# NEW ZEALAND

# ADDICTION TREATMENT RESEARCH MONOGRAPH

# 2007

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# TABLE OF CONTENTS

# INTRODUCTION

Dear Readers

Welcome to the seventh edition of the Addiction Treatment Research Monograph. Traditionally this monograph has comprised summaries of the array of research presentations at the New Zealand addiction sector's annual Cutting Edge Conference. This current edition is a particularly special issue as it not only contains a selection of New Zealand research presentations from the Combined Cutting Edge and APSAD Conference: *Two Nations, Ten Cultures?,* it also contains summaries from five of the conference's keynote presenters. Because, for the most part, these keynote presentations were not original research or systematic reviews of research (the usual criteria for inclusion in the Monograph) they have been provided as an appendix. We are delighted to be able to provide these 'bonus' contributions for ATR Monograph readers.

The regular research presentations spanned a range of topics. Three articles have a specific focus on methadone maintenance treatment (Hyslop et al., Moriarty et al. and Newcombe et al.) while another four focus specifically on youth related issues (Christie et al., Prescott, Schroder et al. and Sweetsur et al.). Service and workforce development also present as major themes with eight articles reporting on a variety of initiatives in these areas (Benton, Black et al., Deering, Gledhill et al., Gregory, Kalin, Pulford et al. and Stuart). Two papers on gambling (Bellringer et al. and Townshend), two papers on Pacific issues (Huakau and Suaalii-Sauni et al.) and one paper examining the classification of alcohol in New Zealand's Misuse of Drugs Act (Sellman et al.) complete this issue.

In 2007 the John O'Hagan prize for best presentation by someone under the age of 35 years was awarded to Justin Pulford, researcher at the Clinical Research and Resource Centre, for his presentation on "Responding to Client Dropout: The Treatment-Fit Approach". This award winning presentation is included in this monograph.

The John Dobson Memorial Prize for best opioid presentation was awarded to Dr Karla Rix-Trott from the Auckland Methadone Service for her presentation on "Bone Density and Factors Influencing Bone Metabolism in People on Methadone Maintenance Treatment". Congratulations to both prize winning presenters.

The five keynote papers summarised in the appendix provide insights from some of the leading thinkers in the addiction field. Lloyd Geering reflects on the new secular global era and its positive and negative impacts on the world. Updates on changes in service delivery are provided by Mason Durie as he discusses the process of indigenisation of the health sector and by John Challis as he examines the steps required to ensure the development of enhanced co-occurring mental health and addiction treatment services. Peggy Compton takes a specific clinical focus in her paper discussing pain management for people with opioid addictions, while Siale 'Alo

Foliaki highlights future directions for treatment services as he considers the substance use and mental health issues of Pacific People in New Zealand.

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# PROBLEM GAMBLING, ALCOHOL AND DRUGS - IS IT USEFUL TO SCREEN FOR THESE COMORBIDITIES?

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The purpose of the study was to review assessment/screening instruments currently used in New Zealand problem gambling treatment agencies, recommend an improved assessment/ screening battery and, finally, trial the battery. This included instruments screening for gambling, alcohol and other drugs, and other comorbidities (e.g. anxiety, depression). Since some alcohol and other drug (AOD) treatment centres also provide services to problem gamblers, an AOD treatment service was included in this study. Like other addictive disorders, problem and pathological gamblers have much higher rates of co-occurring substance use disorders than are found in the general population. Rates of these disorders are particularly high among pathological gamblers, both clinically and in the general population. For example, two recent national surveys in the U.S. found rates of alcohol and substance dependence among problem and pathological gamblers in the general population that are approximately ten times higher than among low risk gamblers and non-gamblers.[1,2] Screening for comorbid problem gambling and substance use disorders can help to address issues arising in speciality treatment and improve rates of retention in treatment.

## Phase One Study Design and Results

Semi-structured face-to-face interviews (N=19) were conducted with counsellors from an Auckland based residential AOD treatment service and from a number of problem gambling treatment services throughout New Zealand. The interview questions covered issues and concerns regarding current screening and assessment tools used with clients. These tools were for a range of disorders and problems including gambling, alcohol and drug misuse and general health and mental health issues. Counsellors were asked to comment on the importance of the tools to the practitioners, their organisation and clients, whether they felt the tools were useful, if they could be improved and how they used the results from the tools used.

The main issues raised in the interviews related to the length of the currently used tools, the language used in the tools and how the results from the screening were subsequently used. Five focus groups comprising practitioners from AOD treatment

services and problem gambling treatment services expanded on these topics further. The findings of these focus groups indicated that practitioners wanted to focus on using appropriate screens for comorbidities in the treatment setting, alcohol and other drugs in problem gambling settings and problem gambling in AOD settings. Other areas perceived as important were screening and assessment for mental health issues, particularly depression and suicidality.

The results of the interviews and focus groups indicated that the most common screening instruments used by organisations for problem gambling were the South Oaks Gambling Screen[3] in a three month timeframe (SOGS-3M) or a tool based on the SOGS, and the Alcohol Use Disorders Identification Test (AUDIT)[4,5] for alcohol misuse/dependence. Screening for drug use was limited and when performed was generally only for cannabis, whilst a variety of validated instruments and variants were used to screen for depression and anxiety disorders. Improvement of all screening assessments was seen by participants as possible by using shorter screening tools or short versions of longer tools, reducing organisational paper work to enable more time for rapport building between counsellor and client and improving the understanding of the language in those tools used.

Phase Two Study Design

After analysing the results of the first phase of the study, a set of screening and assessment tools was recommended for use and trialled with clients presenting at problem gambling treatment services (n=53) and the AOD treatment service (n=29).

Trialled instruments (problem gambling and AOD screens):

- The alcohol and drug treatment service trialled the Canadian Problem Gambling - Index (CPGI)[6] which is a 33-item validated tool that includes questions on:
  - Gambling involvement (including expenditure)
  - Adverse consequences of gambling (including anxiety and financial problems)
  - Problem gambling correlates (including alcohol and drug problems in gambler and in family, depression and suicidality)
  - A nine-item problem gambling screening tool (the PGSI)
- Problem gambling treatment providers trialled the following:
  - Problem Gambling Severity Index (PGSI)[6] (the nine-item problem gambling screening tool portion of the CPGI)
  - Alcohol Use Disorders Identification Test - Consumption (AUDIT-C)[4,5]
  - Leader questions for drug use and other comorbid behaviours such as depression, suicidality and family/whanau concern

All participating organisations also asked counsellors to complete feedback forms about the trialled screening and assessment tools.

Phase Two Results

Results from the alcohol and drug treatment service indicated that 18% of participants were classified as problem gamblers by the PGSI, seven percent as moderate risk gamblers, 11% as low risk gamblers and 61% as non-problem gamblers. Fifty percent of counsellor feedback indicated that the CPGI (including the

PGSI) was an improvement on the currently used screen with 66% indicating it was a practical tool in aiding the therapeutic process and 60% indicating that the CPGI would be useful with all clients (even though only 25% of clients were moderate risk or problem gamblers). Other feedback was that the CPGI increased awareness of gambling issues with alcohol and drug clients but was unnecessary paperwork with clients with no gambling problem.

Results from use of the PGSI with clients at problem gambling treatment organisations showed good correlation with SOGS-3M results, which were collected as routine at the same time. Eighty-eight percent of participants were classified as problem gamblers, eight percent as moderate risk gamblers and four percent were classified as low risk gamblers. AUDIT-C results indicted that 60% of participants were positive for comorbid hazardous drinking behaviour. Results from leader questions trialled for drug use and other comorbidities indicated that 16% of participants felt a need to cut down on the use of prescription/other drugs. Counsellor feedback from the problem gambling treatment services indicated that the trialled tools were an improvement over the currently used screens. Issues were raised about language/wording within the AUDIT-C but where alcohol misuse was noted as a possible concern with the AUDIT-C, counsellors often choose to use the full AUDIT.

## Conclusions

The alcohol and drug treatment service found the CPGI to be a useful and practical tool to aid the therapeutic process with AOD clients who may also have a gambling problem. It was seen by counsellors as an improvement on the currently used in-house gambling screen.

Problem gambling treatment services found use of the PGSI an improvement over the currently used problem gambling screen. The AUDIT-C and leader questions for other comorbidities appeared to be a useful means of assessing comorbid behaviours concurrent with problem gambling and allowed the opportunity for in-depth comorbidity screening, if required, or to enable referrals to specialist services, if necessary.

## Limitations

There are a couple of major limitations to this study. The low participant numbers in the trial phase of the study restricts any generalised conclusions that can be drawn. Additionally, only one participating AOD treatment provider limits the conclusions that can be drawn across the sector.

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# CONCURRENT TREATMENT FOR CO-EXISTING POST TRAUMATIC STRESS DISORDER AND SUBSTANCE ABUSE DISORDER IN AN OUTPATIENT SETTING

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## Introduction

Victimisation, violence and trauma are often a part of the life history of individuals with substance use disorders (SUDS) and the disorders of posttraumatic stress disorder (PTSD) and substance abuse commonly occur together. The development of treatments specifically tailored to address trauma-related issues during early recovery is therefore clinically important because comorbidity has been found to have a negative impact on the course, treatment outcome and prognosis of both disorders.

## Methods

This study, the first such New Zealand study, was a naturalistic study of a manualised, "present focused" therapy programme - Seeking Safety[1] - for a group of twenty women clients of Hanmer Clinic Tauranga with co-existing PTSD and SUDS. The programme was run in an outpatient setting, with assessment at intake, end of treatment and at six months. All clients completed treatment, seventeen of whom were successfully reinterviewed at six months.

## Results

Table 1 presents a summary of the Behavior and Symptom Identification Scale (BASIS-32)[2] measures, designed to assess change in patients' behaviour and symptom difficulty between the beginning of a treatment episode and subsequent follow-up points. There is significant improvement shown by changes in the scores for the scales for relation to self/others and psychosis.

Table 1: Behavior and Symptom Identification Scale (BASIS-32)

| | Baseline | | End of treatment | | 6 month follow-up | |
|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD |
| Relation to self and others | 18.9 | 3.9 | 17.9 | 5.8 | 12.9** | 5.6 |
| Depression/anxiety | 13.9 | 4.3 | 13.5 | 5.4 | 11.9 | 4.6 |
| Daily living /role functioning | 14.0 | 4.3 | 15.9 | 5.2 | 13.6 | 5.7 |
| Impulsive/addictive behaviour | 9.8 | 2.4 | 8.8 | 2.5 | 9.9 | 3.5 |
| Psychosis | 6.5 | 1.7 | 5.8 | 2.2 | 5.0* | 1.4 |

* $p<.05$
** $p<.01$; all pairwise comparisons with baseline score

Table 2 presents a summary of the results of Modified PTSD Symptom Scale (MPSSR)[3] which measures severity of PTSD symptoms. There is significant improvement shown by changes in the total score (indicating if the group were PTSD positive or not) and the scales for re-experiencing and arousal.

Table 2: Modified PTSD Symptom Scale (MPSSR) Results

| | Baseline (N=20) | | End of treatment (N=20) | | 6 month follow-up (N=17) | |
|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD |
| Total | 48.1 | 11.8 | 40.1 | 14.3 | 36.5* | 13.8 |
| Re-experiencing | 15.0 | 3.9 | 12.3 | 4.1 | 11.2* | 3.3 |
| Avoidance | 19.3 | 6.0 | 15.4 | 6.0 | 14.5 | 6.4 |
| Arousal | 14.2 | 4.3 | 12.4 | 5.3 | 10.8* | 5.3 |

* p<.05; all pairwise comparisons with baseline score

Table 3 presents a summary of the results of the Trauma Symptom Checklist-40 (TSC-40)[4] which measures symptoms associated with childhood or adult traumatic experiences. There is significant improvement shown by changes in the scales for depression, sexual abuse trauma index, sleep disturbance, as well as the total score.

Table 3: Trauma Symptom Checklist-40 (TSC40)

| | Baseline (N=20) | | End of treatment (N=20) | | 6 month follow-up (N=17) | |
|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD |
| Dissociation | 6.3 | 2.5 | 6.8 | 2. 9 | 5.3 | 3.6 |
| Anxiety | 7.6 | 4.2 | 7.4 | 4.8 | 5.6 | 3.8 |
| Depression | 13.4 | 4.2 | 12.5 | 4.3 | 7.6* | 5.1 |
| Sexual Abuse Trauma Index | 6.9 | 3.5 | 7.3 | 3.5 | 4.4 | 3.5 |
| Sleep Disturbance | 10.8 | 4.1 | 10.8 | 4.3 | 5.8* | 4.7 |
| Sexual Problems | 6.3 | 5.9 | 6.7 | 5.5 | 4.2 | 4.7 |
| Total Score | 46.4 | 17.4 | 44.7 | 14.6 | 29.1* | 20.0 |

* p < .05; all pairwise comparisons with baseline score

Table 4 summarises use by substance, measuring the proportion of clients who used any of each substance. The results obtained from the questionnaire designed by the Alcohol and Drug Outcomes Project (ADOPT)[5]. Alcohol and cannabis use increased at the six month mark, while, interestingly, there was a significant decrease in cigarettes used per day and the percentage using from the end of treatment to the six month follow-up ($p<.049$, $Z= -2.0$).

Table 4: Proportion of Sample Using Substances: by Substance Category, at Baseline, End of Treatment, and Six Months Follow-up

| | % Baseline (N=20) | % End of treatment (N=20) | % 6 month follow-up (N=17) |
|---|---|---|---|
| Alcohol | 40% | 30% | 47% |
| Cannabis | 15% | 10% | 24% |
| Stimulants | - | - | - |
| Opioids | - | - | 12% |
| Sedatives | - | - | 18% |
| Cigarettes | 75% | 70% | 47% |
| Any other drugs | - | - | - |
| Injecting of drugs | - | - | - |

Feedback from participants, obtained through the Treatment Perceptions Questionnaire,[6] was uniformly positive, expressing high satisfaction with the programme, the feeling of safety in the group setting and acknowledging the qualities of care, competence, and availability of the staff.

## Conclusions

In general, the results demonstrated a small but positive treatment effect which was sustained over the six months. This is in line with other research findings, both for treatment of PTSD in general and for Seeking Safety in particular.

It is notable that in this study a number of domains did show significant change over six months, namely the scales for post-traumatic symptom severity, relation to self/others and psychosis and the scales for depression, sexual abuse trauma index, and sleep disturbance. In this sample, those who used AOD most heavily had intermittent or no attendance at the Hanmer Clinic Continuing Treatment programme or support groups such as Alcoholics Anonymous, had severe abuse as children and as adults, had reduced or minimal social support and continued to experience a significant number of stressors in daily living.

The findings underscore the challenge and necessity of addressing the unique and wide-ranging needs of women with substance use disorder who have been exposed to early and multiple interpersonal traumas.

This study reminds us that identifying PTSD and offering treatment early in the treatment process is crucial to better outcomes,[7] that treatments longer than those typically available may result in superior outcomes and that establishing trust in a treatment setting is vital[8].

Directions for future research would be a comparison between Seeking Safety and "treatment as usual" by means of a randomised control trial in a New Zealand setting; exploring the interaction of PTSD and SUDS symptoms at greater depth; exploring why some participants use support groups and others do not; the course and effects of medication on the recovery process; and exploring whether the

techniques and principles of Seeking Safety are maintained over a longer term than six months.

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# THE POST-TREATMENT SUPPORT PREFERENCES OF ALCOHOL AND OTHER DRUG TREATMENT CLIENTS

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Providing some form of post-treatment support, otherwise referred to as *aftercare*, *continuing care* or *step-down* care, is recommended best-practice for alcohol and other drug (AOD) treatment services[1]. However, few studies have examined the level of client interest in receiving post-treatment support and/or their preferred methods of post-treatment support provision. Accordingly, this paper presents findings from a survey that sought the post-treatment support preferences of outpatient AOD treatment clients.

## Methods

Data were primarily obtained via a postal survey sent to current (n=39) or recently discharged (n=124) clients of an outpatient AOD treatment service (CADS Auckland). A five stage mail-out procedure based on the 'Tailored Design Method'[2] was followed and copies of the survey and a pre-paid reply envelope were also made available at the study setting during the four week survey period (May 2007).

The postal survey presented participants with seven possible models of post-treatment support. The models were selected by the research team in consultation with AOD treatment staff and a review of available literature. The provision modalities were designed to represent a mix of options that included: ongoing invitations to re-contact the service if necessary; on-going 'catch-ups' to check on client progress; post-treatment text messages or online support; and a post-treatment drop-in centre. Participants were asked to identify which of the listed options they would like to receive including how they would like this service delivered. Finally, participants were asked to list the three options that would be of most benefit to them in order of preference.

## Results

The postal survey was successfully completed by 41% (51/124) of the discharge client group and by 49% (19/39) of the current client group. A further 13 surveys were completed anonymously by current clients attending the treatment service

during the four week survey period. Overall, a total of 83 surveys were completed. Participants overall were predominantly middle aged (average 43.7 years), of New Zealand European descent (79.3%). There were slightly more males (52.4%) than females (47.6%) and Māori (1.2%) and Pacific Island (1.2%) clients were under-represented. Participants were relatively evenly spread across the four attendance categories, of 1-5, 6-10, 11-15 and 16 or more appointments.

Eighty-four percent (70/83) of participants expressed interest in at least one of the specified post-treatment support options. The remaining 16% (13/83) indicated that they would not like to "receive or use any of the listed options" and a further five participants did not answer the relevant question. Chi-square analysis indicated no difference in the frequency with which either current (84%) or discharged (83%) clients expressed interest in receiving or using one or more post-treatment support options ($x^2 = .004$, df = 1, p = .950).

Table 1 shows the seven post-treatment options according to stated preference. Final rankings were determined by a points-based system in which each option was awarded three points when identified as the first preference, two points for the second and a single point for the third preference. The results indicate that personal catch-up ranked most preferred support option, ongoing-information and self-help advice came second and the support group option third, with the least popular option being a service reminder. Furthermore, participants revealed they would prefer the personal catch-up to be made by telephone (as opposed to text-message or e-mail), the ongoing information/self help advice to be sent by post (as opposed to text-message, e-mail, or automated telephone message) and the support group to be clinician-led (as opposed to peer-led or online).

Table 1: Ranking of Post-discharge Support Options Based on Stated Participant Preferences

| Support Option | Sub-Sample | | | | Overall | |
|---|---|---|---|---|---|---|
| | Current (n = 25) | | Discharge (n = 40) | | (n = 65)* | |
| | Rank | Score | Rank | Score | Rank | Score |
| 1. Service Reminder | 3= | 19 | 7 | 13 | 7 | 32 |
| 2. Ongoing Information/Self-Help Advice | 2 | 28 | 2 | 37 | 2 | 62 |
| 3. Personal Catch-Up | 1 | 41 | 1 | 61 | 1 | 102 |
| 4. Support Group | 3= | 19 | 3 | 34 | 3 | 53 |
| 5. Telephone Hotline | 7 | 8 | 5 | 30 | 6 | 38 |
| 6. Interactive Text Message/Online Support | 6 | 13 | 4 | 29 | 5 | 42 |
| 7. Drop-In Service | 5 | 16 | 6 | 28 | 4 | 44 |

## Discussion/Conclusions

In conclusion, these results indicate a high level of client interest in post-treatment support and suggest that the pro-active approaches that require the service to maintain contact with the client were favoured by survey participants. A telephone-based 'personal catch-up' was the most preferred post-discharge support option. The postal-based 'service reminder' and 'ongoing information' options were also

highly rated preferences, suggesting clients may be more interested in proactive follow-up support as opposed to the more passive alternatives which require the client to initiate contact at times of need.

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# SUBSTANCE USE AND SUBSTANCE USE RELATED BEHAVIOUR IN A SAMPLE OF NZ SECONDARY SCHOOL CHILDREN - THE PRACTICABILITY OF USING THE SUBSTANCES AND CHOICES SCALE (SACS) IN COMMUNITY AND CLINICAL RESEARCH

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Alcohol and other drug (AOD) problems are a significant health issue for young people in New Zealand. Increasing the use of effective AOD screening and outcome measurement instruments can raise awareness of substance use problems, increase the focus on AOD interventions and promote research in both community and treatment settings. The Substances and Choices Scale (SACS) is a new AOD instrument that has been developed and tested in New Zealand and is free to access via the internet (see www.sacsinfo.com). It has very good validity, reliability and is highly acceptable for both clients and clinicians[1]. Although designed primarily as a clinical tool, it will also have utility in comorbidity and outcome research. The practicability of using the SACS for research purposes is examined in this paper.

## Methods

In the study testing the SACS[1] young people completed the SACS in conjunction with other validated AOD and mental health instruments. Using this data we described the frequency of substance use and substance use related behaviours in a population of 531 males and females aged 13 – 18 years old from three secondary schools in Auckland, New Zealand. We compared the results from this community sample to the study clinical sample and data from other recent New Zealand research in secondary school children.

## Results

Our sample had an equal sex distribution across each age group and represented a wide range of ethnicities. Forty five percent of participants reported drinking alcohol and 11% had smoked cannabis on at least one occasion in the last month. Six percent had smoked tobacco most days or more in the last month. Use of other

drugs was negligible. Ten percent reported driving intoxicated or being a passenger in the car of an intoxicated driver and 5% reported having unsafe sex or an unwanted sexual experience while intoxicated in the last month. In general, our results demonstrated a lower frequency of substance use and harmful behaviour than a comparative recent study[2], however differences in sample characteristics and data collection meant that direct comparisons were difficult to make.

## Discussion

Although the SACS instrument is designed primarily as a clinical tool for screening (identification) and outcome measurement (monitoring change), its acceptability, validity and reliability is excellent, comparable and in most cases better than longer established research instruments. The SACS differs from most instruments in that although it records frequency of occasions of use of different substances, it then asks about problems related to substance use in general. This is arguably a strength, as adolescent substance abusers are generally polysubstance abusers and asking them to differentiate harmful behaviour substance by substance is often inaccurate. The SACS identifies problems occurring in the last month as recall over this time period is more reliable and is also useful clinically, as young peoples use tends to fluctuate more than adults. The SACS is not useful as a way to screen for lifetime use or past use over a longer period of time, but when doing clinical research and looking at response to treatment and other outcomes, this is an advantage. The SACS identifies more significant problematic use – there is a wide range of scores within clinical participants compared to the community participants – but it performs less well at describing differences in those with less severe problems which includes most of the community population. The SACS cannot be used as a diagnostic instrument; however, it does perform well at classifying addiction problems on a continuum of severity and the evidence, especially in community populations, suggests that this is a better way to quantify substance misuse problems in young people than the DSM concepts of abuse and dependence[3].

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# ADVANCED PRACTICE NURSING ROLES: HOW CAN THEY ADD VALUE FOR CLIENTS WITH ADDICTION AND MENTAL HEALTH PROBLEMS?

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The 2004 New Zealand Mental Health Household Survey (Te Rau Hinengaro) found that amongst the general population 40% of individuals who met criteria for any substance use disorder also met criteria for an anxiety disorder and 29% met criteria for a mood disorder. Experiencing multiple disorders was associated with a major impairment in role functioning and the combination of chronic physical and mental health conditions (including substance use disorders) was more disabling than either alone.[1]

Amongst representative samples of 105 adults presenting to outpatient DHB Community Alcohol and Drug Services in Christchurch and Hamilton, 40% met criteria for more than one substance use diagnosis with the most common dependence diagnoses being nicotine, alcohol, cannabis, amphetamine, opioid and sedative. Furthermore, 74% had a current non-substance use or gambling disorder, most commonly an anxiety (65%) or mood (53%) disorder. At admission, less than one quarter of the participants were in full or part time employment and more than one quarter did not have a high school qualification. Previous contact with mental health services was high. Over half (56%) had attended an outpatient service, 18% had been an inpatient and 33% were currently prescribed medications, mainly antidepressants.[2]

The profile of a representative sample of 107 Christchurch clients (35 Māori, 72 non-Māori) receiving methadone treatment, of whom 90% had received treatment for more than one year (median 3 years; range one month-18 years), showed that 86% received a government benefit, 44% percent rated their health as poor or fair, a third were taking medications for a mental health problem and a third for a physical health problem[3]. These findings highlighted the impact of opioid dependence compounded by general health related risk factors and co-existing substance use, mental and physical health issues for this client group. Of particular note was that in addition to reducing drug use, over 70% of participants specified treatment goals related to wellbeing, including family and children, at entry to treatment. As one woman participant said …*"I wanted my life and my health back"*.

Amongst addiction treatment service clients, therefore, co-existing disorders are "the norm". In order to meet the needs of such clients, a holistic focus on wellness is

required that incorporates promotion of behaviour and lifestyle change and supports individuals within their social and cultural context to participate in family and community life. Furthermore, to provide an effective treatment response for clients with the most complex addiction related needs, spanning mental, physical and social issues as well as clinical leadership, advanced practitioners, including advanced practice nurses, are required.

Advanced Nursing Practice and Roles

Advanced nursing practice is an umbrella term that refers to certain characteristics of nursing practice and can occur in any setting.[4] The scope of advanced clinical practice is distinguished by autonomy to practice at the edges of the expanding boundaries of nursing. This involves using self-initiated treatment regimes and may include activities that have traditionally been outside the scope of nursing (expanded or extended scope)[5] such as advanced assessment, provision of certain psychotherapies and prescribing medications or other treatments.

However, while advanced practice can occur in any setting, it is not defined by the practice setting and being an *expert by experience* in a specialty setting such as mental health and addiction is not, on its own, sufficient to meet the criteria for advanced *clinical* practice. Such practice is defined by characteristics of practice that reflect depth and breadth of nursing knowledge and skills gained both through *experience* and clinically focused *postgraduate education*. It is the combination of experience and education that enables advanced practice nurses to work with clients with complex treatment needs and to provide clinical leadership.

An advanced practice nurse demonstrates effective clinical leadership and coalition building, individualises care and uses multiple interventions to influence clients' health status and quality of life, co-ordinates care, mobilises client and other resources and works collaboratively across multiple systems. The characteristics of advanced practice include:

- Integration of relevant research-based theory and expert nursing in a clinical practice area such as addiction;
- Depth and breadth of knowledge and formal education at postgraduate level;
- Highly developed assessment, clinical decision-making skills and judgments;
- High level of expertise in the range of interventions related to the area of practice;
- Creativity and flexibility in clinical practice;
- Substantial autonomy and independence with a high level of accountability.

In New Zealand the only gazetted advanced practice role is nurse practitioner.[6] Consequently, within the broad spectrum of advanced practice roles there are a number of position titles which indicate the primary objective of the position.[7] These include clinical nurse specialist/equivalent titles, nurse clinician, clinical nurse manager, charge nurse manager, nurse consultant, Māori nurse consultant and nurse practitioner.

Matua Raki Advanced Nursing Project

The aim of the Matua Raki Advanced Nursing Project[8] was to develop guidelines for advanced practice nursing roles, including nurse practitioner, in the addiction treatment sector. More specifically, to have a positive influence on nurses' role satisfaction and recruitment and retention; to increase the profile of the role of nursing; to support and promote networks for advanced practice nurses, including nurses on the nurse practitioner pathway, and; promote linkages between postgraduate nursing and inter-disciplinary education providers as well as between professional nursing bodies.

*First Phase*

A necessary first phase has been to gain an understanding of the current situation. A national nursing reference group was established to undertake a survey to identify gaps in service provision and unmet client needs and the current status of advanced practice roles and their potential contribution to improving treatment access, responsiveness and client outcomes. Reference group members sought input from a variety of sources, both internal and external to dedicated addiction treatment services.

Taking into account regional variations, in general survey responses indicated issues related to treatment accessibility, availability and co-ordination as well as integration at an individual client level. Contributing factors that were highlighted in responses included the impact of the stigma associated with addiction and people with addiction related problems and workforce capacity and capability. These included limited addiction related expertise amongst broader mental health workers and primary care workers and, conversely, limited mental health expertise within some addiction treatment services and limited numbers of Māori and Pacific nurses as well as more general recruitment issues.

In regard to the current status of advanced practice nursing roles the following issues were highlighted:

- Variable understanding about advanced practice roles and recognition of role potential;
- Lack of role clarity and criteria for appointing nurses to advanced practice roles;
- Lack of clear professional development pathways and supportive networks;
- Few designated advanced practice roles such as clinical nurse specialist or nurse consultant across the addiction treatment sector;
- Such designated roles were not generally available within the NGO sector and within District Health Board provider arm services these roles were frequently *profession/administration* focussed rather than *client* focussed;
- Recruitment issues resulting in nurses without advanced practice competencies being appointed to advanced practice roles;
- Inflexibility to change models of care and ways of working;
- Variable understanding of addiction treatment and status of addiction treatment services within the broader mental health sector.

Suggestions as to how advanced practice roles could add value and contribute to improving access and treatment responsiveness and outcomes for people with addiction related problems included:

- Nurses with advanced clinical and psychosocial intervention skills working in a range of settings and across sectors with clients with complex needs, including primary care and NGOs;
- Providing consultation services and nurse-led clinics;
- Prescribing;
- Increasing the focus on health promotion, physical health and wellbeing;
- Increasing family and whanau focussed practice;
- Increasing input to undergraduate and postgraduate nursing programmes;
- Input to policy development and reshaping services.

## The Way Forward

In light of the need to provide accessible and effective treatment responses to people with diverse and complex addiction related treatment needs and workforce issues in regard to capacity and capability and clinical leadership, a strategy for advanced practice nursing in the addiction treatment sector is required. Challenges that need to be addressed in such a strategy include multiple stakeholders, organisational readiness and an infrastructure to support the systematic embedding into practice of advanced practice nursing roles, including nurse practitioner.

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# HERDING CATS: ENGAGING WITH A MOBILE AND DIVERSE AOD WORKFORCE ABOUT FAMILY INCLUSIVE PRACTICE

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The Kina Trust views addiction as a family and community issue and aims to promote Family Inclusive Practice (FIP) through a number of mechanisms. These are: advocacy at policy and practitioner levels, programme and service development, accessing and distributing resources and, lastly, providing training and supervision to the workforce. This paper addresses a programme of training for FIP developed and run by Kina Trust.

## Aim

To conduct a review of introductory FIP workshops to inform the Kina training strategy.

This involved three key questions:

- What are the key workforce issues for FIP?
- What do we know about the workforce and FIP?
- What are the best mechanisms for FIP development in the workforce?

## Methods

Training in FIP was run in 12 sessions over nine months with data collected from 150 participants. Participants were drawn principally from Alcohol and Other Drug (AOD) treatment teams in five District Heath Boards in New Zealand and three other government and non-government organisations.

## Results

Table 1 shows that Family Inclusive Practice was considered to be very relevant to the current work of most participants (62%) with only 1% considering that there was little relevance.

Table 1: FIP Relevance to Current Work

| Relevance to other work | | N=141 | % |
|---|---|---|---|
| 1 | Not relevant | 2 | 1 |
| 2 | | 2 | 1 |
| 3 | | 17 | 12 |
| 4 | | 33 | 23 |
| 5 | Extremely relevant | 87 | 62 |

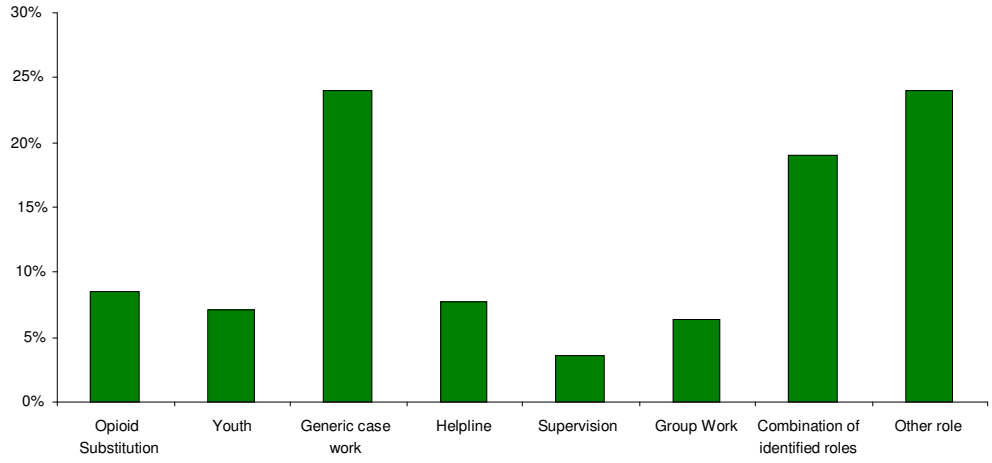
The majority of course participants had no training in FIP (74%) the remainder having had specific family therapy training (12%) or undergraduate or postgraduate training (8%). Participants reported their skill levels in FIP as shown in Table 2.

Table 2: FIP Skill Levels of Participants

| Skill Level | n=141 | % |
|---|---|---|
| 1 Nil | 11 | 8 |
| 2 | 21 | 15 |
| 3 | 71 | 20 |
| 4 | 30 | 21 |
| 5 Highly developed | 8 | 6 |

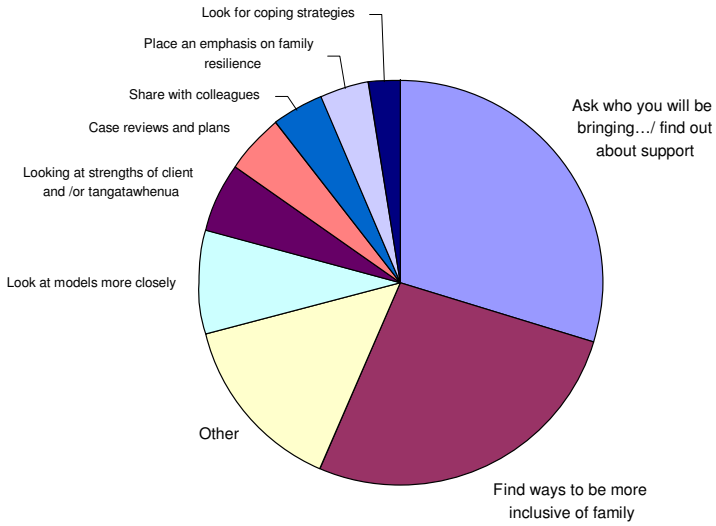
The initial training workshops run by Kina Trust were aimed at those most involved in AOD services, although it also attracted a small number of participants from general counselling services. Participants identified with various aspects of this work from supervision to generic case work (see Figure 1). One of the courses was run specifically for Alcohol and Other Drug Helpline personnel, reflecting another aspect of FIP not usually seen in DHB services. The experience of course trainees in services ranged from less than three years (26%) to more than 10 years (21%).

Figure 1: Key Work Roles Identified by Training Participants




The immediate results that the participants perceived the training would have on their practice are shown in Figure 2. The participants noted a number of changes that they would be making to their practice, with the main one being that they will ask clients questions such as "Who will you be bringing to your appointment?" in order to convey an expectation of family involvement (see Figure 2). Other changes included sharing information on families with colleagues in case reviews and plans as well as establishing a more family friendly environment.

Figure 2: Immediate Results of Training




## Further Training

When asked "What other training would be useful?", participants gave a wide variety of responses, the most common being more specific FIP training (36%). The majority of other responses were about specific tasks such as resilience training (8%), group therapy (5%) and effective questioning (7%).

## Facilitation

All of the training courses were delivered by one of the authors (Gledhill) which ensured consistency in delivery. When asked to comment on the facilitation of the training the responses (shown in Table 3) were positive, with no negative comments. A number of the extra comments also remarked on the facilitation as being "very beneficial… good motivator, knowledgeable."

Table 3: Facilitation of the Training

| Rating of course facilitation | % |
|---|---|
| Excellent | 15 |
| Great, very good, good | 30 |
| Worked well/well done | 20 |
| Enjoyed | 12 |
| Clear and warm/comfortable | 4 |

## Conclusions

The results and additional comments made by training participants indicate the following key considerations for Family Inclusive Practice training:

- There is a clearly identified need for this training in the AOD workforce.
- Participants have responded positively to these training opportunities with indications of practice change. In particular, an inclusive message of "who will you be bringing" was widely accepted.

- Future training should provide specific skills based training, both in models and tools. Some key topics were identified for further expansion such as resilience approaches based on the FIP guide.
- For the FIP training to be most effective it is important to address FIP issues on a range of levels such as basic training, supervision and follow-up sessions as well as addressing practitioners' attitudes and personal development issues.
- Given the complexities of FIP a key factor to training success is the quality of workshop facilitation.
- It would be useful to follow-up the participants in the training courses to find whether FIP has been initiated and is still in use. This would allow a better understanding of the best mechanisms for FIP development.
- It is yet to be fully understood the role leadership will play in FIP development through setting benchmarks, creating priorities and following through with initiatives.

# MAD OR BAD? THE ROLE OF STAFF ATTRIBUTIONS IN DUAL DIAGNOSIS

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The present study focused on clinician attitudinal barriers to care for dually diagnosed clients. It was developed in response to an Aotearoa NZ survey by Todd, Sellman, and Robertson[1] which discovered systemic, clinical, and attitudinal barriers to care for clients presenting with dual mental illness and substance use disorders. The current study used a questionnaire developed from Weiner's[2] theory of social conduct to compare mental health clinicians' attributions towards vignettes depicting clients with a) mental illness (MI), b) dual diagnosis (DD), and c) substance use disorder (SUD). Weiner's[2] theory of social conduct is a three stage cognitive affective attribution model. This theory suggests that when people are trying to understand people's experiences they make what is termed attributions – judgements – about the causes of these experiences. Weiner's research has shown that when attributions are made about physical and mental health conditions, attributions about how responsible an individual is for the condition, and how controllable the condition is, vary according to the conditions being judged. Weiner's theory then goes on to suggest that these attributions mediate emotional responses along an anger/sympathy continuum; suggesting that the more a person is judged as responsible for a negative condition and potentially able to control it, the more anger and less sympathy others tend to feel towards that person and their condition. The final stage of Weiner's theory suggests that these emotional reactions then impact on motivation to help the individual with the condition and on the allocation of helping resources.

## Method

Weiner's 'Help to the Stigmatised' questionnaire[2] was adapted for use in the current study. Three vignettes were presented to 29 mental health clinicians in a within groups design. Participants were asked to make attributions of responsibility and controllability, stability and treatment efficacy; to rate affective reactions of anger and sympathy; and to allocate 30 hours of clinical time amongst the three vignettes. Finally, participants were asked to allocate a single available appointment. Results were statistically analysed to look at both between condition (i.e. comparing attributional responses between each of the vignettes) and within condition responses (i.e. looking at how the different attributions impacted on other attributions made about the same vignette). A Likert scale was used to measure attributions, with 1 being "not at all" through to 7 being "entirely" or "very" or "a lot". SPSS was used to conduct one-way, repeated measures within groups ANOVAs to make pair wise comparisons of all possible pairs of means, as well as use of the Bonferroni multiple comparison test, and Friedman tests where non-parametric testing was necessary.

Findings

*Comparison of Results Between Vignettes*

Statistical analysis indicated that attributions made towards the dual diagnosis and the substance use disorder vignettes tended to be more negative than those towards the mental illness vignette.

Table 1: Descriptive Statistics for Comparison of Responses Between Vignettes

| | | Mental Illness | | Dual Diagnosis | | Substance Use | |
|---|---|---|---|---|---|---|---|
| | N=( ) | Mean | SD | Mean | SD | Mean | SD |
| Responsibility | (29) | 2.3 | (1.4) | 3.6 | (1.5) | 4.6 | (1.1) |
| Controllability | (28) | 3.1 | (1.6) | 3.5 | (1.4) | 4.5 | (1.3) |
| Stability | (29) | 2.7 | (1.3) | 2.8 | (1.4) | 3.2 | (1.3) |
| Treatment Eff | (28) | 5.5 | (1.0) | 4.4 | (1.3) | 3.4 | (1.5) |
| Anger/ annoy | (29) | 1.1 | (0.3) | 1.8 | (1.0) | 1.9 | (1.3) |
| Sympathy | (29) | 5.3 | (1.3) | 4.6 | (1.6) | 4.2 | (1.5) |
| Hrs Allocated | (25) | 11.9 | (4.0) | 10.1 | (2.0) | 8.0 | (4.0) |

Table 2: Analysis of Variance for Comparison of Responses Between Vignettes

| | MI & DD | | MI & SUD | | DD & SUD | |
|---|---|---|---|---|---|---|
| | mean diff | p | mean diff | p | mean diff | p |
| Responsibility[1] | -1.2 | 0.000 | -2.3 | 0.000 | -1.1 | 0.001 |
| Controllability[2] | -0.4 | 0.652 | -1.4 | 0.000 | -1.0 | 0.002 |
| Stability[3] | -0.03 | 1.0 | -0.5 | 0.050 | -0.4 | 0.015 |
| Treatment efficacy[4] | 1.1 | 0.000 | 2.0 | 0.000 | 0.9 | 0.000 |
| Anger / annoyance[5] | -0.7 | 0.000 | -0.8 | 0.001 | -0.1 | 1.00 |
| Sympathy[6] | 0.7 | 0.001 | 1.1 | 0.001 | 0.4 | 0.169 |
| Hours allocated[7] | 1.8 | 0.231 | 3.8 | 0.059 | 2.0 | 0.135 |

1 (Nonparametric)
2 (Wilks' Lamba =.516 F(2,26) = 12.182, p< 0.000, partial Eta squared = .484)
3 (Wilks' Lamba =.717 F (2, 27) = 5.320, p< 0.011, partial Eta squared = .2833).
4 (Wilks' Lamba =.297 F(2,26) = 30.810, p< 0.000, partial Eta squared = .703).
5 (Nonparametric)
6 (Wilks' Lamba =.582 F (2, 27) = 9.679, p< 0.001, partial Eta squared = .418).
7 (Wilks' Lamba =.792 F (2, 23) = 3.024, p< 0.068, partial Eta squared = .208).

Tables 1 and 2 show that there were statistically significant increasing levels of responsibility attributed to the dual diagnosis and the substance use disorder vignettes compared to the mental illness alone vignette. There were also statistically significant increases in attributions of controllability across the three groups; decreases in optimism about treatment efficacy; increases in anger and decreases in sympathy. No statistically significant difference was found in the allocation of hours and the only difference in attributions of stability was between the dual diagnosis and substance use disorder vignette.

Comparison of Results Within Vignettes – Testing Weiner's[2] Three Stage Model

*Dual Diagnosis Vignette*

Clinicians attributed more responsibility towards the dual diagnosis client than the mental health disorder only client. The attribution of responsibility was associated with increased anger towards the dual diagnosis client and was also associated with the number of hours allocated to the dual diagnosis vignette. There was less optimism about treatment efficacy for a dual diagnosis client and optimism about treatment efficacy was associated with decreased sympathy towards this vignette.

*Mental Health Disorder Only Vignette*

As responsibility and controllability judgements increased sympathy and optimism judgements decreased. As responsibility increased, stability increased and as judgements of stability increased anger increased.

*Substance Use Disorder Vignette*

Judgment of treatment efficacy was the variable that was most correlated with other variables within the substance abuse disorder vignette. No correlations supportive of the Weiner[2] (1995) model were found for the substance abuse disorder vignette.

## Discussion

The responses to two of the three vignettes supported the attributional affective stage of Weiner's theory[2], whereby judgements about controllability and responsibility impacted on the emotional responses clinicians had. None of the responses supported the affective – help giving stage of Weiner's theory[2], however this may have been due to methodological issues (including sample size).

Looking at the way participants responded to the vignettes, it seems that substance using clients are viewed differently to non-substance using clients and that clinician beliefs about substance use may impact on their emotional responses to clients. Clinicians in this study felt lowered treatment optimism about working with dual diagnosis and substance abuse vignettes, which appeared congruent with reported low levels of clinician training and experience with clients with substance use disorders.

Eighty-three percent of participants in this study allocated a hypothesised single available appointment to the mental health disorder vignette, despite evidence based practice suggesting that the dual diagnosis client would present the highest risk. There were limitations in the way this question was asked, however even with these limitations, these findings suggest that clinicians' risk assessment of, and response to, dual diagnosis clients requires further study.

## Conclusions

Despite some methodological limitations the present study found some important and interesting differences in the way that participants responded to mental health disorder, dual diagnosis and substance abuse disorder vignettes. These findings support the suggestion that mental health clinicians require more professional supervision, support and training in working with dual diagnosis clients.

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# THE IMPORTANCE OF REPORTING PACIFIC ETHNIC-SPECIFIC MEASURES RATHER THAN PAN-PACIFIC MEASURES OF ALCOHOL AND DRUG CONSUMPTION AND GAMBLING PARTICIPATION IN NEW ZEALAND

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The aim of this research is to demonstrate that the reporting of aggregate Pan-Pacific level measures, as opposed to ethnic-specific level measures of prevalence and harms associated with alcohol use, tobacco consumption, other drug use and gambling, conceals important differences that are revealed only by measures at the ethnic-specific level.

## Methods

Between November 2002 and July 2003 the Pacific Alcohol and Drugs Consumption Survey (PDACS)[1] collected data from a random sample of 1103 Pacific people aged 13 to 65 years old, resident in households throughout Aotearoa New Zealand, about their patterns of alcohol, tobacco, kava, marijuana and other drugs use, as well as gambling and related harms. The survey used computer assisted telephone interviewing and computer assisted cell-phone interviewing. The survey had a composite response rate of around 66%.

A statistical comparison between aggregate Pan-Pacific level and ethnic-specific level (Samoan, Cook Island, Tongan and Niuean) measures of the prevalence and consumption of alcohol, tobacco, marijuana and gambling and its related harms was done. Measures were compared within gender and significance testing was done at the 5% level.

## Results

Table 1 displays alcohol consumption (the prevalence of drinking, the frequency of drinking and the quantity consumed on a typical occasion) at the aggregate Pan-Pacific level and at the ethnic-specific level. The measure of a drink used in quantifying typical occasion amount is larger (15ml or 12gm of pure ethanol) than a 'standard' drink (12.5ml or 10mg of pure ethanol) and is roughly equivalent to a 330ml bottle of 4.5% alcohol per volume beverage. We have used this measure so that a reader can associate a 'typical' bottle or can of beer or ready-to-drink spirits or a 125ml glass of wine as one drink rather than 1.3 or 1.6 'standard' drinks. The table

shows that 61% of Pan-Pacific men and 57% of Pan-Pacific women were last year drinkers and on a typical occasion Pan-Pacific men consumed ten drinks and Pan-Pacific women consumed six drinks. However, ethnic-specific level measures reveal that Cook Island Māori (66%) and Niuean women (67%) were more likely to be last year drinkers, Tongan women (29%) were less likely to be last year drinkers than the Pan-Pacific measure suggests and Samoan women (five drinks) consumed less on a typical occasion than the Pan-Pacific measure suggests.

Table 1: Alcohol Consumption

| | Pan-Pacific | | Samoan | | Cook Island Māori | | Tongan | | Niuean | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample size (n) | 511 | 592 | 157 | 181 | 93 | 135 | 103 | 129 | 92 | 115 |
| Gender | M | F | M | F | M | F | M | F | M | F |
| Drinkers (%) | 61 | 57 | 67 | 48 | 67 | 66* | 56 | 29* | 64 | 67* |
| Times per week | 3 | 2 | 4 | 2 | 2 | 2 | 4 | 3 | 3 | 2 |
| Number of drinks[a] | 10 | 6 | 8 | 5* | 9 | 9 | 9 | 8 | 11 | 5 |

* $p<0.05$

[a] Alcohol amount quantified as a drink is 15ml or 12gm of pure ethanol which is larger than that for a New Zealand 'standard' drink (which is 12.5ml or 10gm of pure ethanol).

Table 2 displays tobacco consumption at the aggregate Pan-Pacific level and at the ethnic-specific level. The table shows that 41% of Pan-Pacific men and 33% of Pan-Pacific women were last year smokers and 67% of Pan-Pacific men who did smoke consumed fewer than ten cigarettes per day and 17% of Pan-Pacific women consumed fewer than ten cigarettes per day. However, ethnic-specific level measures revealed Cook Island Maori women (44%) were more likely to smoke than the Pan-Pacific figure suggests, Tongan women (24%) were less likely to smoke than the Pan-Pacific figure suggests and more Niuean men (75%) consumed fewer than ten cigarettes per day than the Pan-Pacific figure suggests.

Table 2: Tobacco Consumption

| | Pan-Pacific | | Samoan | | Cook Island Māori | | Tongan | | Niuean | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gender | M | F | M | F | M | F | M | F | M | F |
| Last year smokers (%) | 41 | 33 | 44 | 29 | 32 | 44* | 39 | 24* | 42 | 34 |
| Smoked fewer than ten cigarettes per day, last year smokers (%) | 67 | 17 | 64 | 15 | 67 | 23 | 69 | 19 | 75* | 12 |

* $p<0.05$

Table 3 displays marijuana consumption at the aggregate Pan-Pacific level and at the ethnic-specific level. The table shows that 21% of Pan-Pacific men and 13% of Pan-Pacific women were last year smokers of marijuana. However, ethnic-specific level measures revealed Tongan women (8%) were less likely to have smoked marijuana in the past year and Cook Island Māori women (19%) were more likely to have smoked marijuana in the past year than the Pan-Pacific figure suggests.

Table 3: Marijuana Consumption

| | Pan-Pacific | | Samoan | | Cook Island Māori | | Tongan | | Niuean | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gender | M | F | M | F | M | F | M | F | M | F |
| Last year smokers (%) | 21 | 13 | 21 | 9 | 24 | 19* | 23 | 8* | 20 | 16 |

* p<0.05

Table 4 displays gambling prevalence and a reported harm at the aggregate Pan-Pacific level and at the ethnic-specific level. The table shows that 39% of Pan-Pacific men and 38% of Pan-Pacific women had ever gambled and 11% of Pan-Pacific men and 15% of Pan-Pacific women had reported feeling worried or sad after gambling in the last year. However, ethnic-specific level measures revealed Tongan men (23%) and Tongan women (27%) were less likely to have gambled than the Pan-Pacific figure suggests. Tongan men (6%) and Cook Island Māori men (6%) were less likely to feel worried or sad after gambling than the Pan-Pacific figure suggests. Samoan men (17%) were more likely to feel worried or sad after gambling than the Pan-Pacific figure suggests.

Table 4: Gambling Consumption

| | Pan-Pacific | | Samoan | | Cook Island Māori | | Tongan | | Niuean | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gender | M | F | M | F | M | F | M | F | M | F |
| Ever gambled (%) | 39 | 38 | 41 | 37 | 44 | 39 | 23* | 27* | 42 | 41 |
| Felt worried or sad after gambling (%) | 11 | 15 | 17* | 15 | 6* | 19 | 6* | 9 | 16 | 13 |

* p<0.05

## Conclusions

The reporting of Pan-Pacific level measures of prevalence and consumption of alcohol, tobacco, marijuana and gambling and its related harms results in the concealment of ethnic-specific level differences. As the results of such studies can form evidence on which policy is based it is important that future research involving Pacific people in the area of alcohol, drugs and gambling should report ethnic-specific level measures of prevalence and consumption and their associated harms instead of measures of prevalence and consumption at the aggregate Pan-Pacific level.

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# MONITORING OF QT INTERVAL: HOW IMPORTANT IS THE METHADONE DOSE?

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Methadone is a prominent drug in addiction medicine, being effectively used in opioid substitution therapy[1-3] and in chronic pain management. Recently, however, it has been linked with arrhythmia and sudden cardiac deaths during methadone treatment[1,4-6] thought to be mediated through prolongation of the QT interval. Studies have now shown that methadone causes lengthening of the QT interval and the associated ventricular arrhythmia, torsade de pointes (TdP).[2,7-11]

Of particular importance in the New Zealand setting are recommendations from the NZ government medicines safety authority, Medsafe, in late 2005.[4] The most significant recommendation was that all patients with a methadone dose greater than 150 milligrams (mg) should have ECG monitoring.

There are many other factors that can contribute to lengthening of the QT interval. [3,14,15] It is likely that an interplay of various factors results in prolonged QT intervals and the clinical presentations of arrhythmia and sudden death.

Given this current level of understanding, there is uncertainty about the appropriateness of Medsafe's 'threshold' value of 150mg for ECG monitoring. Some practices have introduced ECG monitoring at lower doses.[16]

Contributing to uncertainty, staffs are faced with situations where the clinical reality at times appears contradictory to the evidence. There are anecdotal tales of patients who have had their methadone dose reduced only for the QT interval to increase, or vice versa, without any other obvious explanation.[17,18] There are also anecdotal accounts of sudden death when a previous ECG was normal, as well as patients with known prolonged QT intervals living without incident while taking methadone. Many staff members have had clients on high doses for long periods without any cardiological problems. There is further doubt about the precision of QT interval measurement. Staffs face difficulties when dealing with patients with prolonged QT intervals. Some patients are strongly opposed to any decrease of their methadone dose, leaving clinicians with an ethical dilemma. Staff is unable to accurately provide a risk-benefit analysis, as the risks and benefits in such a situation are not currently clear. Some clients have been resistant to having ECG recordings performed, as they

correctly perceive that it could lead to a recommendation for reduction of their methadone dose.

This study was undertaken to further assess this relationship, as well as to investigate practical issues with ECG monitoring in a local methadone maintenance treatment (MMT) service.

## Methods

Interviews and questionnaires were conducted with key stakeholders. Three staff members were interviewed and 12 questionnaires were collated. ECG analysis and data collection was performed retrospectively, interpreting 71 ECG printouts from 60 clients. Detailed analysis of corrected QT (QTc), methadone dose and other factors was carried out on 39 ECGs from 31 clients on prescribed methadone, with doses of 40mg – 360mg and QTc ranging from 360ms – 520ms.

Thirty-two ECGs undertaken before starting treatment were also available for analysis and comparison with ECGs done during treatment.

## Findings

### *Quantitative Audit Results*

Records were viewed for 382 of the 387 clients on the Wellington Opioid Treatment Service. Of the 382 clients, 71 ECG printouts were analysed. Sixty-three individuals were identified as having had ECGs (63/382, 16.5% of client population). ECG printouts were located for 60 clients (60/382, 15.7%).

### *Before and During Methadone Comparison*

7.6% of clients (29/382) had had baseline ECGs before starting prescribed methadone (32 baseline ECGs in total)[1], and 8.1% of all current clients (31/382) had had ECG recordings taken while already on prescribed methadone (39 ECGs taken on prescribed methadone in total). No client in this audit had both a baseline ECG and one while on prescribed methadone. 55.2% (16/29) of clients with a baseline ECG are known to have been illicit methadone opiate users before starting methadone treatment. Despite all these caveats the ECG comparison of QTc before and during methadone treatment showed a significantly longer mean QTc for those on prescribed methadone ($p=0.0057$).

### *Abnormal ECG Group*

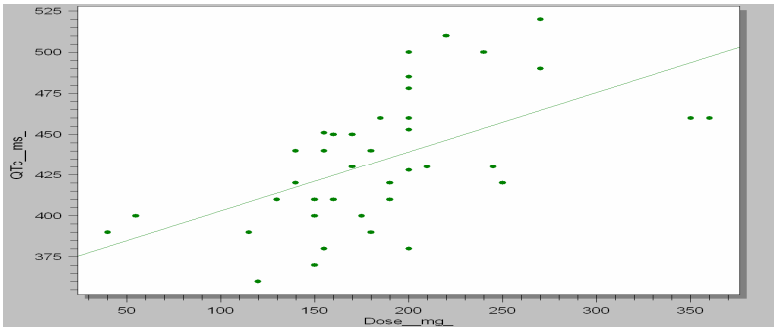
Of the 60 clients for whom ECG printouts were available (71 printouts in total), 11.7% (7/60) had a prolonged QT interval on at least one ECG. Thirteen ECGs demonstrated prolonged QT intervals. QTc was consistently prolonged for only one of the four clients who had had multiple printouts. Twenty-two clients had a prescribed dose greater than 150mg at the time of an ECG and six of these (6/22, 27.3%) had a prolonged QT interval. Four ECGs (from three clients) had a QTc value of 500 milliseconds (ms) or greater, the level viewed as representing a significant risk of TdP. One client had four ECG recordings in ED before starting prescribed methadone.

*QTc Correlation with Dose*

The 39 ECGs taken during prescribed methadone treatment covered a dose range of 40 - 360 milligrams (mg), median 180mg, mean 185.4mg. In this group the range of QTc was 360 - 520ms, median of 430ms, mean 434.0ms. For the 11 ECGs with prolonged QTc while on prescribed methadone, the dose range was 155 - 360mg, median 220mg, mean 242.3mg.

A moderately dose-dependent relationship between QTc and methadone dose was found on linear regression analysis. Figure 1 shows this correlation for all available ECGs performed with clients on prescribed methadone (this included multiple ECGs for three individual patients). The study found a significant correlation (r=0.57, p=0.0002) between QTc and methadone dose, regression coefficient 0.36 (95% CI 0.19-0.56; SE = 0.087) using an inverse t-test with 37 degrees of freedom. Extrapolating from this model, a 10mg methadone dose increase can be expected to increase QTc by 3.6ms (and a 100mg dose increase could increase QTc by 36ms).

Figure 1: Mean QTc for Methadone Dose Brackets




QTc also proved significantly different (ANOVA test for difference of means, p=0.0007) across the methadone dose ranges as described in Table 1.

Table 1: Mean QTc for Methadone Dose Brackets

| Dose bracket (mg) | Number of ECGs | Mean QTc (ms) | Std Dev |
|---|---|---|---|
| <101 | 2 | 395.0 | 7.1 |
| 101-150 | 8 | 400.0 | 26.2 |
| 151-200 | 20 | 435.8 | 33.8 |
| >200 | 9 | 468.9 | 37.6 |

Discussion

These results show a moderately dose-dependent relationship between QTc and methadone dose in this particular population (r=0.57, p=0.0002). This supports findings from several other studies. Krantz et al (2003)[11] found a significant correlation (r=0.51, p=0.03) in a series of 17 patients who developed TdP. Ehret et al (2006)[2] found a weak but significant dose-dependent relationship in hospitalised IV drug users receiving methadone treatment (r=0.20, p=<0.01). Cruciani et al (2005)[13] found no significant correlation overall, but a dose response for males on

methadone for less than 12 months (r=0.60, p=0.02). So far, other studies have shown a correlation that is not statistically significant (19, 20) and one (21) failed to show any correlation.

Krantz's study had patients with mean QTc of 615ms and mean dose 397mg11, both significantly higher than this study, while Leavitt had 12 patients on doses of 500mg or greater.[20] Cruciani (104 patients; 63 from MMT, 41 from pain management), Ehret (167 patients) and Peles (138 patients) had study populations with reasonably similar QTc and dose values to this study.[2,13,19] The Ehret study was retrospective, while Cruciani and Peles used a cross-sectional study design. Peles also investigated serum methadone levels, but showed no correlation of blood levels with QTc (19). This present study is of smaller size (39, from 31 clients), however it has shown a strongly significant result. This work appears to be the first of its kind in Australasia. Possible differences with other study populations could include genetic susceptibility or methadone-consumption behaviour.

## Conclusion

This study adds to existing evidence that methadone prolongs the QT interval in a dose-dependent fashion. It is the first New Zealand correlation study. It also highlighted practical issues and uncertainty that still surrounds ECG monitoring for clients on methadone maintenance therapy.

A dose-dependent relationship is present between QTc and methadone in this NZ population of opioid dependent people on MMT. While giving further evidence about the role of methadone, much is still unknown about QT prolongation in this context. Other factors, as well as methadone, are clearly involved, but the contribution of each to QT prolongation, arrhythmia and sudden cardiac death is uncertain. Further well designed studies are needed to bring more clarity to this important issue.

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# THE BALANCED SCORECARD: A TOOL TO IMPROVE ORGANISATIONAL AND CLINICAL PERFORMANCE

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This study evaluated the use of the Balanced Scorecard as a tool to measure performance in 'not for profit', non-government organisations. The balanced scorecard is a strategic planning and management system that is used extensively in business and industry, government and non-profit organisations worldwide to align business activities to the vision and strategy of the organisation, improve internal and external communications and monitor organisation performance against strategic goals. It was originated by Drs Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organisational performance.

The Balanced Scorecard suggests that organisational performance is measured from four perspectives:

- The financial perspective
- The learning and growth perspective
- The business process perspective
- The customer perspective

This research project focused on organisations that had a workforce of over 200 staff and delivered health or disability services.

In this descriptive study the researcher used non-standardised postal questionnaires and semi-structured interview techniques. The study investigated multiple variables of the Balanced Scorecard with the inclusion of an additional set of variables. These additional variables were chosen as they were identified in the literature as having a high relevance and impact on organisational performance measurement. These included:

- Stakeholder relevance
- Issues related to strategy
- Implementation factors
- Information technology
- Human resource issues

The study involved managers from a number of non-government organisations in New Zealand, as well as a number of senior managers and executives from government operated health and disability service providers.

After consulting with a range of government and non-government managers, the researcher identified a sample of 10 non-government organisations that provided health and disability services in New Zealand, with a workforce of over 200 FTEs. The researcher contacted either the CEO or most senior manager from each organisation and invited them to participate in a semi-structured phone interview. From the ten that were approached, eight participated. Senior executives were chosen because of their focus on organisation strategy. A semi-structured interview allowed access to the executives in a timely and cost effective manner. It also allowed the researcher to clarify issues as they arose, while keeping the responses focused.

A sample of 50 managers from both government and non-government organisations in New Zealand were also identified. They comprised a mix of senior and middle managers. From 25 questionnaires sent to managers working in non-government health and disability organisations, 18 responses were received, a 72% response rate. From 25 questionnaires sent to managers working in government owned health and disability organisations, 19 responses were received, a 76% response rate.

The manager questionnaires examined the relevance of the balanced scorecard with the additional set of variables as outlined above. However the managers' questionnaires focused on operational implementation of these variables in the organisation. A mail out questionnaire was chosen as it enabled the data to be captured in a cost effective manner, given the geographical spread of the respondents.

The findings of the study suggest the following:

- The data confirms reports in the literature that the Balanced Scorecard, which includes the financial perspective, customer perspective, internal business perspective and learning and growth perspective, is a relevant measurement tool for organisational performance in health and disability organisations, including the NGO sector.

- The predominance of data across the entire non-CEO responses suggests that managers from both government operated and non-government operated organisations perceive the Balanced Scorecard to be a relevant organisational measurement tool.

- Organisational performance measures currently captured by the majority of the non-government organisations in the study include the following:
  - Financial measures
  - Internal business processes
  - Customer satisfaction
  - Client outcomes
  - Human resource measures
  - Information technology
  - Stakeholder satisfaction.

- Specific considerations required for the application of the Balanced Scorecard within the non-government sector include the need for a strong focus on stakeholder and customer satisfaction as a priority for organisational performance.

- Successful implementation of the Balanced Scorecard requires appropriate information technology support and sufficient resources for establishing, implementing and maintaining the performance measurement system.

The presentation at the Combined APSAD and Cutting Edge Conference 2007 provided an overview of this research and an outline of the implementation of the Balanced Scorecard within a non-government organisation in New Zealand that provides alcohol, drug and gambling addiction treatment services. Application of the Balanced Scorecard in this organisation has improved clinical and organisational performance.

# PREGNANT WOMEN ON METHADONE MAINTENANCE – WHERE CULTURES CONFLICT

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Care of pregnant women crosses several distinct cultural interfaces: that of health professionals, pregnant women, opiate-dependent persons and the family of both the women and their partners. Potential misunderstanding, and even conflict, can exist at these interfaces. This study sought to explore stakeholder perspectives on the care of pregnant women also on methadone maintenance, to compare and contrast consumer and health professional provider perspectives, to conduct an audit of current practices and to make service suggestions for change where that seemed indicated.

## Methods

A multifaceted methodology was considered most appropriate and this included: an audit of records held at the Wellington methadone clinic for pregnant clients managed since 2000; a literature search; multidisciplinary methadone staff key informant interviews; a professional antenatal staff questionnaire; and client interviews (women with personal experience of methadone maintenance while pregnant).

## Findings

Eighteen women (from a caseload of 300) had a pregnancy during the audit period. Seventeen of these resulted in live births. Eleven of these women also had a pregnancy prior to the year 2000 and three of these women had been on methadone for that earlier pregnancy.

The audit of methadone clinic medical records revealed little documentation of key pregnancy-related details. Eight mentioned routine antenatal care attendance, six mentioned High Risk Antenatal Service referral but did not document attendance at that service. Six of the 17 with live birth documented a paediatric neonatal review. There was no apparent system for seeking and documenting information about maternal mental health, financial difficulties, or referral to other agencies. Work and Income, Child Youth and Family, Housing NZ, Plunket and Birthright were some of many agencies that engaged with these women.

Staff documentation showed that continuing to smoke tobacco during pregnancy is common practice for these women, despite recommendations from health providers.

It was noted that these pregnant women were fearful to try to stop smoking during pregnancy as they saw themselves at risk of other more harmful substance use, citing stress and the "lesser of two evils" arguments. Cannabis use in pregnancy was also noted via urinalysis results, although there was no documentation of cannabis smoking raised with pregnant women. Three of the women continued to use other illicit drugs and two drank alcohol during pregnancy.

Interviews with health professionals revealed that client anxiety during pregnancy was common. Anxiety existed about foetal outcome, especially related to effects of drugs and methadone on the foetus, fear of judgement by authority figures and family members (as an unfit mother) and concern about punitive reaction from referral agencies (eg benefit entitlements altered, children uplifted). These factors lead to women asking to be withdrawn off prescribed methadone during their pregnancy.

There was a low return of the antenatal staff questionnaire, which was selectively sent to ten antenatal staff known to have recently managed methadone patients, with only four replies received. Those responding indicated that staff perceived pregnant women on methadone as being difficult, time-consuming, non-compliant clients who often missed appointments.

Eight clients agreed to an interview about their experiences during pregnancy. Time constraints limited the number of interviews to five. Interviews lasted over one hour and were taped and transcribed. Prominent ideas emerging from these interviews included societal stigma and family criticism, perceived judgement as an unfit person to be a mother, general lack of support during pregnancy, sense of isolation from usual peer group and experiences of judgemental health professional attitudes.

## Conclusions

Our findings confirm previous reports that pregnancy is a period of increased mental health risk and that social support may be inadequate for these clients.[1] An Irish initiative sought to address this.[2] Recent Australian National guidelines incorporate recommended best practices for managing pregnant women on methadone[3] but NZ-specific information is limited.[4]

Addiction services should routinely include pregnancy-related details in medical documentation, since continuity of care and use of antenatal services may be less than optimum amongst these women. Despite the debate about opiate maintenance dose and foetal outcomes[5,6] women should not be encouraged to view detoxification as an option in pregnancy[7], especially if their primary motivation is disengagement. Pregnancy can instead be seen as a window of opportunity to enhance therapeutic engagement[8], to motivate a woman to make changes and for good antenatal management to help avoid crises and identify potential problems early.

There is very little published information specifically on the client expectations and experiences[9] and this project also sought to explore that aspect in the New Zealand setting. Our findings indicate that more work is needed to address the perceived adverse attitudinal approach of caring services, including health professionals. This may be merely a problem of perception due to a cultural divide between the client

and health professional. Targeted health professional education may help to overcome that problem and the other deficiencies identified in this pilot study. This recommendation has fiscal implications for addiction services.

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# FLUCTUATION IN PSYCHOMOTOR PERFORMANCE IN METHADONE MAINTENANCE PATIENTS

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Reviews generally conclude that there is no significant effect of methadone on driving-related skills. However, there are reasons for being cautious when interpreting these findings. Firstly, many studies lack statistical power to find differences between groups or use tests that lack sensitivity. Secondly, recent studies have shown clear impairment in psychomotor functioning in patients on chronic opioids[1] and a positive relationship between higher plasma morphine concentrations and poorer performance[2].

This study aimed to provide greater resolution to this question by using an experimental design that measured the relation between drug concentration and performance impairment in subjects with a high degree of opioid tolerance and who were tested repeatedly across the dosing interval. If opioids do cause impairment in those receiving long term opioids, then the magnitude of change would be expected to be greater at the time of high plasma concentration.

## Methods

Subjects were 16 methadone maintained (MMT) patients, on stable methadone doses, who had been on MMT for at least three months with no dose change greater than 15 mg during this time, and 10 drug free control subjects (age and sex matched). All subjects underwent testing under controlled conditions in an inpatient unit. Table 1 shows demographic details for all subjects.

Psychomotor function was measured using an unpredictable tracking task (Occupational Safety Performance Assessment Technology (OSPAT), Romtech, WA) that assesses hand-eye coordination, sustained attention and reaction time. The OSPAT has been used previously to demonstrate performance decrements that occur following fatigue and alcohol consumption[3]. OSPAT scores were converted to a percentage of each individual's baseline score to represent relative performance.

Table 1: Demographic Details of all Subjects

| | Maintenance patients (n=16) | Control subjects (n=10) |
|---|---|---|
| Gender (% male, n) | 44% (7) | 60 % (6) |
| Age (mean ± sd yrs) | 35.2 ±7.9 | 34.5 ±9.6 |
| Time on MMT (median, range months) | 46 (3-156) | NA |
| Education (mean ± sd yrs) (range) | 11.0 ± 1 (8-14) | 14.2 ± (12-17) * |
| Employment (% employed, n) | 50 (8) | 90 (9) |
| Methadone dose (mg per day) [range] | 78.1 ± 40.2 [30-150] | NA |
| Positive plasma morphine | 7 | NA |
| Positive plasma benzodiazepine | 6 | NA |

* Independent t-test $p<0.05$; Fischer's exact test used to compare categorical data, NS

Following completion of five OPSAT practice trials subjects completed the OPSAT immediately pre-dose and then at one, two, three, four, five, six, seven, nine, 12, and 24 hours after their methadone dose. Venous blood was sampled on 13 occasions. R-methadone was quantified by HPLC.

Findings

Figure 1a presents mean±SEM plasma methadone concentration normalized to 70 mg racemic-methadone. Figure 1b shows psychomotor performance of MMT patients and control subjects. Asterisks denote significant between group differences at specific time points (independent samples *t-test*, $p<0.05$).

For methadone patients mean relative OSPAT scores fluctuated significantly across the inter-dosing interval (Repeated Measures ANOVA, $p<0.001$). Maximum performance impairment occurred at the time of maximum plasma methadone concentration (two hours post dosing); the mean relative performance at this time was 94 % of the mean baseline performance score (see figure 1b.). Relative performance returned to baseline level by six hours post dosing. The OSPAT scores for control subjects were relatively stable across the testing session ($p>0.05$).

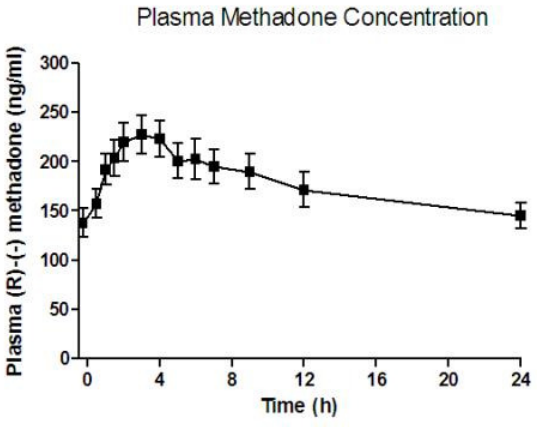


Figure 1a

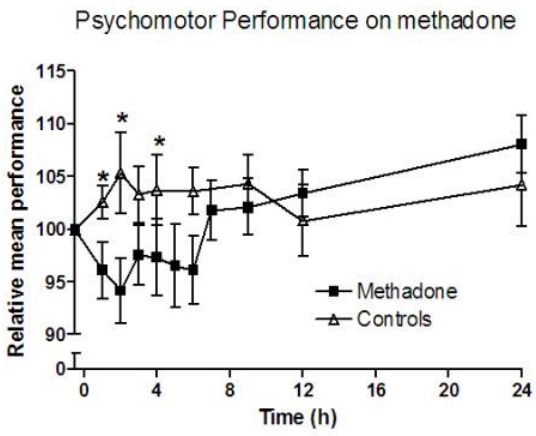


Figure 1b

Discussion/Conclusions

In a sample of stable MMT patients the greatest psychomotor impairment (94 % of baseline performance) occurred at the time of putative peak plasma methadone concentration (two hours post dosing). This magnitude of impairment, on the OSPAT, has previously been shown to be equivalent to a blood alcohol concentration (BAC) of 0.09 – 0.10 % [3.] and hence likely to be greater than that experienced by individuals who drive within the current legal limit of 0.08%. These data suggest that the ability of stabilised methadone patients to undertake tasks that require eye-hand coordination may fluctuate across the inter-dosing interval, but may be particularly impaired at the time of putative peak plasma methadone concentration corresponding to that associated with the current legal BAC of 0.08%. A possible limitation of this study is the finding that a number of patients tested positive for plasma benzodiazepines and morphine at the time of testing that may have contributed to impairment on the OSPAT. However, closer inspection of baseline raw OSPAT scores revealed little difference between MMT and control subjects, suggesting minimal influence of these medications on performance. In conclusion, stabilised MMT patients need to be made aware of the possibility of impaired performance at time of the putative peak of plasma methadone.

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# RISK AND PROTECTIVE FACTORS FOR HARMFUL CANNABIS USE

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## Introduction

This paper analyses cannabis use and associated risk and protective factors associated with harmful cannabis use from a nationally representative health and wellbeing survey of secondary school students conducted in 2001.[1]

## Methods

Youth2000 is an anonymous self-report survey of 9699 secondary school students from 114 schools throughout New Zealand. The survey aims to explore the health and wellbeing of New Zealand youth. Youth2000 was conducted using laptop computers and utilized Multi-Media Assisted Self Interview (M-CASI). A 523-item, branching questionnaire explored a number of health behaviours and personal, family, school and community characteristics.

Students were asked about behaviours associated with using cannabis and frequency of use. A harmful level of cannabis was defined as weekly or more, often based on a high prevalence of harmful behaviours among students using cannabis weekly or more often compared to students using cannabis less often. The definition of harmful cannabis use as weekly or more often was supported by previous research.[2]

Independent variables for inclusion in analysis were selected based on an ecological model[3] where variables from the home, school and community domains were examined. The bivariate relationships between harmful cannabis use and ecological factors were examined controlling for age, gender and ethnicity. This produced a list of risk factors that increased the likelihood of a young person using cannabis harmfully and a list of protective factors that reduced the likelihood of harmful cannabis use.

Multivariate logistic regression was used to test which risk and protective factors remained significant and had independent association with harmful cannabis use, after other risk and protective and demographic factors were controlled for.

## Results

As seen in Table 1 in the multivariate logistic regression, gender and ethnicity remained significantly associated with harmful levels of cannabis use after controlling for other variables in the model.

Table 1: Logistic regression for harmful cannabis use compared to lower frequencies of cannabis use

| Variable | OR (95% CI) | P values |
|---|---|---|
| Age | | |
| 13 and under | 1 | |
| 14 years | 2.1 (1.4-3.2) | 0.38 |
| 15 years | 3.3 (2.3-4.9) | 0.00*** |
| 16 years | 3.0 (2.0-4.5) | 0.03* |
| 17 and over | 3.4 (2.0-5.4) | 0.02* |
| Gender | | |
| Male compared to female | 1.5 (1.2-2.0) | 0.00** |
| Ethnicity | | |
| NZ European | 1 | |
| Māori | 2.7 (2.1-3.3) | 0.00*** |
| Asian | 0.4 (0.2-1.0) | 0.01* |
| Other | 0.6 (0.2-1.7) | 0.18 |
| Pacific | 1.6 (0.9-2.8) | 0.11 |
| SES variables | | |
| Neither parent works | 0.8 (0.5-1.6) | 0.66 |
| Moved home more than twice in last year | 1.3 (1.0-1.9) | 0.04* |
| Living in overcrowding | 1.5 (0.9-2.7) | 0.11 |
| Working household phone | 0.6 (0.4-1.0) | 0.07 |
| Working household car | 0.6 (0.3-1.1) | 0.11 |
| Risk factor variables | | |
| Witness to abuse 1 vs. 0 | 1.1 (0.8-1.5) | 0.39 |
| Sexual abuse | 1.8 (1.4-2.3) | 0.00*** |
| Abuse harm | 1.3 (0.9-1.6) | 0.06 |
| Protective Factor Variables | | |
| School expect | 0.8 (0.6-1.0) | 0.20 |
| Feel part of school | 0.6 (0.4-0.7) | 0.00*** |
| Important that I am at school | 0.3 (0.2-0.4) | 0.00*** |
| Important to parents I am at school | 1.0 (0.4-2.1) | 1.00 |
| Parents' care | 0.9 (0.6-1.3) | 0.65 |
| Enough time with parents | 0.7 (0.6-0.9) | 0.01* |
| Neighbourhood safe | 0.9 (0.7-1.2) | 0.85 |
| Church or other place of worship | 0.3 (0.2-0.5) | 0.00*** |

* $p<0.005$
** $p<0.01$
*** $p<0.01$

Among the risk factors found to be significant in bivariate analyses, two risk factors were found to be significant when other factors in the model were taken into account. Young people who had moved home two or more times in the past year were 1.3 times more likely to use cannabis at harmful levels than young people who had not moved home two or more times in the past year ($p=0.04$). Young people who reported sexual abuse were 1.8 times more likely to use cannabis at harmful levels than young people who had not been sexually abused ($p<0.0001$).

When all factors in the model were taken into account, four protective factors remained significant. Young people who reported 'feeling part of school' were 0.6

times less likely to report harmful cannabis used compared to young people who did not report feeling part of school (p=<.0001). Young people who reported it was 'important that I am at school' were 0.3 times less likely to use cannabis harmfully than young people who reported it was not important that they attend school. Young people who reported they got 'enough time with parents' were 0.7 times less likely to report cannabis use at a harmful frequency compared to young people who reported they did not get enough time with their parents. (p=0.01). The final protective factor that remained significant was if young people reported attending a 'church or other place of worship', these young people were 0.3 times less likely to smoke cannabis harmfully compared to young people who did not attend 'church or other place of worship' (p=0.0001).

Summary

This study found key risk and protective factors associated with weekly or more often cannabis use. Sexual abuse and moving home frequently was associated with an increased likelihood of using cannabis harmfully. While four protective factors were associated with a decrease in the likelihood of using cannabis at a harmful frequency and these were: feeling part of school, school attendance, time with parents and attending a church, shrine or mosque.

The major limitation of this study is that students who were excluded from or who had left school or who were absent on the day of the survey were not included in the study. This was especially evident in students aged 16 years and over. This means that the study is likely to be over-represented with healthier young people who are engaged in school, and under represented by young people who are at greater risk.[1]

Interventions that enhance protective factors in the family, school and community domains and work to reduce risk factors would be important strategies to reduce harmful levels of cannabis use among young people. Moreover enhancing protective factors and reducing risk factors in these domains is likely to improve other health and wellbeing outcomes for young people in New Zealand.

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# RESPONDING TO CLIENT DROPOUT: THE TREATMENT-FIT APPROACH

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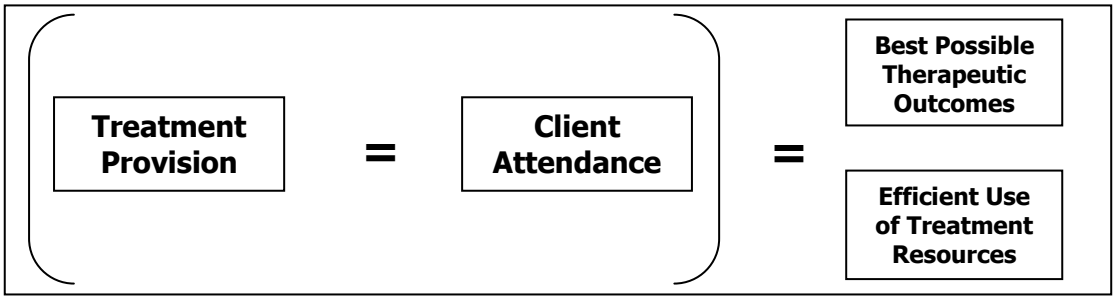
## Introduction

When a client exits a health service against clinical advice they are typically labelled a *dropout*. Client dropout is particularly common in the alcohol and other drug (AOD) treatment sector where it is widely regarded as problematic. The dropout is thought to experience less therapeutic benefit relative to their treatment-completing peers and the service provider is likely to incur significant resource cost (e.g. when the dropout fails to attend a scheduled treatment appointment). The standard response to client dropout may be described as the *client-retention* approach. The client-retention approach seeks to prevent dropout by retaining clients in treatment for the clinically recommended duration. Whilst logically consistent, this response is seemingly difficult to implement as the means to reliably retain clients in AOD treatment have yet to be identified. Accordingly, this paper presents the conceptual basis for an alternative response to the dropout problem. Termed *treatment-fit*, this new conceptual framework was specifically designed for use in a psychosocial-based, outpatient AOD treatment context.

## What is Treatment-Fit?

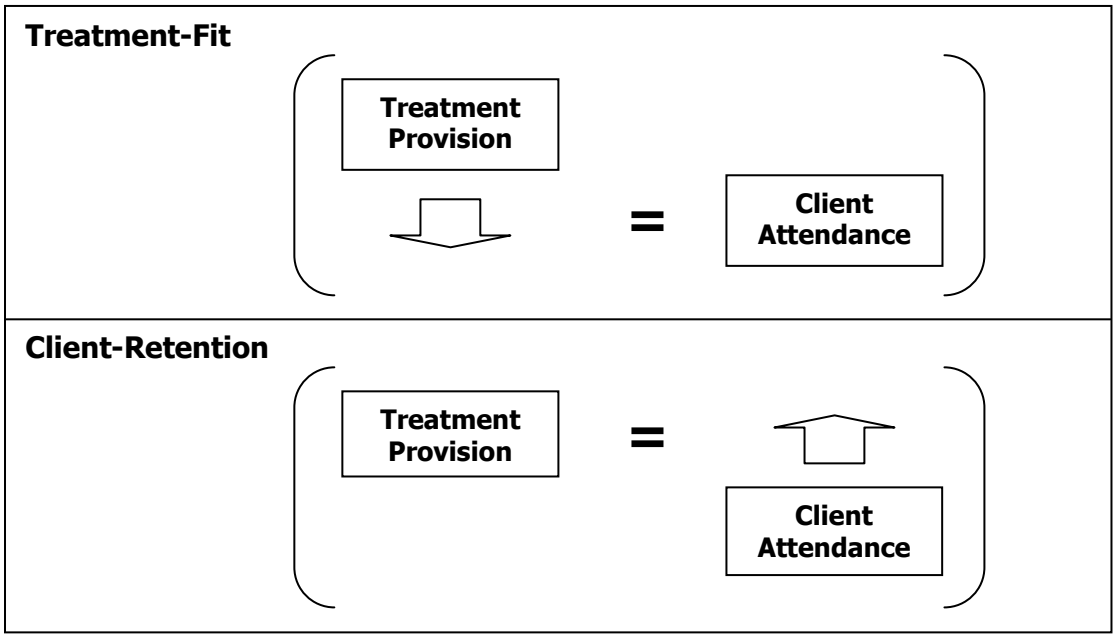
- Treatment-fit is a new conceptual framework for understanding and informing a response to psychosocial treatment dropout. This new approach seeks the same outcome as traditional client-retention response to treatment dropout (see Figure 1) but attempts to achieve it via different means.

Figure 1: The Aim of Client-retention and Treatment-fit Dropout Response Approaches



- Within a treatment-fit framework, a service would seek to resolve dropout-related costs by striving to provide a treatment intervention optimally suited to client attendance, irrespective of duration. Thus, change is sought in treatment provision practice rather than client attendance behaviour. This shift in response burden is depicted in Figure 2.

Figure 2: The Dropout Response Mechanism: Treatment-fit vs. Client-retention




Arrow indicates respective dropout response focus (i.e. where change is sought)

- The basic premise of treatment-fit is that every time a client attends an outpatient AOD treatment service, that service has an opportunity to positively intervene in his/her life. The challenge to the treatment provider, therefore, is to efficiently and effectively utilize each intervention opportunity afforded them. For example, if a client only attends a single treatment appointment, then every effort should be made to facilitate as much positive gain as possible during that single appointment; likewise with attendance of two appointments, three appointments and so on.

- This response approach does not aim to resolve dropout per se (in the sense that clients may still exit against clinical advice); rather, it seeks to reduce the 'costs' associated with this exit pattern. If a treatment-fit response were to be successfully applied, then the client would receive the treatment optimally suited to their attendance duration and the provider would expend their limited resources in an efficient manner.

- Central to the treatment-fit approach is the belief that positive clinical gain is achievable with treatment attendance of any duration. This contention is supported by the demonstrable success of brief AOD treatment interventions[1,2] and by the positive outcomes frequently reported by dropouts themselves.[3]

## Applying Treatment-Fit in Practice

A fully articulated treatment-fit response has yet to be developed and field tested. However, the following suggestions may be considered treatment-fit consistent and are likely to reduce the costs (to both the client and provider) associated with treatment dropout:

- Default provision of shorter-term interventions to all new admissions, subsequently moving to longer-term interventions if the client remains in treatment and if there is a clinical need. This suggestion is consistent with a stepped care approach to AOD treatment provision.

- Reducing the level of non-clinical activity (defined as any activity that does not directly contribute to clinical outcome) in the early stages of service admission.

- Providing take-home educational/clinical resources to clients at the end of their first appointment and/or providing clinical support services that do not require attendance at an AOD treatment clinic in order to be accessed (e.g. text message, e-mail or web-based support services).

- Encouraging clinicians to ask themselves the following question at the start of each appointment: If I am never going to see this client again, what could I do here and now to promote as much positive gain in his/her life as possible?

## Conclusion

Pursuing a purely retention-based response strategy is unlikely to resolve dropout-related costs in the contemporary environment as the means to reliably retain clients in treatment have yet to be identified. On the other hand, a treatment-fit approach shows potential as the means to provide effective treatment across a range of client attendance durations that currently exist. Treatment-fit also places the response burden on the treatment provider rather than the client. This, in itself, is more likely to result in a successful outcome as treatment providers have greater control over their own behaviour than that of their clients. It is possible that treatment-fit may prove to be an ineffective dropout response. An appropriate response strategy will need to be developed and evaluated before definitive statements can be made in this regard. Nevertheless, the evidence strongly suggests that treatment-fit should be subjected to such an examination.

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# UNDERSTANDING THE DYNAMIC CULTURE OF YOUTH ATTENDING AOD SERVICES IN NZ AND FACTORS ASSOCIATED WITH EARLY TREATMENT DROP OUT

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While retaining youth in treatment is viewed as an important step in improving treatment outcomes, the factors associated with treatment retention among youth are not well understood and in New Zealand no previous research has been conducted in this area. In addition, very little is known about the type of young people who attend youth alcohol and other drug (AOD) treatment services in New Zealand, including what their specific needs are.

Method

Data were gathered from structured interviews (n=79) and a clinical file search of 184 randomly selected young people who had attended youth-specific AOD treatment services in New Zealand during 2003 or 2004.

Participants were eligible for inclusion in this study if they had attended one of eight youth-specific AOD services selected to take part in this study during 2003 or 2004. These eight services were specifically chosen because they provided sufficient geographical spread and adequate ethnic representation of New Zealand youth. These services included two mainstream day and residential services, one mainstream out patient service, one Pacific out patient service, one kaupapa Māori out patient service, and two kaupapa Māori residential services.

File searches provided information on exact admission and discharge dates, number of sessions attended, types of substances used prior to treatment entry, substance use and psychiatric diagnoses at treatment entry and reasons for discharge.

The structured interviews used the Addiction Treatment Retention Questionnaire (ATRQ) to measure factors associated with treatment retention. This 68-item questionnaire was specifically designed for this study by the project team at the National Addiction Centre. Items were chosen based on factors that had previously

been investigated in the treatment retention literature and on factors that emerged through the authors' own clinical experience. The questions covered a range of variables and examined key areas such as contexts of substance use, experiences in treatment, expectations of the programme prior to entry, perceptions of substance use issues prior to treatment, goals for substance use while in treatment and motivation for attending treatment.

*Length of Stay (LOS)*
For day and residential services treatment LOS was measured in months and days. For outpatient services treatment LOS was measured as number of sessions attended.

*Early Drop-out*
In order to allow comparison across the whole participant sample, retention was measured as a dichotomous variable depicting early treatment drop-out. Early drop-out was defined as leaving outpatient treatment before the third session and leaving day/residential treatment within the first month of treatment.

## Results

*A profile of youth attending youth AOD treatment*
Sociodemographic characteristics of the full sample when they entered AOD treatment in 2003-2004 are shown in Table 1. Clients attending treatment ranged in age from 13 to 20 years (median = 16.1 years). Males were significantly older when they entered treatment than females (16.4 and 15.6 years respectively, $p<0.01$). The majority of clients were male (62.0%) and represented three main ethnic groups: European (51.1%), Māori (37.0%) and Pacific (8.2%). On entering treatment most clients were living with family members (76.5%). No significant gender differences were found for ethnicity or living circumstances.

In addition, these young people presented with a range of complex needs including substance use and mental health issues, criminality, family conflict and disengagement from school. Sixty two percent were male, 56.4% had criminal convictions, 40.6% had spent some time in CYFS care and 53.8% were reported to have a coexisting substance use and mental health disorder. Low rates of reporting of substance use and mental health diagnoses in treatment files suggest that substance use and mental health disorders among this population are likely to be higher than those reported.

*Factors Associated with Treatment Drop-out*
The median length of stay was 2.7 months for those attending day/residential services (n=42) and 4.0 sessions for those attending outpatient services (n=37) 16.7% of participants from day/residential services dropped out of treatment early (within the first month) and 32.4% of participants from outpatient treatment services dropped out of treatment early (before the third session).

Table 1: Sociodemographic Profile of a Sample of Young People Attending AOD Treatment in New Zealand During 2003/2004 at Treatment Entry

| Variables | Full Sample (n=184) | Day/Residential (n=72) | Outpatient (n=112) | $p^{\dagger}$ |
|---|---|---|---|---|
| Median age (years) | 16.1 | 16.4 | 16.1 | 0.03*‡ |
| Range (years) | (13.4-19.6) | (13.8-19.6) | (13.4-18.8) | |
| Gender (%) | | | | <0.01** |
| Male | 62.0 | 81.9 | 49.1 | |
| Female | 38.0 | 18.1 | 50.9 | |
| Ethnicity (%) | | | | 0.01* |
| European | 51.1 | 43.1 | 56.3 | |
| Māori | 37.0 | 51.4 | 27.7 | |
| Pacific | 8.2 | 2.8 | 11.6 | |
| Other | 3.8 | 2.8 | 4.5 | |
| Living Circumstances (%) | (n=183) | (n=72) | (n=111) | 0.05 |
| Family | 76.5 | 80.6 | 73.9 | |
| Independent | 8.7 | 12.5 | 6.3 | |
| Foster care | 8.7 | 2.8 | 12.6 | |
| Controlled environment | 6.0 | 4.2 | 7.2 | |
| Criminal Conviction (%) | (n=181) | (n=72) | (n=109) | <0.01** |
| Yes | 56.4 | 81.9 | 39.4 | |
| Time in Youth Justice Facility (%) | (n=182) | (n=72) | (n=110) | <0.01** |
| Yes | 26.9 | 45.8 | 14.5 | |
| Coexisting Disorder (%) | | | | 0.04* |
| SUD & MH | 53.8 | 63.9 | 47.3 | |
| No diagnosis | 20.1 | 8.3 | 27.7 | |
| SUD only | 19.0 | 23.6 | 16.1 | |
| MH only | 7.1 | 4.2 | 8.9 | |

* p<0.05

** p<0.01

† Chi-Square analysis unless otherwise indicated

‡ Mann-Whitney U

Fixed client characteristics such as age, gender, ethnicity, substance use and mental health diagnoses were not found to be associated with treatment retention. However, a number of dynamic client characteristics described by De Leon et al. as "characteristics that describe changing or dynamic characteristics of the individual (e.g. client perception variables such as motivation and readiness)" p.169, were found to be associated with treatment retention.

Participants were more likely to drop out of treatment early if they reported less internal motivation (p=0.03) and greater external pressure to engage in treatment (p=0.01); were less likely to have set abstinence as a goal for their substance use (p=0.04); were less likely to expect that treatment would help them to make changes in their life in general (p<0.01) and in relation to their substance use specifically (p=0.01).

A number of programme-related variables were also found to be either significantly associated with treatment drop-out or indicated a trend towards significance. A

highly significant association was found between participants' perceptions of being involved in goal setting and treatment retention. Participants were significantly more likely to drop out of treatment early if they felt they had failed to set clear treatment goals and had not been included in setting treatment goals ($p<0.01$). They reported less positive experiences with treatment staff in terms of feeling safe, comfortable and supported by staff and being able to express themselves openly and honestly to staff ($p<0.01$).

A stepwise binary logistic regression indicated that the variable 'treatment goals set and involved' was the strongest and only significant independent predictor of early treatment drop-out (OR=1.51, 95%CI 1.19-1.91).

## Discussion and Conclusions

The findings of this study provide a unique profile of young people attending youth specific AOD treatments in New Zealand and indicate that youth presenting to all services have a range of complex needs. Such information is useful in informing treatment planning and funding and ensuring service development occurs to specifically meet the complex needs of this client group.

Further, the findings support previous research indicating that fixed client characteristics are not sufficient to explain youth retention in AOD treatment. The emergence of dynamic client characteristics and programme variables as factors associated with treatment retention highlight the importance of the interaction between clients and staff in treatment programmes as well as the potential for service providers to influence client engagement and retention and contribute to positive client outcomes. By being aware of dynamic client characteristics and programme variables that may impact on treatment retention, service providers are more empowered to work alongside any young person that comes to their service.

# SHOULD ETHANOL BE SCHEDULED AS A DRUG OF HIGH RISK TO PUBLIC HEALTH?

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In 2000, an amendment to New Zealand's Misuse of Drugs Act (1975) heralded a "new basis for classifying (or scheduling) controlled drugs based on the risk of harm that the use of the drug in question poses to public health". Drugs that pose a Very High risk of harm are classified as Class A, a High risk of harm as Class B, and those that pose a Moderate risk of harm to public health, Class C. Six key criteria are described in the New Zealand Misuse of Drugs Act and used by the Expert Advisory Committee on Drugs (EACD) for determining the risk of a drug to public health as follows:

1. Specific effects of the drug, including pharmacological, psychoactive and toxicological
2. Likelihood or evidence of abuse, including prevalence of the drug, seizure trends and potential appeal to vulnerable populations
3. Risk to public health
4. Therapeutic value of the drug
5. Potential for death upon use
6. Ability to create physical or psychological dependence

In this current study these criteria were examined in relation to ethanol, using gamma-hydroxybutyric acid (GHB) as a comparator drug. GHB is ideal as a comparator because it is a similar liquid sedative substance to ethanol and has previously been investigated by the EACD, in 2001, using these six criteria. GHB was subsequently classified as a Class B1 drug i.e. as a prohibited drug of High risk to public health.

The analysis indicated that ethanol was of less risk than GHB in terms of its specific effects and potential for death upon use. However, it was found to be a little more risk in terms of abuse potential and a lot more risk in terms public health in general. There are over 1000 deaths per year due to ethanol, representing almost 12,000 years of life lost.[1] Half of the deaths are due to injury while a quarter is due to cancer. On the criteria of therapeutic value and ability to create dependence, ethanol was found to be about the same as GHB. Overall, the dangerousness level of ethanol was found to be at the level of at least GHB in this present analysis. Consequently, if ethanol was scrutinized for the purpose of potentially scheduling it, the likelihood is

that it would be scheduled as a B1 drug similar to GHB, a drug of High Risk to public health. However, this would not be acceptable politically at the current time. After all, ethanol is "our favourite drug"; despite its dangers, ethanol is an established recreational drug in New Zealand and the vast majority of other Western countries. It could be likened to other legally sanctioned dangerous activities, such as mountaineering, which also pose significant risks to the individual user and costs to society at large. The present authors join a growing number of other scientists who are highlighting problems associated with current drug scheduling in Western countries, which generally excludes consideration of the two most important ones, nicotine and ethanol.

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# MAKING LINKS TO BREAK THE LINKS: REDUCING ALCOHOL AND OTHER DRUGS PROBLEMS IN THE CRIMINAL JUSTICE SYSTEM

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This paper presents evidence that collaborations between the AOD treatment and public health sector and the criminal justice system can contribute to reducing both AOD problems among offenders and continued offending. The findings presented are drawn from an evidence review.

At July 2007, almost 9000 New Zealanders were in prison and another 8000 on community sentences. New Zealand now has the seventh highest imprisonment rate in the OECD. AOD problems make a significant contribution to this. Up to 60% of prisoners were affected by alcohol or other drugs at the time their offence was committed[1] and 1999 research found around 80% of prisoners had an alcohol or other drug problem[2]. Alcohol - by itself or mixed with other drugs - makes a larger contribution to crime than illicit drugs[3]. The evidence review aimed to identify interventions with proven effectiveness and that could be applied to New Zealand's criminal justice environment.

## Research Methods

The review sourced peer-reviewed papers from health and social science databases; systematic reviews from the Cochrane and Campbell Collaboration databases; and research reports from government agency and NGO websites in relevant countries. Over 500 papers were reviewed. Priority was given to systematic and meta-reviews and also to peer-reviewed papers and major differences between research results were identified. The scale and depth of the initial evidence review were limited by time and the researcher's access to some journal databases. While a single researcher reviewed the evidence and wrote up the findings, the evidence review was externally peer-reviewed.

## Key Findings Relevant to the AOD Sector

1. *Treatment in criminal justice settings is effective in reducing AOD problems.* Providing AOD screening, treatment and harm reduction services to people in the criminal justice system can reduce the harms to the person affected and those around them, as well as in reducing involvement in crime.

2. *Treatment reduces offending.* Most studies showed that services have a major impact on offending. A Canadian study found offenders who had stopped AOD use following treatment committed an average 1.7 crimes a week, compared to

seven crimes for people who were still AOD-dependent. US government studies found that every dollar invested in prison addiction treatment returned US $4-7 in reduced drug-related crimes. Not all criminal justice systems resourced alcohol treatment but New Zealand was a leader in including alcohol in its Corrections drug strategy. Interventions with some evidence of effectiveness included not only intensive treatment but brief intervention and health education.

3. *Some treatment/service modalities were more effective.* A strong body of high-quality research supported the value of therapeutic communities, which could reduce recidivism from 35% to 28% (about a fifth)[4]. Evidence on other service types was more divergent. A few studies looked at treatment services to meet the needs of women and indigenous populations (such as Canadian First Nations people). Research consistently found that women in criminal justice settings had different situations than male counterparts and pilots indicated that targeted services were effective.

4. *Early intervention services are promising, and systematic diversion to treatment is effective*. Research in the UK indicates support for AOD screening and referral to services soon after arrest, such as in cells and in courts. Arrest has been identified as a 'crisis point' when people can be open to treatment. However, screening needed to be supported by services[5]. New Zealand has had court-based screening pilots and is about to pilot services working between cells, courts and prisons. Diversion to AOD treatment, both voluntary and mandatory, was supported by long-term studies[6].

5. *Public health measures, especially harm reduction, have high effectiveness.* There was strong evidence across many nations for harm reduction interventions, particularly opioid substitution therapies (OST) and other pharmacotherapies, and prison needle exchanges. These reduced harms, including transmission of communicable diseases such as HIV[7]. There was relatively little research on health promotion and education interventions; however, research available indicated that these interventions may have high cost-effectiveness. For instance, evaluation of an Australian alcohol education programme found significant improvement in alcohol consumption, criminal activity and in family relationships[8].

6. *Effective services are integrated and do not end at the prison gate.* 'Aftercare' included supervision, continuing treatment in the community and support with housing, income support, employment, etc. Its value in maintaining gains made by treatment, reducing relapse and providing skills, was well supported by research and long-term aftercare (more than two years after sentence completion) was the most effective[9].

Conclusions

The review showed that New Zealand's AOD sector has a role to play in reducing AOD problems for offenders. That contribution can be made by increasing the sector's understanding of the issues and developing collaborations across sectors, including with housing and social services. The review indicated the value of 'whole

of government' strategies linking prevention, treatment, public health and long-term reintegration and aftercare.

The AOD sector is experienced in working with stigmatised and marginalised people and could play a leading role in changing public perceptions about the value of providing AOD services to offenders.

Little evidence was available about services for people on community sentences and the researcher will continue to follow up this area. In carrying out the review, it was notable that compared to other countries New Zealand has little research on the outcomes of AOD treatment in criminal justice settings and none on long-term effects. At present, it is not even clear how many prisoners would benefit from AOD services. AOD workers might also promote the value of New Zealand-specific research.

References and Further Information

The evidence review and a full list of references are available on the New Zealand Drug Foundation website (www.drugfoundation.org.nz), along with the policy position developed from the review.


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# PACIFIC CULTURAL VALUES AND PRACTICES IN HEALTH ORGANISATIONAL TOOLS: DEVELOPING A PACIFIC SERVICE SELF-EVALUATION TOOL

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One of the three priority objectives for the New Zealand Health Strategy[1] is to ensure accessible and appropriate services for health consumers. To strengthen the delivery of Pacific health services, the New Zealand Ministry of Health established the Pacific Provider Fund.[2] Over the last five years the Pacific mental health and addictions sector in New Zealand (NZ) has developed Pacific cultural competency frameworks.[3] Such frameworks include an emphasis on the integration of ethno-cultural values in health and addictions sector service delivery and organisational self-evaluation tools.

In 2005 CRRC was commissioned by ALAC to review organisational self-evaluation tools suitable for Pacific alcohol and other drug (AOD) services and to recommend a format for such a tool and appropriate process for implementation. This saw the development of the Pacific Self-Evaluation Tool (P-SET).

## Methods

The design of P-SET was informed by a literature review, consultation with Pacific reference groups, pilot sessions with Pacific providers and interviews with key informants. The P-SET project is part of the PADOPT (Pacific Alcohol and Drugs Outcomes Project) suite of sub-projects.[4] The P-SET project has two phases:

1. A 'discovery' phase; and
2. A development and testing phase.

Phase One has been completed and is reported on here. The methodological approach for Phase One involved conducting a literature search of all available organisational self-evaluation tools, choosing relevant statements to operate as an initial set of statements for consideration and then refining the set of statements through research team and project advisory team discussions. These focus group-type discussions centred largely on assessing the relevance of each statement and discussion area to the contexts of Pacific AOD services.

This discussion phase helped to refine the final list of 37 statements which was then piloted with two key Auckland-based Pacific AOD services, looking, among other things, at the practical methods of using organisational self-evaluation tools in a clinical environment.

Figures 1 and 2 provide outlines of the key components of P-SET and an example of a statement with format and rating system.

Figure 1: P-SET: Key Components

**P-SET (Pacific Self-Evaluation Tool) involves 2 parts and includes a manual with glossary:**

**P-SET Framework**

PART 1: Capacity to Participate (CTP) Tool

PART II: P-SET Tool (brief demographics questionnaire to be completed by service manager + statements – evaluated by all)

↓

P-SET Tool: Self - Evaluation Statements (7 Key Statement Areas)

**Seven key statement areas are:**

1. Client and family involvement;
2. Relationships with community and other agencies;
3. Responsiveness to staff;
4. Workforce development;
5. Information utilisation;
6. Service delivery;
7. Quality framework.

The pilot sessions involved focus group type discussions and individual interviews (with those unable to make the focus group pilot session).

Some Findings

The following comments by a Pacific service manager who was involved in the piloting process on P-SET captured the general attitude of those interviewed or involved in the pilot sessions. These were four-fold:

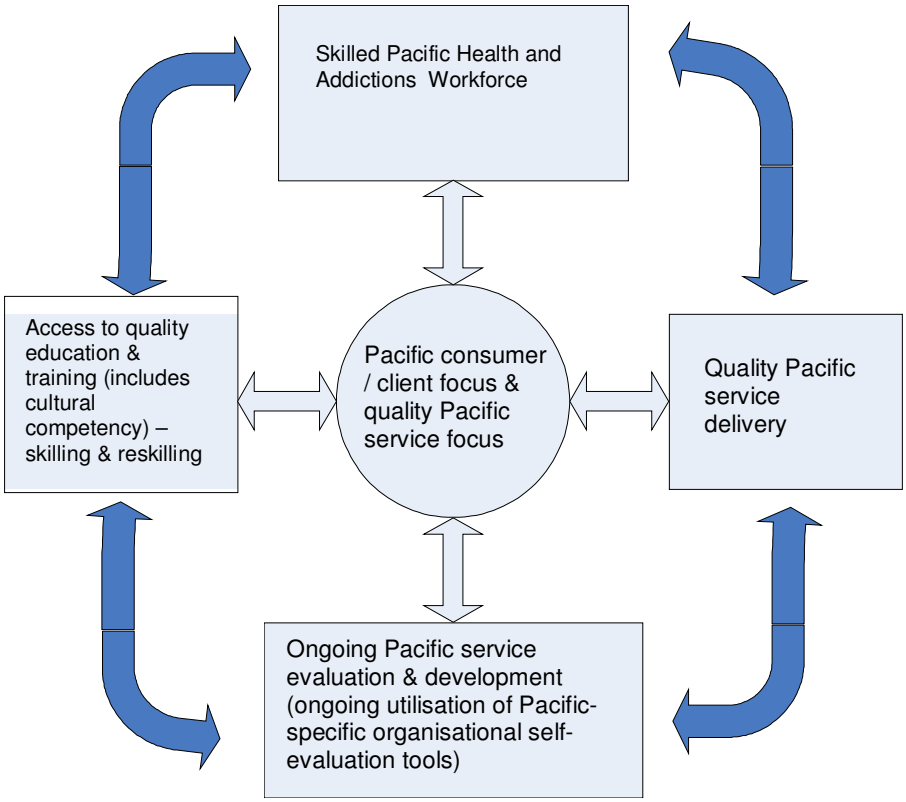
(a) There were some good statements which generated good discussion among staff but other statements were unclear and could benefit from rewording to better suit the New Zealand Pacific context;
(b) The tool could be shortened;
(c) A Pacific specific tool to measure Pacific service delivery is a good idea;
(d) A person well familiar with the tool may be needed to help prepare the in-house facilitator in the use of P-SET.

Figure 2: Sample of Suggested Statements with Format and Rating System

| **Statement 12: Our service actively participates in relevant Pacific and non-Pacific networks as a vehicle for establishing best practice.** | | | | | |
|---|---|---|---|---|---|
| Rating | 1 | 2 | 3 | 4 | 5 |
| | Not at all | Rarely | Sometimes | Most of the time | All the time |
| **A. Individual ratings.** Ask each team member how they individually rate the above statement and place ratings here. | | | | | |
| **B. Overall group rating.** Provide an overall team rating for the above statement. | **Reasons for rating.** Comment on the reasons for the selected overall group rating. | | **Action point.** It may help to identify your key area(s) for action where the extent to which you meet the statement is low and your influence to improve in this area is high. | | |

Because 'Discovering' P-SET involved assessing the idea of (a) whether the rationale for a team oriented Pacific self-evaluation tool was attractive to Pacific AOD providers and reasons why; and (b) whether the structure, format, content and implementation style of the proposed tool was sufficiently user-friendly, it was necessary to note at the outset the underlying reason for having P-SET. The reason is simply 'developing *quality* services'! The underlying logic adopted for P-SET draws on the US Department of Health and Human Services (DHHS) model,[5] modified and depicted in Figure 3.

Figure 3: Modified DHHS Tool: Pacific Service Provision is Consumer and Quality Focussed



Discussion/Conclusions

The rationale for P-SET includes providing an organisational self-evaluation tool that facilitates a process for team cohesiveness, self-reflection and strategic planning. The key aims for designing such a tool emerges from the Ministry of Health's focus on developing quality Pacific health providers. Reducing health disparities between Pacific and non-Pacific population groups in NZ requires understanding the strengths and weaknesses of Pacific organisations and their ability to meet (or not) the identified needs of their diverse clientele.

The short and long term goal of Pacific organisational tool development projects is the provision of quality services for Pacific health and addictions consumers/clients. From this preliminary work on P-SET, Pacific-specific team-oriented self-evaluation tools are believed integral to developing quality Pacific health and addictions services.

To properly test these tools a multidisciplinary team with expertise in Pacific health and cultural research, evaluation tool design and psychometric testing is desirable. A proper testing process is the object of Phase Two of this project.

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# ARE YOUNGER DRINKERS' CONSUMPTION PATTERNS ASSOCIATED WITH ENVIRONMENTAL FACTORS?

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The present study is part of a larger 2005 SHORE/Whariki study.

The aims of this study were:
1. To determine factors associated with onset of drinking
2. To determine factors associated with patterns of drinking

Methods

An Auckland-based sample of 1171 12-17 year olds was collected using a computer assisted telephone interviewing (CATI) system. Telephone ownership in New Zealand is high with 96% of households having a connected landline telephone at the 2001 census. A stratified random digit dial method was used to ensure each household had an equal chance of selection. One young person per household was interviewed. Each telephone number was called at least ten times in order to attain an interview with eligible respondents. A response rate of 66% was achieved.

Information collected:
- Personal income (including part-time work and pocket money). Respondents were given categorical options to choose from. Each respondent was assigned a numeric amount based on the midpoint of their selected category.
- New Zealand Deprivation Index Score[i]. Respondents were assigned a deprivation score based on the meshblock[ii] in which they were dwelling.
- Marketing measures:
    1. Number of alcohol advertisements recalled. Respondents were asked about the number of alcohol advertisements they saw in six different modes (e.g. billboards, TV/radio) in the last 12 months. The modes were designed to exhaustively cover all types of alcohol advertising. Respondents selected from categorical options and the modes were summed to get a measure of exposure to advertising. This measure focuses on exposure to advertising.

i The New Zealand Deprivation Index Score is a measure of socioeconomic deprivation based on census variables.

ii A meshblock is the smallest official geographical area in New Zealand, typically containing 100 people.

2. Number of alcohol brands recalled. Respondents were asked to name the number of brands they recalled seeing advertised. This differs from the first marketing measure as it gives an indication of the level of attention respondents paid to advertising.

- Social supply. Respondents who were drinkers were asked about the number of times they were supplied alcohol by a list of eight people. Respondents were given categories to choose from. Three groups of suppliers: parents, friends and others, were created by agglomerating suppliers.
- Purchasing. Respondents who were drinkers were asked if they had purchased alcohol in the last year. Purchasers were asked about their frequency of purchase in the previous 12 months from a list of 10 locations (e.g. bar, supermarket). Respondents were given categories to choose from. A total frequency of purchases measure was created.
- Consumption measures: drinking in the last year, weekly drinking, frequency drank in the last year, amount consumed on a typical occasion. Respondents who were drinkers were asked a series of questions about their drinking at 15 different venues, including frequency of drinking (categorical options), type of alcohol typically consumed and number of drinks typically consumed. From this information the consumption measures were calculated.

Analysis:

The data was weighted by the number of eligible people per household to adjust for the selection of one respondent per household. Young people were divided into three age groups, 12-13 year olds, 14-15 year olds and 16-17 year olds. Logistic regression was used to determine factors predictive of drinking alcohol in the last year for 12-13 year olds. Analysis of covariance (ANCOVA) models were fitted to predict frequency of drinking and typical occasion consumption for 14-15 and 16-17 year olds. Log transformations were made when necessary.

Results

*Prevalence of Drinking*

Table 1: Prevalence of drinking by age group and sex

| | Last year drinking | Weekly drinking |
|---|---|---|
| 12-13 year olds | | |
| Male | 17% | <1% |
| Female | 12% | 1% |
| Total | 15% | 1% |
| 14-15 year olds | | |
| Male | 37% | 8% |
| Female | 50% | 13% |
| Total | 43% | 10% |
| 16-17 year olds | | |
| Male | 68% | 39% |
| Female | 68% | 34% |
| Total | 68% | 37% |

Table 1 shows the percentages of last year drinkers and weekly drinkers by age group and sex. Prevalence of last year drinking and weekly drinking increases with age for both males and females. Among 14-15 year olds more females (50%) than males (37%) drank alcohol in the last year. Sixty-eight percent of both males and females drank alcohol in the last year among 16-17 year olds.

*Last Year Drinking Among 12-13 Year Olds*

Table 2 present odds ratio estimates for last year drinking among 12-13 year olds. Income was the only significant predictor of drinking in the last twelve months (p=0.0167). The odds of drinking in the last twelve months increase by 1.06 for each $100 increase in annual income.

Table 2: Last Year Drinking Among 12-13 Year Olds

| | Odds Ratio | P-value |
|---|---|---|
| Per $100 increase in income | 1.06 | 0.0167 |
| Per 100 increase in deprivation score | 1.03 | 0.8686 |
| Per 100 increase in advertisements recalled | 1.03 | 0.4471 |
| Per brand recalled | 1.18 | 0.1861 |

*Frequency of drinking and typical amount consumed among 14-17 year olds*

Table 3 shows the results of multiple regression analyses predicting drinking frequency and typical amount consumed for the age groups 14-15 and 16-17. Increased income was a significant predictor of drinking more often for 14-15 year olds and drinking greater amounts for 16-17 year olds. Living in a more deprived area was strongly predictive of drinking greater amounts for both 14-15 and 16-17 year olds. Frequency of supply by parents was predictive of drinking more often. Frequency of supply by friends was strongly predictive of both drinking more often and drinking greater amounts. Frequency of purchasing alcohol was predictive of drinking more often for both 14-15 and 16-17 year olds and drinking greater amounts for 14-15 year olds.

Table 3: Drinking Measures Among 14-17 Year Olds

| | Drinking Frequency | | Typical Amount Consumed | |
|---|---|---|---|---|
| | 14-15 | 16-17 | 14-15 | 16-17 |
| Income | ** | | | * |
| Deprivation score | | | *** | *** |
| Advertisements recalled | | | | |
| Brands recalled | | * | | |
| Parents supply | * | *** | | |
| Friends supply | *** | *** | *** | *** |
| Others supply | | * | ** | |
| Purchase times | *** | ** | * | |

* p<.05
** p<.01
*** p<.0001

Discussion

The present study produced results that require further research. It is particularly noteworthy that supply of alcohol by friends was a very strong predictor of drinking greater quantities for 14-17 year olds but there was no relationship between supply of alcohol by parents and drinking greater quantities. The strong relationship between living in more deprived areas and drinking greater quantities is also a significant finding.

# A REPORT ON RESULTS OF SELF-BAN IN CHRISTCHURCH

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Introduction

Compared to other jurisdictions the New Zealand Gambling Act (2003)[1] is unusual as it defines gambling as a public health issue and places extensive host responsibility obligations on gambling venues. For example, the Act makes provision for a problem gambler to identify themselves to venues and seek a ban from the gambling area of that venue. Section 310 (1) of the Act states:

> "…after being requested issue an exclusion order to a person that prohibits the person from entering the gambling area of the class 4 venue…".

Breach of an exclusion order issued under this section carries a fine of up to $500 for the gambler and up to $10,000 for a venue that allows an excluded problem gambler to enter their gambling area; thus under the New Zealand legislation the onus of compliance with exclusion orders is shared between the problem gambler and venue, this is also a unique feature of the New Zealand gambling legislation.

The law requires the problem gambler requesting an exclusion order to identify themselves and provide a contact address but does not require the gambler to attend the venue in person, allowing a problem gambler to exclude themselves by post from all the venues in which they feel vulnerable to problem gambling. In the situation where a problem gambler makes a postal application for an exclusion order the venue (or venues) concerned are required to promptly issue this order by post to the contact address supplied by the gambler.

The ability for a problem gambler to seek exclusion orders from venues by post is extremely useful in the New Zealand context where most video gambling machines are placed in small (18 machines or less) non-casino gambling venues. These are almost all hotels, chartered clubs or sports clubs.

A recent postal self-exclusion ban initiated by a gambler requesting exclusion from all gambling venues in the Christchurch area has highlighted areas of concern in the self-banning procedure.

Method

A self-identified problem gambler sent letters and her photo to all 174 gambling venues in her geographical area in May 2006. As she was concerned about the rest of her family knowing about the extent of her gambling this problem gambler used the Problem Gambling Foundation (PGF) office as a contact address. Further, she consented to the PGF staff opening and discussing the responses from venues with her. This gave the PGF staff an opportunity to collate and document the responses from gambling venues in this area to a postal request for an exclusion order. This client consented to this information being presented and published.

Findings

Only 80 or 45% of the 174 Hotels actually replied to the gambler. This means 55% of the venues were totally non-compliant with their obligations under the Gambling Act.

The responses from venues that did respond ranged from completely appropriate to completely wrong. These responses included:

Two venues specifically refused to issue a self-exclusion order under the Gambling Act stating it was against their policy and instead issued trespass notices warning the client, of arrest, fine or imprisonment if they enter the premises.

Two venues issued warning trespass notices mixed in with an exclusion order. This is a legal right for the venue but is a practice that the Department of Internal Affairs (DIA) has previously commented on as not being the preferred response to self-exclusion requests.

Three hotels requested that the client agree to exempt the venue from any consequences under the Gambling Act in an attempt to contract out of their responsibilities under the Act. The following is an example of the wording used.

> "(client's name) will not hold the venue, its officers or employees of (venue name), its trustees or employees liable for the consequences of any visit."

Seven hotels required another form to be signed and returned. These forms sought the same information as the client had provided and carried an implication that the exclusion order would not be issued until these forms were returned. This is either a breach of the Act, by non-issue of an exclusion order, or an attempt to unnecessarily complicate the exclusion process.

One hotel would not accept a photocopy of a photo and letter as identification and required some other form of identification.

Seventeen venues sent back exclusion orders asking for the client to accept that the venue would not guarantee that she would be prevented from gambling by the venue. For example:

"I acknowledge that this exclusion order does not guarantee that I will be prevented from gambling"

This looks like those venues trying to mitigate their liability under the Act or, as above, to try to contract out of the Act.

The remaining 48 venues sent back appropriate exclusion notices.

Thus only a minority (48 venues 28%) were compliant with their host responsibility obligations under the Act. Fifty-five percent of venues failed to respond at all and were thus completely non-compliant with the Act and 17% of venues responded in ways ranging from total non-compliance to partial compliance with their host responsibility obligations.

Discussion

There is widespread non-compliance and confusion amongst gambling venues with respect to their obligations under the Act. As the issuing of exclusion notices is a foundation of the host responsibility provisions of the Act, this suggests that the host responsibility provisions of the Act are poorly understood or applied in most venues. Four years after the passing of the Act this is a sorry state of affairs.

The following strategies are suggested as ways of improving the level of compliance by gambling venues with their harm reduction obligations under the Act:

- Consideration might be given to the issue of ID cards that have to be swiped by gamblers on EGMs. This would pick up any excluded customers before gambling started and enable other host responsibility systems and interventions to be automated. Given the high level of non-compliance, this may be the only way to achieve a safe gambling environment in the non-casino gambling sector.

- Issue a standard exclusion form that is used by all venues, this is already under consideration by the DIA.

- Exclusion protocols should encourage the involvement of problem gambling counselors in the self-ban process thus ensuring the gambler is receiving treatment and guidance and that self-ban is the final step in an organized treatment process.

- Exclusion orders should be issued for shorter times, such as 12 months, and could be renewed after this (as there is no limit on the number of renewals). This would allow good follow-up by counsellors and ensure that photos and information was kept current for all parties.

References

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# APPENDICES

**APPENDIX 1**
*Integrated Co-Occurring Programming: The Meeting of Two Treatment Cultures*
John Challis

**APPENDIX 2**
*Integration of Opioid Addiction and Pain Systems: Evidence for Practice*
Peggy Compton

**APPENDIX 3**
*Transformations in Health Service Delivery: Indigenisation of the Sector*
Mason Durie

**APPENDIX 4**
*Pacific People and Substance Use in Aotearoa New Zealand*
Siale 'Alo Foliaki

**APPENDIX 5**
*The New Cultural Era in Which We Are Challenged To Play God*
Lloyd Geering

# APPENDIX 1

## INTEGRATED CO-OCCURRING PROGRAMMING: THE MEETING OF TWO TREATMENT CULTURES

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We have passed the point where there is any significant dispute about the prevalence of consumers with both a substance abuse and a mental health disorder in both the mental health and the substance abuse treatment systems. The focus has now shifted towards developing a body of knowledge dealing with implementing an integrated co-occurring treatment system. While I will go on to detail some of the key implementation content areas, it nevertheless is important to note that content knowledge alone will not bring about the desired systems change.

There are fundamental attitudes and values embedded in the treatment cultures of these two treatment systems that have operated mostly as silos up to this point. Systems change needs to address these values both within each system and also between the two systems. Cross training of both mental health and substance abuse workers on co-occurring competencies has been seen as a particularly effective forum for addressing fundamental attitudes and values. Furthermore, workforce development that traditionally sends practitioners to training will have little impact on systems change with respect to co-occurring disorders unless programme, service and peak leadership is also involved in the training. The current systems that expose workers to new developments in this area, then only to find that the systems they work in do not support the change, is more of a vehicle for frustration than change.

There are key building blocks that need to be considered in our efforts to construct an integrated co-occurring treatment system. These building block need to have an equal focus on both building clinical capacity and changing infrastructure. Evaluation and monitoring, evidence and consensus-based practices, workforce development, integrated screening assessment and treatment planning and agreed upon key definitions form the basis of building clinical capacity. Infrastructure development needs to focus on information sharing, certification and licensure, financing mechanisms, systems integration and services change.

Clearly, a presentation of this nature cannot explore all of those building blocks in detail. On the clinical capacity side, we will explore systems change to the clinical pathway for consumers with co-occurring disorders and at the wider services and systems change level we will explore a process of building agency and system clinical capacity.

One of the key approaches to changing the way we provide treatment to consumers with co-occurring disorders is the introduction of universal co-occurring screening at the first entry point to the system. This would see a validated screen for mental health in the substance abuse treatment system and a valid substance abuse screen being administered in the mental health treatment system. Screening typically takes little time and does not require high levels of staff qualifications. Co-occurring screening does not diagnose. It in fact either gives a result of just one disorder present or, alternatively, the existence of two disorders.

In cases where the screen indicates the presence of two disorders (and if we look at current prevalence studies, this will be a significant number) the positive result will be followed by an integrated assessment. Currently both systems assess for mental health and substance abuse respectively. An integrated assessment would be a major change in current practice and would always follow a positive screen result. In the mental health system it would require the addition of a substance abuse assessment process or assessment instrument being administered and in the substance abuse treatment system the addition of a mental health assessment process or instrument being administered.

Having now adequately assessed the consumer, the results of both the integrated screening and assessment should form the basis of a client centered integrated treatment plan. In many ways, a truly integrated treatment plan can be a catalyst for co-occurring systems change. It is unlikely that in the first instance programs will be sufficiently enhanced in order to meet all the needs of the treatment plan and in a vast number of places this has lead to collaboration and memorandums of understanding between the two systems.

The integrated clinical pathway, as described, has the ability to transform the process that leads to effective treatment but the implementation of co-occurring evidence and consensus-based practices will be the vital component for an effective outcome. Evidence-based practices are now the centrepiece of many service contracts but in the field of co-occurring disorders are often misunderstood. Evidence-based is the equivalent of the highest level of research rigor and because of this the evidence-based practices that have been developed for co-occurring disorders to date have all been for the severe and persistent mentally ill. The good news is that for the vast array of co-occurring disorders consumers who have mental disorders and a substance abuse disorder, there are many consensus-based practices that are proving to be beneficial. Typically, this is the population treated in the substance abuse system. The treatment improvement protocol, Tip 42, was developed to change treatment practice for this population and now forms the basis of significant workforce development. Also critical in this change process is an understanding that co-occurring disorders are not confined to those with a serious mental illness and a substance use disorder but includes vast numbers of consumers with a substance use disorder and a large array of mental disorders. Early developments in the field of co-occurring disorders mostly targeted the seriously mentally ill. This did not provide a lot of incentive for the substance abuse treatment system to engage in the process. This is now changing.

Building co-occurring capacity is a large undertaking for decision makers. Early indications would suggest that addiction only or mental health only treatment

services will not be able to leap to enhanced comprehensive services in one leap but that they are more likely to step through a process of co-occurring capable development on their way to becoming enhanced. This allows for a process of cultural change in attitudes and values and the building of additional resource. Furthermore, co-occurring competency development can also be stepped through these levels of change.

The DDCAT (Dual Diagnosis Capacity in Addiction Treatment) is a tool that has been developed to measure co-occurring capacity both in the substance abuse and mental health treatment systems. It scores on a number of domains and asks the same questions to leadership, counselors and consumers in seeking an accurate score. It is now being used by a number of States in the U.S. Providers like the process, as it gives them a baseline on all the critical domains and enables them to target an area for further development. Results of the survey show a service to be either addiction or mental health only, co-occurring capable or co-occurring enhanced. Early results of surveys across the U.S. indicate that there are not too many enhanced services but a big number moving towards capable and a number moving from capable towards enhanced.

There is both a cultural and systems change occurring as we move towards a more integrated approach to co-occurring treatment. This paper indicates a number of the key steps that can be undertaken to get there.

# APPENDIX 2

## INTEGRATION OF OPIOID ADDICTION AND PAIN SYSTEMS: EVIDENCE FOR PRACTICE

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The idea that pain and addiction (euphoria) might not be unrelated human experiences is an old one; literary references to pain and pleasure as existing on a continuum date back to the 1600s. Progress made in the last decade has established that significant neuroanatomical overlap exists between the areas of brain underlying pain and reward (putative addiction) and that these systems share as a central neuropepetide the opioids, endogenous or otherwise. The intersection of pain and addiction at the mu-opioid receptor might very well have a genetic component; inbred strains of laboratory animals respond in patterned way to opioid administration, such that there is an inverse relationship between the amount of analgesia and reward obtained.

Clinical overlap of these systems become particularly relevant in the management of pain in persons addicted to opioids. With respect to this patient population, there is accumulating evidence that pain systems are changed in addicted individuals such that their experience of pain is heightened and their tolerance for pain decreased. Pain is the most highly modulated of the senses, with the fine tuning of the pain experience occurring in both spinal (ascending) and brain (descending) sites. Simply the presence of untreated addiction in a patient is likely to worsen the pain experience by initiating various facilitators of pain, such as subtle withdrawal syndromes, sympathetic arousal, muscular tension, concomitant health problems, increased risk for injury, sleep disturbances, detriments in affect and function, and noncompliance.

Addiction to opioids in particular brings with it the additional direct effect of the abused or treatment (i.e. methadone) opioid on opioid-relevant pain systems. Work in our human experiments has repeatedly demonstrated that individuals on methadone or buprenorphine for the treatment of opioid addiction have significantly diminished tolerance to cold-pressor pain than do cocaine addicts, drug-free ex-opioid addicts, and normal control subjects. These data suggest that opioid-use in particular contributes to diminished pain tolerance, reflecting what has been well-described in animal models as opioid-induced hyperalgesia. This idea that opioid addicts are relatively pain intolerant was noted in the early medical literature, being described by the most prominent physician of the time, Charles W. Carter, in 1908 as "a hypersensitiveness to pain". Unfortunately, this notable pain intolerance in opioid addicts was not carried forward into modern concepts of addiction and is absent from the DSM-IVR criteria for substance dependence. These diagnostic criteria do,

however, recognize 'muscle aches' as a symptom of opioid withdrawal and suggest that opioid-withdrawal hyperalgesia might be an 'unmasking' of opioid-induced hyperalgesia. In fact, we have been able to demonstrate opioid withdrawal hyperalgesia occurring in normal control subjects following a single dose of opioid.

Models explaining opioid-induced hyperalgesia have conceptualized the heightened pain response in opioid addicts as an opponent process to opioid analgesia, which, according to this theory, is longer lasting and more resistant to change than the initial analgesic effect. The opposing analgesic and hyperalgesic processes are theorized to result in a new allostatic state in the individual and to be a particularly robust response to opioid administration. The idea that opioid-induced hyperalgesia is an outcome of opioid administration requires reconsideration of the phenomenon of opioid analgesic tolerance. Is what appears to be opioid analgesic tolerance actually an organismic expression of an opioid-induced increased sensitivity to pain? In the opponent process model, opioid analgesic tolerance is understood not so much as a down-regulation of analgesic systems but an upregulation of hyperalgesic systems.

Multiple neural sites of action have been implicated in the development of opioid-induced hyperalgesia. Via second-messenger generated changes, opioid administration has been shown to upregulate the excitatory NMDA-receptors located on dorsal horn neurons, thus having an ascending facilitatory effect on pain transmission. In addition, opioid binding to mu-opioid receptors on immune cells (specifically glial cells) appears to result in the release of several pro-inflammatory cytokines from these immune cells, which contribute to pain via nociceptive activity in the spinal cord. Several investigators have also demonstrated that opioids activate descending pain facilitation systems, via their activity in the brainstem (rostral ventromedial medulla) and the subsequent release of cholecystokinin, a pro-nociceptive peptide in spinal neurons. Interestingly, there may also be a conditioned component to opioid-induced hyperalgesia; mice put in an environment previously paired with opioid administration demonstrate decreased tolerance for pain with placebo administration. Rather than conflicting, these data indicate that the development of opioid-induced hyperalgesia may be the result of multiple neural processes. Of interest in the clinical setting is the degree to which opioid-induced hyperalgesia complicates the management of pain in opioid addicted patients. Recent data has demonstrated that chronic pain patients without addiction develop considerable hyperalgesia and analgesic tolerance within one month of regular opioid administration.

Probably the most important principle with respect to providing pain management for persons with opioid addiction is the understanding that adequate treatment of the former cannot occur without effective treatment of the latter. An individual with active, untreated opioid addiction will not improve with an opioid analgesic prescription. The American Pain Society describes addiction in the pain patient as evident in impaired control over analgesic use, compulsive use, continued use despite harm and/or craving. Poorly or untreated pain or addiction is evident as poor functionality with respect to activities of daily living. Both pain and addiction interfere with the ability to fulfill family, vocational and social roles, thus provision of opioids to the pain patient with untreated addiction cannot result in improved functionality; the presence of addictive disease precludes appreciation of the benefits

of pain relief. In fact, the absence of improved function despite adequate and aggressive opioid analgesic provision is a sign that addictive disease may be present. Happily, the intersection between pain and addiction with respect to functional outcomes portends that interventions used to successfully treat the former will also be effective in treating the latter. Successful treatment of addictive disease is evident in an increased ability to comply with regimes, enhanced cognitive skills, utilization of behavior modification techniques, improved social support, management of neuropsychiatric complications and improved stress control. Certainly, each of these outcomes is evident as increased functionality and central to successful management of pain, thus the positive effects of addiction-related interventions "spill over" into the ability of patients to manage pain.

# APPENDIX 3

## TRANSFORMATIONS IN HEALTH SERVICE DELIVERY: INDIGENISATION OF THE SECTOR

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After more than a century of relative exclusion from direct involvement in health service delivery, Māori participation has escalated in an unprecedented manner. Since 1982 there has been a progressive indigenisation of the health sector, initially in mental health but later across a wide spectrum of health-related activities including hospital-based clinical services, public health, primary health care and disability support. The trend is in sharp contrast to attitudes existing in 1907 when Māori extinction was predicted and Māori methodological approaches to health care were outlawed.

At least six distinct phases can be identified in the current indigenisation process. Firstly, after some conjecture, Māori perspectives on health were accepted as sensible articulations of wellbeing and important foundations for understanding treatment and healing. Te Whare Tapa Wha, for example, drew attention to the importance of balance between spiritual, mental, physical and social dimensions of health. Although the spiritual component did not always sit well with conventional scientific views, there was general recognition that cultural perceptions were integral to good outcomes and the model has since been incorporated into assessment, treatment and measurement tools.

Secondly, greater Māori participation in health has been given strong endorsement by government. As early as 1987 the New Zealand Board of Health recommended that tribal authorities had vital roles to play in health delivery and in the subsequent 1993 health reforms, clear pathways for Māori inclusion were prescribed. Māori health and Māori health perspectives are further emphasised in the National Health Strategy, Primary Health Care Strategy, Mental Health Strategy (Te Tahuhu), Disability Strategy and the Māori Health Strategy and current health legislation. The New Zealand Public Health and Disability Act 2000 has obligatory consequences for district health boards which are required to report against progress made towards improved health outcomes for Māori.

Thirdly, conventional health and addiction services have added ethnic values and customary practices to treatment programmes, creating a bicultural – if not multi-cultural – formula. Typically services have engaged cultural advisors, used Māori language, icons and culture to improve engagement with Māori, modified assessment protocols to accommodate Māori values and perspectives, involved whanau in

decision-making and in some cases have established Māori units within hospital settings. Two early innovations both occurred in large psychiatric hospitals. At Tokanui Hospital, Whaiora was established by a group of Māori health professionals and has evolved over time into a major mental health NGO (Hauora Waikato). A second unit, Whare Paea had a less successful outcome. It was driven by a political rather than a health agenda and failed to demonstrate health benefits to Māori. A particular challenge for conventional services has been to integrate clinical and cultural perspectives. Not infrequently, clinical and cultural pathways have developed in parallel, diminishing the potential effectiveness of treatment programmes.

Fourthly, the 1993 health reforms provided a further opportunity for Māori health groups to tender for the delivery of services, mostly in primary health care, disability support, mental health and addictions. Quite quickly, provider organisations multiplied from as few as five or six programmes in 1984 to some hundreds of registered Māori provider organisations by 2007. Their approach was typically based on Māori perspectives, often employing cultural interventions such as mirimiri (a form of massage), rongoa (plant and herbal remedies), mau rakau (weaponry exercises), which saw the emergence of a number of counselling methods built around Māori concepts of time, place, boundaries, relationships and environmental connectedness. But they also came to employ conventional methods and professional staff.

Fifthly, workforce development has become a high priority for improving Mäori standards of health. In 2000, Māori made up around fourteen percent of the total population but only five percent of the national health workforce. In order to increase the size of the workforce, two broad strategies have been instituted: increasing the number of Māori health professionals and engaging cultural advisors and Māori community health workers. On both counts there have been substantial gains. From an estimated medical workforce of around 60 in 1984, there are now over 200 Māori medical practitioners across range of specialties. In the addictions workforce Māori make up over 20 percent of the workforce. In addition, there has been accelerated growth in nursing, dentistry, social work and clinical psychology.

The sixth phase of Māori health transformation has been the impact of Māori perspectives on health research. Efforts to recognise Māori world views in research were greatly boosted in 1993 when the Health Research Council of New Zealand funded two Māori health research units and established a Māori Health Committee to support Māori led research projects. In addition, a series of scholarships and training fellowships have enabled more than twenty Māori researchers to seek advanced research qualifications. Māori health research objectives are two-fold: to increase the Māori research capacity and to encourage the development of methodologies that reflect Māori world views and intellectual traditions.

Transformations in New Zealand's health system over the past two decades would not have occurred without at least three catalysts. Importantly, transformational leadership has been critical. Transformational leadership is essentially outward looking; integrative more than defensive; ready to cross institutional boundaries and institutions; and strategic rather than bound by a set of operational conventions. Stand-alone charismatic leaders have less to offer changing environments than leaders who can weld together other leaders – from political, tribal, community and

professional arenas – and encourage a deliberate strategy of succession planning. Moreover, transformation requires a type of leadership that is distributed so that the benefits are widespread rather than localised, triggering and enabling different types of transition in society.

A second catalyst has been the ability to construct interventions at an interface. Working between two bodies of knowledge – science and indigenous knowledge – recognises that neither indigenous knowledge nor science alone provides a universal answer. Health care is firmly premised on science and the medical model depends on evidence derived from scientific inquiry. In contrast, indigenous knowledge is not fixated on science; instead it largely depends on a set of values and observations that link people into the wider natural environment. The challenge is not to dismiss either knowledge base, nor to explain one according to the tenets of the other, but to embrace both in order to reach fresh insights that might enrich the lives of those who are touched by both systems.

In contemporary health care the interface can take many forms: the interface between health and other sectors, between physical health and mental health, primary care and secondary care, wellness and disease, professional leadership and consumer perspectives, technology and human compassion, clinical skills and cultural paradigms.

Finally, a third catalyst can be found in the wider operating environment. In a heavily regulated country like New Zealand, unless government policies actively endorse approaches to health care that make sense to specific populations, change is not likely to occur. Those policies will determine how health care is configured, the opportunity for new providers to enter the field and the readiness of health systems to employ treatment methods that align with cultural philosophies and perspectives. Of equal importance are wider societal values and priorities and the standing that Māori have, as indigenous peoples, in New Zealand.

Indigenising the health sector has witnessed a remarkable turn-around in New Zealand's approach to health care over a relatively short period of time and there are early signs that the changes have contributed to measurable health gains.

# APPENDIX 4

## PACIFIC PEOPLE AND SUBSTANCE USE IN AOTEAROA NEW ZEALAND

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This paper highlights the key issues raised during the keynote address entitled Pacific People and Substance Use in Aotearoa New Zealand at the Combined APSAD Cutting Edge Conference held in Auckland New Zealand in November 2007.

The address was perhaps unusual in the fact that it was prepared after consultation with the Pacific contingent of the conference. The address therefore carried individual strands which were the ideas of different Pacific people in regard to what should be the issues covered by a keynote address on the use of substances by Pacific people in New Zealand. It was then my role to weave these different strands into a coherent discussion of the issues that the Pacific contingent considered important and present this to the wider conference audience.

For example:

> Class Struggle - a prominent Pacific researcher espoused the theory that Pacific people in New Zealand belonged predominantly to the working class of our adopted country. Substance use therefore took on a sub-cultural context insofar as the way substances were used by working class people tended to reinforce membership of a particular class. He believed the presentation should be couched in Marxist theory on social organisation and the inevitable poor health and social outcomes that lead to higher prevalence of substance misuse disorders in communities that live with high levels of social and economic deprivation. Taking this message on board it was presented to the conference that they should consider the CLASS debate when considering the use of substances by Pacific people before covering other areas of importance.

This is a very inclusive and perhaps "Pacific process" to the writing of a keynote address which eventually took the following form.

Pacific people now make up approximately 6-7% of the New Zealand population (Statistics New Zealand). It is expected to grow rapidly (56% in the next 10 years) through a combination of high fertility rates and continued immigration. Currently one in 10 children is of Pacific descent but by 2051 this will have changed to one in five. This change in demographic will lead to the development of two distinct

populations - New Zealand born versus Pacific born with very different rates of mental disorder which increase the likelihood of substance use disorders (Te Rau Hinengaro 2006).

In a previous study undertaken in an ethnic specific primary care centre it was found that the 12-month prevalence of alcohol abuse was very high, with 20% of male attendees and 4% of female attendees meeting criteria for hazardous alcohol consumption using the WHO Alcohol Use Disorder Identification Test (Tongan Health Society 2000). The study also found that the hazardous drinkers also showed high psychological morbidity scores (as measured by the 12-item General Health Questionnaire). Attendees who were also identified as pathological gamblers also had statistically significant rates of hazardous alcohol use compared to non-pathological gamblers. These findings are consistent with the international literature and therefore indicate the validity of these commonly used screening tools amongst Pacific people.

Moving to the most recent survey of substance use in New Zealand, Te Rau Hinengaro found that Pacific people have significantly higher rates of alcohol abuse at 17.0% (95% CI 14.6-199.6) compared with the total New Zealand population at 11.4% (95% CI 10.7-12.2) and alcohol dependence 7.6% (95% CI 6.1-9.6) versus 4.0% (95% CI 3.6-4.5). There were no statistically significant differences in drug use between Pacific people and the total New Zealand population.

Te Rau Hinengaro also found that there were high rates of comorbid mental health problems with over 40% of Pacific people with substance use disorder also experiencing a DSM-IV anxiety disorder in the past 12-months. 25% of Pacific people with substance use disorder also experienced a mood disorder in the past 12-months.

Another important finding from Te Rau Hinengaro was the trend in the results that indicated the Pacific groups who had been exposed to Western society the longest had the highest rates of alcohol abuse and dependence. These results did not reach statistical significance due to insufficient numbers of Pacific participants. It did raise the important question of what aspects of Western versus traditional environments predisposed individuals to suffering from substance misuse problems. The address did not attempt to answer this particular question in great detail due to time constraints but the reasons are clearly multi-factorial.

The major factors that stand out as to why Pacific people have higher rates of alcohol related problems are poverty, family and cultural fragmentation.

The average income of Pacific people is $14, 600 with 61% of Pacific people earning less than $20,000. The address posed the question to the audience as to how they would manage on this income and what their housing, educational and health options would be given this limited financial resource. A wider question was then posed as to the types of activities that children could be exposed to that would build confidence and self-esteem within families on this income.

The evidence clearly shows increased family violence and breakdown and cultural fragmentation. This all adds up to poor early childhood experiences that clearly predispose to later mental heath and addiction issues.

The address ended, however, on a note of optimism. There is enough good evidence to identify Pacific children at the highest risk of future mental health and addiction problems and the actual numbers are still small enough that positive interventions at an early age can make a significant difference.

# APPENDIX 5

## THE NEW CULTURAL ERA IN WHICH WE ARE CHALLENGED TO PLAY GOD

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Why do we face so many problems today – social, moral, international etc – for which we receive no ready-made answers from the past? The reason is that we live in a new cultural age – the secular, global age. Though it emerged out of the Christian West, it is now spreading round the globe. Some of our current confusion arises from our failure to acknowledge this great new cultural fact. We are often attempting to solve our problems by methods appropriate to the past cultures we are leaving behind. We need first to understand the nature of the new cultural age – why and how it emerged as it did – why we now shoulder responsibilities previous generations were not even ever aware of.

This presentation set out to sketch WHERE WE ARE, in 2007, in the long history and evolution of human culture and religion. It defined culture as 'a complex whole that, grounded in a common language, constitutes a way of viewing the world and responding to it'. It defined religion as that 'dimension of culture that constitutes a total mode of the interpreting and living of life'.

It then contended that there have been three great ages of culture, all of which are still operating in New Zealand and Australia. Between these ages were two Axial (or transition) periods – the first about 500 BC and the second about 1500-1900.

In the Polytheistic Age (from the cave-man onwards, and exemplified in the Aboriginal and Maori cultures), knowledge, religion, morality and ritual formed one cultural amalgam. Knowledge (including tribal myths of the gods) was transmitted by the elders, for whom final authority lay in the past (e.g. the Dream Time). Choice was minimal; cultural change was slow and strongly resisted.

In the First Axial Period, at several points in Asia, the polytheistic cultures came under critical review by prophets and sages (Zarathustra, the Buddha, Confucius, Middle Eastern prophets from Moses through Jesus to Muhammad). They were instrumental in introducing what may be called the Theological Age and they became the founding figures of the great world religions.

In the Theological Age the religious dimension of culture came to be identified for what it was (an ideology) and was given a name (e.g. Christianity, Islam). These religions began to cross ethnic boundaries and spread, the three most successful being Buddhism, Christianity and Islam; by 1900 they had carved up the world among them. In them, morality became distinguished from ritual (causing the latter

to come under some moral criticism) and ultimate authority was transferred from the past to a supernatural realm above; from there came the divine revelation that was preserved in the Holy Books. Cultural change came to be accepted and even promoted.

The Second Axial Period (1500-1900) was pioneered in the Christian West by the Renaissance humanists, the Protestant reformers, the Enlightenment freethinkers, and the new empirical scientists. For example, Galileo introduced the space age, in which the mythical heaven was swallowed up by the new and vast universe, the Enlightenment freethinkers undermined the supernatural and showed us that all is natural, and Darwinian evolution caused the human species to lose its divinely favoured status.

During the 20th century the Second Axial Period ushered in the secular, global age, in which reality consists solely of the physical Space-Time continuum. In this new cultural era, we depend on empirical science rather than divine revelation for reliable knowledge; we claim authority for ourselves, however fallible we may be (hence we replaced absolute monarchy with democracy); religion is no longer supernaturalistic but naturalistic and human in origin (hence it is privatised and personalised).

As a result of the knowledge explosion, cultural change is now accelerating; population has expanded exponentially, raising dire ecological problems for our immediate future. This is WHERE WE ARE in 2007.

There is much in the new cultural era to be grateful for: more personal freedom, recognition of human rights, emancipation of slaves, emancipation of women, acceptance (however grudging) of homosexuality, condemnation of racism. But are we all able to handle so much personal responsibility? With the loss of social and other pressures to conform to the stereotypes expected by the former cultures, some mistake the new freedom for unbridled license, as exemplified by the growth of anti-social behaviour and the increase in personal violence. Are we sliding into social chaos? Do the 20th century world wars and the new weapons of mass destruction point to even worse violence ahead, to say nothing of our war with the planet itself?

Where has God gone? In the polytheistic age the gods were a class of beings who personified the forces of nature. At the first Axial Period the gods were rejected and replaced by the one Supreme Being called GOD, who was the key to everything. Throughout the Theological age this one GOD was believed to be in ultimate control both of nature and of human history.

In the Second Axial Period this God was rejected as an objective and personal being who is in control; and in his place we now have as our ultimate guide (or god) what were said to be the chief attributes of GOD – love, justice, truth, compassion.

The eclipse of the traditional notion of God has left a God-shaped hole to be filled. Some fill it by their own megalomaniac self-assertion. Some (such as fundamentalists) blindly return to the past certainties. Some seek a replacement in New Age cults. Some seek escape /consolation in alcohol. Some seek altered states of consciousness, by artificial means (drugs). And some, fortunately, accept their new responsibilities!

Whereas in the theological age it was assumed that God alone created and controlled species (which were therefore sacrosanct) – in the secular age we humans (unthinkingly) destroy species and (knowingly) create or modify species by planned breeding, genetic modification, cloning and in vitro fertilization. It was assumed in the theological age that God alone determined our state of health and the limits of human life ("The Lord gives and the Lord takes away") – in the secular age we humans can, and do, lengthen life by medical science, exchange body organs, prevent life by contraception, make life possible by IVF and determine the most appropriate time of death by euthanasia.

So while we may continue to draw inspiration, and even some insights, from the cultures of the past ages, in the new secular age we now have to work out our own most satisfactory solutions to our problems. And even though our solutions may not be perfect, we then have to take full responsibility for them. It could be said that we now have to play God.

Indeed, we humans can no longer avoid playing God, but we must do so within the parameters set by nature and with as much wisdom as we can muster as we are guided by truth, justice, honesty and compassion.

## AUTHORS INDEX

**Author..... Page Numbers**