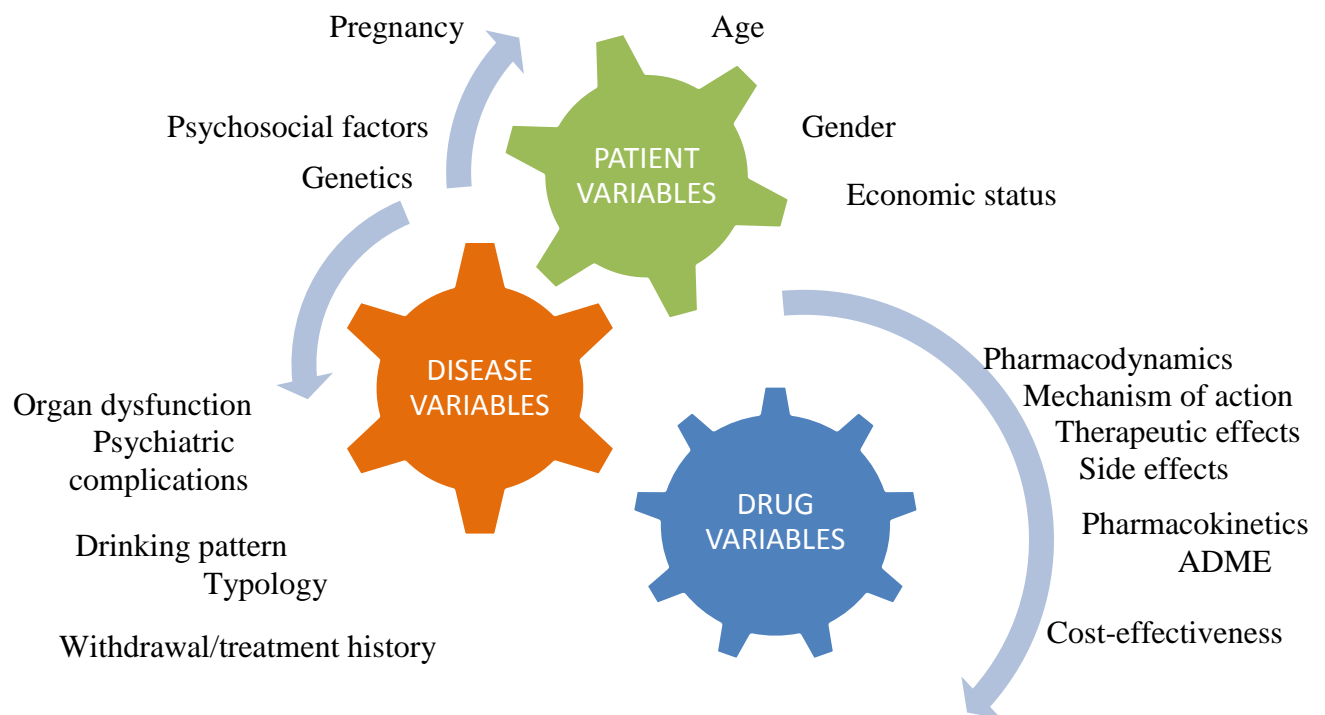


Figure 8.2: Conceptual Representation of Integrated Clinical Decision Making in Selection of Pharmacotherapy

8.2.3 Organization of Services and Continuity of Care

-In the light of the finding that private general practitioners are more likely to engage in the treatment of addicted persons under conditions where they have a supportive network of professional support and access to a hospital (*cf.* 5.11(6)), the following recommendations are made:

- Withdrawal under the supervision of a private general medical practitioner on an outpatient basis for selected patients should be allowed and encouraged (*cf.* 7.3.3.1).
- District hospitals to provide back-up services for complications and more severe cases: negotiate contract with treating doctor to use hospital facilities and personnel or hospital provide services.
- A general practitioner-based prescription service with long-term follow-up will foster continued care.
- In the light of the need for regularly updated information regarding pharmacotherapy in Addiction Medicine and potential pit-falls in treating these patients for other conditions (*cf.* 5.2.2) it is recommended that existing information sources for pharmacotherapy should be used. Addicted patients and recovered addicted patients need to be identified without stigmatization. It is recommended that patients wear a Medic Alert bracelet marked PASS (Psycho-Active Substance Sensitivity) and that information on prescribing for this group of patients be included in the most common medication reference source used by doctors, the SAMF. A specific section on Prescribing in Dependency where guidance on the approach to various addictions and dependencies are described should be added and information should cover drugs that should be avoided due to addiction potential, drugs that may interact with alcohol and the patient's medication.

8.3 RECOMMENDATIONS REGARDING HEALTH SERVICE DELIVERY

8.3.1 Improving Help-seeking

The study shows that entry into treatment is mostly passive, with patients presenting due to work or social pressure or due to disease factors (*cf.* Figure 7.2). From the literature it is evident that routine screening by private general practitioners would be unrealistic and not necessarily beneficial (Beich *et al.*, 2002:3-4 of 5; *cf.* 7.2.1).

-Early recognition needs to be emphasized in medical practices, government clinics and emergency departments. Maintain a high index of suspicion of alcohol addiction contributing to other disease conditions. Integrate screening (CAGE or AUDIT) and brief intervention into standard guidelines for HIV, TB and hypertension. Integration into antenatal care and student health services is also essential.

-Patients screening positive for possible dependence, should be referred to a medically qualified registered service provider for comprehensive assessment, including typology based on history, physical examination, psychiatric evaluation, laboratory testing. A formal treatment plan including pharmacotherapy selection should then be constructed by the service

provider.

-To enhance entry through the existing portals it is recommended that an identification system be implemented to identify practitioners that are willing and trained to provide addiction-related services. The level of intervention needs to be identified as proposed in Table 8.1.

Table 8. 1. Levels of Intervention in Addiction Treatment

Level 1: (Outpatient-Based)
1A: Screening and brief intervention, referral (PHC/TB/HIV/Antenatal clinics and most general practitioners)
1B: Relapse prevention with prescription service and follow-up
1C: Multidisciplinary network-based diagnostic work-up, patient-treatment match, outpatient-based detoxification services with hospital back-up, (outpatient clinics at hospitals and registered private general practitioners)
Level 2: (Inpatient-Based):
2A: Screening and brief intervention, referral (Emergency Department in hospital)
2B: Multidisciplinary team-based diagnostic work-up, patient-treatment match, inpatient detoxification (District and regional hospitals, treatment centres)

8.3.2 Referral

-The study shows that referral options in the state system is severely compromised by the exclusion of referral via private general medical practitioners (cf. 5.7.3.1.8; cf. 7.3.1). The core recommendation regarding referral is thus that referrals from general practitioners be regarded as legitimate referrals to primary and secondary level facilities in the state system. Specific criteria need to be set for referral of addiction related cases in the public sector.

-The preferred level for providing inpatient detoxification services would be a district hospital. In that way services are rendered in a decentralized way, less pressure is placed on secondary facilities and fewer beds per facility are to be made available and the pressure that these patients can place on ward staff can be controlled better. The concerns regarding quality of services at hospitals need to be addressed (cf. 5.8.3.2). Providing detoxification services will require an institution to have minimum requirements for equipment, medication and staff to render adequate monitoring and resuscitation as well as adequate access control.

-Secondary level facilities are per definition for cases requiring specialist intervention (RSA

DOH, 2004:43). Referral criteria for this level of intervention need to be negotiated and should include care for special categories of patients, like history of complicated or repeated withdrawals, psychotic patients and violent patients and significant co-morbidities (*cf.* 5.7.3.1.7).

-Tertiary facilities should be utilized for patients requiring super-specialist intervention (RSA DOH, 2004:43). Due to the fact that there is no experience with withdrawal of drugs other than alcohol and cannabis outside the tertiary facility, the current services should be seen as a temporary measure while provision is made on the long term at secondary institutions.

-Given the potential harm of untreated withdrawal (*cf.* 6.3), hospitals in general will need to set policies for managing withdrawal of incidental nature as a foreseeable complication of hospitalization in general.

-Right through the referral process proper referral ethics should apply according to the rules of the Health Professions Council of South Africa (HPCSA) in terms of written referrals, disclosure between colleagues and confidentiality (*cf.* 7.1.1.2).

-Proper communication between hospital management and involved private practitioners should prevail with clear written copies of relevant policies and regular meetings where relevant.

8.3.3 Optimizing *The Prevention and Treatment of Substance Abuse Act, 2008*

The new Act provides for the establishment of one state-run rehabilitation facility per region, which will expand services to cover a larger geographical area and also to state-dependent patients. It is recommended that the content of the programmes at such an institution should be synchronized with standardized guidelines on the use of pharmacotherapy.

The centres should ideally be equipped for the medical management of detoxification; access to state hospitals for complications would need to be established in the immediate vicinity of such centres.

The Act places a specific burden on aspiring service providers, having to prove the ability to provide aftercare (*cf.* 7.3.1.1). It is proposed that a multidisciplinary team (MDT) registers as an entity with the Department and so becomes eligible for funding and that professionals are co-opted individually by the MDT. The Act provides for community-based teams consisting of at least one professional nurse, a social worker and mental health care professional. If the state provides the staff for such a structure per region it would certainly satisfy the need for social service delivery to be expanded to rural areas as requested by respondents (*cf.* 5.5.1). It is recommended that doctors and other professionals be linked to this team, and negotiate for back-up from a hospital and psychiatric services. In the light of the major role that nutrition

plays in vulnerability and manifestation of addiction, dieticians need to be involved where possible (*cf.* 7.3.4).

8.3.4 Funding

Potential sources of funding are: out-of-pocket payment, medical scheme funding (*cf.*7.3.3.3), the Department of Health and the Department of Social Development. A funding model for addiction treatment should include inputs from both the private and public sectors. Realistic compensation needs to be negotiated for services and medication.

Funding formulas should take into consideration the remuneration of all parties concerned. To ensure fair allocation, a capitation fee is suggested as opposed to sequential fee-for-service payment which renders the last in line service provider vulnerable for non-payment (*cf.* 5.5.5.1). It would be advantageous to recruit general practitioners with a specific interest in the field for this specific task and provide custom made courses to facilitate their integration in the service as well as build capacity. Psychiatrists are a scarce resource and should be contracted for planning and management of problematic cases. Every effort should be made to incorporate persons with relevant experience in this field.

8.4 THE INTEGRATION OF RESEARCH, TRAINING AND SERVICE DELIVERY

Long-term investment in the training cycle should involve intensified training of pre-graduate medical students, nurses, nutritionists and pharmacists as well post-graduate training in Family Medicine, Internal Medicine, Psychiatry, Obstetrics and Gynaecology, Paediatrics and Pharmacology to support integrated service delivery.

-Restore the role of state hospitals as in-service training centres for doctors entering the profession.

-It is proposed that multi-professional teams be trained in an integrated manner. In pre-graduate courses, the various professions should be trained together in teams. Training hospitals and hospitals where community doctors are placed are ideal for implementation of on-site MDTs. A special concern is the inclusion of dieticians who could make a major contribution to the biologic treatment of these patients. Formal training will need to be SAQA accredited.

-Training resources and priorities should be identified by the research centre. Existing expertise in the area should be involved to build capacity. The training programmes for various categories within the state service should include circumscribed topics, for instance, the emergency room management of intoxication, or cocaine and opiate intoxication.

8.5 CONCLUSIONS

- The biologic nature of addiction needs to be recognized.
- Medical treatment of addictions should be integrated in general medical practice.
- Individualized intervention should be facilitated via the implementation of measures to improve access to a wider range of medication.
- Graded standardized evidence-based pharmacotherapy guidelines, based on biological principles should be developed and communicated to practitioners at various levels.
- State hospitals should play an important role in in-service training.

CHAPTER 9

REFLEXION AND CONCLUSION

9.1 PERSPECTIVES ON THE STUDY

The study set out to investigate the role of pharmacotherapy in addiction treatment in the Free State. A sense of disjointedness between the potential use of pharmacotherapy and the actual use emerged. This is because the international development of pharmacotherapy in addiction medicine is growing from a biogenic disease concept while the prevailing disease concept in the Free State is essentially a socio-psychogenic disease concept. The maintenance and promotion of a psychogenic view of addiction is eminently reflected in the fact that the treatment of addiction is mainly regulated by the Department of Social Development. At local level the legacy of the psychogenic era manifests in the exclusion of addiction treatment from state hospital services in some areas; the fact that a social worker can take the decision on whether or not to treat a patient medically and the fact that actual biological programme content need not to be evaluated for the purposes of registering a treatment centre. Moreover, biological considerations for treatment selection is totally overshadowed by firstly, economic considerations and secondly, the patient's psychological constitution. Despite proven benefit, pharmacotherapy is thus not optimally utilized. Rational prescribing demands a biologically grounded approach in diagnosis and treatment selection, supported at various levels. The suggested framework proposes the integration of biological principles at treatment practice level as well as supportive strategies and policies to be implemented at service delivery level.

9.2 LIMITATIONS OF THE STUDY

The context-specific features of the treatment environment may limit generalization of the study results, but other areas in South Africa may experience similar difficulties. Implementation of the proposed framework relies on recognition of the importance of pharmacotherapy as part of the multi-disciplinary treatment of addiction and improvement of Health Service Delivery on various levels.

The study is based on the perceptions and estimates of health care workers and not hard data. As a developing field, clinical data supporting neurobiological aspects are limited, specifically with regard to pharmacotherapy.

9.3 FUTURE PERSPECTIVES

9.3.1 Addiction Medicine and the Prevention and Treatment of Alcohol and Drug Abuse Act, 2008

For the foreseeable future addiction treatment will be determined to a large extent by this recently approved Act. Though the Act offers the opportunity of integration of private general medical practitioners in addiction treatment, it does not promote the integration of addiction treatment into mainstream health care. This is the challenge that should be taken up by the Department of Health.

9.3.2 Addiction Medicine and National Health Insurance

The impending implementation of National Health Insurance will also play a major role in determining the destiny of addiction medicine in this country. If National Health Insurance is implemented it will be critical for addiction treatment to be included in the Basic Health Care Package. If not, treatment will be even more unaffordable in a weakened private sector.

9.4 PERSPECTIVE ON FUTURE RESEARCH

Locally, the main concern remains the high incidence of excessive alcohol use. The most pressing need is to provide proof of value of intervention, especially long-term tracking of progress linked to specific detoxification regimen and relapse prevention intervention. The relative benefit of various interventions should be evaluated within the framework of existing typologies.

Preventative initiatives of the Department of Health should investigate the influence of biological factors, like the role of local nutrition patterns in addiction vulnerability.

9.5 FINAL REMARKS

As long as addiction is seen as a separate entity, disjointed from mainstream medical care through funding, legislation and local policies it will remain a stigmatized topic. Attitudes and perceptions however cannot be changed by regulation or organization only. The fundamental change should be in subjective experience. In the end the intervention should be seen and experienced as worthwhile, focused to make a meaningful impact on the management of this condition that lies at the heart of a disrupted and violent society.

*"The world as we have created it is a process of our thinking.
It cannot be changed without changing our thinking."— Albert Einstein*

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APPENDIX A: SELECTION SHEET

SOUTHERN HEALTH COMPLEX

ROUND 1.1: SELECT 1/3

MOTHEO: DISTRICT ENVIRONMENTS			
	Botshabelo 1	Ladybrand 2	Thaba Nchu 3
District hospital: Medical officer	1	1	1
General Practitioners (select 1-5 depending on selected environments)	9	6	5

ROUND 1.2: SELECT 1/3

MOTHEO: BASIC ENVIRONMENTS			
	De Wetsdorp 1	Exelsior 2	Wepener 3
General Practitioners	2	2	2

ROUND 1.3: SELECT 1/3

XHARIEP: DISTRICT ENVIRONMENTS			
	Jagersfontein 1	Smithfield 2	Zastron 3
District hospital: Medical officer	1	1	1
General Practitioners (select 1-5 depending on selected environments)	2	2	1

ROUND 1.4: SELECT 3/12

XHARIEP: BASIC ENVIRONMENTS												
	Bethulie 1	Eden burg 2	Faure smith 3	Gariep dam 4	Jacobs dal 5	Koffie fontein 6	Luck hoff 7	Petrus burg 8	Phillipolis 9	Redders burg 10	Roux ville 11	Tromps burg 12
General Practitioners	1	2	1	1	1	2	1	2	1	1	2	2

NORTHERN HEALTH COMPLEX

ROUND 2.1 SELECT 1 /4

LEJWELEPUTSWA: DISTRICT ENVIRONMENT:				
	Bothaville 1	Hoopstad 2	Virginia 3	Winburg 4
District hospital: Medical officer	1	1	1	1
General Practitioners (select 1-5 depending on selected environments)	5	3	8	1

ROUND 2.2 SELECT 2/8

LEJWELEPUTSWA : BASIC ENVIRONMENT								
	Boshof 1	Brandfort 2	Bultfontein 3	Dealesville 4	Hennenman 5	Theunissen 6	Ventersburg 7	Wesselsbro n 8
General Practitioners	1	2	4	2	4	3	1	1

ROUND 2.3: SELECT ¼

BOITUMELO: DISTRICT ENVIRONMENT				
	Frankfort 1	Heilbron 2	Parys 3	Sasolburg 4
District hospital: Medical officer	1	1	1	1
General Practitioners (select 1-5 depending on selected environments)	7	6	8	24

ROUND 2.4: SELECT 2/7

BOITUMELO: BASIC ENVIRONMENT							
	Cornelia 1	Koppies 2	Steynsrus 3	Tweeling 4	Viljoenskroon 5	Villiers 6	Vredefort 7
General Practitioners	1	1	1	1	3	2	1

EASTERN HEALTH COMPLEX

ROUND 3.1: SELECT 1/4

DIHLABENG DISTRICT ENVIRONMENT				
	Clocolan 1	Ficksburg 2	Reitz 3	Senekal 4
District hospital: Medical officer	1	1	1	1
General Practitioners (select 1-5 depending on selected environments)	3	7	4	3

ROUND 3.2: SELECT 1/5

DIHLABENG BASIC ENVIRONMENT					
	Clarens 1	Fouriesburg 2	Lindley 3	Marquard 4	Petrus Steyn 5
GPs	3	1	1	2	1

ROUND 3.3: SELECT 1/2

MANAPO: DISTRICT ENVIRONMENT		
	Harrismith 1	Vrede 2
District hospital: Medical officer	1	1
General Practitioners (select 1-5 depending on selected environments)	8	2

ROUND 3.4: SELECT 1/3

MANAPO: BASIC ENVIRONMENT			
	Kestell 1	Memel 2	Warden 3
GPs	1	1	1

APPENDIX B: QUESTIONNAIRE

Objective 1: Investigate existing practice regarding treatment for drug addicted persons within various regionally defined contexts.

Outcome 1.1 Profile of medical professionals involved in the treatment of cases of alcohol and drug addiction and dependence.

DEMOGRAPHIC INFORMATION

A. POST OF PERSON FILLING IN THIS FORM:

Professional Nurse/ Medical Officer/ Designated Medical officer/ Consultant
 Private General Practitioner/ Psychiatrist/ Psychologist
 Other: please specify.....

B. EXPERIENCE IN HEALTH CARE PROFESSION (post qualification)

----- years

C. AGE

----- years

D. GEOGRAPHICAL AREA

Health district:
 Motheo/ Xhariep / Thabo-Mofutsanyane: Bethlehem/ Thabo-Mofutsanyane: Qua-qwa
 / Northern FreeState: Koonstad / Lejweleputswa/

Regional /District/Basic environment

E. WORK ENVIRONMENT

District hospital / Regional hospital/ Tertiary hospital/ Private practice/
 Specialized Treatment centre/ Private hospital (?More than one)

F. TRAINING IN DEALING WITH SUBSTANCE ABUSE PATIENTS

None / As part of undergraduate training / Specific post-basic training/
 Structured In-service training/ Non-structured in-service training
 If yes: University/ Institution:Course.....

Office use only

Reg. number

1-6

7-8

9-10

11-12

13

14

15-16

17-20

21-24

25-28

29-32

Outcome 1.2: Profile of level of involvement of health care professionals in treatment of alcohol/ drug addiction/ dependency (INDICATE PERSONAL ROLE IN TREATMENT)

	Not involved	Refer all*	Coordinate treatment	Detox only	Detox/ relapse prevention	Relapse prevention/Follow-up
1.2.1 Alcohol addiction	1	2	3	4	5	6
1.2.2 Stimulant addiction	1	2	3	4	5	6
1.2.3 Opiate addiction	1	2	3	4	5	6
1.2.4 Sedative-hypnotic addiction	1	2	3	4	5	6

ADDITIONAL COMMENTS:

For office use only:

33-36

37-38

39-40

1.2.5 WOULD YOU BE WILLING TO PLAY A MORE ACTIVE ROLE?

41

Outcome 1.3: Profile of type of drug and alcohol use in help-seeking persons in Free State.

INDICATE A. **FREQUENCY OF CONTACT** IN PROFESSIONAL CAPACITY: IN FIRST BLOCK AND B. **FREQUENCY OF TREATMENT INTERVENTION** IN THE SECOND COLUMN

	Never		Occasionally		Monthly		Weekly		Daily	
1.3.1 Alcohol	1	1	2	2	3	3	4	4	5	5
1.3.2 Cannabis	1	1	2	2	3	3	4	4	5	5
1.3.3 Barbiturates	1	1	2	2	3	3	4	4	5	5
1.3.4 Benzodiazepines	1	1	2	2	3	3	4	4	5	5
1.3.5 Mandrax	1	1	2	2	3	3	4	4	5	5
1.3.6 Opiates	1	1	2	2	3	3	4	4	5	5
1.3.7 Amphetamine	1	1	2	2	3	3	4	4	5	5
1.3.8 Methamphetamine	1	1	2	2	3	3	4	4	5	5
1.3.9 Ecstasy	1	1	2	2	3	3	4	4	5	5
1.3.10 Cocaine	1	1	2	2	3	3	4	4	5	5
1.3.11 Inhalants	1	1	2	2	3	3	4	4	5	5
1.3.12 Other OTC/ prescription products Specify:	1	1	2	2	3	3	4	4	5	5
1.3.13 Other illicit drugs Specify:	1	1	2	2	3	3	4	4	5	5

ADDITIONAL COMMENTS:

For office use only:

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

42-54 (A)

55-67 (B)

68-69

70-71

Outcome 1.4:-Mapping of detox and rehabilitation services (institutions and individuals) in FS.

1.4 A. LOCAL **OUTPATIENT** FACILITIES

1.4A.1. Detoxification services provided by	1 None available	2 Myself	3 Primary Health Care Clinic	4 Government hospital	5 Private clinic	6 SANCA
1.4A.2. Rehabilitation services provided by	1 None available	2 Myself	3 District/ Secondary hospital	4 Social worker	5 Other private organization	6 SANCA

ADDITIONAL COMMENTS: **(?PRIVATE PRACTITIONERS IN REGION)**

For office use only:

1-6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7-12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

1.4A.3. Are you aware of any private practioners providing these services in this area:

17

1.4B LOCAL **INPATIENT** FACILITIES

1.4B.1. Detoxification done at	1 None available	2 District hospital	3 Secondary/ Tertiary hospital	4 Private hospital	5 Private clinic	6 Aurora
1.4B.2. Rehabilitation done at	1 None available	2 District hospital	3 Secondary /Tertiary hospital	4 Private hospital	5 Social worker	6 Aurora

ADDITIONAL COMMENTS:

For office use only:

18-23	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24-29	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

1.4B.3. Are you aware of any private practioners providing these services in this area:

34

Outcome 1.5 Mapping of therapeutic support structures in the various settings in the Free State.

PATIENTS TREATED LOCALLY RECEIVE THE FOLLOWING ELEMENTS OF TREATMENT: (if yes specify)

1.5.1. Behaviour modification : Specify	Yes	No
1.5.2. Medical detoxification according to a set of protocols: Specify:	Yes	No
1.5.3. Individualized medical detoxification: Specify:	Yes	No
1.5.4. Religious support: Specify:	Yes	No
1.5.5. Psychological support: Specify:	Yes	No
1.5.6. Psychiatric support: Specify:	Yes	No
1.5.7. Group therapy: Specify:	Yes	No
1.5.8. Support to Family: Specify:	Yes	No
1.5.9. Medical prevention of relapse: Specify:	Yes	No
1.5.10. Education regarding the dangers of substance abuse: Specify:	Yes	No
1.5.11. Motivational speeches by former addicted persons: Specify:	Yes	No

ADDITIONAL COMMENTS:

For office use only:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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35-45

<input type="checkbox"/>	<input type="checkbox"/>
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46-47

<input type="checkbox"/>	<input type="checkbox"/>
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48-49

<input type="checkbox"/>	<input type="checkbox"/>
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50-51

Outcome 1.6: Contribution of internal and external factors on extent of involvement of clinicians in alcohol and drug dependency treatment.

1.6A ALCOHOL WITHDRAWAL:

PERCEIVED RISK: Which of the following do you regard as TOO RISKY TO UNDERTAKE LOCALLY TAKING INTO ACCOUNT YOUR OWN KNOWLEDGE AND SKILL, AVAILABLE FACILITIES, PERSONNEL AND EQUIPMENT

	Uncertain	Yes	No
1.6A.1. All cases of alcohol withdrawal	1	2	3
1.6A.2. Alcohol withdrawal with history of repeated withdrawals	1	2	3
1.6A.3. Alcohol withdrawal with history of complicated withdrawal	1	2	3
1.6A.4. Alcohol withdrawal in young persons	1	2	3
1.6A.5. Alcohol withdrawal with high blood alcohol level without intoxication	1	2	3
1.6A.6. Alcohol withdrawal with high blood alcohol level with withdrawal signs	1	2	3
1.6A.7. Alcohol withdrawal with concurrent sedative -hypnotic use	1	2	3
1.6A.8. Alcohol withdrawal with concurrent stimulant use	1	2	3
1.6A.9. Alcohol withdrawal; in patients with medical complications	1	2	3

ADDITIONAL COMMENTS:

For office use only:

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52-60

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61-62

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63-64

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65-66

1.6B PERCEIVED RISK : Which of the following do you regard as TOO RISKY TO UNDERTAKE LOCALLY TAKING INTO ACCOUNT YOUR OWN KNOWLEDGE AND SKILL, AVAILABLE FACILITIES, PERSONNEL AND EQUIPMENT

	All	High doses	daily	Long duration of use	Underlying organ dysfunction	N/A
1.6B.1. Heroin withdrawal	1	2		3	4	5
1.6B.2. Codeine withdrawal	1	2		3	4	5
1.6B.3. Alprazolam withdrawal	1	2		3	4	5
1.6B.4. Phenobarbital withdrawal	1	2		3	4	5
1.6B.5. Meprobamate withdrawal	1	2		3	4	5
1.6B.6. Methaqualone withdrawal	1	2		3	4	5
1.6B.7. Inhalant withdrawal	1	2		3	4	5
1.6B.8. Cannabis withdrawal	1	2		3	4	5
1.6B.9. Cocaine withdrawal	1	2		3	4	5
1.6B.10. Amphetamine withdrawal	1	2		3	4	5
1.6B.11. Diazepam withdrawal	1	2		3	4	5
1.6B.12. Lorazepam withdrawal	1	2		3	4	5

ADDITIONAL COMMENTS:

For office use only:

67-71					
72-76					
77-81					
1-5					
6-10					
11-15					
16-20					
21-25					
26-30					
31-35					
36-40					
41-45					

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48-49

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50-51

1.6.C PERCEPTIONS AND ATTITUDES (Circle the item that reflects the degree to which you agree)

	Disagree completely	Disagree somewhat	Neutral	Agree somewhat	Agree completely
1.6.C 1. Drug addicts are criminals rather than patients.	1	2	3	4	5
1.6.C 2. Treatment of drug addicts is a waste of money.	1	2	3	4	5
1.6.C 3. Treatment of alcoholics is a waste of money.	1	2	3	4	5
1.6.C 4. Drug/alcohol addiction is a social problem, not a health problem.	1	2	3	4	5
1.6.C 5. Drug/alcohol addiction is primarily a psychiatric problem.	1	2	3	4	5
1.6.C 6. Drug/alcohol addiction is a chronic disease.	1	2	3	4	5
1.6.C 7. Relapse occurs due to a lack of will-power.	1	2	3	4	5
1.6.C 8. Drug/alcohol addiction cases should be readmitted if they relapse.	1	2	3	4	5
1.6.C 9. Relapse occur due to psychological craving.	1	2	3	4	5
1.6.C 10. Drug/alcohol addiction is incurable.	1	2	3	4	5
1.6.C 11. Access to appropriate medication is a major problem.	1	2	3	4	5
1.6.C 12. There exists a shortage of facilities to deal with drug/alcohol addiction.	1	2	3	4	5
1.6.C 13. There is a lack of appropriate training in my own profession regarding the treatment of alcohol and drug addiction.	1	2	3	4	5
1.6.C 14. Treatment for drug/alcohol addiction is unaffordable for the average citizen.	1	2	3	4	5
1.6.C 15. Services rendered to substance abuse cases at this institution/practice are optimal.	1	2	3	4	5

ADDITIONAL COMMENTS:

For office use only:

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71-72

1.6 D I FEEL CONFIDENT IN PROVIDING MEDICAL CARE IN THE FOLLOWING CASES

1.6D1. Alcohol withdrawal	1 N/A	2 Mild, uncomplicated withdrawal	3 Severe withdrawal, normal organ function, no psychiatric diagnosis	4 Underlying organ dysfunction	5 Psychiatric symptoms without psychiatric diagnosis	6 Dual diagnosis
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ALCOHOL WITHDRAWAL IN OUTPATIENT AND IN PATIENT SETTINGS

	N/A	Withdrawal as OUTPATIENT	Withdrawal as INPATIENT only
1.6D.2. Mild, uncomplicated withdrawal	1	2	3
1.6D.3. Severe withdrawal, normal organ function, no psychiatric diagnosis	1	2	3
1.6D.4. Underlying organ dysfunction	1	2	3
1.6D.5. Psychiatric complications	1	2	3

ADDITIONAL COMMENTS:

For office use only:

	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
73-78	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1-4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7-8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.6.E. WITHDRAWAL IN OUTPATIENT AND IN PATIENT SETTINGS: OTHER DRUGS

I feel confident in providing medical care in the following cases	N/A	Withdrawal as OUTPATIENT	Withdrawal as INPATIENT only
1.6E.1. Cocaine withdrawal	1	2	3
1.6E.2. Ecstasy withdrawal	1	2	3
1.6E.3. Amphetamine withdrawal	1	2	3
1.6E.4. Benzodiazepine withdrawal	1	2	3
1.6E.5. Barbiturate withdrawal	1	2	3
1.6E.6. Cannabis withdrawal	1	2	3
1.6E.7. Cannabis and mandrax withdrawal	1	2	3
1.6E.8. Multiple substances including alcohol withdrawal	1	2	3
1.6E.9. Withdrawal of multiple substances	1	2	3
1.6E.10. Opiate withdrawal	1	2	3
1.6E.11. Inhalant withdrawal	1	2	3
1.6E.12. Relapse prevention of alcohol abuse	1	2	3

1.6E.13. Methadone maintenance in heroin addiction	1	2	3
E.14. Psychopharmacology support in dual diagnosis patients	1	2	3

ADDITIONAL COMMENTS:

For office use only:

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25-26

1.6.F. MULTIDISCIPLINARY ORIENTATION : **ROUTINE REFERRALS TO OTHER DISCIPLINES** (Tick all applicable answers)

1.6.F 1. Alcohol abuse	1 Social worker	2 Psychiatrist	3 Psychologist	4 Minister religion	of	5 Occupational therapist	6 NGO: (List name)
1.6.F 2 Stimulant abuse	1 Social worker	2 Psychiatrist	3 Psychologist	4 Minister religion	of	5 Occupational therapist	6 NGO: (List name)
1.6.F 3. Opiate abuse	1 Social worker	2 Psychiatrist	3 Psychologist	4 Minister religion	of	5 Occupational therapist	6 NGO: (List name)
1.6.F 4. Cannabis abuse	1 Social worker	2 Psychiatrist	3 Psychologist	4 Minister religion	of	5 Occupational therapist	6 NGO: (List name)
1.6.F 5. Sedative abuse	1 Social worker	2 Psychiatrist	3 Psychologist	4 Minister religion	of	5 Occupational therapist	6 NGO: (List name)

ADDITIONAL COMMENTS:

For office use only:

27-32

33-38

39-44

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51-56

57-58

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59-60

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61-62

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1.6.G OBSTACLES TO INVOLVEMENT:

1.6.G.1. Knowledge: Specify	Yes	No
1.6.G.2. Skills: Specify:	Yes	No
1.6.G.3. Visible referral structures: Specify:	Yes	No
1.6.G.4. Stronger multi-disciplinary involvement: Specify:	Yes	No
1.6.G.5. Medical aid funding: Specify:	Yes	No
1.6.G.6. Availability of medication: Specify:	Yes	No
1.6.G.7. Availability of facilities: Outpatient	Yes	No
1.6.G.8. Availability of facilities: Inpatient: Specify:	Yes	No
1.6.G.9. Other: Specify:	Yes	No
1.6.G.10. Other: Specify:	Yes	No
1.6.G.11. Other: Specify:	Yes	No

RANKING

63-73

1-11

Outcome 1.7: Profile of **PHARMACOTHERAPEUTIC INTERVENTIONS** within existing treatment plans and reasons for use and non-use of individual agents. (Circle degree to which you agree)

1.7 A. ALCOHOL WITHDRAWAL Underline, where more than one option	Use			Do not use				
	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7A.1. Long acting benzo: Diazepam, Alprazolam, Lorazepam Other:	1	2	3	4	5	6	7	8
1.7A.2. Short-acting benzo: Chlordiazepoxide, Oxazepam Other	1	2	3	4	5	6	7	8
1.7A.3. Propranolol	1	2	3	4	5	6	7	8
1.7A.4. Other β blocker:	1	2	3	4	5	6	7	8
1.7A.5. Barbiturates	1	2	3	4	5	6	7	8
1.7A.6. Clonidine	1	2	3	4	5	6	7	8
1.7A.7. Carbamazepine	1	2	3	4	5	6	7	8
1.7A.8. Valproate	1	2	3	4	5	6	7	8
1.7A.9. Chlorthalidone	1	2	3	4	5	6	7	8
1.7A.10. Vitamin B Co	1	2	3	4	5	6	7	8
1.7A.11. Antidepressant: specify:	1	2	3	4	5	6	7	8
1.7A.12. Other specify:	1	2	3	4	5	6	7	8
1.7A.13. Other specify:	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

12-21											
22-24											
25-27											
28-30											

31-32		
33-34		

1.7.B. ALCOHOL RELAPSE PREVENTION (Underline option)	Use			Do not use				
	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Too expensive
1.7B.1. Long-acting benzo: Diazepam, Alprazolam, Lorazepam Other:	1	2	3	4	5	6	7	8
1.7B.2. Short-acting benzo: Chlordiazepoxide, Oxazepam Other:	1	2	3	4	5	6	7	8
1.7B.3. Disulfiram	1	2	3	4	5	6	7	8
1.7B.4. Acamprosate	1	2	3	4	5	6	7	8
1.7B.5. Vitamin B Co	1	2	3	4	5	6	7	8
1.7B.6. Antidepressants: Specify	1	2	3	4	5	6	7	8
1.7B.7. Other: Specify	1	2	3	4	5	6	7	8
1.7B.8. Other: Specify	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

35-39					
40-42					
43-45					
46-48					

49-50		
51-52		

1.7C. WITHDRAWAL	OPIATE	Use			Do not use				
		Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7C.1. Methadone		1	2	3	4	5	6	7	8
1.7C.2. Buprenorphine		1	2	3	4	5	6	7	8
1.7C.3. Clonidine		1	2	3	4	5	6	7	8
1.7C.4. Other: Specify		1	2	3	4	5	6	7	8
1.7C.5. Other: Specify		1	2	3	4	5	6	7	8
1.7C.6. Other: Specify		1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

53-55	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56-58	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
59-61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
62-64	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

65-66	<input type="checkbox"/>	<input type="checkbox"/>
67-68	<input type="checkbox"/>	<input type="checkbox"/>

1.7D. PREVENTION	OPIATE	RELAPSE	Use			Do not use				
			Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7D.1. Methadone			1	2	3	4	5	6	7	8
1.7D.2. Buprenorphine			1	2	3	4	5	6	7	8
1.7D.3. Other: specify			1	2	3	4	5	6	7	8
1.7D.4. Other: specify			1	2	3	4	5	6	7	8
1.7D.5. Other specify:			1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

69-70	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
71-73	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
74-76	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
77-79	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1-2	<input type="checkbox"/>	<input type="checkbox"/>
3-4	<input type="checkbox"/>	<input type="checkbox"/>
5-6	<input type="checkbox"/>	<input type="checkbox"/>

1.7E. WITHDRAWAL	COCAINE	Use			Do not use				
		Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7E.1.	Amantadine/ Bromocriptine	1	2	3	4	5	6	7	8
1.7E.2.	Tricyclic Antidepressants	1	2	3	4	5	6	7	8
1.7E.3.	Fluoxetine	1	2	3	4	5	6	7	8
1.7E.4.	Lorazepam	1	2	3	4	5	6	7	8
1.7E.5.	Diazepam	1	2	3	4	5	6	7	8
1.7E.6.	Haloperidol	1	2	3	4	5	6	7	8
1.7E.7.	Other specify	1	2	3	4	5	6	7	8
1.7E.8.	Other specify	1	2	3	4	5	6	7	8
1.7E.9.	Other specify	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

7-12						
13-15						
16-18						
19-21						

22-23					
24-25					
26-27					

1.7F. INHALANT WITHDRAWAL	Use			Do not use					
SPECIFY DOA	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost	
1.7F.1. Long acting benzo: Diazepam, Alprazolam, Lorazepam Other:	1	2	3	4	5	6	7	8	
1.7F.2. Short-acting benzo: Chlordiazepoxide, Oxazepam Other	1	2	3	4	5	6	7	8	
1.7F.3. Propranolol	1	2	3	4	5	6	7	8	
1.7F.4. Other β blocker:	1	2	3	4	5	6	7	8	
1.7F.5. Barbiturates	1	2	3	4	5	6	7	8	
1.7F.6. Clonidine	1	2	3	4	5	6	7	8	
1.7F.7. Carbamazepine	1	2	3	4	5	6	7	8	
1.7F.8. Valproate	1	2	3	4	5	6	7	8	
1.7F.9. Chlorthalidone	1	2	3	4	5	6	7	8	
1.7F.10. Other specify:	1	2	3	4	5	6	7	8	
1.7F.11. Other specify:	1	2	3	4	5	6	7	8	
1.7F.12. Other specify:	1	2	3	4	5	6	7	8	

ADDITIONAL COMMENTS:

For office use only:

28-36										
37-39										
40-42										
43-45										

46-47		
48-49		

1.7G. SEDATIVE HYPNOTIC WITHDRAWAL: OTHER: 1 SPECIFY DOA	Use			Do not use				
	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7G.1. Long acting benzo: Diazepam, Alprazolam, Lorazepam Other:	1	2	3	4	5	6	7	8
1.7G.2. Short-acting benzo: Chlordiazepoxide, Oxazepam Other	1	2	3	4	5	6	7	8
1.7G.3. Propranolol	1	2	3	4	5	6	7	8
1.7G.4. Other β blocker:	1	2	3	4	5	6	7	8
1.7G.5. Barbiturates	1	2	3	4	5	6	7	8
1.7G.6. Clonidine	1	2	3	4	5	6	7	8
1.7G.7. Carbamazepine	1	2	3	4	5	6	7	8
1.7G.8. Valproate	1	2	3	4	5	6	7	8
1.7G.9. Chlorthalidone	1	2	3	4	5	6	7	8
1.7G.10. Other specify:	1	2	3	4	5	6	7	8
1.7G.11. Other specify:	1	2	3	4	5	6	7	8
1.7G.12. Other specify:	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

50-58									
59-61									
62-64									
65-67									

68-69		
70-71		

1.7H. SEDATIVE HYPNOTIC WITHDRAWAL OTHER: 2	Use			Do not use				
SPECIFY DOA	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7H.1. Long acting benzo: Diazepam, alprazolam, Lorazepam Other:	1	2	3	4	5	6	7	8
1.7H.2. Short-acting benzo: Chlordiazepoxide, Oxazepam Other	1	2	3	4	5	6	7	8
1.7H.3. Propranolol	1	2	3	4	5	6	7	8
1.7H.4. Other β blocker:	1	2	3	4	5	6	7	8
1.7H.5. Barbiturates	1	2	3	4	5	6	7	8
1.7H.6. Clonidine	1	2	3	4	5	6	7	8
1.7H.7. Carbamazepine	1	2	3	4	5	6	7	8
1.7H.8. Valproate	1	2	3	4	5	6	7	8
1.7H.9. Chlorthalidone	1	2	3	4	5	6	7	8
1.7H.10. Other specify:	1	2	3	4	5	6	7	8
1.7H.11. Other specify:	1	2	3	4	5	6	7	8
1.7H.12. Other specify:	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

72-80										
1-3										
4-6										
7-9										

10-11		
12-13		

1.7I. STIMULANT WITHDRAWAL: OTHER 1 SPECIFY DOA	Use			Do not use				
	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7I.1. Amantadine/ Bromocriptine	1	2	3	4	5	6	7	8
1.7I.2. Tricyclic Antidepressants	1	2	3	4	5	6	7	8
1.7I.3. Fluoxetine	1	2	3	4	5	6	7	8
1.7I.4. Lorazepam	1	2	3	4	5	6	7	8
1.7I.5. Diazepam	1	2	3	4	5	6	7	8
1.7I.6. Haloperidol	1	2	3	4	5	6	7	8
1.7I.7. Other specify	1	2	3	4	5	6	7	8
1.7I.8. Other specify	1	2	3	4	5	6	7	8
1.7I.9. Other specify	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

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1.7J. STIMULANT WITHDRAWAL OTHER 2 SPECIFY DOA	Use			Do not use				
	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7J.1. Amantadine/ Bromocriptine	1	2	3	4	5	6	7	8
1.7J.2. Tricyclic Antidepressants	1	2	3	4	5	6	7	8
1.7J.3. Fluoxetine	1	2	3	4	5	6	7	8
1.7J.4. Lorazepam	1	2	3	4	5	6	7	8
1.7J.5. Diazepam	1	2	3	4	5	6	7	8
1.7J.6. Haloperidol	1	2	3	4	5	6	7	8
1.7J.7. Other specify	1	2	3	4	5	6	7	8
1.7J.8. Other specify	1	2	3	4	5	6	7	8
1.7J.9. Other specify	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

35-40						
41-43						
44-46						
47-49						

50-51		
52-53		
54-55		

10K STIMULANT WITHDRAWAL OTHER :3	Use			Do not use				
	Standard regimen	Selected patients	Prn	Not standard regimen	Ineffective	Not available	Side effects	Cost
1.7K.1. Amantadine/ Bromocriptine	1	2	3	4	5	6	7	8
1.7K.2. Tricyclic Antidepressants	1	2	3	4	5	6	7	8
1.7K.3. Fluoxetine	1	2	3	4	5	6	7	8
1.7K.4. Lorazepam	1	2	3	4	5	6	7	8
1.7K.5. Diazepam	1	2	3	4	5	6	7	8
1.7K.6. Haloperidol	1	2	3	4	5	6	7	8
1.7K.7. Other specify	1	2	3	4	5	6	7	8
1.7K.8. Other specify	1	2	3	4	5	6	7	8
1.7K.9. Other specify	1	2	3	4	5	6	7	8

ADDITIONAL COMMENTS:

For office use only:

56-61						
62-64						
65-67						
68-70						

71-72		
73-74		
75-76		

APPENDIX C: STRUCTURED INTERVIEW

1. How do you see your role in the treatment of alcohol and drug addicted persons?
2. Based on personal experience, how do you see the role of pharmacotherapy in alcohol/drug addiction treatment.
3. Do you treat state patients as well as private patients?
4. Comparing STATE VS PRIVATE patients (if applicable) you have any comments regarding:
Access to health care:
 - Inpatient/ outpatient services for detoxification
 - Inpatient/ outpatient services for rehabilitation
 - Access to social welfare care:
 - Access to psychologists/ psychiatrists:
 - Duration from diagnosis to treatment:
 - Availability of medication:
5. Cost to the patient:
 - Cost per day: Outpatient Treatment vs Inpatient treatment
 - Average Duration Of Treatment: Outpatient Treatment vs Inpatient Treatment
6. Expectations: What are your goals and expectations regarding successful rehabilitation in terms of abstinence, social functioning, occupational functioning, health improvement?
7. Do you have a policy regarding relapsed patients? If yes: How many relapses are allowed?
8. How do you measure success
 - Indicators:
 - Abstinence:period
 - Programme completion:
 - Number of relapses
 - Duration of involvement in programme:
9. Do you involve laboratory testing in monitoring abstinence?
If yes: frequency ?
10. Based on your experience what happens eventually to patients who completed treatment?
(Follow -up, support structures)
11. What do you know about government policy regarding the treatment of drug abuse/ dependency?
12. What do you regard as critical elements (minimum requirements) for a successful treatment plan?
 - Personnel:
 - Facilities:
 - Equipment:
13. Recommendations to improve service:
 - System -related:
 - Local:
 - Regional:
 - On individual patient level:

THANK YOU FOR YOUR PARTICIPATION

(Compacted)

APPENDIX D: SUBJECT INFORMATION AND INFORMED CONSENT

STUDY TITLE: AN INTEGRATED FRAMEWORK FOR THE TREATMENT OF SUBSTANCE ADDICTION AND DEPENDENCY IN THE FREE STATE

ETOVS number: 38/05.

Dear health care practitioner,

I, Dr. P.M. van Zyl, am doing research on the treatment of drug and alcohol dependency in the Free State under the supervision of Prof. C.A. Gagiano, Prof. W. Mollentze and Prof. J. Snyman. In this study we want to know to what extent pharmacotherapy is used in the treatment of alcohol and drug dependency in the Free State and investigate factors related to treatment practices. We are inviting you to participate in this research study.

The study entails the collection of information by using a questionnaire supplemented by a structured interview. Participants are drawn randomly from a list of general practitioners, psychiatrists, psychologists, hospitals and treatment centres in the Free State. If you agree to participate, I will complete the accompanying questionnaire in your presence and then do the interview. There are no risks involved in the study. The results will not be used to make any deductions about you as a person and cannot be used to harm you in any way. There are also no particular benefits to you personally.

Participation is voluntary, and refusal to participate will involve no loss of benefits to which you are otherwise entitled; you may discontinue participation at any time without loss of benefits to which you are otherwise entitled.

Confidentiality: In accordance with the *Promotion of Access to Information Act (Act no. 2 of 2000)* your personal information will be kept confidential subject to the provision of mandatory release of information in public interest. Organizations that may inspect and/or copy the research records for quality assurance and data analysis include groups such as the Ethics Committee for Medical Research. Requests for information will have to be submitted according to provisions of the said act and may be refused if the disclosure may lead to the exposure of an individual or public body to their detriment. In line with University policy you will receive pertinent information on the study while involved in the project and after the results are available.

If you agree to participate, you will be given a signed copy of this document.

Declaration:

The research study, including the above information has been verbally described to me. I understand what my involvement in the study means and I voluntarily agree to participate.

Signature of Participant

Date

Signature of Researcher

Date

Contact details of researcher – Dr. P.M. van Zyl 082 5679654 for further information/reporting of study-related events.

Contact details of REC Secretariat and Chair – (051) 4052812 for reporting of complaints/problems.

(Compacted)

APPENDIX E: QUANTITATIVE DATA MANAGEMENT

Questionnaire	Reflected in	Comment
Outcome 1.1: B and C	Figures 5.6 - 5.7	Responses grouped in 5-year intervals.
F	Figure 5.12	State hospitals grouped together. Course where addiction treatment was addressed omitted to give less detailed results.
Outcome 1.3	Tables 5.9C, 5.10C-D, 5.10E, 5.11A, 5.12A-B, 5.13A-B, 5.14A-C, 5.15A-C, 5.16A-C	Results grouped as: Never = Never; Occasionally: < once/month: reflected as Low; Monthly + Weekly + Daily: High level of contact.
1.3B Frequency of treatment omitted: too detailed, duplicate outcome 1.2.		
Outcome 1.4	Tables 5.23A-B, 5.24A-B, 5.25	
Outcome 1.5	Tables 5.27A-B, 5.28A-D	More details on services rendered by doctor himself, members of his/her team or unrelated health care professional.
1.6A5, 1.6A6	Omitted, none of respondents does routine blood levels on these cases.	
1.6.B:	Omitted, private general medical practitioners only undertake alcohol and benzodiazepine withdrawals.	
1.6C1:	Table 5.30	5 point Lickert scale converted to three categories: Disagree, Neutral and Agree. Tables only reflect respondents that agreed with the statements.
1.6C4+ 1.6C5+ 1.6C6+1.6C10	Table 5.31	
1.6C2+ 1.6C3	Table 5.32	
1.6C13+ 1.6G1 + 1.6G2	Table 5.7	
1.6C11 + 1.6G6	Table 5.21	Questions combined to contrast more general perceptions with perceptions regarding the respondents' own involvement:
1.6C12+ 1.6G7 + 1.6G8	Table 5.22	
1.6G3+ 1.6G4	Table 5.26	
1.6C15:	Table 5.33A-B.	
1.6C7+ 1.6C8+ 1.6C9	Table 5.34	
1.6D3, 1.6D4.	Omitted	"Not applicable" for all.

1.6D5		
1.6E	Omitted	“Not applicable”, except benzodiazepine withdrawal as outpatients and relapse prevention as outpatients.
Outcome 1.5:	Table 5.27A-B, 5.28A-D	More detailed responses noted for the roles the respondent himself or his team took on.
1.6 F	Table 5.29A-D	Referrals to psychologist and social workers of alcohol and benzodiazepine cases reflected. Rest omitted: low frequency.
1.7A1+ 1.7A2 (Long-and short-acting benzodiazepines) combined. 1.7A3 (Propranolol) +1.7A4 (Other beta blockers) combined. 1.7B1+1.7B2 (Long-and short-acting benzodiazepines) combined.		Options under 4 (Do not use) reflected as one option. Extra remarks written down and fed into NVIVO8. Frequency of use categorized as: <i>Standard:</i> in all patients treated; <i>Selected patients:</i> with secondary diagnosis; <i>PRN:</i> with symptoms during treatment.