Dissemination trial of computer-based psychological treatment in a drug and alcohol clinical service: Predictors of technology integration

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Declaration

1. The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University Digital Repository, subject to the provision of the Copyright Act 1968.

2. The work in this thesis was carried out under the supervision of Dr Frances Kay-Lambkin, Research Fellow, National Drug and Alcohol Research Centre, University of New South Wales; Professor Jenny Bowman within the School of Psychology, The University of Newcastle; and, Mr Steven Childs, Clinical Director, Central Coast Drug and Alcohol Clinical Services.

3. The conduct of this research was approved by the University of Newcastle Human Research Ethics Committee (H-2008-0271), the North Sydney Central Coast Human Research Ethics Committee (08/HARBR/78/79), and the Macquarie University Ethics Review Committee (Human Research, 0806-125M(R)).

Signed: …………………………………………... Date: …20/05/2013……
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Dedicated to the memory of my mum - Denise Simpson. It was her unwaivering belief in me that got me through undergraduate studies. It was that same support, encouragement and sometimes harassment to get things done that I sorely missed over the last couple of years. I miss her immensely and hope she is proud of me.

Before I get into the pleasantries I must make a disclosure - my doctorate, culminating in this paper, has run overtime. But if given the time again I’m not sure I would approach things differently. Postgraduate studies ran second to most other stuff happening in my world. Family, work, having fun and procrastination took precedence. And haven’t I had some great moments while simultaneously juggling the demands of night classes, placements and research. Getting married, renovating houses (N=2) and an interstate move to Geelong, Victoria, in mid-2012 are just some of the highlights. Without question, top of the list was the birth of Willoby in January 2010 and Arlo in March 2013. I now have the privilege of supporting both boys to develop into intelligent, thoughtful and cheeky men. However, I can’t take all the credit. Much of that has to go to my wife, Melanie. Mel - thank you for your patience. It’s time to get this thesis monkey off my back. In saying that, I submit this paper with pride and a genuine sense of achievement.

I would like to sincerely thank my supervisors Frances Kay-Lambkin, Jenny Bowman and Steven Childs for their guidance. To Dr FKL - nothing I could write here would adequately describe your enormous intellectual horsepower, generosity and downright awesomeness. A Nobel Prize along with an illustrious posting somewhere in the academic stratosphere awaits.

Many thanks also to my collaborating student researchers. I also extend my deepest thanks to the clinicians and clients from the Central Coast Drug and Alcohol Clinical Service who generously shared their time, expertise and willingness to try something new.
Abstract

Scope

Controlled efficacy trials have established that the SHADE (Self-Help for Alcohol/other drug use and Depression) computer-based psychological treatment (CBPT) package produces equivalent, and on some measures superior, benefits to face-to-face treatment for co-existing depression, alcohol and/or cannabis use. As a treatment medium, CBPT offers great potential to improve mental health outcomes and reduce many barriers people face to accessing evidence-based treatment. The potential benefits of CBPT for the broader healthcare system are equally significant. To date, the effectiveness of SHADE remains unknown. Researchers are also yet to establish how and to what extent clinicians might employ CBPT in their clinical practice. This particular study formed part of a larger real-world dissemination trial testing the effectiveness of the SHADE CBPT package, from both a clinician and client perspective, within a publically funded drug and alcohol clinical service.

Purpose

The purpose of this study was to: (1) elicit clinician attitudes and concerns about adopting new treatment innovations into their clinical practice, and the SHADE CBPT package in particular; (2) complete a naturalistic field study of SHADE use within a real-world clinical setting – by observing if, when and how clinicians working in a drug and alcohol clinical service might utilise SHADE in practice; (3) test the effectiveness of SHADE exposure on mental health and alcohol/other drug (AOD) use outcomes, along with self-reported willingness of clients to use CBPT in their treatment; and (4) examine the association between two clinician factors, namely openness to innovation and computer anxiety, and adoption of the SHADE package.
Methodology

The study employed a mixed methods design. Thirteen clinicians working within a publically funded drug and alcohol clinical service on the Central Coast of New South Wales, Australia, were recruited. First, clinicians participated in a semi-structured focus group to reveal obstacles to dissemination and implementation of CBPT into a clinical setting. At baseline, clinicians were also assessed for their computer anxiety (a proxy measure of computer comfort) and openness to innovation. Clinicians were then supplied with the tools needed to use the SHADE CBPT package. Clinicians referred clients to the study (N=77), with consenting clients completing a baseline and 15-week follow-up clinical assessment with an independent research assistant, comprising a range of mental health and AOD measures. Over the course of the study, clinicians submitted session checklists detailing information about session content, including the context and extent to which SHADE was used for each client (N=304 checklists submitted for 35 individual clients).

Results

Thematic analysis identified four major themes relating to clinician attitudes and concerns about adopting the SHADE CBPT package into their clinical practice. ‘Technology’ describes concerns and logistical challenges surrounding the use of multimedia technology; ‘Effectiveness and compatibility’ describes the extent to which new treatments adhere to minimum practice standards while simultaneously aligning with a clinicians preferred theoretical orientation and clinical style; ‘Clinical judgement’ revealed a range of clinical considerations surrounding the use CBPT in clinical practice; and ‘Potential’ describes the perceived opportunity presented by the SHADE package and its likely application within a publically funded drug and alcohol clinical service.
Detailed descriptive statistics showed that clinicians employed the SHADE program in a variety of different ways. When SHADE modules were used, it was generally introduced in the early phase of treatment, on average around session 4 (M=3.77, SD=5.26, Range 1-36). However, only 12 of the 35 clients whose session checklists were available were exposed to the SHADE modules. This is despite 28 of these clients indicating they would be willing to use SHADE if offered to them. Repeated measures ANOVA explored changes in key client outcome variables between baseline and follow-up; and exposure to the SHADE modules during treatment sessions (yes/no). Over the study period, clients reported significant reductions in alcohol and cannabis use, however this was not moderated by exposure to SHADE. Clients also reported a significant reduction in depression, anxiety and stress between baseline and follow-up, but not according to SHADE exposure. Contrary to the hypotheses, no significant predictor relationship was detected between clinician openness to innovation or computer comfort and their propensity to adopt CBPT.

**Conclusion**

This original study offers preliminary findings of factors that promote and impede clinician adoption of CBPT into their clinical repertoire. Clinicians were open to innovation, not anxious about using computers or technology, yet still chose to utilise the SHADE CBPT package with a small proportion of their clients only. Clinicians in this study tended to use SHADE with one client in their caseload only. Treatment seekers are generally open to receiving CBPT, especially younger people. More research is needed to confirm SHADE’s effectiveness for treating co-existing depression and AOD use problems under real-world conditions. The study offers insight into strategies for successful dissemination and implementation of CBPT into clinical service provision.
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Dissemination trial of computer-based psychological treatment in a drug and alcohol clinical service: Predictors of technology integration

Mental health and alcohol/other drug use disorders are highly prevalent

Studies among clinical and community samples consistently reveal that mental health and alcohol/other drug (AOD) use disorders are highly prevalent in Australia (Andrews, Henderson, & Hall, 2001; Henderson, Andrews, & Hall, 2000) and other developed countries (Hasin, Nunes, & Meyden, 2004; Jenkins, Lewis, Bobbington et al., 1997; Modesto-Lowe, Pierucci-Lagha, & Krenzler, 2004). According to the World Health Organisation (WHO) burden of disease measure, depression and alcohol use disorders rank 3rd and 17th respectively for their contribution to total disease burden. Together, the two disorders account for 5.9% of the global disease burden. Depression and alcohol use disorders also share the unenviable status of being among only four non-fatal conditions in the top twenty burdensome diseases. In high-income countries, like Australia, depression contributes the highest burden of disease while alcohol disorders rank 5th (WHO, 2008).

Mental health problems co-occur with considerable frequency

Another reliable finding is the high co-occurrence of mental health problems. More specifically, the incidence of one mental health problem increases the likelihood of simultaneously experiencing another psychiatric disorder (Kessler, 1994, 2004; Myrick & Brady, 2003; Velleman, 2007). The co-occurrence of mental health and AOD use disorders will be referred to hereafter as ‘co-existing problems’.

Two large community based surveys, namely the National Institute of Mental Health Epidemiologic Catchment Area study (ECA study; Regier et al., 1990) and the National Co-existing Problems study (NCP study; Kessler, Crum, Warner, Nelson, Schulenberg, & Anthony, 1997), have each reported on the high incidence of co-existing problems within the United States general population. According to the ECA
study, 45% of people with an alcohol use disorder and 75% of those with a drug use disorder have at least one other mental health problem (Regier et al., 1990). The NCP study found that 78% of men and 86% of women with an alcohol use problem also met the lifetime criteria for another psychiatric disorder (Kessler et al., 1997).

Australian researchers have detected similarly high rates of co-existing problems. The first National Survey of Mental Health and Wellbeing (NSMHWB) revealed that one-in-four respondents with an anxiety, mood or AOD use disorder simultaneously met the diagnostic criteria for at least one other mental health problem (Andrews et al., 2001). This finding was reconfirmed by the second NSMHWB (Australian Bureau of Statistics, 2008). Teeson et al. (2010) analysed the second NSMHWB data for correlates of alcohol use disorders, finding statistically significant associations between additional AOD use disorders (Odds Ratio; OR=8.2) as well as alcohol and anxiety disorders (OR=2.6).

Grant et al. (2004) examined the prevalence of co-existing problems within publically funded drug and alcohol clinical services in the United States. The study found that 40% of people seeking treatment for an alcohol use problem also had a co-existing mood disorder. Likewise, 1 in 3 people seeking treatment for an alcohol problem had a co-existing anxiety disorder. Patients seeking treatment for problematic drug use (other than alcohol) experienced even higher rates of co-morbidity. More specifically, 60% of people presenting with a drug use disorder had a co-existing mood disorder, while 42% had a co-occurring anxiety disorder. Commentators have noted that the prevalence of co-existing problems increases considerably when including people with subclinical (i.e., risky or harmful) levels of AOD use (Kay-Lambkin, Baker, & Lewin, 2004).
Extortionate latent demand for drug and alcohol clinical services

Despite effective treatments being available, a significant proportion of people with mental health problems (including AOD use problems) do not access any form of treatment; and when people do seek treatment they tend to report that their needs are seldom fully met. Consequently, a significant proportion of mental health problems go untreated (WHO, 2004). Australia is not immune to this problem. Only 60% of Australians diagnosed with clinical depression access any form of treatment, including GP, psychiatrist, psychologist or other health professional. The number of people with anxiety or AOD use disorders accessing treatment is dramatically less, namely 45% and 28% respectively (Paslow & Jorm, 2000). Summarising their findings, Paslow and Jorm cautioned that the abovementioned figures are at best a conservative estimate of unmet need for mental health services in Australia. Moreover, by using categorical measures to determine if a person does or does not meet criteria for mental health diagnosis, in their case the Composite International Diagnostic Interview, omits people with subclinical levels of impairment but who may nevertheless benefit from treatment.

As well as objective indicators of ‘need’ there are a number of perceptual, attitudinal, predisposing and enabling factors that influence a person’s decision to seek mental health treatment or not. Prins et al. (2011) published a comparative study examining the perceived barriers to accessing treatment among a sample of Australian (N=372) and Dutch people with anxiety and/or depression. Sixty-five percent of the Australian sample had previously accessed some form of mental health treatment. The researchers then asked treatment seekers to what extent they felt their needs had been fully met, partially met or remained unmet. The majority of Australian mental health consumers (69%) said their needs remained unmet or they had only been partially met. The authors identified five categories of perceived unmet need. These include:
(1) insufficient information about illness, treatment and/or available services, (2) medication, (3) counselling or psychotherapy, (4) practical support, and (5) skills training. Of those mental health consumers who felt their needs remained unmet, 67% expressed the want for additional counselling or psychotherapy. Over half (54%) of this group also wanted more information about their illness as well as access to a greater variety of treatment options. Mental health consumers offered a number of reasons for receiving inadequate care. Across the five categories of perceived unmet need, mental health consumers expressed the want to have greater ownership over their healthcare, and voiced a preference to solve their problems on their own (self-reliance). Insufficient finances (17%; I could not afford the money) and self-reliance (12%) were the two most frequently identified reasons for choosing not to access counselling or psychological treatment.

In a similar study, Urbanoski, Cairney, Bassini and Rush (2008) examined the association between mental health diagnosis and unmet need among a large sample of Canadian mental health consumers. Participants (N=4,052) were categorised into one of four mental health profiles, namely drug use disorder only, mood disorder only, anxiety disorder only and co-existing problems. Controlling for service use and other covariates, the study found that treatment seekers with co-existing problems were significantly more likely to report unmet need(s) than those with single disorder presentations (OR=3.23). The study also examined reasons for perceived unmet need by diagnosis. For those with co-existing problems, the most common reasons given for perceived unmet need was they either ‘did not get around to it’ (30%) or they would ‘prefer to self-manage’ (25%).

As community awareness of mental health and AOD use problems continues to grow, the mental healthcare system faces a substantial challenge to address existing gaps, as well as keep up with an ever-increasing demand for its services. No more so
will this challenge be evident than in publically funded drug and alcohol clinical services, especially meeting the complex and multiple needs of people with co-existing problems. Policy makers, mental health administrators and AOD clinicians alike must somehow reduce barriers to care, while simultaneously increasing the availability of cost-effective scientifically supported psychological treatments.

**Science-practice gap**

Aside from high latent demand, drug and alcohol clinical services are also plagued by a number of unique challenges. One of the central issues is the sizable gap, some have described it as a ‘chasm’, between latest empirical research and the treatment people receive. This phenomenon is often referred to as the science-practice gap. Despite the proliferation in recent decades of published research on evidence-based treatments for AOD use problems, researchers have said that drug and alcohol clinical services’ embracement of evidence-based practice has been less pronounced than any other area of healthcare (Lamb, Greenlick, & McCarty, 1998; Miller, Sorensen, Selzer, & Bringham, 2006).

A number of explanations have been provided for the science-practice gap. Traditionally, drug and alcohol treatment services have operated in relative isolation from the broader healthcare system. Consequently, an alternate system of care was created for people with AOD use problems, often operated by peer networks with few links with the research sector or mainstream healthcare (Miller et al., 2006). Others claim that the primary reason for the science-practice gap is found in the inherent challenge of generalising laboratory findings into the clinical setting (Lamb et al., 1998). Most high value research utilises a randomised controlled trial design, which delivers a high level of internal validity and allows researchers to determine the effectiveness of an intervention by controlling for sources of variation. Nonetheless, it
can be difficult to generalise highly controlled conditions to the clinical setting. Accordingly, even if AOD clinicians are up-to-date with the latest empirical treatment recommendations it may be difficult to apply them in a clinical setting. Commentators also highlight a number of system- and service-level barriers to undertaking naturalistic and externally valid research within drug and alcohol clinical services. Two key impediments to conducting real-world research in drug and alcohol clinical services include: (1) inadequate financial resources for research, and (2) insufficient skills and incentives for treatment providers and/or clinicians to conduct research (Meara & Frank, 2005).

Others have suggested that the science-practice gap is a direct consequence of informal diffusion methods used to transfer new AOD treatment innovations from the laboratory to the clinic. Without purposeful and strategic dissemination of new treatment innovations, clinicians have a tendency to develop a strong commitment to a particular treatment model irrespective of the empirical support for that model (Miller et al., 2006; Morgenstern, 2000). In a positive sign that the science-practice gap is closing, Garner’s (2009) review of evidence-based treatment research within drug and alcohol clinical services concluded that “significant progress has been made, especially with regard to the advancement of the field’s knowledge about attitudes toward evidence-based treatments and the extent to which specific evidence-based treatments are adopted in practice” (p.394). Nonetheless, closing the science-practice gap remains a significant and real challenge, especially when considering the treatment experience of people with co-existing problems, which, as already noted, is the norm rather than the exception.

Todd, Sellman and Robertson (2002) presented scenarios depicting real-world issues pertinent to the treatment of co-existing problems to 261 clinicians, treatment seekers and family members of people with mental health problems in New Zealand.
The qualitative study set out to uncover impediments to optimal care for people with co-existing problems. The authors condensed barriers to optimal care for co-existing problems into three categories, namely: (1) system issues - the healthcare system is inadequately resourced and/or organised to cater for the needs of people with co-existing problems; (2) clinical issues – insufficient clinical expertise to treat co-existing problems; and (3) attitudinal issues – antiquated practices or attitudes held by clinicians and/or clinical services. The findings relating to clinical issues were particularly telling. While clinicians were reluctant to acknowledge deficits in their own practice, there was a consensus among participating mental health professionals that most clinicians do not have the requisite skills and/or knowledge to deliver effective treatment for co-existing problems. The authors commented that this hardest-to-help cohort “seem to expose the inherent weaknesses within [the] mental healthcare [system] . . . which all patients are to some degree subjected” (Todd et al, 2002; p.796).

**Optimal care: High quality, high performing and cost-effective psychological treatment**

Compared to single disorder presentations, people with co-existing problems often experience poorer treatment outcomes across a range of psychosocial measures (Baker, Kay-Lambkin, & Lewin, 2007). Kavanagh, Muesser and Baker (2003) described several key features of co-existing problems that have fundamental implications for treatment. These include: the high frequency of co-existing problems; higher rates of co-existing problems in more intensive treatment settings; poorer physical and psychiatric outcomes for people with co-existing problems compared to single problem populations; and inadequate service provision largely resulting from
antiquated detection and exclusion policies and the need for specialised intervention strategies for different subgroups of co-existing problems.

A number of models have been established to inform treatment planning for co-existing problems (Kay-Lambkin et al., 2004). To date researchers have found little support for models that promote a temporal relationship between problematic AOD use and mental disorders, or visa versa. Instead, evidence suggests that co-existing problems are the result of a number of shared biological, social and environmental risk factors (Teesson & Proudfoot, 2003). Rather than focusing on the systematic classification of co-existing problems investigators recommend that treatment for co-existing problems should adopt a needs based approach that targets the idiosyncratic impairment and distress experienced by the patient. The advantage being that treatment can begin in the absence of a formal diagnosis, facilitating earlier engagement into treatment and encouraging multidisciplinary contribution from a range of health professionals (Proudfoot, Teesson, Brewin, & Gournay, 2003).

Despite much being known about the epidemiology and associated characteristics of co-existing problems, researchers have so far been less definitive about establishing evidence-based intervention protocol(s), including psychological and/or pharmacological treatments (Drake, Mueser, Brunette, & McHugo, 2004; Drake, O’Neal, & Wallach, 2008; Tiet & Mausbach, 2007). Much of what treatment research for co-existing problems is available has been roundly criticised for its poor methodological quality (Drake et al, 2008; McHugo et al., 2006). Most notably, only a small proportion of this research has utilised a randomised control design. An even smaller proportion of the research has been replicated (Tiet & Mausbach, 2007). Two recent publications, namely the Drug and Alcohol Psychosocial Interventions Professional Practice Guidelines (NSW Health, 2008) and Guidelines on the Management of Co-occurring Alcohol and Other Drug and Mental Health Conditions
Integrated stepped-care for treating co-existing problems

Traditionally, co-existing problems have been managed in separate systems (i.e., either drug and alcohol clinical services or the mental health system), often resulting in clinical and system barriers preventing optimal care (Burman & Watkins, 2006; Kay-Lambkin et al., 2004). Kay-Lambkin et al. (2004) innovatively likened the experience of treatment seekers with co-existing problems to that of navigating a complex roundabout. According to the analogy, treatment seekers with co-existing problems have the propensity to either get stuck within, shuttled between, or even fall through the cracks of services all together.

Recognising this problem, Australian and United States practice guidelines, including the Drug and Alcohol Psychosocial Interventions Professional Practice Guidelines (NSW Health, 2008), Guidelines on the Management of Co-occurring Alcohol and Other Drug and Mental Health Conditions (Mills et al., 2010) and Practice Guidelines for the Treatment of Patients with Substance Use Disorders – Second Edition (American Psychological Association; APA 2006), have recommended adopting integrated psychosocial treatment models as best practice for treating co-existing problems. Integrated treatment combines both mental health and AOD use interventions into one unified management program, creating a mechanism by which assessment and treatment is combined, ensuring that multiple disorders are managed simultaneously (Burman & Watkins, 2006; Mueser, Noordsey, Drake, & Fox, 2003). Integrated treatment addresses two fundamental challenges faced by treatment seekers and clinicians alike. First, integrated treatment offers better access
to requisite intervention for co-occurring disorders; second, by combining interventions it facilitates a tailored treatment protocol (Mueser et al., 2003).

Despite the mounting evidence supporting integrated treatment for co-existing problems, drug and alcohol clinical services have so far been slow to adopt this paradigm of care. Ducharme, Knudsen and Roman (2006) found that just over half (58%) of drug and alcohol clinical services in the United States offered some form of integrated treatment for co-existing problems. Grella and Stien (2006) examined the outcomes for patients with co-existing problems receiving residential AOD treatment. The study concluded that patients who received integrated treatment, referred to as dual-diagnosis programs, were more likely to utilise mental health services. Furthermore, patients receiving integrated treatments showed significantly greater improvements in psychological functioning than those who received treatment for their AOD use disorder only.

Mangrum, Spence and Lopez (2006) evaluated the 12-month treatment outcomes of people (N=216) with co-existing problems randomly assigned to either integrated or parallel treatment conditions. The study found that patients who received integrated treatment achieved significantly better psychosocial outcomes than those referred to the parallel treatment condition. Similarly, Baker et al. (2009) examined the effectiveness of brief-intervention, single-focused and integrated psychological treatment for people with co-existing depression and alcohol-use problems. Participants (N=284) were randomly allocated to one of four psychological treatments, namely: (1) brief 90-minute single-session integrated treatment as the control condition, or single-session integrated treatment plus a further nine 1-hour sessions with (2) an alcohol focus, (3) a depression focus, or (4) an integrated depression and alcohol focus. At 3-month follow-up, the study found that 10-sessions
of integrated treatment focusing on both depression and alcohol symptoms was superior to single-focused treatment for co-existing problems.

Recognising the heterogeneous and complex nature of co-existing problems Kavanagh et al. (2003), Kay-Lambkin et al. (2004) and others have recommended that a range of assessment and treatment strategies are needed to effectively treat co-existing problems. Furthermore, this requires an evidence-based model that clinicians can use to inform their practice. It has been proposed that a stepped-care approach to assessing and treating co-existing problems offers the requisite framework to achieve the above objective (Baker et al., 2007; Kay-Lambkin et al., 2004; Kavanagh et al., 2003; Mills et al., 2010; NSW Health, 2008).

The basic premise of a stepped-care framework “involves applying a series of tiered interventions to clients, with less intensive interventions being offered as a first step, and more intensive, targeted treatment being made available contingent on the client’s response to the previous tier of treatment” (Kay-Lambkin et al., 2004; p.416). The stepped-care treatment framework is underpinned by two guiding doctrines. First, patients commence treatment that is the least restrictive of those available whilst not compromising efficacy. Second, the model is self-correcting so that treatments that are not producing significant gains are replaced by an alternate, more intensive evidence-based intervention (Sobell & Sobell, 2000). Establishing what constitutes a least restrictive treatment requires consideration of two factors, namely: (1) the financial burden and/or personal inconvenience a treatment imposes on the patient, and (2) the clinical resources needed to administer a particular intervention (Bower & Gilbody, 2005).

Theoretically, a stepped-care framework within drug and alcohol clinical services enables maximum distribution and utilisation of scarce human and capital resources (Haaga, 2000). Advocating the establishment of stepped-care treatment
frameworks in mental health service delivery, Andrews and Titov (2007) forecast that “needs-based stepped-care was likely to be effective and affordable to the point that a 30% increase in budget would treat 60% more people and produce a 90% increase in health gain” (p.S122). To date, stepped-care treatment approaches have produced positive outcomes across a range of clinical groups, including major depression (Scogin, Hanson, & Welsh, 2003), anxiety disorders (Baillie & Rapee, 2003), alcohol dependency (Sobell & Sobell, 2000), smoking cessation (Smith et al., 2001), methadone maintenance treatment for heroin dependency (King et al., 2002) and co-existing depression and methamphetamine use (Kay-Lambkin, Baker, McKetin, & Lee, 2010).

The stepped-care model offers a flexible pathway for assessing and managing co-existing problems (Baker et al., 2007). Kay-Lambkin et al. (2010) published a pilot trial examining the efficacy of a stepped-care treatment for co-existing methamphetamine use and depression. A small number of participants (N=18) were referred to either (1) Steps-Through-Speed, an adaptive stepped-care treatment delivering cognitive behaviour therapy plus motivational interviewing for depression and methamphetamine use, or (2) an alternate fixed treatment program. Because of the small sample size the study reported descriptive statistics only. Nevertheless, the authors concluded that stepped-care treatment produced at least equivalent improvements in depression and methamphetamine use as other evidence-based treatments. On the other hand, the study failed to detect any difference between the two treatments formats on efficiency measures, explicitly treatment attendance or clinician time. The researchers concluded that specific training in the delivery and philosophy of stepped-care treatment would most likely improve treatment efficiency.

Lovell and Richards (2003) strongly argue for reforecasting the way people enter and receive primary mental healthcare. They, along with Scogin et al. (2003)
propose including self-help psychological treatments as the first step in a tiered healthcare system. The following section will examine the research on self-help psychological treatments, principally self-help for high-prevalence mental health and AOD use disorders. Particular attention will focus on the most innovative form of self-help, namely computer-based psychological treatment (CBPT). The latest CBPT efficacy research will be reviewed before a discussion on the challenges for dissemination and widespread implementation of this treatment innovation within real-world drug and alcohol clinical services.

**Self-help psychological treatment**

Geographical isolation, limited transport, an already overburdened and inflexible mental healthcare system, stigma, insufficient financial resources and/or a preference to self-manage are only but a number of barriers that contribute toward making mainstream mental healthcare unreachable for a significant number of people. One way to increase the accessibility of psychological treatments is to develop innovative delivery platforms that use self-administered formats. There are two main types of self-administered mental health treatments, namely (1) self-help groups and (2) media-based self-help. Each has its own history of development, methodology, evidence-base and relationship with treatment providers (Harwood & L’Abate, 2010).

Self-help groups are made up of voluntary participants or networks of people with similar problems, facilitated by its membership and not by health professionals (Humphreys & Rappaport, 1994). Lieberman (1990) suggested that self-help groups establish themselves when certain needs are not being met by the mainstream healthcare system. Well-known examples of self-help groups in the AOD space include Alcohol Anonymous and Narcotics Anonymous. Kessler et al. (cited in den Boer, Wiersma, & van Den Bosch, 2004) analysed data from the National
Comorbidity Survey to reveal that 63% of drug and alcohol clinical services in the United States actively refer clients to self-help groups. Self-help groups are not the focus of this study.

Media-based self-help, which is the primary focus of this study, employs written text and/or multimedia technology (i.e., audio and/or video material) for the expressed purpose of understanding or solving problems concerning a person’s development or in meeting their therapeutic needs (Marrs, 1995). Hereafter, ‘self-help’ will be used exclusively to refer to media-based self-help.

Clinicians express mixed views about self-help psychological treatment. More pessimistic views range from dismissive scepticism to fear that self-help treatments threaten their existence (Scogin, 2003). Despite this, a significant proportion of clinicians regularly integrate different forms of self-help into their clinical practice. Norcross et al. (2003) found that 85% of clinicians surveyed regularly use self-help books and other written materials as part of their clinical repertoire. Self-help books and written materials are often referred to as bibliotherapy, a subset of media-based self-help. Keely, Williams and Shapiro (2002) found a similarly high proportion (88%) of clinicians in the United Kingdom regularly integrate cognitive behavioural therapy based bibliotherapy resources in their clinical practice.

Campbell and Smith (2003), writing specifically about bibliotherapy, identified four key considerations for clinicians when determining whether or not to employ self-help materials. Namely, are the self-help materials being considered: (1) within the patient’s capabilities, (2) evidence-based, (3) consistent with the treatment goal(s), and (4) appropriate and applicable to the patient’s presenting problem(s).

**Efficacy of bibliotherapy**

Over two decades ago, Scogin, Bynum, Stevens and Calhoon (1990) published a meta-analysis examining more than 40 outcome trials for self-help psychological
treatments. Results indicated that bibliotherapy is more effective than no treatment at all, and in many cases self-help produced similar benefits to clinician-delivered treatment. Since then, dozens of controlled trials and meta-analyses have shown guided bibliotherapy, standardised psychological treatment where the patient completes part of the intervention independent of their clinician, is more effective than control conditions (Gellatly et al., 2007; Hirai & Clum, 2006; Menchola, Arkowitz, & Burke, 2007; Cuijpers, Donker, van Straten, Li, & Andersson, 2010). Despite this, the efficacy research for bibliotherapy remains equivocal. Most notably, outcome data for self-help interventions varies considerably between studies. Studies also differ markedly in their rates of retention and relapse. It also remains unclear whether self-help treatments are as effective as clinician-delivered interventions for all mental health problems. Furthermore, very little dissemination research has been conducted examining the uptake and/or effectiveness of self-help treatments within real-world clinical settings.

Den Boer et al. (2004) examined the effectiveness of self-help psychological treatments for depression and anxiety. The meta-analysis showed a robust effect for bibliotherapy as a treatment for depression. The study concluded that bibliotherapy is significantly more effective than placebo or waiting lists ($d=0.84$). Bibliotherapy was also shown to be as effective as brief clinician-delivered psychological treatment for depression and anxiety ($d=-0.03$).

Menchola, Arkowitz and Burke (2007) also conducted a meta-analysis investigating the efficacy of self-help psychological treatments for depression and anxiety. Unlike earlier studies, Menchola et al. applied a stringent inclusion criterion when screening outcome studies to be examined. To meet eligibility, all studies had to be randomised control trials with head-to-head comparisons between either self-help and a control or self-help and clinician-delivered treatment. They also screened out
studies where patients failed to meet diagnosis for clinical depression. The results of the study concluded that self-help psychological treatments for depression and/or anxiety are more effective than no treatment. However, the clinical benefits produced by self-help were significantly less than that achieved by clinician-delivered treatment. No significant difference was found between self-help and group-based psychological treatments. The authors concluded that whilst a growing collection of literature supports the effectiveness of self-help psychological treatments for subclinical or mild depression, self-help is less effective as a standalone treatment for people with severe forms of clinical depression. Moreover, Menchola et al. recommended that some form of clinician-delivered intervention is needed to effectively treat moderate and severe depression.

Cuijpers et al. (2010) completed a meta-analysis of 21 randomised control trials (N=810) in which guided self-help for depression and anxiety were compared directly with clinician-delivered psychological treatment. Results showed no significant difference between guided self-help and clinician-delivered psychological treatment ($d=-0.02$). The same was true at 12-month follow-up. The study also failed to detect a significant difference in the retention rates between the two treatment formats. This was despite the study having sufficient statistical power to detect even the smallest differences between variables. Cuijpers and colleagues concluded that for those patients who are open to receiving self-administered treatment, guided self-help and clinician-delivered treatments are equally beneficial. Because the research only included studies where participants consented to being allocated to either clinician-delivered or self-help treatments, it remains unclear how generalizable this recommendation is to all mental health consumers. The authors were less circumspect in championing the benefits of clinician-assisted self-help psychological treatment,
blending clinician-delivered and self-help psychological treatments in the delivery of high-quality psychosocial intervention.

**Self-help 2.0: Computer-based psychological treatment**

Computer technology has revolutionised nearly every aspect of human life. Today, computers play a central role in our personal, social and professional lives. The helping professions are not exempt from the expansion of computers and computer-based technology.

The integration of computer technology into psychological practice is constantly evolving. Early commentators writing on the adoption of computer technology into psychological practice forewarned that, with hindsight somewhat exaggeratingly, “the practitioner who fails to understand the impact of computer technology will soon be surpassed by his more enlightened colleagues” (Pressman; cited in Hartman, 1986; p.528).

In the beginning, computers were relegated to supporting administrative functions within the psychology clinic. As the technology improved, psychologists developed computer programs to support a range of non-treatment related functions. Examples of non-treatment functions completed by computers include: online screening tools; software to score, interpret and document psychometric test results; and programs to determine diagnoses, develop treatment plans and track outcomes (Marks, Shaw, & Parkin, 1998).

The latest generation of computer technology has enabled the development of computer-based psychological treatment (CBPT) packages. CBPT employs multimedia technology to deliver psychological treatment to mental health consumers via either software or Internet-based platforms. There is now huge number of websites offering psychological therapy or support online. For example, searching "counselling online" via Google (Australia) returned 35,400,000 results in 0.13 seconds at the time
of writing this paper (May 2013). This figure is 28.9 million more hits than when the same search was done by Shandley et al. in early 2011. Despite the abundance of CBPT packages now available, the science and practice of this innovative treatment medium remains embryonic at best. This is largely because the scientists and professionals operating in this space have so far tended to conduct their work independently of each other. As a result, the terminology, professional standards and methodologies surrounding CBPT remain largely undefined. Recent publications by Barak and colleagues have set out to synthesise the literature and establish working definitions and overarching conceptualisation of CBPT (Barak & Grohol, 2011; Barak, Klein, & Proudfoot, 2009).

As already noted, latent demand for evidence-based psychological treatment outstrips supply. Moreover, as mental health literacy improves the demand for evidence-based psychological treatment will continue to trend upwards. At the same time, there is a complex mix of barriers that impede or delay treatment seekers from accessing mainstream mental health services. Even when people do enter treatment, a significant proportion of them are left wanting by the experience. No more is this evident than for people with co-existing problems seeking treatment from drug and alcohol clinical services. CBPT has the potential to be part of a broader solution to lowering many barriers people with mental health and AOD use problems face to accessing evidence-based treatment.

Cavanagh and Shapiro (2004) identified four psychotherapeutic schools compatible with CBPT. These include: (1) client-centred – computer-based programs that simulate clinician-patient dialogue; (2) behavioural – computer-based skill training programs; (3) psycho-educational and cognitive – computer-based programs designed to impart coping skills; and (4) cognitive behavioural – sophisticated software packages that address the affective, behavioural and physical symptoms of
mental health problems. The structured and sequential nature of cognitive behaviour therapy makes it highly adaptable to self-administered formats, including multimedia platforms (Emmelkamp, 2005).

Barak and Grohol (2011) published a synthesis of CBPT research focussing specifically on Internet-based resources. The paper describes five different types of Internet-supported psychological treatments, namely: (1) online counselling and psychotherapy – interventions that use computer-based technology as the modality of communication between client and clinician; (2) psycho-educational websites – static online platforms that provide information about particular mental health problems; (3) interactive self-guided interventions – structured, self-guided software programs that deliver psychological treatments; (4) online support groups and blogs – peer-to-peer online forums; and (5) other – a category describing anything that doesn’t fit within the other four categories. Examples of ‘other’ Internet-supported psychological treatments included but were not limited to: virtual worlds or interventions that incorporate smart phones or personal data assistants (Barak & Grohol, 2011).

Advantages of computer-based psychological treatment

The potential benefits of widespread dissemination of CBPT within community-based mental health services, including drug and alcohol clinical services (Bickel, Christensen, & March, 2011), are profound. At the same time, even the most ardent supporters of CBPT readily acknowledge that this treatment innovation will never replace ‘good clinical management’ and that clinician-delivered assessments and treatments are needed to effectively manage many mental health and AOD use problems (Andersson, 2010). Instead, CBPT offers an alternate means by which treatment seekers can receive evidence-based treatment, as well as improve the effectiveness and efficiency of mental healthcare within a stepped care framework (Green & Iverson, 2009; Høifødt, Lillevoll, Griffiths, Wilsgaard, Eisemann, Waterloo
et al., 2013). The technology lowers barriers to accessing treatment, complementing and extending healthcare provision.

Compared to clinician-delivered treatment, the cost savings of CBPT are significant (Cavanagh & Shapiro, 2004). One estimate found that computer-based cognitive behaviour therapy costs as little as one-third of its face-to-face equivalent (McCrone et al., 2004). Delegating specific interventions to a computer also reduces the face-to-face time required to treat certain conditions. This provides the opportunity for clinicians to either treat more people or reallocate their time to patients with more complex needs. Marks, Kenwright, McDonough, Wittaker and Mataix-Cols (2004) randomly allocated people (N=93) with panic disorder into computer-based self-exposure, clinician-delivered exposure therapy or computer-guided relaxation. CBPT reduced clinician time by 73% whilst delivering equivalent improvements compared to clinician-delivered exposure therapy, with the benefits maintained at 1-month follow-up. Marks et al. estimated that by delegating self-exposure therapy to a computer would enable clinicians to treat up to four times more patients with panic disorder (Marks et al., 2004). Similarly, Kay-Lambkin, Baker, Lewin and Carr (2009) demonstrated that a CBPT package for co-existing depression and AOD use problems necessitated only 12.5 minutes of face-to-face generic clinician time per week, while producing similar improvements compared to clinician-delivered treatment requiring an average of 60 minutes of specialist psychological input over the same time period.

The benefits of CBPT are equally significant for mental health consumers. The transportability of multimedia platforms reduces many of the individual, economic and service-level barriers that prevent people from accessing treatment. Barriers to accessing mainstream psychological treatment include but are not limited to: high cost of face-to-face counselling; real and/or perceived stigma about seeking treatment;
geographical and/or social isolation; and supply shortage of suitably qualified mental health professionals. In addition, a significant proportion of treatment seekers say they would prefer to, or at least have the option to, solve their mental health problems on their own (Prins et al., 2011).

Unlike humans, computers never get fatigued, they don’t get bored, nor do they forget information by mistake. Computer-based treatments are truly homogenous and deliver standardised intervention in a consistent fashion, establishing a level of treatment fidelity and transferability from research to practice like never before (Emmelkamp, 2005; Waller & Gilbody, 2009).

Detractors of CBPT say that psychological counselling involves complex interpersonal problems, ambivalent emotions and necessitates interpersonal interaction to detect and interpret the meaning of a client’s experience. Some have argued that a key shortcoming of multimedia technology in the clinical setting is its inability to read and interpret interpersonal communication. Specifically, there are concerns that current generation computers cannot understand or respond to speech, they can’t read, they can’t interpret nonverbal cues, nor can they respond flexibly to interpersonal situations (Murphy, 2003).

Efficacy of computer-based psychological treatment

Controlled efficacy trials of CBPT remain scarce. However, a growing number of peer-reviewed papers and meta-analyses have been published supporting the notion that CBPT yields beneficial clinical outcomes for a number of mental health problems, including depression and anxiety (Andersson & Cuijpers, 2009; Barak, Hen, Boniel-Nissim, & Shapira, 2008; Cavanagh & Shapiro, 2004; Cavanagh et al., 2006; Reger & Gahm, 2009; Richards & Richardson, 2012; Spek et al., 2007), as well as AOD use disorders (Bewick et al., 2008; Copeland & Martin, 2004; Cunningham, Humphreys, & Koski-Jannes, 2000; Hester & Delaney, 1997; Kypri et al., 2004;
Linke, Brown, & Wallace, 2004; Moore, Fazzino, Garnet, Cutter, & Barry, 2011; Rooke, Thorsteinsson, Karpin, Copeland, & Allsop, 2010).

A recent meta-analysis of 12 randomised control trials of treatments for drug use disorders concluded that outcomes for CBPT were superior to treatment-as-usual on a number of variables, including self-reported and urinalysis-verified substance use outcomes (effect size between 0.36 and 1.11) and higher motivation to change (Moore et al., 2011). Compared to clinician-delivered treatment, CBPT produced comparable levels of client satisfaction, engagement, retention, and greater knowledge of presented information. This was despite considerable heterogeneity between the different computer-based treatments under investigation (Moore et al., 2011). A study by Brody, Rosen, Brody et al. (2004) found that a self-report drug and alcohol assessment via the Internet was equally valid and reliable as a clinician administered structured interview.

Kay-Lambkin et al. (2009) developed and evaluated a CBPT package for co-existing depression and AOD use disorders called SHADE (Self-Help for Alcohol/other drug use and DEpression). SHADE is a 10-session CBPT program incorporating cognitive behavioural therapy and motivational interviewing (CBT/MI). The SHADE program delivers therapeutic content to patients via a number of interactive components, including video demonstrations, voiceovers, and in-session exercises. Throughout the SHADE treatment program, participants take responsibility for any change that occurs during treatment, including setting goals for therapy. For example, clients have the option to choose whether their treatment goal is one of abstinence or are they seeking a goal of harm reduction/minimisation. Specific therapeutic strategies adopted by SHADE include: mindfulness training, cognitive restructuring, motivation enhancement, pleasant events scheduling and promotion of non-drug related activities, coping with cravings and mood swings, problem solving
techniques, basic schema change methods, AOD refusal and communication skills, and relapse prevention.

For the inaugural SHADE efficacy trial, participants (N=97) with moderate depression and problematic alcohol and/or cannabis use were randomly assigned to one of three treatment conditions, namely (1) brief intervention – one face-to-face assessment and information session as the control condition, (2) clinician-delivered CBT/MI, or (3) clinician-assisted computer-based CBT/MI – SHADE plus brief clinician assistance at the end of each session. Results of the study revealed that clinician-assisted CBPT delivered improvements in depression, AOD use, general functioning and quality-of-life outcomes greater than 0.25 standard deviations relative to the control condition at 12-month follow-up. Participants who received SHADE were also five times more likely than the control condition to report a 50% reduction in hazardous substance use days. Furthermore, the results showed that participants with severe, current depressive and AOD use problems will attend and report benefits from clinician-assisted CBPT that are similar in magnitude to those reported by participants in an equivalent clinician-delivered treatment. Clinician face-to-face time needed to deliver the clinician-assisted CBPT condition was on average 12.5 minutes of contact per session (Kay-Lambkin et al., 2009).

Replicating the inaugural SHADE study, Kay-Lambkin, Baker, Kelly and Lewin (2011) recruited 274 people with co-existing depression and alcohol and/or cannabis misuse across seven urban and rural communities. On this occasion, after an initial face-to-face assessment, participants were randomly allocated into either: (1) an additional nine sessions of clinician-delivered CBT/MI, (2) nine sessions of clinician-assisted computer-based CBT/MI, or (3) nine further sessions of clinician-delivered supportive counselling without any CBT/MI strategies as the control condition. Echoing the original SHADE efficacy trial, the results found that both clinician-
delivered treatment and clinician-assisted CBPT were associated with superior reductions in depression, alcohol and cannabis use compared to supportive counselling, indicating that improvements were not simply the product of nonspecific effects. In addition, the clinician-assisted CBPT condition was associated with improvements equivalent to that achieved by clinician-delivered CBT/MI, with superior results in reducing alcohol consumption relative to clinician-delivered CBT/MI ($d=0.621$) and supportive counselling ($d=0.904$). No significant differences were detected between participants living in rural or urban communities (Kay-Lambkin, Baker, Kelly & Lewin, 2011b).

Supplementing the SHADE efficacy research, Kay-Lambkin, Baker, Lewin and Carr (2011a) set out to examine the acceptability of clinician-assisted CBPT, relative to a clinician-delivered equivalent and a brief intervention control. Using data from the first SHADE efficacy trial (Kay-Lambkin et al., 2009) the study used treatment participation, retention and therapeutic alliance measures as a proxy criterion for acceptability of treatment. Results found that treatment seekers with co-existing problems were equally able to engage, bond and commit to clinician-assisted CBPT as an equivalent clinician-delivered treatment. The study also found that relative to clinician-delivered treatment, client initiative was significantly higher among CBPT participants after 5 sessions, a domain related to better alcohol outcomes.

The SHADE research promises much for CBPT as an ingredient in the treatment of co-existing problems. However, like most CBPT packages, SHADE has not been trialled in a real-world clinical setting given that the studies required participants to attend research clinics and receive check-in sessions with research clinicians. Dissemination trials are needed to examine if clients will still benefit from SHADE under real-world conditions. Researchers have also yet to establish a clear picture of how and to what extent clinicians might employ CBPT in their clinical
practice, especially those with limited training in its use. Likewise, it remains unknown how mental health consumers might use CBPT, and the type of reinforcement and training is needed to best facilitate its uptake and use. Overall, it remains unclear if CBPT will realise its potential.

A small body of dissemination research has started to examine the effectiveness of CBPT within the clinical setting, including drug and alcohol clinical service. For example, Carroll et al. (2008) tested a 6-session multimedia treatment package called Computer-Based Training in Cognitive-Behavioural Therapy (CBT4CBT) as an adjunct to treatment-as-usual. Treatment seekers (N=77) presenting to a publically funded drug and alcohol clinical service with a range of AOD use problems, including alcohol, cocaine, opioid and/or cannabis dependency, were randomly assigned to either: (1) standard treatment or (2) standard treatment accompanied with twice weekly access to CBT4CBT. Participating clinicians did not receive any training in how to integrate computer- and clinician-delivered treatments. The study found that those clients assigned to CBT4CBT combined with clinician-delivered treatment submitted significantly fewer drug-positive urinalyses samples, and tended to have longer periods of abstinence compared to those who received treatment-as-usual. Clients in the CBT4CBT condition also exhibited improved acquisition of coping skills, which mediated the effects of the treatment. A follow-up study found the benefits of combining clinician-delivered treatment and CBT4CBT were durable after 6-months (Carroll et al., 2009).

Brooks, Ryder, Carise and Kirby (2010) published the results of a two-phase dissemination pilot study of a didactic CBPT program within an urban drug and alcohol clinical service specialising in the treatment of co-existing problems. Initially (Phase 1), 28 clients entering treatment for cocaine dependency were provided with treatment-as-usual and randomly allocated into either: (1) access to an additional three
sessions of a didactic CBPT package, called the Therapeutic Education System, per week over an 8-week dissemination trial with cash incentives paid contingent on module completion; or (2) yoked control - no additional treatment but cash payments yoked to a CBPT participant. Phase 1 results found that between baseline and 8-week follow-up assessments, clients in the CBPT condition demonstrated better cognitive behaviour therapy and harm minimisation knowledge compared to those clients who received treatment-as-usual ($d=1.05$). For Phase 2, the researchers set out to monitor CBPT adoption and use, in the absence of research-generated reinforcement (i.e., without cash incentives). Before commencing a 12-week observation period, participating clinicians ($N=5$) attended a 2-hour orientation of the Therapeutic Education System package as well as basic skills training in how to best introduce and engage clients in the use of CBPT. Over the course of the observational field test, clinicians introduced CBPT to a small proportion of their caseload only (0% to 10%). Client utilisation rate of CBPT modules also dramatically decreased in the absence of cash incentives.

More recently, Høifødt et al. (2013) evaluated the effectiveness and acceptability of a guided CBPT intervention by combining the MoodGym CBPT program with brief face-to-face clinician support among a sample of primary care patients with mild to moderate depression. Treatment seekers ($N=106$) were randomly allocated into either: (1) 6-weeks of guided CBPT or (2) a delayed-treatment control condition. The results of the study indicated that guided CBPT, combining MoodGym and face-to-face clinician support, can be effective in reducing depression symptoms for a sample of people with mild to moderate depression within the primary care setting. Moreover, overall treatment satisfaction was high. At 6-month follow-up, reductions in depression and anxiety symptoms were largely maintained.
Perceptions of computer-based psychological treatment and barriers to uptake

A small but growing number of studies have examined the attitudes and/or perception people have of CBPT (Carper, McHugo, & Barlow, 2011; Lillevoll, Wilhelmsen, Kolstrup, Høifødt, Waterloo, Eisemann, et al., 2013; Sinclair, Holloway, Riley, & Auret, 2013; Waller & Gillbody, 2009). The research so far has delivered mixed findings. Understanding the perceptions clients and clinicians have toward CBPT is key to understanding the decisions surrounding the adoption and use of this innovative treatment medium, and barriers to widespread implementation within clinical service delivery.

Recent data from the United States found that 80% of Internet users regularly search for health information online. This figure increases to 92% for young people aged 18 to 29 years (Fox, 2011). A survey of people with anxiety disorders in the United Kingdom found that an overwhelming majority (91%) of respondents expressed the want to access CBPT (Graham, Franses, Kenwright, & Marks, 2001). However, in general, mental health consumers have very limited experience using and/or knowledge about CBPT (Klien & Cook, 2010).

Psychologists are by no means technophobes. Salib and Murphy (2003) found that 63% of psychologists sampled regularly used information sourced from the Internet to inform their clinical practice. A Norwegian study found that 45% of psychologists sampled regularly communicated with their patients via email (Wangberg, Gammon, & Spitznogle, 2007). While psychologists have widely embraced computer technology, the rush to integrate CBPT into their clinical practice has been far more subdued.

VandenBos and Williams (2000) surveyed 1,000 psychologists in the United States and found that only 2% of respondents had previously used Internet-based CBPT programs in their clinical practice. Similarly, Whitfield and Williams (2004)
surveyed 239 cognitive behaviour psychotherapists regarding their utilisation of, and attitudes toward, CBPT. The study signalled that only a fraction (2.4%) of clinicians had ever integrated computer-based and face-to-face psychological treatments. Ninety percent of respondents said they would consider using CBPT packages if they were given specialist training. The study also asked clinicians to rate how effective they believed CBPT might be for treating specific mental health and AOD use problems via a 5-point Likert scale (1=highly ineffective; 5=highly effective). Findings indicated that clinicians believed CBPT would be more effective for treating depression (M=3.6, SD=0.89) than as a treatment for AOD use problems (M=2.01, SD=0.96). The study did not examine whether certain clinician factors (e.g., openness to innovation and/or computer comfort) influenced the future use intentions of CBPT packages.

Mora, Nevid and Chaplin (2008) surveyed psychologists about their attitudes toward CBPT and willingness to receive training in its use. A majority of respondents acknowledged the potential benefits of CBPT, including improving access to evidence-based treatment for people living in rural or isolated communities. Furthermore, respondents predicted that the popularity of multimedia treatments would increase into the future. At the same time, many of the psychologists sampled expressed minimal interest in using CBPT in their clinical practice, even if they received specialised training and support (Mora et al., 2008). A more recent study by Baror (2010) surveyed 43 psychologists regarding their attitude toward CBPT. Clinical psychologists made up 80% of the sample. The majority (79.1%) of clinicians had ‘never’ or ‘not often’ incorporated any form of computer-based technology into their clinical practice. Results indicated a non-significant trend for early career psychologists, those clinicians with less than 7-years experience, to
perceive computer-based cognitive behaviour therapy more favourably than their more experienced colleagues.

Wangberg et al. (2007) surveyed Norwegian psychologists (N=844) about their use and perception of text-based electronic media (*e-therapy*), such as email, short messages service (SMS) and websites. Forty-five percent of the psychologists sampled had previously communicated with a client via email, while 42% had communicated with a client using SMS. In contrast to Mora et al.’s (2008) study, Wangberg et al. found that only 3% of clinicians believed any form of e-communication (i.e., email or SMS) between clinician and client was unacceptable. The study also examined the relationship between a clinician’s theoretical orientation and his/her openness to e-therapy, finding a non-significant trend for clinicians with a psychodynamic orientation to be less inclined to endorse CBPT compared to their colleagues who maintain a cognitive theoretical orientation (Wangberg et al.). In a similar online survey (N=717) by Perle et al. (2012) found that cognitive-behavioural, cognitive, behavioural and systems orientated psychologists tend to be more accepting of multimedia technology than their colleagues who subscribe to the dynamic or existential schools.

Waller and Gilbody (2009) examined 46 qualitative and quantitative manuscripts relating to 36 individual studies to uncover the barriers to uptake of CBPT in clinical practice. The study teased out three main barriers to CBPT uptake, namely: (1) adverse consequences, (2) accessibility, and (3) acceptability. Using retention data as a measure of acceptability of CBPT, the study found a strong but non-statistical trend for people referred to computer-based treatment to dropout more frequently than those receiving clinician-delivered treatment (pooled OR=2.03). The most common reason cited for discontinuing CBPT was personal circumstances, not challenges with the technology. The authors were keen to point out that dropping out
of a research trial is very different to discontinuing treatment. More than 60% of mental health consumers exposed to CBPT rated their treatment experience as ‘good’ or better. On the other hand, the study found clinicians tend to be less accepting of CBPT.

Carper et al. (2011) surveyed treatment seekers (N=55) and clinicians (N=26) about their perceptions of CBPT using Rogers’ (2003) Diffusion of Innovation Theory as a conceptual framework for uncovering barriers to use. The study found that treatment seekers held slightly negative perceptions of CBPT and as a group where not inclined to use the technology in the future. Clinicians, on the other hand, tend to be neutral about CBPT and where slightly positive about their intentions to integrate this innovative treatment modality into their clinical practice.

**Dissemination and implementation of treatment innovations into practice**

“Getting a new idea adopted, even when it has obvious advantages is difficult” (Rogers, 2003; p.1). This observation neatly captures the contrast that exists between clinician want to deliver evidence-based treatment, and the fact that most scientifically supported practices do not easily find their way into practice (Miller et al., 2006).

There are two distinct methods by which scientifically supported treatments can be transferred into practice, namely appropriability or knowledge transfer (Rogers, 2003). Appropriability happens when empirical research triggers adoption of a new innovation. This passive, even organic, diffusion approach is often insufficient to successfully transfer evidence-based psychological treatments into clinical practice. The second and more effective method of disseminating treatment innovation is knowledge utilisation. As a method of dissemination, knowledge utilisation involves identifying and addressing the individual, organisational and external factors that
promote and inhibit adoption (Condon, Miner, Balmer, & Pintello, 2008; Gotham, 2006; McHugo & Barlow, 2010).

Existing theories of innovation adoption are useful to understand the many factors that either facilitate or impede successful adoption of new treatments. Three prominent models of dissemination include: (1) the Diffusion of Innovation Theory (Rogers, 2003), (2) Social Marketing Theory (Martin, Herie, Turner, & Cunningham, 1998) and (3) the Community Organisational Model (Bracht, Kingsbury, & Rissel, 1999).

Rogers’ (2003) Diffusion of Innovation Theory describes five key factors that predict successful adoption of any new innovation. These factors include: (1) relative advantage – degree to which an innovation appears better than existing technology or practices; (2) consistency or compatibility with existing procedures – ease with which innovations can be assimilated into existing practices; (3) complexity – degree to which simple alterations to existing procedures are possible; (4) gradual implementation – staged introduction of innovation; and (5) observable – innovation is more likely to be adopted if the derived benefits are easily observable. Furthermore, a person’s perception of the above factors predicts the rate of innovation adoption. Accordingly, new psychological treatments are more likely to be adopted into clinical practice if the innovation: is perceived to be significantly better than current practices; conforms with past experience, values and/or goals; is not perceived as being overly onerous or complex to use; is available to be sampled or trailed prior to being adopted; and its effectiveness and clinical utility of the new practice are readily observable.

As already reported, Carper et al. (2011) employed Rogers Diffusion of Innovation Theory as a framework for identifying barriers to CBPT adoption in the clinical setting. Participating clients and clinicians completed a self-report
questionnaire purposefully designed to assess their perception of CBPT according to the Diffusion of Innovation Theory, called the Perceptions of Computerized Therapy Questionnaire (PCTQ) - Patient Version (39-item) or Clinician Version (45-item) respectively. The study found that both clients and clinicians rated perceived observability of CBPT very low. This finding was particularly true for the client group. Examples of PCTQ items measuring observability include: “In my social circle, I know people who receive computerized therapy” (PCTQ - Patient Version) and “Among my social/professional connections, I know people who deliver computerized therapy” (PCTQ – Clinician Version). The study recommended that targeted dissemination and strategic marketing is needed to increase clinician and client observability of CBPT, which is crucial to facilitating widespread uptake and implementation within real-world clinical services.

The Social Marketing Theory (Martin et al., 1998) employs a consumer-orientated perspective to understanding dissemination of innovation. As a theoretical framework it lists four distinct phases for successful dissemination, namely (1) market analysis – consultation and analysis of the target audience for the innovation; (2) market segmentation – determining the part of the system into which the innovation should be introduced; (3) market strategy – planning and implementing the dissemination plan; and (4) market evaluation – formally evaluating the effectiveness and satisfaction of the new practice. Finally, the Community Organisational Model (Bracht, Kingsbury, & Rissel, 1999) draws heavily from both the Diffusion of Innovation and Social Marketing models. As a theoretical model of dissemination, the Community Organisational Model sets out five distinct phases for successful dissemination, namely (1) assessment; (2) design and implementation; (3) implementation; (4) program maintenance; and (5) dissemination and reassessment.
Stirman et al. (2004) published a synthesis of the abovementioned dissemination models, detailing a road map for achieving successful dissemination of empirically supported psychotherapies. Key elements for successfully transferring treatment innovations into practice included: extensive preparation and planning; use of interpersonal strategies to communicate the benefits and effectiveness of the new innovation; consideration of clinician perceptions of the new treatment innovation; and flexibility and a willingness to adapt the treatment to accommodate the needs of clinicians and treatment seekers. Moreover, if innovators want their work integrated into practice they need to invest considerable time and energy consulting with, and working alongside, all stakeholders, at every stage of the dissemination and implementation process. Drawing from the literature, Klein and Knight (2005) listed six factors for successful transfer of new psychosocial treatments from the laboratory to the clinic, namely: (1) high quality and targeted training and support, including ongoing support and technical assistance; (2) an organisational climate that is positive and open to change; (3) managerial support; (4) financial resources; (5) learning orientation that fosters staff perception of skills development; and (6) a degree of patience from all stakeholders to tolerate early obstacles associated with innovation transfer until the new treatment can actualise performance gains.

Gotham (2006) made the distinction that different, albeit related, factors promote/inhibit the initial decision to adopt a particular treatment, compared with factors that contribute to successful implementation. Several models have been proposed for the adoption and implementation of new psychological treatments into practice. For example, Simpson (2002) published a conceptual framework for the adoption and implementation of new psychological interventions into practice, called the Texas Christian University (TCU) - Program Change Model. In 2007, Simpson and Flynn published a revised TCU - Program Change Model. At an organisational
level, the model identifies three conditions needed to successfully transfer new treatment innovations into practice. These include: (1) training – exposure to innovations in workshop-based training sessions; (2) adoption – a two-step process of first ‘deciding’ to use a particular treatment innovation and then developing a plan of ‘action’ to use it in clinical practice; and finally, (3) implementation – integration of the treatment innovation within regular practice.

Chorpita and Nakamura (2004) set out a blueprint for researchers wanting their empirically supported treatments to successfully disseminate into practice. The instructions include: (1) dissemination is not product delivery – dissemination should be considered in the context of a broader conceptualisation of the evidence base, balancing both local practices and the literature; (2) there are two kinds of evidence – local evidence (i.e., practice and system outcomes) and controlled evidence (i.e., scientific trials); (3) adoption should be positive – repeated modification to fine tune the intervention for optimal results and compatibility; and lastly, (4) partnership – shared ideas and values between clinicians and researchers.

**The current study**

This particular study formed part of a larger real-world dissemination trial testing the effectiveness of the SHADE CBPT package, from both a clinician and client perspective, within a publically funded drug and alcohol clinical service (Kay-Lambkin et al., 2012; see Appendix A for a copy of the study protocol).

As the ledger stands, the SHADE CBPT package promises much as an ingredient in the treatment of co-existing problems. However, like most CBPT packages, SHADE’s effectiveness has not been tested in a clinical setting. Researchers are also yet to establish how and to what extent clinicians might employ
CBPT in their clinical practice, especially those with limited experience and/or training in its use.

Utilising a mixed-methods design the purpose of this study was to:

1. Elicit clinician attitudes and concerns about adopting new innovations into their clinical practice, and the SHADE CBPT package in particular;
2. Complete a naturalistic field study of SHADE use within a real-world drug and alcohol clinical service;
3. Test the effectiveness of SHADE exposure on mental health and AOD use outcomes; and
4. Examine the association between two clinician factors, namely openness to innovation and computer anxiety, and adoption of the SHADE CBPT materials.

Prior to commencing the SHADE dissemination trial, a qualitative methodology was used to elicit clinician attitudes and concerns about adopting CBPT into their clinical practice in general, and the SHADE package in particular. The focus group also set out to identify and explore obstacles to disseminating CBPT within a clinical setting. The qualitative study, including extended methodology and results, is provided in Appendix B.

Clinicians were then supplied with the tools needed to use the SHADE CBPT package. The study simply observed if, when and how clinicians adopted SHADE into their clinical practice. The study also tested the effectiveness of SHADE exposure on a range of mental health and AOD use measures. Finally, the study examined the association between two clinician factors, namely openness to innovation and computer anxiety, and the use of SHADE in clinical practice.
The quantitative study hypothesised that:

i. Clients exposed to SHADE would report superior mental health outcomes and reduced AOD use relative to those who did not receive CBPT; and

ii. Clinicians with greater openness to innovation and low computer anxiety (high computer comfort) would be more likely to adopt SHADE and integrate computer-based treatment into their clinical practice.

This was not a controlled study. Instead, a naturalistic field study design was used to observe, not prescribe, SHADE use within a real-world clinical setting. Naturalistic studies are an essential step in evaluating the effectiveness and utility of a particular treatment in everyday clinical practice. Without testing interventions under real-world conditions their actual value remains unknown. The methodology and results for the quantitative study are provided in the manuscript (see below).
**Manuscript**

The manuscript has been submitted to Addiction Science & Clinical Practice for publication (see Evidence of Manuscript Submission in Appendix C). The manuscript was written in accordance with the editing standards stipulated by the journal editors. Addiction Science & Clinical Practice provides a forum for clinically relevant research and perspectives that contribute to improving the quality of care for people with unhealthy alcohol, tobacco and/or other drug use and addictive behaviours across a spectrum of clinical settings (see Appendix D - Journal Details for more information about Addiction Science & Clinical Practice).
Dissemination trial of computer-based psychological treatment in a Drug and Alcohol Clinical Service: Predictors of technology integration

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Abstract

Background: There is strong support that computer-based psychological treatments (CBPT) yield beneficial clinical outcomes in the treatment of mental health and drug use problems. However, the dissemination of CBPT into the clinical setting has so far been limited.

Objective: The study set out to observe if, when and how clinicians working in a publically funded alcohol/other drug (AOD) clinical service might utilise SHADE, a CBPT program for comorbid depression and alcohol or cannabis use, in clinical practice. The study also examined the effectiveness of SHADE exposure on mental health and AOD outcomes, along with self-reported willingness of clients to use CBPT in their treatment; as well as factors that might influence a clinicians decision to use CBPT with a client, namely openness to innovation and computer anxiety (computer comfort).

Methods: Thirteen clinicians working within an AOD service on the Central Coast of New South Wales, Australia, were recruited. At baseline, clinicians were assessed for their computer anxiety and openness to innovation. Clinicians referred current clients to the study (N=77), with consenting clients completing a baseline and 15-week follow-up clinical assessment with an independent research assistant, comprising a range of mental health and AOD measures. Over the course of the study, clinicians submitted session checklists detailing information about session content, including the context and extent to which SHADE was used for each client (N=304 checklists submitted for 35 individual clients).

Results: Detailed descriptive statistics showed that clinicians employed the SHADE program in a variety of different ways. When SHADE modules were used, it was generally introduced in the early phase of treatment, on average around session 4 (M=3.77, SD=5.26, Range 1-36). However, only 12 of the 35 clients whose session
checklists were available were exposed to the SHADE modules. This is despite 28 of these clients indicating they would be willing to use SHADE if offered to them. Repeated measures ANOVA explored changes in key client outcome variables between baseline and follow-up; and exposure to the SHADE modules during treatment sessions (yes/no). Over the study period, clients reported significant reductions in alcohol and cannabis use, however this was not moderated by exposure to SHADE. Clients also reported a significant reduction in depression, anxiety and stress between baseline and follow-up, but not according to SHADE exposure.

**Conclusions:** Treatment seekers are generally open to receiving CBPT like SHADE, however clinicians in this study tended to use SHADE with one client in their caseload only. This indicates the importance of providing ongoing support and encouragement to clinicians throughout the adoption of innovative technologies into clinical practice, and perhaps to engage clients in a discussion about CBPT more routinely.

**Trial Registration:** Australian Clinical Trial Registration Number ACTRN12611000382976.

**Keywords:** computer/Internet-based psychological treatment; computer anxiety; openness to innovation; alcohol/other drug clinical service
Background

The potential benefits of widespread dissemination of computer-based psychological treatments (CBPT) within community-based mental health services (including drug and alcohol clinical services) are profound. The standardised nature of automated treatment improves the transportability of evidence-based practice, and lowers many of the barriers people face to accessing care. From a consumer’s perspective, CBPT offers 24/7 access to evidence-based treatment. There are no waitlists for CBPT; fast-tracking access to treatment. The technology also offers a level of convenience not generally available via therapist-delivered treatment. Self-administered psychological treatments also permit more frequent and/or longer therapeutic contact. Within a stepped-care framework, CBPT offers an alternate entry point into mainstream treatment or a credible alternative for people who cannot or choose not to seek treatment from existing mental health services (Emmelkamp, 2005; Ritterband & Tate, 2009).

The benefits of CBPT for clinicians and the broader healthcare system are equally significant. Demand for psychological treatment outstrips supply, particularly in regional and rural communities. By delegating parts of treatment to a computer, clinicians are able to redirect their time and expertise toward those patients who require more intensive and/or specialist intervention (Ritterband & Tate, 2009). Marks, Kenwright, McDonough, Whittaker, and Mataix-cols (2004) compared treatment outcomes for people with panic disorder receiving computer-delivered, therapist-delivered or combined therapist/computer-delivered treatment. By delegating self-exposure tasks to a computer, clinicians reduced the amount of face-to-face time per client by 73% without compromising treatment outcomes (Marks et al., 2004).
Kay-Lambkin, Baker, Lewin, and Carr (2009) developed and evaluated a CBPT package for co-existing depression and alcohol/drug use disorders; SHADE (Self-Help for Alcohol/other drug use and DEpression). After completing a face-to-face assessment comprising feedback, case formulation and initial goal setting, participants (N=97) were randomly allocated to either: (1) therapist-delivered cognitive behavioural therapy and motivational interviewing (therapist-delivered cognitive behaviour therapy/motivational interviewing, CBT/MI), (2) integrated computer/therapist-delivered CBT/MI (i.e. SHADE plus brief weekly therapist assistance) or (3) one session of feedback and case formulation delivered face-to-face as the control condition. The study found no significant differences between the two treatment modalities, with significant improvements in depression, drug and quality-of-life measures at 12-month follow-up. SHADE required on average 12.5 minutes of generic face-to-face time per session compared to 60 minutes of specialist psychologist input for the therapist-delivered treatment. A study examining client acceptability of the SHADE program found that people receiving CBPT are equally able to engage, bond and commit to treatment as those receiving therapist-delivered treatment (Kay-Lambkin, Baker, Lewin, & Carr, 2011).

Kay-Lambkin, Baker, Kelly, and Lewin (2011) replicated the initial SHADE study (N=274) across seven urban and rural communities. Like the initial study, computer- and therapist-delivered CBT/MI were associated with superior reductions in depression, alcohol and cannabis use compared to supportive counselling (10-sessions delivered face-to-face, without any CBT/MI strategies); indicating that improvements were not simply the product of nonspecific effects. This research promises much for the practical application of CBPT, particularly the SHADE program, as an element of integrated stepped-care in the treatment of co-existing depression and drug use problems. CBPT has the potential to be a ‘clinician extender’
(Marks et al., 2004) and sit credibly along a continuum of evidence-based psychological care (Jacobs et al., 2001).

Despite the many advantages and growing scientific support for CBPT, its uptake into clinical practice has been low (VandenBos & Williams, 2000; Whitfield & Williams, 2004). This may be due to the scarcity of research into the barriers, expectations and experiences of both clinicians and clients when using CBPT within a clinical setting (Brooks, Ryder, Carise, & Kirby, 2010). As with any treatment, there will be a range of client- and clinician-level factors influencing the uptake, use and overall effectiveness of CBPT. Overwhelmingly, the biggest gap in the literature remains the lack of dissemination research examining CBPT in a real-world clinical setting. It therefore remains unclear if the technology will realise its potential.

Our study set out to complete a naturalistic field study of CBPT use, namely SHADE, in a community-based drug and alcohol clinical service. Naturalistic studies are an essential step in understanding the effectiveness of a particular treatment in everyday clinical practice. Our primary aim was to observe if, when and how clinicians might utilise SHADE in their clinical practice, and whether this was related to clinician attitudes towards technology. We also set out to explore changes in key outcomes for clients exposed to the SHADE resource, along with self-reported willingness of clients to use CBPT in their treatment.

**Methods**

**Setting and Design**

This study formed part of a larger real-world dissemination trial testing the effectiveness of CBPT from both a clinician and client perspective within a publicly funded drug and alcohol clinical service (Kay-Lambkin et al., 2012). This was not a controlled study, rather the service was implementing CBPT with all clinicians
participating in this initiative. Instead, we adopted a naturalistic field study design that set out to observe, not prescribe, the use of SHADE, a CBPT program for comorbid depression and alcohol or cannabis use.

The study was undertaken in collaboration with the Central Coast Alcohol and Other Drug Service (CCAODS) a subsidiary of Northern Sydney Central Coast Area Health Service. CCAODS delivers a wide range of alcohol and other drug treatment services including inpatient and community detoxification, pharmacotherapy programs, general counselling, medical services, a court mandated diversion program for people with drug use problems and concurrent legal issues (Magistrates Early Referral Into Treatment; MERIT) as well as a specialist program for clients with a primary drug concern of marijuana misuse/dependency (Cannabis Clinic). The service also provides GP liaison, health promotion, community consultation and an Aboriginal liaison services. A central intake service acts as the point of initial contact with the CCAODS, with referrals being forwarded to relevant departments. The type of psychological intervention provided by clinical staff is not prescribed. All clients entering the service complete a standardised intake assessment. All CCAODS clinicians attend regular review sessions and compulsory clinical supervision.

Eight desktop computers were supplied to the CCAODS for the duration of the study. Each computer had the SHADE CBPT program pre-installed onto its hard drive. These computers were not connected to the Internet. No conditionality or instructions were supplied with the computers and clinicians were free to make use of computers however they wished. Most counselling rooms also had an Internet compatible desktop computer. An unlimited supply of SHADE DVDs were also made available throughout the study for clients to take home and complete at the discretion of their clinician. Clients did not have to participate in the research to use SHADE.
**SHADE – Computer-Based Psychological Treatment**

The SHADE – CBPT program has been described elsewhere (Kay-Lambkin, Baker, Kelly et. al, 2011; Kay-Lambkin et al., 2009). SHADE incorporates CBT/MI strategies to encourage reductions in depression and alcohol/other drug (AOD) use. SHADE is available in two formats, namely: (1) a 10-session program designed to be completed in a linear fashion, with content pre-programmed for each session; or (2) a skill module program, where a series of shorter modules are presented based on themes related to depression and AOD use problems (e.g. coping with cravings, taking charge of my thoughts, staying well) arising from the 10-week program.

Clients or clinicians are able to select a particular skill module to focus on during a session, without having to complete the other skills and strategies contained in the resource. Both versions of SHADE were made available for the study. Text is pitched at a reading age of 14 years, with a voiceover available to read out all text contained in the resource. Video case scenarios guide clients through a range of CBT/MI skills and strategies, and accompanying handouts and worksheets are also available for clients/clinicians to print out and use during a session or as a homework exercise.

**Participants**

Figure 1 displays the number of Clinicians and Clients providing data for the study.

All clinicians working within the CCAODS - Drug and Alcohol Counselling, Cannabis Clinic and MERIT teams were invited to participate in the study. All clinicians had tertiary qualifications in a counselling-related field, with at least an
undergraduate degree in nursing or psychology. The group reported a mean age of 42.90 years (SD= 11.17, Range 25-58) and were, for the most part, female (N=11/13). Clinicians all provided assessment and treatment according to evidence-based psychosocial guidelines established for their service (NSW Health, 2008).

Clients

All new adult clients seeking treatment from the CCAODS - Drug and Alcohol Counselling, Cannabis Clinic and MERIT services were recruited for a larger study of treatment outcomes in the service (see Kay-Lambkin et al., 2012). For the current analysis, eligible clients were those for whom their treating clinician had submitted at least one clinician checklist summarising the session content (N=35). This represented 45% (35/77) of the clients recruited to the larger study, with no significant differences observed between eligible and ineligible clients according to age, gender, referral source, baseline use of cannabis, baseline depression, anxiety or stress score. A significant difference in alcohol use at baseline was evident between eligible and ineligible clients, with eligible clients reporting significantly higher alcohol use at baseline than ineligible clients (4.54 standard drinks/day vs. 2.25, F(1,75)=4.21, p=0.04). The pool of eligible clients (N=35) reported a mean age of 42.11 years (SD=12.15, Range 19-65) and included more males than females (N=22, 63% male). The sample reported consuming an average of 4.54 standard drinks per day for the month prior to baseline assessment (SD=6.22), and 3.76 use occasions of cannabis per day (SD=8.04) over the same period. The group also reported a mean baseline DASS depression score of 17.05 (SD=13.34), a DASS anxiety score of 10.42 (SD=10.63), and a DASS stress score of 18.68 (SD=10.64).

Procedure and Measures

All assessment tools used as part of the study are widely used in mental health and/or AOD treatment research and practice. A full description of the study methods
has been published previously (Kay-Lambkin et al., 2012). Ethics approval for the study was obtained from Northern Sydney Central Coast Human Research Ethics Committee (08/HARBR/78/79), the University of Newcastle Human Research Ethics Committee (H-2008-0271), and the Macquarie University Ethics Review Committee (Human Research, 0806-125M(R)).

**Clinician Recruitment Procedure**

Clinicians attached to each of the counselling teams participating in the study attended an information session facilitated by two of the authors (FK-L and AS). Clinicians were provided with an overview of the study, a brief appraisal of research supporting CBPT as an effective treatment for mental health problems (including AOD use problems) and a demonstration of the SHADE treatment program as an example of innovation. Throughout the study, participating clinicians completed four key activities:

1. Prior to receiving CBPT materials, clinicians completed two self-report measures assessing their openness to innovation and computer anxiety;
2. Consider and use SHADE with clients in whatever manner they choose;
3. Forward the contact details for clients to the client-data-collection phase throughout the study period, regardless of their exposure to SHADE; and
4. Complete a session checklist at the conclusion of each session. The session checklist collected information about the focus and content of the session, including whether or not SHADE was discussed, used in-session and/or recommended as a homework exercise. The checklist was developed by the authors to specifically suit the CCAODS and the range of counselling interventions used by the clinicians.
**Clinician Measures**

Individual Opinion Scale (IOS; Hurt, Joseph, & Cook, 1977) – a 20-item measure using a 7-point Likert scale assessing the likelihood of an individual to adopt innovative strategies in their work. The more innovative an individual believes they are the higher their score on the IOS. Scores on the IOS range from 20 to 140. The IOS has a reliability of 0.94, with acceptable construct and predictive validity. The measure has an internal consistency reliability of 0.88.

Computer Opinion Survey (CAIN) – a measure of computer anxiety and a proxy criterion for how comfortable clinicians are with adopting and using CBPT. The CAIN is a 26-item measure using a 6-point Likert scale, with scores ranging from 26 (the highest level of computer anxiety) to 156 (measure of least computer anxiety). Internal consistency of the scale is 0.94, with test/retest reliability of 0.90 (Maurer & Simonson, 1993).

**Client Recruitment Procedure and Measures**

Consenting clients completed a baseline and 15-week follow-up assessment delivered over the telephone by a research assistant independent from the Service. Clients were reimbursed $20AUD for each completed assessment. Demographic details (e.g. age, gender, employment status, mental health treatment history) were recorded at baseline. Client assessment items relevant to this study included:

Opiate Treatment Index (OTI; Darke, Hall, Wodak, Heather, & Ward, 1992) – The OTI assesses the quantity and frequency of use for 11 different drugs, including: alcohol, cannabis, heroin, other opiates, amphetamines, cocaine, hallucinogens, barbiturates, tranquilisers, inhalants and tobacco. Each of the 11 drug types are assessed individually, and clients report on their last three using occasions in the month prior to assessment, estimating the amount of drug consumed on each of these occasions. An average use index for the previous month is calculated for each drug.
Use of alcohol and cannabis, the most frequently reported drugs used by clients of the Service are reported here.

Depression Anxiety Stress Scale – 21-item version (DASS-21; Lovibond & Lovibond, 1995) – The DASS-21 was used to measure depression, anxiety and stress scores for the 2-weeks prior to assessment. The scale has a Cronbach alpha of 0.93 for the total measure, as well as high reliability for the subscales of stress, depression and anxiety (.93, .90 and .82 respectively; Henry & Crawford, 2005).

Previous experience of computers/the Internet for AOD treatment and openness to integrating technology into current treatment episode – At baseline, clients were asked a series of questions about their previous computer experience, and willingness to try computerised treatments in their current AOD treatment program.

Data Analysis

Data was analysed using the Statistical Package for Social Sciences version 17.0 (SPSS Inc, Chicago, IL, USA).

Use of SHADE

Descriptive statistics explored the self-reported use of SHADE by clinicians involved in the project as a function of primary drug of concern, and where and how it was used in the treatment occasion.

Clinician Innovation and Computer Anxiety

Descriptive statistics were used to explore the responses of clinicians to these surveys, with one sampled t-tests employed to examine potential differences between score on these scales in our sample relative to the established norms for each scale. Pearson correlation coefficients were calculated to examine the relationship between scores on the IOS and those on the CAIN.
Impact of SHADE on Client Outcomes

Descriptive statistics summarised the client responses to prior computer use and openness to receiving computerised treatments in the current treatment episode, with Chi-square analysis used to examine associations between client openness (yes/no) and exposure to SHADE during the study. Repeated measures ANOVA compared exposure to the SHADE modules during treatment sessions, and changes in key primary outcome variables reported by clients between baseline and 15-week follow-up assessment. The key outcome variables of interest were: alcohol use, cannabis use, depression, anxiety and stress scores.

Results

Use of Computer-Based Psychological Treatment

Clinicians submitted 304 session checklists over the course of the study, representing 304 treatment sessions for which information about session content was available for 35 individual clients. Over the course of the study, 12 of the 13 (92%) clinicians reported use of the SHADE materials with a client, and SHADE was reported in 117 session checklists (38%). The SHADE program was used by clinicians in one of three ways:

(1) Introducing and discussing the SHADE resource with clients and recommending its use as part of the clients treatment plan (N=3 clinicians; 35/304 session checklists),

(2) Using just the SHADE handouts and worksheets either as homework or to supplement work done within the session (N=12 clinicians; 20/304 session checklists), or

(3) Use of the full SHADE modules in-session to deliver a specific psychological treatment/intervention (N=11 clinicians; 62/304 session checklists). In
This context, full SHADE modules were reported as being used during the session (8/62, 13%), assigned as homework (46/62, 74%) or as a combined in-session strategy and homework (8/62, 13%). Twelve clients (12/35, 34%) were exposed to the full SHADE modules.

If full SHADE modules were used, they were generally introduced in the early phase of treatment, on average at session 4 (M=3.77, SD=5.26, Range 1-36). Of the 62 times full SHADE modules were used in treatment, 21 were during the client’s first session, 22 during sessions 2-3, 10 times during sessions 4-5, and 9 times from session 6 onwards. If SHADE was discussed rather than the full module being incorporated into sessions, this tended to be later in the treatment experience, and on average was reported during sessions 5-6 (M=5.26, SD=8.39, Range 1-33). Specific SHADE modules used by the clinicians are reported in Table 1.

| Insert Table 1 about here |

Clinician Openness to Innovation

Clinicians in the study reported an average innovation score on the IOS of 97.62 (SD=14.32, Range 72-130). Although, on average, this was lower than the established norm for the scale of 102, this difference was not statistically significant (t(12)=-1.104, p=0.291). Mean IOS scores were 97.92 (SD=14.95) for 12 clinicians utilizing SHADE in their sessions with clients, with the one clinician choosing not to use SHADE scoring 94.00 on this scale.

Clinician Trait Computer Anxiety

Clinicians were relatively low on computer-related anxiety, scoring an average of 120.38 on the CAIN (SD=17.65, Range 91-148). The group rated themselves significantly lower on computer anxiety than those in the normative sample for the
scale (120.38 vs. 105.4, t(12)=3.046, p=0.010). The clinician not using SHADE in sessions reported a CAIN score of 108.00, with the 12 clinicians utilizing SHADE reporting a mean of 121.33 (SD=18.02), with higher scores indicating lower levels of anxiety.

Willingness to Use CBPT and the Impact of SHADE on Client Outcomes

Of the 35 eligible clients for the current study, 31% (N=11) reported previously using computers or the Internet to search for information and treatment for a mental health or AOD use problem. Thirty three clients (94%) felt that integrating a computer-based program into their current treatment episode would be “a little” through to “very” helpful in treating their current AOD use problems. The majority of clients (N=28/35, 80%) felt that if they were offered access to a computer-based treatment program during their current treatment episode they would definitely utilise it, leaving seven clients (20%) not prepared to consider using this form of treatment. For these seven clients, four reported they “didn’t like technology” or were “computer illiterate”, with the remaining three preferring human contact over that with a computer program. No significant differences existed between males and females on willingness to utilise CBPT ($\chi^2$(1)=1.515, p=0.218), however those who would utilise CBPT were significantly younger than those who would not (40.50 years vs. 51.75 years, F(1,31)=6.768, p=0.015). No significant differences existed between clients willing (N=28) and unwilling (N=7) to utilise CBPT and baseline levels of alcohol (3.06 standard drinks/day unwilling vs. 4.26, F(1,31)=0.259, p=0.615), cannabis (2.5 use occasions/day unwilling vs. 5.57, F(1,31)=0.913, p=0.347), DASS depression, (18.80 unwilling vs. 18.90, F(1,31)=0.000, p=0.984), DASS anxiety (12.75 unwilling vs. 12.50, F(1,31)=0.003, p=0.959) or DASS stress scores (16.80 unwilling vs. 20.76 years, F(1,31)=0.821, p=0.372).
Of the 35 eligible clients, 12 were exposed to the full SHADE modules. Chi-square analysis revealed no significant association between willingness to utilise CBPT during the current treatment episode, and whether clinicians chose to expose clients to the SHADE modules ($\chi^2(1)=1.052$, $p=0.305$). Of the 35 clients, 12 (34%) would have used CBPT, but were not exposed, and 3 (9%) were unwilling to use CBPT but were exposed.

Repeated measures ANOVA explored changes in key outcome variables for the 35 eligible clients between baseline and 15-week follow-up assessments and exposure to the SHADE modules during treatment sessions (yes/no). For alcohol, participants reported a significant reduction in alcohol use over time ($F(1,33)=5.991$, $p=0.020$), however this was not moderated by exposure to the SHADE modules ($F(1,33)=1.412$, $p=0.243$). Participants who did not receive the SHADE modules ($N=23$) reported a 2.323 standard drink per day reduction in alcohol use between baseline and 15-week follow-up assessment, while those who were exposed to SHADE ($N=12$) reported a 6.707 standard drink per day reduction over the same time period (see Figure 2). No significant differences existed in baseline alcohol consumption between clients who were and were not exposed to the full SHADE modules ($F(1,33)=1.513$, $p=0.230$).

Cannabis use also reduced over the study period, but this was not statistically significant ($F(1,33)=0.746$, $p=0.395$). Clients reported a 1 standard unit per day reduction in cannabis between baseline and 15-week follow-up, irrespective of being exposed ($N=12$) or not exposed ($N=23$) to the SHADE resource. However, those who reported using cannabis at least once per day at baseline, and were exposed to the SHADE resource during treatment ($N=4$), reported a 9 standard use per day reduction.
in cannabis use over time, relative to a 3 standard use per day reduction in those daily
users not exposed to SHADE (N=9, see Figure 3). Clients who were exposed to
SHADE modules were not statistically significantly different from those who were
not on baseline cannabis use (F(1,33)=0.546, p=0.467).

Table 2 displays the changes in depression, anxiety and stress scores, measured
by the DASS-21, over time as a function of use of the SHADE material. Mean
baseline depression scores for clients exposed to SHADE (N=12) versus those clients
not exposed to SHADE (N=23) were strikingly similar, namely 19.83 and 20.69
respectively.

Participants also reported a significant reduction in depression between baseline
and the 15-week follow-up (F(1,33)=16.728, p=0.000), however the interaction
between time and exposure to SHADE was not statistically significant
(F(1,33)=0.037, p=0.849). Changes in anxiety between baseline and 15-weeks were
also statistically significant (F(1,33)=4.149, p=0.050), but not different for people
exposed to the SHADE resource (F(1,33)=0.310, p=0.581). The same was true for
stress scores between baseline and follow-up assessment (F(1,33)=19.922, p=0.000).

Discussion

Improving access to high-quality, low-cost and effective treatments for mental
health disorders, including AOD problems, is a significant healthcare priority. Our
study set out to observe if, when and how AOD clinicians given access to a CBPT package, namely SHADE, would make use of this innovative treatment resource in a real-world clinical setting, and whether this was related to their attitudes towards technology.

Utilisation and Effectiveness of SHADE

Over the course of the study, 12 of the 13 participating clinicians introduced SHADE to their clients, in some form or another. This equated to 12 unique clients (of the 77 consenting to participate in the larger study) who were exposed to at least one full SHADE module. CBPT was commonly introduced to clients early in treatment, most commonly session 1. Some clinicians did introduce SHADE for clients already engaged in treatment (i.e., 10 sessions attended or more), however most often it was via the use of handouts or worksheets produced by the SHADE program rather than delegating parts of treatment to CBPT. Our results echo an earlier study by Brooks et al. (2010) indicating that, in the absence of incentives or encouragement from researchers, AOD clinicians tend to refer only a small proportion of their caseload to CBPT. It is interesting that each clinician seems to have used a full SHADE module with only one client from their caseload. We are unable to rule out the possibility that clinicians were encouraged to use the resource at least once during the study period by team members outside the study team.

From the client’s perspective, self-reported willingness to use CBPT in their current treatment episode was much higher than perhaps their clinicians anticipated (80% willing, but 34% exposed). This meant that 12 additional clients would have utilised SHADE if offered, to assist them in managing their problematic AOD use. Although not statistically significant, clients willing to use SHADE appeared to use cannabis at a higher level than their “unwilling” counterparts and reported more symptoms of stress on the DASS. Although a much larger study is required to
properly test these trends, our results suggest that cannabis users and those feeling under stress might be more open to taking on SHADE. Previous research has indicated that, indeed, people using cannabis with comorbid depression do report superior improvements in cannabis use and depressive symptoms after receiving SHADE over face-to-face treatments (Kay-Lambkin, Baker, Kelly et al., 2011).

Client self-reported depression, anxiety and stress reduced significantly over the study period. Clients exposed to SHADE modules reported a 5-point reduction in anxiety between baseline and 15-week follow-up, compared to a 3-point reduction amongst those not exposed to SHADE modules over the same time period. Although not statistically significant, average alcohol and cannabis use, anxiety and stress levels tended to be higher in clients who were exposed to the SHADE modules. It may be that severity of symptoms/AOD use served as the impetus for clinicians to use SHADE to augment their treatment in clients whose consumption of alcohol or cannabis was high or whose levels of anxiety or stress (but not depression) were high.

Clinician Openness to Innovation and Computer Anxiety

Openness to Innovation

There is little research to guide the description of innovativeness for mental health clinicians, crucial to the uptake of CBPT. While drug and alcohol clinicians are generally open to new and better treatments, most innovations find it difficult to make their way into clinical practice (Miller, Sorensen, Selzer, & Bringham, 2006). Generating new evidence-based treatments is not the most significant challenge for researchers; rather it is increasingly seen that encouraging adoption and integration of evidence-based treatments into clinical practice is key (Berwick, 2003). Our study results indicate that the clinicians in our study were significantly higher than the norm on their readiness to accept and use technology and innovation in their clinical
practice, this did not translate directly into use of SHADE CBPT modules with the majority of their clients.

*Computer Anxiety*

To our knowledge, no research has previously attempted to measure computer anxiety (or computer comfort) among AOD clinicians. There is, instead, a small body of research examining clinician perceptions and technological attitudes toward CBPT, albeit not in an AOD context (Perle et al., 2012; Mora, Nevid, & Chaplin, 2008). As a group, participating clinicians in our study reported having relatively low-level computer anxiety. This would suggest that computer technology or the thought of using computer technology did not present as a limiting factor on a clinician’s decision to utilise SHADE during the study.

**Limitations and Recommendations for Future Research**

There are several limitations to the current study that are important to mention, not the least of which is the small sample size (clinicians and clients) and relatively small number of sessions available for examination. In addition, the data collection did not include an external check on client exposure to CBPT, and we are unable to verify the proportion of sessions for which clinician checklists were submitted versus all sessions conducted with clients. Instead, we used self-report data supplied by clinicians via a session-by-session checklist. Clinicians were asked to complete the brief clinician checklist for every client seen in every treatment session during the study period, but, for ethical reasons, we were unable to establish how compliant clinicians were with this request. Service data indicate that, on average, clients attend 4.5 treatment sessions per occasion of service with the CCAODS (Brooks, Kay-Lambkin, Bowman, & Childs, 2012), suggesting that for clients engaged in our study (N=77), we should have received approximately 347 clinician checklists over our 6-month recruitment period. Clinicians in our study submitted 304 clinician checklists,
which is close to this estimate. Furthermore, state-wide data indicate that we were not successful in recruiting all clients engaged with the service during our 6-month recruitment phase. As previously reported (Brooks et al., 2012), received 123 referrals to the project during the 6-month recruitment phase, resulting in 77 consenting clients for the larger study. The referral rate is close to our projections, based on state-wide service data (NSCCHS, 2008). Over a 2-year period, the CCAODS received 1,684 referrals to the service, across 11 teams (including acute, non-acute, inpatient and outpatient services). We targeted three teams from the CCAODS for participation in the study. Based on these data, 459 referrals would have been received by these three teams over a 2-year period, or 115 over a 6-month period. We are therefore reasonably confident that clinicians referred most, if not all, clients they saw during the 6-month period for participation in the study.

Clinicians were invited by research staff to participate in the study, and all clinicians associated with our target service consented to participate. Consequently, the risk of selection bias may limit the generalizability of the findings. We also collected data from one treatment setting only that was staffed by relatively skilled and experienced clinicians. It is of note that we also only accessed clients who were already attending a drug and alcohol clinical service, and cannot determine the unique contribution (if any) of CBPT over usual treatment. It remains unclear whether the results from this study would generalise across other drug and alcohol clinical services. Fully powered CBPT dissemination trials in different settings with different clinical groups are required. It would also be interesting to explore the use of CBPT among wait-list clients for drug and alcohol clinical services (i.e. clients who have sought treatment but have yet to attend their first treatment session). This was planned for the current study, but unable to be implemented during the study period.
Conclusion

In a small way this study has contributed to our understanding of the factors that might influence a clinician’s decision to integrate CBPT into their treatment plan. Clinicians were open to innovation, not anxious about using computers or technology, yet still only chose to utilise SHADE with 15% of clients. It has previously been suggested that eHealth in general, and CBPT in particular, is not only a “technical development, but also a state-of-mind…an attitude, and a commitment…” to using technology to improve healthcare (Eysenbach, 2001). The results of this study seem to support this notion, and point to the importance of committing significant support to adopt any new innovation, particularly CBPT.
Competing Interests

Nil to declare

Authors’ Contributions

FK-L, AS & SC contributed to the study design and protocol development. FK-L and AS gained ethics approval for the trial, conducted the data analysis and developed the initial draft of the manuscript. All authors contributed to manuscript preparation. All authors approved the final manuscript for submission.

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References


Table 1. SHADE modules used, frequency of use, and session in which SHADE was first introduced.

<table>
<thead>
<tr>
<th>SHADE module</th>
<th>Frequency of use</th>
<th>Modal session introduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>My story so far</td>
<td>15 (6%)</td>
<td>Session 1</td>
</tr>
<tr>
<td>Rethinking alcohol/other drug use</td>
<td>13 (5%)</td>
<td>Session 1</td>
</tr>
<tr>
<td>Getting moving again</td>
<td>6 (2%)</td>
<td>Session 3</td>
</tr>
<tr>
<td>Reducing alcohol/other drug use</td>
<td>8 (3%)</td>
<td>Session 1</td>
</tr>
<tr>
<td>Taking charge of your thoughts</td>
<td>9 (4%)</td>
<td>Session 1 &amp; Session 5</td>
</tr>
<tr>
<td>Allowing and letting be</td>
<td>4 (2%)</td>
<td>Session 1</td>
</tr>
<tr>
<td>Solving problems</td>
<td>3 (2%)</td>
<td>Session 2</td>
</tr>
<tr>
<td>Staying well</td>
<td>4 (2%)</td>
<td>Session 2</td>
</tr>
</tbody>
</table>

Table 2. Changes in DASS-21 scores as a function SHADE exposure (yes/no).

<table>
<thead>
<tr>
<th>Domain</th>
<th>Baseline Mean (SE)</th>
<th>15-weeks post-baseline Mean (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No exposure to SHADE (N=23)</td>
<td>20.69 (2.71)</td>
<td>11.09 (2.11)</td>
</tr>
<tr>
<td>Exposure to SHADE (N=12)</td>
<td>19.83 (3.76)</td>
<td>11.17 (2.93)</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No exposure to SHADE (N=23)</td>
<td>11.48 (2.50)</td>
<td>8.44 (2.04)</td>
</tr>
<tr>
<td>Exposure to SHADE (N=12)</td>
<td>14.17 (3.46)</td>
<td>8.83 (2.83)</td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No exposure to SHADE (N=23)</td>
<td>22.35 (2.13)</td>
<td>14.17 (2.00)</td>
</tr>
<tr>
<td>Exposure to SHADE (N=12)</td>
<td>24.00 (2.95)</td>
<td>14.50 (2.76)</td>
</tr>
</tbody>
</table>
Figure 1. Clinician and Clients providing data for the current study.
Legend – Figures 2 & 3

**Figure 2.** Use of computer-based psychological treatment (SHADE; yes/no) and OTI score for alcohol.
- SHADE
- No SHADE

**Figure 3.** Use of computer-based psychological treatment (SHADE; yes/no) and OTI score for cannabis.
- SHADE
- No SHADE

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**Figure 2.** Use of computer-based psychological treatment (SHADE; yes/no) and OTI score for alcohol.
**Figure 3.** Use of computer-based psychological treatment (SHADE; yes/no) and OTI score for cannabis.
Extended Discussion

The advance of computer technology has fundamentally transformed the way we access information and services. It is perhaps not surprising then, that a large number of CBPT packages are now available for a range of mental health and AOD use problems. As a medium of treatment delivery CBPT potentially extends the reach of psychological treatment to anyone with a computer, tablet or smartphone. A small but growing body of meta-analyses suggest that CBPT yields beneficial psychosocial outcomes (e.g., Richards & Richardson, 2012; Moore et al., 2011). The efficacy of the SHADE CBPT package – a DVD-based psychological treatment for co-existing depression and AOD use, is supported by two large-scale randomised control trials (Kay-Lambkin et al., 2009; Kay-Lambkin, Baker, Kelly et al., 2011). SHADE is also capable of generating equivalent levels of engagement, bond and commitment to treatment compared to therapist-delivered treatment (Kay-Lambkin, Baker, Lewin et al., 2011). To date, only a small number of studies have examined the effectiveness and utility of CBPT within the clinical setting (e.g., Brooks et al., 2010; Carroll et al., 2008; Høifødt et al., 2013). This particular study formed part of a larger real-world dissemination trial testing the effectiveness of the SHADE package, from both a clinician and client perspective, within a publically funded drug and alcohol clinical service (Kay-Lambkin et al., 2012).

Restating study hypotheses and findings

A mixed methods approach was used to examine four research questions. First, the study sought to elicit clinician attitudes and concerns about adopting new treatments into their clinical practice, and the SHADE CBPT package in particular. Thirteen tertiary qualified AOD clinicians participated in a baseline focus group with the purpose of uncovering influencing and inhibiting factors to adopting and using
SHADE as part of their therapeutic repertoire. Four major themes emerged from the discourse, namely ‘Technology’, ‘Effectiveness and compatibility’, ‘Clinical judgement’ and ‘Potential’.

The SHADE package was then supplied to AOD clinicians. A naturalistic field study set out to observe clinician adoption and use of the SHADE package. The resulting descriptive statistics provides a preliminary insight into when and how clinicians with limited or no previous experience using CBPT materials made use of this innovative treatment medium. The data indicated that AOD clinicians are prepared to experiment with CBPT, with SHADE being discussed and/or used in 25% of sessions sampled. Interestingly, when SHADE modules were used in-session (i.e., clinician-assisted CBPT) it generally occurred in the early phase of treatment. Whereas, the longer clients were engaged in treatment the more likely SHADE would be recommend as a homework exercise rather than integrated into sessions.

The third research question examined the effectiveness of SHADE exposure on mental health and AOD use outcomes. It was hypothesised that clients exposed to SHADE would report superior mental health outcomes (i.e., depression, anxiety and stress symptoms) and reduced AOD use (i.e., alcohol and cannabis use) compared to those who did not receive CBPT. Between baseline and 15-week follow-up assessments, clients reported significant improvements in mental health outcomes and significant reductions in AOD use. However, treatment effects were not moderated by SHADE exposure.

Lastly, the study examined the association between two clinician factors and adoption of CBPT. It was hypothesised that clinicians with greater openness to innovation and/or low computer anxiety would be more likely to adopt the SHADE package into their clinical practice. This hypothesis was not supported. The results of
the study and implications for widespread dissemination and implementation of the SHADE package into service delivery are discussed in detail below.

**Qualitative study: Clinician attitude and concerns about adopting computer-based psychological treatment into practice**

Successful dissemination of psychological treatments requires strategic management of barriers to implementation (McHugo & Barlow, 2010). Currently, there is insufficient research specifying the individual- and program-level factors that influence/inhibit the transfer of psychological treatment innovations into practice. As a result, no clear consensus exists on best practice strategies for disseminating new treatments into practice (Gotham, 2006). The qualitative study set out to provide insight into the influencing and inhibiting factors surrounding clinician adoption of CBPT materials within a publically funded drug and alcohol clinical service.

Thematic analysis of the semi-structured focus group identified four major themes. The theme ‘Technology’ describes concerns and logistical challenges surrounding the use of multimedia technology. The second theme ‘Effectiveness and compatibility’ describes the extent to which new treatments adhere to minimum practice standards while simultaneously aligning with a clinician’s preferred theoretical orientation and clinical style. The third theme ‘Clinical judgement’ revealed a range of considerations surrounding the use of CBPT within the clinical setting. And finally, the theme ‘Potential’ describes the perceived opportunity presented by the SHADE CBPT package and its likely application within drug and alcohol clinical services.

The theme ‘Technology’ primarily relates to the perceived complexity surrounding the use of multimedia technology required to use CBPT materials. Rogers (2003) defined complexity as “the degree to which an innovation is perceived
as relatively difficult to understand and use” (p.15). Accordingly, perceived complexity is negatively correlated with the rate of adoption and an important hurdle in the uptake of any new innovation. Participating clinicians expressed a general reluctance to use the SHADE CBPT package with a client until such time they were satisfied the technology was user friendly and they wouldn’t be burdened by technical problems.

Carper et al. (2011) published a study on clinician and client perceptions of CBPT using the Diffusion of Innovation Theory as a conceptual framework. Predictably, the study found that clinician perception of CBPT complexity was inversely associated with future use intentions. Statistically significant associations were also observed between clinician future use intention and their perception of CBPTs - relative advantage, compatibility and observability. Across the five key attributes of innovation identified by the Diffusion of Innovation Theory, perceived complexity was the only domain where the client and clinician groups held discrepant views. More specifically, clinicians perceived the complexity of CBPT negatively whereas clients observed the same domain slightly positively. Neither client nor clinician complexity scores were significantly different from neutral.

At a program-level, participating clinicians expressed the view that they were insufficiently resourced to troubleshoot technical issues associated with using CBPT in the clinical setting. Anticipating that technology would be a genuine barrier to the SHADE dissemination trial, eight desktop computers with the SHADE package pre-installed were supplied to the Central Coast Alcohol and Other Drug Service for the duration of the study. No conditionality or instructions were supplied with the computers and clinicians were free to make use of the computers and the SHADE package however they wished. Apart from a brief orientation of the SHADE program,
participating clinicians did not receive any extra training before commencing the dissemination trial.

High-quality training, including technical assistance and promoting user-friendliness, is one of the six factors identified by Klien and Knight (2005) that shape the outcome of innovation adoption and implementation. Specialist training in the use of CBPT materials, particularly emphasising the ease of use, would most likely improve clinician perceptions of CBPT complexity and facilitate adoption (Carper et al., 2011). Currently there is no consensus on how best to train clinicians to use CBPT; and what CBPT training packages have been investigated differ greatly in both content and duration. For example, Brooks et al. (2010) provided clinicians with a 2 hour training session focussing on key treatment modules as well as basic skills for introducing computer-based treatment and strategies for integrating it into treatment plans. At the other end of the spectrum, Rose et al. (2011) described a 45-50 hour training approach used to prepare novice clinicians to deliver a CBPT package for anxiety disorders, with 8 hours of the training program dedicated to computer practice. Miller et al. (2006) observed that didactic workshops are in themselves relatively ineffective in facilitating clinician adoption and implementation of new treatment innovations. As well as learning new skills, successful dissemination requires structured performance feedback and coaching from a content expert.

The theme ‘Effectiveness and compatibility’ describes two related yet discrete evaluations clinicians make when determining whether or not to adopt a prospective treatment innovation. Participating clinicians described a sequential assessment of new treatments, whereby only once the efficacy of a particular treatment has been confirmed would they then consider whether or not it ‘fits’ with their preferred theoretical orientation and/or clinical style. ‘Effectiveness’ relates to Rogers (2003) attribute of relative advantage, which he defined as “the degree to which an
innovation is perceived as being better than the idea it supersedes” (p.229). Whereas ‘compatibility’ echoes Rogers (2003) attribute of innovation by the same name. Rogers (2003) defined compatibility as “the degree to which an innovation is perceived as consistent with the existing values, past experiences and needs of the potential adopters” (p.15).

The lack of high-quality effectiveness trials needed to substantiate CBPTs inclusion in practice guidelines as a recommended treatment for AOD use problems remains a major stumbling block to SHADE dissemination. Similarly, clinicians are more likely to adopt CBPT if it’s perceived to closely align with their preferred therapeutic orientation. Surveys examining clinician acceptability of CBPT indicate that cognitive-behavioural, cognitive, behavioural and systems orientated clinicians are more inclined to adopt computer-based treatments (Perle et al., 2012). The number and variety of treatments delivered by AOD clinicians is a broad church, signalling great potential for CBPT to eventually find its way into the mix. An unpublished thesis by Erickson-Prichard found that AOD clinicians deliver an average of 32 (±7) different treatment methods (cited in Miller et al., 2006). The extent to which a particular treatment ‘fits’ a clinician’s style is highly subjective. Future qualitative studies are needed to understand the specific elements of CBPT that clinicians are either attracted to or not.

The theme ‘Clinical judgement’ revealed a range of clinical considerations surrounding the use of the SHADE package. Participating clinicians were cognisant of the need to determine whether a client was capable of using and/or benefiting from CBPT before recommending its use. Presently, a rudimentary regulatory framework governs CBPT use in the clinical setting (Shandley et al., 2011). The Australian Psychological Society (2011) recently published revised ethical guidelines for using online CBPT materials and other telecommunication technologies in clinical practice.
Select guideline topics include: informed consent, confidentiality, psychologist competence and limits of online psychological treatments, client use of Internet and other telecommunication technologies, record keeping, legal aspects, managing professional boundaries when using the Internet and telecommunication technology, ethical considerations in relation to the provision of online testing and assessment services, and general ethical considerations for web site-related issues.

Ford (2006) has also written extensively on clinical considerations surrounding CBPT use, particularly Internet-based CBPT packages. For example, its recommended people receive at least one face-to-face assessment before commencing any form of CBPT to assess their suitability for self-help treatment as well as creating a connection with a clinician. Other considerations include using passwords and employing additional security measures to overcome the limits of confidentiality associated with using multimedia technology as a therapeutic tool. Ford also detailed additional considerations when using CBPT with adolescent clients.

Clinicians also expressed a view that for some clients, the relationship or bond that person establishes with their counsellor is as important, if not more important, than the intervention they receive. Participating clinicians questioned how they might go about introducing and using CBPT with clients while continuing to nurture a strong therapeutic alliance.

Therapeutic alliance describes the bilateral relationship that exists between client and clinician. A positive therapeutic alliance is exemplified by a safe, compassionate, genuine and empathic relationship between the two parties, working collaboratively toward agreed therapeutic goals. The presence of a strong therapeutic alliance has been consistently shown to be a predictive and fundamental ingredient of positive treatment outcomes (Horvath & Luborsky, 1993; Norcross, 2010).
Researchers have shown that certain clinician skills and personal qualities strengthen the therapeutic alliance. These skills and/or qualities include but are not limited to: the ability to engage empathically and interpersonally relate to the client and their needs; clear communication skills; the ability to project themselves to a client as collaborative, trustworthy, flexible and highly competent (Ackerman & Hilsenroth, 2003). MacNeil, Hasty, Evans, Redlich and Berk (2009) differentiated between certain clinical presentations and the ease to which they can establish and maintain a positive therapeutic alliance. Unsurprisingly they found that those clients with high levels of distrust, poor emotional regulation and poor interpersonal/social skills are by nature more difficult to engage and thus more difficult to establish a strong therapeutic alliance. As already reported, Kay-Lambkin et al. (2009) found that treatment seekers with co-existing problems were equally able to engage, bond and commit to clinician-assisted SHADE CBPT as an equivalent therapist-delivered treatment.

Setting aside practical issues and obstacles, clinical considerations as well as CBPTs compatibility with existing practice standards and values, clinicians began to entertain the potential benefits of the SHADE package and its likely application within a community-based drug and alcohol clinical service. For example, clinicians speculated whether certain client groups would be better suited to CBPT over others. Younger people were singled out as a cohort who tend to be more confident with multimedia technology and therefore potentially good candidates for CBPT. Participating clinicians were also interested to see if CBPT would deliver the levels of efficiency in practice as promised by scientific trials. A number of studies have demonstrated that CBPT can significantly reduce the face-to-face time required to treat certain conditions. For example, the SHADE efficacy trial showed the CBPT condition necessitated on average 12.5 minutes of clinician contact per session.
compared to the clinician-delivered treatment requiring an average of 60 minutes of specialist psychological input over the same time period (Kay-Lambkin et al., 2009). Very few studies have distinguished between the time spent clinically supporting CBPT use versus the demands of addressing non-clinical issues, and what data is available varies considerably between studies (Waller & Gilbody, 2009).

Clinicians also predicted that integrating CBPT into their clinical practice would improve their adherence to evidence-based treatment protocols. The technology promises much as a training tool for early career clinicians, enabling skill acquisition in the delivery of specialised psychological treatments. While recognising the above premise, Andersson (2010) cautioned how certain clinical skills learned only through face-to-face practice could deteriorate or worst fail to develop among those clinicians who over-rely on CBPT.

**Quantitative study: Naturalistic field study of computer-based psychological treatment in a drug and alcohol clinical service**

*Utilisation and effectiveness of SHADE*

The SHADE dissemination trial was not a controlled study; instead a naturalistic field study was used to gather preliminary data on clinician adoption of the SHADE CBPT package in the absence of overt monitoring or encouragement of researchers. The study also examined the impact of SHADE on client mental health and AOD use outcomes.

The results suggest that AOD clinicians are prepared to experiment with CBPTs. The SHADE package was discussed and/or used in 25% of sessions sampled. Interestingly, the data indicated that time in treatment influenced the way SHADE was deployed. In particular, clinicians appeared more inclined to integrate SHADE modules into treatment (i.e., clinician-assisted CBPT) with clients in the early phase
of their treatment cycle. Whereas the longer someone was in treatment the more likely CBPT would be recommended (i.e., SHADE as a homework exercise) rather than actively integrated into the session.

Another interesting finding was the high proportion of clients who said they would be willing to use CBPT if offered by their clinician (80%), but only 34% of clients were exposed to SHADE. Other studies have recorded similarly high rates of client willingness to receive CBPT (Graham et al., 2001). Our results suggest that clinicians were overly restrained when determining client suitability and/or willingness to receive CBPT, and that many more clients would have utilised SHADE if offered by their clinician. This supports the notion that resistance to using CBPT comes largely from clinicians not clients (Emmelkamp, 2005). Conversely, 9% of clients who said they were reluctant to receive CBPT at baseline were exposed anyway. This suggests that clinicians are similarly poor at detecting clients who are hesitant to receiving this form of treatment. Further studies are needed to generate a deeper understanding of the different clinical considerations at play when determining client suitability and/or openness to receive clinician-assisted CBPT.

As the clinicians predicted in the focus group, younger clients were significantly more open to receiving CBPT than older clients. Client willingness to receive CBPT was not related to baseline levels of AOD use or mental health symptoms of depression, anxiety or stress.

Client depression, anxiety and stress symptoms reduced significantly over the study period, with no statistical evidence that exposure to SHADE significantly improved mental health symptoms relative to those clients not exposed to SHADE. Client reported alcohol and cannabis use also reduced significantly between baseline assessment and 15-week follow-up. For alcohol use, clients reported a significant reduction in alcohol use between baseline and follow-up assessments, however this
was not moderated by SHADE exposure. Clients with higher levels of alcohol use appeared to benefit most from the SHADE resource. Cannabis use also reduced over the study period, but this was not statistically significant. Similar to the findings for alcohol, SHADE exposure appeared to be associated, although not statistically significant, with superior reductions in cannabis use among clients who reported heavier baseline levels of substance use (at least daily use). Additional large-scale multi-site dissemination trials are needed to test the effectiveness of the SHADE CBPT package in the clinical setting. Because of the small sample size, it is plausible that some of the non-significant results, in particular the effectiveness of SHADE exposure on anxiety, stress and AOD use outcomes, can be explained by insufficient power to detect differences between variables.

_Clinician openness to innovation and computer anxiety as predictors of computer-based psychological treatment use_

Contrary to the hypotheses, no significant predictor relationship was detected between clinician openness to innovation and computer comfort and their propensity to adopt CBPT.

_Openness to Innovation_

Studies have consistently demonstrated that the diffusion of any new innovation is gradual and non-linear. Rogers (2003) Diffusion of Innovation Theory explains how adoption of innovation typically follows an s-shaped curve characterised by slow initial uptake and then the rate of adoption builds momentum over time. The theory also provides a framework for categorising individuals according to their rate of adoption. Moreover, within each category individuals are similar in terms of their innovativeness, which is defined as “the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than other members of a system” (Rogers, 2003; p.22). These categories are also defined statistically according to the
number of standard deviations from the mean time elapsed before adoption of
innovation happens.

People that fall within the innovator classification are willing to experience new
ideas and/or technology. They are the first 2.5% of the population to adopt a new
innovation. Likened to mavericks, innovators are the gatekeepers bringing the
innovation from the outside of the system. Early adopters, the next 13.5% to adopt an
innovation, are opinion leaders that once the benefits of new technology become
apparent to them they embrace it. Members of the early majority category, the next
34% to adopt, learn more from their peers than from theory or science. People in this
group are judicious in adopting an innovation. They will listen to others and will
adopt an innovation if it helps them with an immediate need. They are neither the first
nor the last to adopt innovation. The next 34% of people who wait until most of their
peers adopt the innovation before they do the same are categorised as late majority.
And, the last 16% of people to adopt an innovation are termed laggards. As the name
suggests, laggards go through a relatively long and drawn-out innovation-decision
period.

Prior to the SHADE dissemination trial, participating clinicians completed the
Individual Opinion Scale (IOS; Hurt et al., 1977) – a self-report measure of the
likelihood an individual adopting innovative strategies in their workplace. The more
innovative an individual perceives themselves to be the higher their IOS score. As a
group, clinician innovativeness was lower than the established norm for the IOS,
although this difference was not statistically significant. Moreover, no statistical
difference was detected between clinician innovativeness and SHADE use (yes/no).

Computer Anxiety

Computer anxiety is the feeling of fear or apprehension felt when using
computers or even anticipating the use of a computer (Maurer, 1994). When
describing computer anxiety, researchers routinely use terms such as fear, apprehension, discomfort and computer-phobia interchangeably. The literature largely accepts that computer anxiety is a complex psychological construct and not a simple one-dimensional phenomenon. Beckers and Schmidt (2001) identify at least six dimensions to computer discomfort, namely computer literacy, self-efficacy, heightened physical arousal, feeling of dislike, and two sets of beliefs about the role of computers in every-day life. Notwithstanding, studies consistently find that computer anxiety is inversely correlated with computer use (Maurer, 1994). In the context of computer use in a professional setting, this relationship has been extensively reported among teachers and trainee teachers in determining their embracement or not of computer supported education programs (Celik & Yesilyurt, 2013).

Participating clinicians rated themselves significantly lower on computer anxiety than those in the normative sample for the Computer Opinion Survey (Maurer & Simonson, 1993). However, the results of the study found no significant predictor relationship between clinician computer anxiety, a proxy measure for how comfortable clinicians are with adopting and using CBPT, and their propensity to adopt SHADE.

**Study limitations and opportunities for future research**

The study methodology had several limitations, which highlight important opportunities for future research. The drug and alcohol clinical service used to conduct the dissemination trial regularly participates in research, which customarily would be a great advantage, however in this case it may limit the generalisability of the qualitative and qualitative findings. This study was conducted at one drug and alcohol clinical service staffed by tertiary qualified clinicians who are accustomed to
participating in research projects and delivering best-practice clinical services.

Repeating the focus group discussion and naturalistic field study with a broader cross section of AOD clinicians and treatment settings would be advantageous. Future dissemination trials would benefit from designing and evaluating workshop-based training combined with ongoing competence-based support tailored to overcome the various clinician-level (e.g., complexity, relative advantage, compatibility and clinical considerations for using CBPT materials) and program-level barriers to SHADE dissemination and implementation.

The limitations of the quantitative study have already been listed in the manuscript. Most notably, only a small number of participants (clinicians and clients) were recruited into the study resulting in poor statistical power to detect differences between variables. It is possible that some non-significant results were recorded due to insufficient power. A fully powered SHADE dissemination trial is needed across different treatment settings. This research would reveal site-by-treatment interactions as well as determine the effectiveness of the SHADE CBPT package within a real-world clinical setting.

The study also didn’t include an external check on client exposure to CBPT. The research methodology asked participating clinicians to submit a session checklist at the conclusion of each session conducted over the 6-month study period, including whether or not SHADE was discussed, used in-session and/or recommended as a homework exercise. For ethical reasons the study was unable to verify the proportion of sessions for which session checklists were submitted versus all sessions conducted over study period. Latest service data (Brooks, Kay-Lambkin, Bowen, & Childs, 2012) provides some confidence that clinicians did refer a high proportion of clients to the SHADE dissemination trial.
This study set out to examine early adoption of the SHADE CBPT package in a real-world drug and alcohol clinical service. To that end, it would have been interesting to assess in greater detail the penetration of use of CBPT per clinician (i.e., did some clinicians use SHADE with only one client while some used it with several?). Moreover, the intended audience of SHADE is clients with co-existing substance use and depression. Future SHADE dissemination trials would benefit from examining whether or not SHADE is actually used with this intended audience, or with clients who did not have depression. Research is also needed to test the effectiveness and clinical utility of CBPT (including SHADE) embedded within a stepped-care treatment framework. Particularly, examine the effectiveness of SHADE among waitlist clients.

This particular study examined whether a select number of clinician factors might influence uptake and use of CBPT with a client, namely openness to innovation and computer anxiety (computer comfort). Additional unmeasured variables (e.g., perceived therapeutic alliance, primary diagnosis) may also moderate clinician use of CBPT in clinical practice, which should be considered in subsequent studies.

**Conclusion**

A major strength of this study is its use of both qualitative and quantitative research methods. This original study offers preliminary findings of factors that promote and impede clinician adoption of CBPT, specifically the SHADE CBPT package, into their clinical repertoire. It also demonstrated that AOD clinicians are open-minded to the potential benefits of using CBPT in clinical practice. Clinicians are also willing to experiment with this innovative treatment medium. The study found that treatment seekers are generally open to receiving CBPT, especially younger people. More research is needed to confirm SHADE’s effectiveness for
treating co-existing depression and AOD use problems under real-world conditions. The SHADE CBPT package offers great potential to improve outcomes for people with co-existing depression, alcohol and/or cannabis use. It’s not unrealistic to imagine that in the not so distant future CBPT, like the SHADE package, will sit within a ‘clinicians toolbox’ (Andersson, 2010). However, successful adoption and implementation of CBPT, including SHADE, within a real-world clinical setting will only happen by understanding the needs of clinicians and clients alike, as well as the factors influencing their rate of adoption. Strategic collaboration between researchers and clinicians is required to feed-up modifications needed to the SHADE package to deliver optimal results in the clinical setting. This partnership should also inform the development and testing of bespoke workshop- and competence-based training programs needed to facilitate SHADE dissemination and implementation.
References


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Appendix A: Study protocol

Study protocol: a dissemination trial of computerized psychological treatment for depression and alcohol/other drug use comorbidity in an Australian Drug and Alcohol Clinical Service

*BMC Public Health*

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Word Count Abstract: 292
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Number of Appendices: 1
Abstract

Background

The rise of the Internet and related technologies has significant implications for the treatment of complex health problems, including the combination of depression and alcohol/other drug (AOD) misuse. To date, no research exists to test the real world uptake of Internet and computer-delivered treatment programs in clinical practice. This study is important, as it is the first to examine the adoption of the SHADE treatment program, a DVD-based psychological treatment for depression and AOD use comorbidity, by clinicians working in a publicly-funded AOD clinical service. The study protocol that follows describes the methodology of this dissemination trial.

Methods/Design

19 clinicians within an AOD service on the Central Coast of New South Wales, Australia, will be recruited to the trial. Consenting clinicians will participate in a baseline focus group discussion designed to explore their experiences and perceived barriers to adopting innovation in their clinical practice. Computer comfort and openness to innovation will also be assessed. Throughout the trial, current, new and wait-list clients will be referred to the research program via the clinical service, which will involve clients completing a baseline and 15-week follow-up clinical assessment with independent research assistants, comprising a range of mental health and AOD measures. Clinicians will also complete session checklists following each clinical session with a client, outlining the extent to which the SHADE computer program was used. Therapeutic alliance will be measured at intake and discharge from both the clinician and client perspectives.
Discussion

This study will provide comprehensive data on the factors associated with the adoption of an innovative, computer-delivered evidence-based treatment program, SHADE, by clinicians working in an AOD service. The results will contribute to the development of a model of dissemination of SHADE, which could be applied to a range of technological innovations.

Clinical Trials Registry

ACTRN12611000382976
Introduction

Mounting pressure is exerted on the health system by the increasing prevalence of depression and alcohol/other drug (AOD) misuse. These disorders are ranked 3 and 17 in contribution to the global disease burden, with depression elevated to 1st place and alcohol abuse use to 5th among middle-high income countries such as Australia [1]. Efficacious treatments have been tested with success for both depression and AOD disorders, suggesting that this burden can be reduced.

Despite this, the gap between need for and receipt of these treatments is large, particularly for counselling [2], which is often preferred [3]. For example, in the US, 2.1 million people with a 12-month mental disorder did not use services for mental health problems but perceived they had an unmet need [4]. Of these, the highest unmet need was for counselling [4]. Comorbidity, or the co-occurrence of two or more disorders, is the rule rather than the exception in clinical practice [5], with up to 89% of people with AOD use disorders also experiencing depression [6]. The presence of comorbid disorders compounds difficulties in treatment access and provision [7].

Mental health and AOD researchers and clinicians must respond to these issues, by developing and evaluating treatment programs that address depression and AOD use disorders, whilst minimising cost and maximising efficient use of clinician time and client outcomes. Available evidence-based treatments provide for single problems (e.g. depression or alcohol misuse) rather than the comorbidity with which clients typically present [5]. Treatments are often high intensity, require specialist input and training, and are therefore only accessible to a minority of clients [8]. For these
reasons, many clinicians are not able, or willing, to implement these interventions in practice.

The increased availability and use of computer/Internet-based programs as a supplement to healthcare is also a potential solution to well-documented treatment accessibility problems [9], particularly among people with depression and AOD use comorbidity. Interactive and multimedia options offer the potential for higher levels of engagement than other self-help modalities [10]. Computers/the Internet offer the opportunity for widespread dissemination of treatments, reaching a large audience in a cost effective and timely manner [11]. Experts also suggest that the integration of Internet/computer-delivered interventions into practice, will increase adherence to evidence-based treatment protocols, and increase the number of practitioners who can deliver highly specialized psychological treatments [12].

Internet/computerized CBT treatment programs have established efficacy for a range of mental disorders and other health conditions [13]. Our previous work has reported on the efficacy of computerized psychological treatment for concurrent depression and AOD use disorders [SHADE treatment, 14]. In a recent randomized controlled clinical trial involving 97 participants, SHADE computerized treatment was associated with significantly greater reductions in depression relative to a one-session treatment, and equivalent reductions in depression to a face-to-face treatment combining cognitive behavioural therapy (CBT) and motivation enhancement (ME). There was a significant advantage of computerized SHADE for cannabis use over time, with participants in SHADE reporting twice the reduction in cannabis use as the face-to-face condition and approximately five times the reduction as the one-session treatment at 12 month follow-up [14]. Computerized SHADE was also associated
with similar reductions in alcohol use over 12 months as the equivalent face-to-face-delivered combination CBT/ME program [14].

Whilst it is generally accepted that Internet/computer-delivered CBT programs are efficacious, with some indicating equivalent benefits to face-to-face-delivered programs, there is very little real world research that demonstrates the benefits and acceptability of these programs in practice and service settings [12]. There is some evidence to suggest that, in the US, only 48% of primary care patients would consider using Internet-delivered CBT, compared to 91% for traditional face-to-face therapy [12]. However, other evidence suggests that clinicians, including psychologists and CBT practitioners, are more open to using these alternatives as supplements to the care they are able to provide [15]. Consequently, the current study was commenced with the aim of exploring clinician and client uptake, accessibility and response to a computerized CBT/ME treatment for depression and AOD use (SHADE treatment) within a publicly-funded Drug and Alcohol Clinician Service in New South Wales, Australia.

**Methods/Design**

*Study aims*

The purpose of this original research is to test the effectiveness of the SHADE computerized treatment program, from both a clinician and client perspective, within the real world clinical setting of a public Drug and Alcohol Clinical Service. It is hypothesised that clients exposed to the SHADE program will report superior reductions in depression and AOD use relative to those who are not exposed, and that this response may be moderated by primary drug of concern (e.g. marijuana vs. other drug use), coercion into treatment and computer comfort. It is also hypothesised that
there will be an association between clinician openness to innovation, clinician computer comfort and the use of SHADE in clinical practice.

*Study setting*

This is a real world dissemination trial, conducted within a publicly-funded Drug and Alcohol Clinical Service (DACS). The Central Coast DACS forms part of the Area’s general health service, and provides a range of clinical interventions to Central Coast residents with AOD use problems. Services include community counselling, detoxification (hospital-based and outreach), needle and syringe programs, pharmacotherapy services, a diversion program for young people with AOD use problems and legal issues (MERIT), and a specialist service targeting clients with a primary drug of concern of marijuana. A central intake service acts as the point of initial contact for access to DACS, with subsequent referrals made to relevant services as appropriate. Client and Clinician participants will be recruited from the counselling services associated with the Central Coast DACS. There are three counselling teams within this service, Drug and Alcohol Counselling, Cannabis Clinic and MERIT (Magistrates Early Referral Into Treatment).

*Participants – Clinicians*

Clinicians working within the Counselling, Cannabis Clinic and MERIT teams will also be invited to participate in the study. At a minimum, these clinicians will have a tertiary education in a counselling-related field, with at least an undergraduate degree in nursing or psychology.
Participants – Clients

All clients, new and ongoing, will be invited to partake in the research study. Participants will be aged 18 years and over, residing on the Central Coast and surrounding areas of New South Wales. Participants will consist of individuals attending counselling with primary presenting issues related to substance abuse or dependence.

Study design

This study is designed to observe, and not prescribe, the use of the SHADE computerized treatment program within the Central Coast DACS. Ethics approval for the study has been obtained from several relevant Human Research Ethics Committees, led by the Northern Sydney Central Coast Human Research Ethics Committee (08/HARBR/78/79).

Clinicians

At information sessions conducted by the authors, clinicians in each team associated with the DACS were introduced to the study and asked to provide consent to participate. Participation involves five activities:

1. Completion of a baseline focus group discussion and follow-up individual interview regarding the use of innovation in clinical practice, with reflection on the SHADE treatment program as an example of innovation.

2. Completion of a baseline questionnaire regarding their openness to innovation and computer comfort.

3. Use of the SHADE treatment program with new and ongoing clients in whatever manner they choose.
(4) Referral of contact details for new and ongoing clients to the client-data-collection phase throughout the study period, regardless of their exposure to the SHADE treatment program.

(5) Completion of session checklists following every counselling session with new and ongoing clients, regardless of their exposure to the SHADE treatment program, and therapeutic alliance measures at intake and discharge for all clients.

Current/Ongoing Clients

Following the provision of their contact details to the research team via their clinician, current and ongoing clients of the DACS are contacted to discuss consent to participate in the study. Once consent is established, clients complete a baseline and 12-week follow-up assessment delivered over the telephone by research assistants independent from the DACS. Clients are reimbursed $20 AUD for each completed assessment.

Wait-list Clients

New referral to the DACS, via the centralized intake service, who have not been allocated to a clinician, will be contacted by AH, SW or MB (clinicians of the DACS) to discuss study participation and consent to release contact details to the research team. Once these details have been provided to the research team, wait-list clients consent to complete a baseline and 12-week telephone assessment in the same manner as current/ongoing clients. Wait-list clients are reimbursed $20 AUD for each completed assessment.
The SHADE Treatment Program

The SHADE treatment program has been described elsewhere [14, 16], and incorporates CBT and ME strategies to encourage reductions in depression and AOD use. The program is available in two formats: (i) a 10-session program designed to be completed in a linear fashion, once weekly for 10 weeks, with content pre-programmed for each session; and (ii) a Skill Module program, where a series of shorter modules are presented based on themes related to depression and AOD use problems (e.g. coping with cravings, taking charge of my thoughts, staying well) arising from the 10-week program. Client/Clinicians are able to select a particular skill module to focus on during a session, without having to complete the other skills and strategies contained in the resource. Both versions of the SHADE program appear on the one DVD-Rom from which the program operates. Text is pitched at a reading age of 14 years, with a voiceover available to read out all text contained in the resource. Video case scenarios guide clients through a range of skills and strategies, and a range of handouts and worksheets are also available for clients/clinicians to print out and use during a session or as a homework activity.

Assessments

All assessment instruments are widely used in mental health and/or AOD treatment research and practice.

Clinicians

Clinicians will participate in a baseline focus group discussion designed to elicit their attitudes and concerns about adopting innovation into their clinical practice in general, and the SHADE treatment program in particular. Table 1 displays the structure of this focus group discussion.
Subsequent to completing the focus group discussion, clinicians complete two further self-report measures:

(1) **Innovativeness Scale [17]**: a 20-item measure using a 7-point Likert-type scale assessing the likelihood of an individual to adopt innovative strategies in their work.

(2) **Computer Opinion Survey [18]**: a 26-item measure using a 6-point Likert-type scale, developed as a measure of the trait of computer anxiety rather than the “state” of computer anxiety.

During the course of the study, clinicians complete a session checklist at the conclusion of each session with a client, which outlines the focus and content of the session, including whether or not SHADE or other technologies were used. The checklist was developed by the authors to specifically suit the Central Coast DACS and the range of counselling interventions applied by the clinicians. Please see Appendix A for a copy of the session checklist.

At intake and discharge with a client, clinicians also complete the therapist scale of the Agnew Relationship Measure [19]. This scale asks clinicians to rate, on a 7-point Likert scale, 28 items relating to the extent to which they feel a bond, partnership, confidence, openness, and client initiative are features of the therapeutic relationship with their client.
Clients

Following the provision of consent, clients complete the following set of assessment measures at baseline and 12-weeks post-baseline via telephone with a trained research clinician, who is independent of the Central Coast DACS. The following questionnaires take between 30-45 minutes to complete:

1. Demographics: information includes age, gender, occupational and marital status, children, educational experience, ethnicity and current accommodation arrangements.

2. Service Utilisation: includes current and previous treatments, including self-reported hospitalisations, attendance at clinics, rehabilitation programmes, contact with community mental health teams, psychologists, psychiatrists, other health professionals, involvement in AOD detoxification and counselling, methadone maintenance, 12-step programmes, use of general practitioners, and use of medication (including compliance).

3. Opiate Treatment Index [20]: a quantity/frequency index to estimate average daily use of 11 drug types (alcohol, cannabis, heroin, other opiates, amphetamines, cocaine, hallucinogens, barbiturates, tranquilisers, inhalants and tobacco) in the month prior to assessment.

4. Treatment Motivation Questionnaire: is a 26 item self-report measure, examining four components of motivation including internal and external motivation, help seeking and confidence in treatment. A 7-point Likert scale is used to examine the level of motivation.

5. Depression Anxiety Stress Scale 21-item version [21]: a 21-item screening tool to for depression, anxiety and stress in the previous 7 days. A 4-point Likert-type scale is used to determine the extent to which a symptom applied to the person.
(6) Global Assessment of Functioning [22]: a clinician-rated assessment of current functioning.

(7) Self-compassion Scale [23]: is a 26-item measure using a 5-point Likert-type scale assessing the extent to which a person expresses self-compassion towards themselves in difficult times.

(8) Agnew Relationship Measure – Client Version [19]: this client-rated measure of therapeutic alliance is similar in content and structure to the therapist-rated version previously described.

We plan to report the cost of delivering the intervention in real world settings and the cost impacts of the outcomes achieved by calibration of selected instruments used in the study (e.g. Quality of Life Scale, Global Assessment of Functioning) with those achieved in other costing studies.

Sample size calculation

Clients

A 50% consent rate is estimated from the 250 eligible clients passing through the Central Coast DACS within the study timeframe (N=125). Previous research conducted by the authors has achieved consent rates of 50% for participants recruited from the general community [e.g. via media advertisements, 14]. We obtained higher consent rates (i.e. 82%) when previously recruiting directly from DACS [14], however we have estimated our sample size recruitment rates based on the lowest figure. Previous research with the target population has resulted in an 80% retention rate over a 15-week period [14], translating to a final projected sample size of 100 retained participants at the 15-week follow-up for the current study.
Clinicians

All clinicians will working with the Central Coast DACS are invited to participate in the study, providing a maximum of 19 clinician participants for the trial. Assuming clients are distributed equally between the clinicians, each clinician will see 13 clients during the study period (250/19). Service data from the Central Coast DACS indicates the average occasion of service for clients engaged with the service is 3 sessions. Assuming a 50% compliance rate with completion of session checklists by clinicians, we estimate having a pool of 342 session checklists for analysis.

Statistical Analyses

Clients

For the client sample, primary outcome measures are changes in depression, alcohol and cannabis use between baseline and 12-week follow-up.

Previous research using the SHADE resource among substance users [14] has resulted in effect size differences of 0.42 between clients exposed to the SHADE resource versus not on depression, alcohol and cannabis use. Assuming similar effect size differences will apply to the current study, we estimate that a sample size of 72 is required at 15-week assessment to achieve adequate power (power=0.81) to detect differences of this order using repeated measures analysis of variance with an alpha level of 0.05 (calculated using G*Power, version 3.1.2). Predictors of alcohol use, cannabis use and depression at 15-weeks relevant to the current study (e.g. client rated therapeutic alliance, internal and external motivation and coerced vs non coerced clients, exposure to SHADE) will be modelled using a linear regression analysis. This sample size will also enable us to examine an effect size of 0.15 for a linear
multiple regression for these outcome variables, with up to 6 predictors, an alpha level of 0.05 and a power co-efficient of 0.80 (actual sample size required = 98).

Clinician

Given the small sample size of clinicians associated with the DACS, descriptive analyses will only be performed on the clinician measures associated with innovation, computer comfort and reported use of the SHADE resource.

<table>
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<th>Table 1. Clinician focus group protocol</th>
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<tr>
<td>(1) What sources do you use to inform your clinical practice? (e.g. journals, workshops, clinical guidelines)</td>
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<td>(2) What influences you in deciding on when to use a particular strategy, technique, or resource during a session with a client? How do handouts, self-help books and other information for clients fit into this process?</td>
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<tr>
<td>(3) Have you incorporated any technology into your sessions with clients already? How did you do that, and what was the result?</td>
</tr>
<tr>
<td>(4) Are there any advantages to using technology, e.g. SHADE, as an adjunct to your clinical practice? And what might the disadvantages or concerns be? What are the main issues?</td>
</tr>
<tr>
<td>(5) What are some of the supervision and supports you think that you might need to have in place to assist you in using technology in your clinical practice?</td>
</tr>
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</table>

Competing interests
None of the authors have any competing interests arising from this research.

Author contributions
FK-L, AB, AS, AH, SW, MB & SC contributed to the design of the study and developed the protocol. FK-L, AS, AH, SW & MB gained ethical approval for the trial through Northern Sydney Central Coast Human Research Ethics Committee. All authors contributed to manuscript preparation. All authors approved the final manuscript for submission.
References


Appendix B: Extended methodology and results

Qualitative Study – Clinician attitude and concerns about adopting and implementing computer-based psychological treatment into clinical practice

Method

Procedure

Before the SHADE dissemination trial commenced, all clinicians working within three of the Central Coast Alcohol and Other Drug Service (CCAODS) counselling teams, namely Drug and Alcohol Counselling, Cannabis Clinic and Magistrates Early Referral into Treatment (MERIT) services were invited to participate in a focus group discussion. The purpose of the baseline focus group was to elicit clinician attitudes and concerns about adopting and implementing new treatment innovations into their clinical practice, and the SHADE computer-based psychological treatment (CBPT) package in particular. The focus group also aimed to identify and explore obstacles to disseminating CBPT within a clinical setting. A brief schedule of questions was developed (see Table 3) to inform the focus group discussion.

**Table 3.** Clinician focus group protocol.

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<td>1.</td>
<td>What sources do you use to inform your clinical practice? (e.g. journals, workshops, clinical guidelines)</td>
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<tr>
<td>2.</td>
<td>What influences you in deciding on when to use a particular strategy, technique, or resource during a session with a client? How do handouts, self-help books and other information for clients fit into this process?</td>
</tr>
<tr>
<td>3.</td>
<td>Have you incorporated any technology into your sessions with clients already? How did you do that, and what was the result?</td>
</tr>
<tr>
<td>4.</td>
<td>Are there any advantages to using technology (e.g. SHADE, as an adjunct to your clinical practice)? And what might the disadvantages or concerns be? What are the main issues?</td>
</tr>
<tr>
<td>5.</td>
<td>What are some of the supervision and supports you think that you might need to have in place to assist you in using technology in your clinical practice?</td>
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A broad interviewing style was employed for the baseline focus group. This enabled flexibility and for topics to be raised by participating clinicians rather than the discussion being directed by the researcher. Questions were open-ended and neutral where possible, targeting the issues surrounding the adoption and use of CBPT materials within a real-world drug and alcohol clinical service.

The focus group was audio-recorded, anonymised and transcribed verbatim. The focus group went for approximately 90 minutes.

**Participants**

All clinicians working within the CCAODS - Drug and Alcohol Counselling, Cannabis Clinic and MERIT teams were invited to participate in the baseline focus group. All clinicians held tertiary qualifications in a counselling related field, with at least an undergraduate degree in nursing or psychology. Participating clinicians reported a mean age of 42.90 years (SD=11.17, Range 25-58) and were, for the most part, female (N=11/13).

Clinicians provided informed consent to participate in the study. Verbal consent was also gained prior to beginning the recorded focus group discussion and again at the end.

**Data Analysis**

A thematic approach was used to analyse the data obtained from the clinician focus group, drawing on the constant comparative model (Straus & Corbin, 1998). First, open coding of the transcript generated an initial coding framework. These codes were refined and merged into broader categories. Comparative analysis was then used to identify overarching themes. Identified themes were then scrutinised for disconfirming as well as confirming views held by participating clinicians. Data analysis was led by AS who coded and completed the initial analysis of the transcript. FK-L coded a subsample of the transcript, later comparing and discussing this with
AS. New codes were then incorporated into the framework, similar codes were merged and an agreed final framework was then applied to the transcript.

Results

Analysis of the discourse revealed four main themes. The first, ‘Technology’ describes concerns and logistical challenges surrounding the use of multimedia technology. The second theme ‘Effectiveness and compatibility’ describes the extent to which new treatments meet minimum practice standards as well as ‘fit’ with a clinician’s preferred theoretical orientation and clinical style. The third theme ‘Clinical judgement’ revealed a range of clinical considerations surrounding the use of the SHADE CBPT package within the clinical setting as well as when and how clinicians might go about integrating this innovation into a clients treatment plan. Finally, the theme ‘Potential’ describes the perceived opportunity presented by the SHADE CBPT package and its likely application within a publically funded drug and alcohol clinical service.

Tables 4, 5, 6 and 7 list textual examples obtained from the clinician focus group illustrative of the aforementioned themes.

Technology

Participating clinicians foreshadowed a number of technical and logistical issues/obstacles surrounding the adoption of the SHADE CBPT package within a clinical setting. Clinicians also predicted that making use of the SHADE package outside the clinic environment (i.e., clients using SHADE as homework or providing the SHADE package to clients on the waitlist) added another layer of complexity and technical challenges. Clinicians said they were generally reluctant to implement
SHADE into their clinical practice until they were confident that all technical issues had been satisfactorily resolved.

Participating clinicians questioned whether existing information technology (IT) systems operated by the CCAODS would be capable of running the SHADE program to a suitably high standard. Examples of potential hardware issues included but were not limited to, computers installed with inferior audio systems or the fact that not all computers had a desktop printer installed making it problematic to print off worksheets or handouts. Clinicians were apprehensive that the SHADE package and/or the CCAODS IT system would be unreliable. Consequently disrupting the ‘flow’ of sessions as well as causing general inconvenience to clinicians and clients.

Clinicians also felt that access, more accurately the lack of access, to a home computer was a genuine obstacle for many clients wanting to make use of SHADE CBPT outside the clinic environment. Participating clinicians spoke about the need to consider ‘access to a computer’ when deciding whether to integrate SHADE into a clients treatment plan:

What about clients who don’t have access to a computer, or one with a DVD-Rom?

Clinicians unanimously agreed that existing resources, including human and capital resources, within the CCAODS were stretched to capacity. Moreover, clinicians expressed disquiet about being called upon to troubleshoot technical issues associated with the use of multimedia technology:

We have no resources within Health to support the IT side of this.

Accordingly, the success and sustainability of SHADE dissemination into clinical practice would be dependent on it not adding additional burden onto the service. However, before even road testing the SHADE package some clinicians anticipated that using CBPT in clinical practice would increase their workload:
I’m worried that we’ll get more calls from clients we give this [SHADE] to take home …they’ll be calling up with technical questions…that’ll be more work.

Clinicians expressed the belief that one of the fundamental services they provide to clients is a safe and confidential environment for them to address their presenting problems. For some clinicians, integrating computer technology into treatment could somehow dilute the amenity of ‘confidentiality’. Particularly if the SHADE CBPT package left an electronic fingerprint:

This is the other thing…is there anything that downloads onto the clients computer…like…could what they’ve done or pressed be tracked in anyway?

For one clinician, before making a commitment to adopt CBPT into their clinical practice they planned to reconfigure their counselling room to ensure the space was conducive to didactic interventions broadcast from a computer terminal:

I definitely think that some help in setting up my office space…to change it from an office space to a teaching space…which is essentially what we’d be talking about if I was to incorporate SHADE into my regular clinical practice.

**Effectiveness and compatibility**

The theme ‘Effectiveness and compatibility’ describes the evaluation clinicians make about the suitability match of a new innovation against practices standards, particularly efficacy, as well as their own therapeutic style. Participating clinicians described the need to confirm the efficacy bona fides of any new innovation and the extent to which it aligns with practice guidelines:

Basically, we stick to what is evidence-based.

Similarly:

The psychosocial guidelines [New South Wales Health Drug and Alcohol Psychosocial Interventions Professional Practice Guidelines (NSW Health, 2008)], which describes our practice.
Participating clinicians described that new innovations are also scrutinised at a personal- or individual-level. Specifically, clinicians are more inclined to adopt a new treatment if it’s perceived to closely ‘fit’ their therapeutic style:

It needs to fit with who I am, and what I’m comfortable with. Integrating what we are learning with our practice is quite challenging.

As long as a particular treatment meets the minimum standards as prescribed by the practice guidelines (i.e., effectiveness) clinicians consider the extent to which the treatment is consistent with their own therapeutic style and values (i.e., compatibility):

I think there are several levels to what we do. At the foundation, are the key CBT type skills with the good evidence base that we all need to be using. Then on top of that you bring your own style – so if you are solution-focussed, you can bring that flavour to your sessions as well. I’ve been doing quite a bit of ACT with clients because it fits with my personal style – still offering those basic CBT skills, but adding my own flavour to it. I think you can layer your personal style on top of those basic fundamentals.

**Clinical judgement**

The theme ‘Clinical judgement’ addresses the clinical assessment and process clinicians envisaged they might employ when deciding which clients might be suitable/unsuitable for SHADE CBPT, when in the treatment cycle this treatment innovation might be first introduced, and how it could best be integrated into a clients treatment plan:

I think the key thing for us as AOD clinicians is flexibility…having a large range of things that we can call on in the moment with the client, knowing when the right time is to offer a client a handout etc. and when we need to focus on crisis issues…

Another clinician spoke about the potential ‘risk’ posed by oversubscribing CBPT and not ensuring clients receive a treatment plan that is tailored to their individual needs:
I think a disadvantage might be in taking the focus off the client…I mean there may be a tendency to say…we’ve got this great resource…here, use it, see how good it is… and we may be at risk of just giving it to them without thinking about why, or whether we should….we need to make sure that we think about how and why we are suggesting this…

Like any other intervention, clinicians highlighted the need to assess whether SHADE matched the need(s) of a client. Clinicians were unambiguous about the need to determine whether a client is capable of using and/or benefiting from CBPT before recommending its use. Although unsure how they might go about assessing a clients capacity to first comprehend and then benefit from SHADE, clinicians accepted this assessment would be especially important, particularly because of the high prevalence of acquired brain injury among alcohol/other drug (AOD) users. Clinicians listed a number of additional factors they believed would be important to consider before delegating parts of treatment to the SHADE CBPT package. Considerations identified by clinicians included but were not limited to: is SHADE consistent with the treatment goals? Or, is SHADE appropriate to the clients presenting problems?

Clinicians also expressed a view that for some clients, the relationship or bond that person establishes with their counsellor is as important, if not more important, than the intervention they receive. Participants explored how they might go about introducing and using SHADE within clinical practice while continuing to nurture a strong therapeutic alliance with their clients:

I think the other interesting thing will be is therapeutic alliance…I know for many clients who come back into our service, they request the same therapist they’ve seen before – it’s so integral to our work and is often the intervention itself…you might ask them what was useful about their last lot of treatment with the service and they say just having that person who was there as a stable, validating force – and that’s all they remember about the intervention. So, it’s going to be a challenge to work SHADE in so that it doesn’t impact on that alliance.
Potential

Setting aside technical issues and obstacles, clinical considerations and assessing CBPT’s effectiveness as well as its compatibility with their own therapeutic style, clinicians began to entertain the potential benefits of the SHADE CBPT package and how it might be implemented within a community-based drug and alcohol clinical service.

Clinicians speculated whether certain client groups would be more receptive or better suited to computer-based self-help than others. For example, one clinician suggested that mandated clients, in particular those clients completing the MERIT program – a diversion program for people with drug use problems and concurrent legal issues, as potentially being more receptive and/or suited to CBPT. In their opinion, mandated clients are less inclined to seek a ‘relationship with their therapist’ and are therefore indifferent to whether their treatment is delivered by a person or a computer:

I’m thinking for some of our MERIT clients and those mandated by Probation and Parole, they don’t necessarily need or want a relationship with their therapist…or don’t like the relationship…You could perhaps give them a couple of sessions of SHADE to work on as well as their other therapy…

Younger people were also singled out as a group who tend to be more confident and savvy around multimedia technology making them potentially good candidates for CBPT:

I think the cannabis clinic clients would be terrific candidates for this…they are generally young, and would be right into this…

Clinicians also entertained the prospect of delegating certain interventions to CBPT, particularly didactic interventions:

There’s a relapse prevention component to SHADE, so if possible, I’d like to look at using that with our group…I mean that in itself would be a big benefit of having access to this resource.
Participating clinicians unanimously agreed that the work they do can be both mentally and physically draining. Moreover, clinician fatigue deleteriously impacts on treatment quality. Participants acknowledged that computer-based treatments are truly homogenous and deliver standardised intervention in a consistent fashion. Providing they were confident about the reliability and quality of the SHADE resource, some clinicians accepted that CBPT had the potential to complement their skills and assist in the delivery of high-quality scientifically supported treatment:

I think another potential benefit is if we are really fully booked, as we usually are, there will be some clients who we can give SHADE to and be confident that it’s a good resource, and we don’t actually have to come up with anything brilliant necessarily ourselves…that would be a huge help on those days that are just full on and you don’t have heaps left in your own tank…you know for clients who are ready to work on this certain area.

Likewise, another clinician identified the potential for CBPT to deliver greater efficiencies within the clinical setting:

It will help us save time…if you’ve got clients back to back and they all show, and you know you’ve got something in the bag that’s good, high quality, whatever, to use…it could help.

By delegating parts of treatment to a computer, clinicians also identified an opportunity to redirect their time and expertise toward particular clients who might require more intensive and/or specialist intervention:

I actually think that SHADE gives us a unique opportunity with those complex clients too…it might create some time and space and extra sessions in our treatment…maybe we can spend our time on the crisis management, and important stuff that SHADE doesn’t and can’t cover…and maybe you could say to the client that, although we don’t get time in our sessions to cover this stuff, SHADE has some really useful things in it, so perhaps they could complete it in between sessions…like as a supplement.

Participating clinicians also acknowledged that demand for drug and alcohol clinical services exceeds supply. Consequently, a significant number of clients spend...
time on a waitlist before entering treatment with a proportion of this group being lost
to treatment between the time they seek help and a clinician becoming available,
assumedly because of the delay. Some clinicians identified the possibility of
supplying SHADE to waitlist clients:

I wonder if you could use it (SHADE) even when we haven’t engaged a
person and started their treatment…I mean there is always a waiting time
until we can get to see every client…why couldn’t we ring up someone
and say…look, here’s your appointment time with me, but in the
meantime, would you mind if I sent you out some resources to look at and
work through…just while you are waiting, if you have the technology…I
still want you to come into see me, but in the meantime…

At a practical level, clinicians accepted that supplying the SHADE package to
waitlist clients could fast track their entry into treatment. At the same time, clinicians
cautioned that self-help treatment, including SHADE, is neither appropriate nor
suitable for every client entering treatment. Participants also speculated whether
clients presenting with AOD use problems were in some way more complex than
other clinical groups and therefore less suited to CBPT:

The biggest barrier for me is the complexity of our client group…I mean, for my private practice clients this would be a dream, but for our clients
here, I barely have enough time to do more than rapport building, and
crisis management…band aid type stuff…and I love this concept, but I
think that for a lot of clients, in the implementation of this, there are going
to be many who this won’t suit.

Participating clinicians also raised the idea that by using CBPT materials they
could in fact improve their own skills for delivering evidence-based practice.
Participant’s felt this secondary gain of improving clinical skills and adherence to
evidence-based treatment protocols by using CBPT materials would be particularly
true for early career clinicians. Participants recognised that computer-based
treatments establish a level of treatment fidelity and transferability from research to
practice like never before. Moreover, clinician-assisted CBPT (i.e., SHADE plus
clinician assistance) could benefit both client and clinician:
I reckon that this might help in training too…you could set up new staff with SHADE and they can learn what to do.
Table 4. Technology: Issues and obstacles relating to the implementation of computer-based psychological treatment.

Full textual examples of the theme
- So if we wanted to give this to someone to take home, we could? Could they play it in their DVD player?
- What about the DVDs…do we have to burn them as we go?
- So, the original form of SHADE was the 10-week program, session based. I think we had a problem with it in that format…but there is definitely now a module-based approach, which is different from what we’ve seen…
- What about clients who don’t have access to a computer, or one with a DVD rom?
- We have no resources within Health to support the IT side of this.
- Will clients just be able to watch and listen, and not have to print things out?
- That’s the other thing…is there anything that downloads onto the client’s computer…like…could what they’ve done or pressed be tracked in anyway?
- I’m also just thinking of clients who aren’t so familiar with technology, or who don’t have access to it, or who are slightly older, or whatever…what would we do there…
- I definitely think that some help in setting up my office space…to change it from an office space to a teaching space…which is essentially what we’d be talking about if I was to incorporate SHADE into my regular clinical practice.
- I’m worried that we’ll get more calls from clients we give this to take home…they’ll be calling up with technical questions…that’ll be more work.

Table 5. Effectiveness and compatibility: Current clinical practice and implications for new innovation.

Full textual examples of the theme
- The psychosocial guidelines, which describe our practice.
- Basically, we stick to what is evidence-based.
- We also have clinical reviews where we each present our clients, what we are doing with them and how it’s going, what our treatment plan is. So, there’s an in-built monitoring system.
- I always have to do some preparation in between going from a workshop to using something with clients. It needs to fit with who I am, and what I’m comfortable with. Integrating what we are learning with our practice is quite challenging.
- The way I’ve been conceptualising it lately…I’ve got a new clinician I’m working with, and have been trying to describe the multi-factorial field we are in to this person, and I think there are several levels to what we do. At the foundation, are the key CBT type skills with the good evidence base that we all need to be using. Then on top of that you bring your own style – so if you are solution-focussed, you can bring that flavour to your sessions as well. I’ve been doing quite a bit of ACT with clients because it fits with my personal style – still offering those basic CBT skills, but adding my own flavour to it. I think you can layer your personal style on top of those basic fundamentals.
**Table 6. Clinical judgement for using computer-based psychological treatment.**

<table>
<thead>
<tr>
<th>Full textual examples of the theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Drinking diary – to help clients get a more accurate picture of their drinking…It gets them focussed on actual behaviour. . . . Controlled Drinking is a really good little self-help book – it’s simple and practical, and I really like it.</td>
</tr>
<tr>
<td>- I think we use more brochures and handouts than any other field.</td>
</tr>
<tr>
<td>- Self-help manuals…so if a client can’t come to a group, I might give them the session manual for the session that they missed and let them work through it so they don’t miss out.</td>
</tr>
<tr>
<td>- I get a lot of clients in crisis, who might not take on board the things I give them in handouts.</td>
</tr>
<tr>
<td>- I think the key thing for us as AOD clinicians is flexibility…having a large range of things that we can call on in the moment with the client, knowing when the right time is to offer a client a handout etc. and when we need to focus on crisis issues…</td>
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<tr>
<td>- Simple, concise, straight to the point, really practical.</td>
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<td>- I’ve been working in really rural and remote locations recently – where there is nothing for people to really access…so I’ve started using Internet resources a lot more as well, and have tried to bring that back here to the urban settings. I just find it so useful, it’s growing all the time, and is really good quality stuff.</td>
</tr>
<tr>
<td>- I think the other advantage to this resource is in providing education to families, carers etc. Clients can take this home, work on it with family members … whatever… so I’d be interested to see how that goes.</td>
</tr>
<tr>
<td>- I think a disadvantage might be in taking the focus off the client…I mean there may be a tendency to say…we’ve got this great resource…here, use it, see how good it is… and we may be at risk of just giving it to them without thinking about why, or whether we should….we need to make sure that we think about how and why we are suggesting this…</td>
</tr>
<tr>
<td>- My only concern is client confidentiality…if they have somewhere private at home where they can do this, then that’s fine…but if not, and if people at home don’t know what they are involved in, it might be a problem.</td>
</tr>
<tr>
<td>- I wonder if we can talk about how we introduce it, how we can encourage our clients to use it…you know…what words do we actually say to our clients when we are suggesting this…</td>
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<tr>
<td>- Often when clients first present, they are still using and things are a bit of a blur…then they come back in a few months and things are a bit clearer…so maybe you could hold it off until then.</td>
</tr>
<tr>
<td>- I think the other interesting thing will be is therapeutic alliance…I know for many clients who come back into our service, they request the same therapist they’ve seen before – it’s so integral to our work and is often the intervention itself…you might ask them what was useful about their last lot of treatment with the service and they say just having that person who was there as a stable, validating force – and that’s all they remember about the intervention. So, it’s going to be a challenge to work SHADE in so that it doesn’t impact on that alliance.</td>
</tr>
<tr>
<td>- I think the attitude is really important…if it wasn’t their expectation that they would come to treatment and get this computer-based treatment… And it depends a bit on their emotional state…if they are not taking anything in, then things are not going to happen…you know it depends on how well they are…for some clients this won’t be a priority for us…</td>
</tr>
</tbody>
</table>
I’m just thinking that this would be a good resource to use in our relapse prevention groups. We’ve been talking about needing some audio-visual component to what we do, so that we aren’t talking all the time in the group. There’s a relapse prevention component to SHADE, so if possible, I’d like to look at using that with our group…I mean that in itself would be a big benefit of having access to this resource.

So when are you saying we should introduce this? When can clients use it?

What about clients we see only once…or twice…and never again…

I think another potential benefit is if we are really fully booked, as we usually are, there will be some clients who we can give SHADE to and be confident that it’s a good resource, and we don’t actually have to come up with anything brilliant necessarily ourselves…that would be a huge help on those days that are just full on and you don’t have heaps left in your own tank…you know for clients who are ready to work on this certain area.

Did clients in the trial have to come into your clinic? Because I’m thinking for some of our MERIT clients and those mandated by Probation and Parole, they don’t necessarily need or want a relationship with their therapist…or don’t like the relationship…You could perhaps give them a couple of sessions of SHADE to work on as well as their other therapy (they are mandated for 12 sessions or whatever), then that might work well too.

At one of my offices (I work across two sites) I have a computer in my room. And in that room, I’ve got my memory stick with me that has all of my handouts on it. So if something comes up in session with a client, and I know that I’ve got a handout on it, I just plug it into the computer, bring it up, talk through it with a client, print it out for them, and off they go. It saves me lugging a big suitcase around with all my handouts in it. That’s one of the benefits of technology that I’ve noticed…

Engagement is really important. And that’s what we do with handouts anyway….

What about clients who are a bit brain damaged in some way…I’m thinking particularly alcohol here…how would they go?

I reckon that this might help in training too…you could set up new staff with SHADE and they can learn what to do.

It will help us save time…if you’ve got clients back to back and they all show, and you know you’ve got something in the bag that’s good, high quality, whatever, to use…it could help.

The biggest barrier for me is the complexity of our client group…I mean, for my private practice clients this would be a dream, but for our clients here, I barely have enough time to do more than rapport building, and crisis management…band aid type stuff…and I love this concept, but I think that for a lot of clients, in the implementation of this, there are going to be many who this won’t suit.

I actually think that SHADE gives us a unique opportunity with those complex clients too…it might create some time and space and extra sessions in our treatment…maybe we can spend our time on the crisis management, and important stuff that SHADE doesn’t and can’t cover…and maybe you could say to the client that, although we don’t get time in our sessions to cover this stuff, SHADE has some really useful things in it, so perhaps they could complete it in between sessions…like as a supplement.

I use something similar…it’s for young people…and there’s a section on anxiety,
and you type in the things that you are anxious about and it helps you create your own step ladder hierarchy for exposure..... Oh, and there’s another one called ReachOut – and a part of it is ReachOut Central where it’s like this second life game...you take on a persona, like an avatar, and you have a character and it takes you through a whole range of pro-social things…it’s really good to use with young people.

- I think the cannabis clinic clients would be terrific candidates for this...they are generally young, and would be right into this...
- I wonder if you could use it even when we haven’t engaged a person and started their treatment...I mean there is always a waiting time until we can get to see every client...why couldn’t we ring up someone and say...look, here’s your appointment time with me, but in the meantime, would you mind if I sent you out some resources to look at and work through...just while you are waiting, if you have the technology...I still want you to come into see me, but in the meantime...

References


Appendix C: Evidence of manuscript submission

**Article title:** Dissemination trial of computer-based psychological treatment in a Drug and Alcohol Clinical Service: Predictors of technology integration

**MS ID:** 1758035788919589

**Authors:** Frances J Kay-Lambkin Dr, Aaron L Simpson Mr, Jenny Bowman Professor and Steven Childs Mr

**Journal:** Addiction Science & Clinical Practice

Dear Dr Kay-Lambkin

Thank you for submitting your article. This acknowledgement and any queries below are for the contact author. This e-mail has also been copied to each author on the paper, as well as the person submitting. Please bear in mind that all queries regarding the paper should be made through the contact author.

A pdf file has been generated from your submitted manuscript and figures. We would be most grateful if you could check this file and let us know if any aspect is missing or incorrect. Any additional files you uploaded will also be sent in their original format for review.

http://www.ascpjournal.org/imedia/1758035788919589_article.pdf (194K)

For your records, please find below link(s) to the correspondence you uploaded with this submission. Please note there may be a short delay in creating this file.

http://www.ascpjournal.org/imedia/6150046419195921_comment.pdf

We will assign peer reviewers as soon as possible, and will aim to contact you with an initial decision on the manuscript within 8 weeks.

In the meantime, if you have any queries about the manuscript you may contact us on editorial@ascpjournal.org. We would also welcome feedback about the online submission process, which can be sent to info@biomedcentral.com.

Best wishes,

The Addiction Science & Clinical Practice Editorial Team

Tel: +44 (0)20 3192 2009
Facsimile: +44 (0)20 3192 2010
e-mail: editorial@ascpjournal.org
Web: http://www.ascpjournal.org/
Appendix D: Journal submission details

The manuscript “Dissemination trial of computer-based psychological treatment in a Drug and Alcohol Clinical Service: Predictors of technology integration” has been submitted to Addiction Science & Clinical Practice for consideration.

Addiction Science & Clinical Practice

Editors-in-Chief: Professor Richard Saitz and Professor Jeffery Samet
ISSN: 1940-0640 (electronic version)
Journal no. 13722

Aims and Scope

Addiction Science & Clinical Practice provides a forum for clinically relevant research and perspectives that contribute to improving the quality of care for people with unhealthy alcohol, tobacco, or other drug use and addictive behaviours across a spectrum of clinical settings.

Addiction Science & Clinical Practice accepts articles of clinical relevance related to the prevention and treatment of unhealthy alcohol, tobacco, and other drug use across the spectrum of clinical settings. Topics of interest address issues related to the following: the spectrum of unhealthy use of alcohol, tobacco, and other drugs among the range of affected persons (e.g., not limited by age, race/ethnicity, gender, or sexual orientation); the array of clinical prevention and treatment practices (from health messages, to identification and early intervention, to more extensive interventions including counseling and pharmacotherapy and other management strategies); and identification and management of medical, psychiatric, social, and other health consequences of substance use.

Addiction Science & Clinical Practice is particularly interested in articles that address how to improve the quality of care for people with unhealthy substance use and related conditions as described in the (US) Institute of Medicine report, Improving the Quality of Healthcare for Mental Health and Substance Use Conditions (Washington, DC: National Academies Press, 2006). Such articles address the quality of care and of health services. Although the journal also welcomes submissions that address these conditions in addiction speciality-treatment settings, the journal is particularly interested in including articles that address unhealthy use outside these settings, including experience with novel models of care and outcomes, and outcomes of research-practice collaborations.

Although Addiction Science & Clinical Practice is generally not an outlet for basic science research, we will accept basic science research manuscripts that have clearly described potential clinical relevance and are accessible to audiences outside a narrow laboratory research field.
Why publish your article in *Addiction Science & Clinical Practice*?

**High visibility**

*Addiction Science & Clinical Practice*'s open access policy allows maximum visibility of articles published in the journal as they are available to a wide, global audience. Articles that have been especially highly accessed are highlighted with a 'Highly accessed' graphic, which appears on the journal's contents pages and search results.

**Speed of publication**

*Addiction Science & Clinical Practice* offers a fast publication schedule whilst maintaining rigorous peer review: all articles must be submitted online, and peer review is managed fully electronically (articles are distributed in PDF form, which is automatically generated from the submitted files). Articles are published with their final citation immediately upon acceptance in a provisional PDF form. The article will subsequently be published in both fully browsable web form, and as a formatted PDF; the article will then be available through *Addiction Science & Clinical Practice*, BioMed Central and PubMed Central and will also be included in PubMed.

**Flexibility**

Online publication in *Addiction Science & Clinical Practice* gives authors the opportunity to publish large datasets, large numbers of color illustrations and moving pictures, to display data in a form that can be read directly by other software packages so as to allow readers to manipulate the data for themselves, and to create all relevant links (for example, to PubMed, to sequence and other databases, and to other papers).

**Promotion and press coverage**

Articles published in *Addiction Science & Clinical Practice* are included in article alerts and regular email updates. Some may be included in abstract books mailed to academics and are highlighted on *Addiction Science & Clinical Practice*’s pages and on the BioMed Central homepage.

In addition, articles published in *Addiction Science & Clinical Practice* may be promoted by press releases to the general or scientific press. These activities increase the exposure and number of accesses for articles published in *Addiction Science & Clinical Practice*. A list of articles recently press-released by journals published by BioMed Central is available here.

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Information sourced from the journal home page: http://www.ascpjournal.org/
Appendix E: Information statement - Clinician and client versions
Information Statement – Clinician

For the Research Project:
Integrated multimedia psychosocial treatment for co-existing substance use, depression, and anxiety within a stepped-care framework: A feasibility pilot study of treatment outcomes.

Researchers: Dr Frances Kay-Lambkin, A/Prof Jenny Bowman, Dr Andrew Baillie, Mr Aaron Simpson, Ms Mary Joy, Ms Alison Healey, Ms Samantha Wolfe, Ms Michelle Brooks and Mr Steve Childs.

You are invited to take part in the research project identified above. The research is a part requirement of the degree of Doctorate of Clinical Psychology being undertaken by Mr Aaron Simpson, Ms Michelle Brooks and Ms Samantha Wolfe at the University of Newcastle, a Masters of Psychology (Clinical) undertaken by Ms Alison Healey at the University of Newcastle, and a Masters of Psychology (Clinical) undertaken by Ms Mary Joy at Macquarie University. These projects are under the supervision of Dr Frances Kay-Lambkin from the Centre for Brain and Mental Health Research, A/Prof Jenny Bowman from the University of Newcastle and Dr Andrew Baillie from Macquarie University. You are being asked to participate in this study because you are a member of the clinical staff at North Sydney Central Coast Area Health Service (NSCCAHS) – Area Drug & Alcohol Service, Central Coast Counselling Team. Mr Steve Childs from the North Sydney Central Coast Area Health Service (NSCCAHS) – Area Drug and Alcohol Service is also a researcher on this project.

Why is this research being done? - As clinicians you provide a range of psychosocial interventions to people seeking assistance with modifying problematic drug and alcohol use. Both community and clinical samples have indicated that co-existing substance use disorders and mental health problems are highly prevalent. Supplementing face-to-face treatments with computer-delivered treatments may help people with substance use disorders and/or mental health problems to address the many barriers encountered in accessing treatments matched to their unique and complex set of needs.

The proposed project will pilot test the implementation of a computer-delivered treatment program namely, Self-Help for Alcohol/other drug use and Depression (SHADE), and other available evidence-based multimedia packages from both a clinician and client perspective. This project will endeavour to monitor how and why clinicians integrate SHADE and other multimedia packages into their clinical practice, identify challenges/barriers to multimedia diffusion, and monitor the outcomes associated with the integration of computer-delivered treatment.
If you agree to participate in the study – Initially, you will be asked to participate in a formal focus-group aimed at identifying a number of issues related to the implementation of computer-delivered treatment into clinical practice. This includes, training/supervision requirements, practical or resource issues involved in implementing and conducting SHADE computer-delivered therapy, as well as current use of other multimedia treatments within the clinical context. Participating clinicians will also be invited to participate in a one-on-one interview with the researcher to collect a range of qualitative data, covering similar issues.

Throughout the implementation trial, participating clinical staff will also be asked to complete a session-by-session checklist summarising the content of their assessment and treatment sessions provided to those clients. This checklist will focus on if, when, and how computer-delivered treatments are utilised during each treatment session for participating clinicians. Completed checklists will be collated by the student researcher and at no time will this form be made available to any of your colleagues or supervisors. Further, all sessional checklist data will be analysed and reported as an aggregate.

At the conclusion of the 6-month implementation phase, clinical staff will also be asked to participate in a follow-up focus-group and one-on-one interview aimed at elucidating their perception and experience of utilising multimedia packages as an adjunct to their clinical interventions, and their preparedness to continue to incorporate these approaches in the future. It is estimated that the focus groups and one-on-one interviews will be of approximately 1-hour duration each.

We would like to ask for your permission to audiotape the focus-group and one-on-one interview sessions you are involved in as part of this project. Audiotapes will be marked with an identification number only, along with the initials of the researchers completing the sessions, and the date of the focus-group or one-on-one interview session. No personal details about you will be associated with the labelling of these audiotapes. All audiotapes will be stored in a locked storage cabinet that is only accessible by the research team. All audio tapes will be erased immediately after a written transcript of the focus-group or one-on-one interview is finalised. Within the written transcript all identifiers will be replaced with a code. Please note that you are under no obligation to consent to the audiotaping of either the focus-group or one-on-one interview sessions. Further, you may participate in the study without having your contribution being audiotaped.

Please take note of item 4 on the Consent Form attached to this information sheet, asks you to specifically consent to the audiotaping of the focus-group and one-on-one interview sessions. You can do this by ticking either “Yes” or “No” at item 4.

If you do agree to have the focus-group and/or one-on-one interview sessions audiotaped, the researcher conducting the interview will give you the opportunity to revise this decision prior to concluding each session. You are also free to stop and edit the audiotape at any time. In addition, at the conclusion of each focus-group and/or one-on-one interview session, you will be given the opportunity to review the audiotape, and make any deletions you feel are necessary. At this time, you are also able to withdraw your consent for audiotaping, either entirely or just for that particular session.

As a clinician you are welcome to participate in any aspect of this project including, the session-by-checklist, focus-group, and/or one-on-one interview sessions, without consenting to participate in this research project. In this case, any information that you provide will not be included into the data utilised as part of this project.

What are your choices? - Participation in this research is entirely voluntary. Only those members of the clinical staff who provide informed consent will be included in the project. Whether or not you decide to participate in the research, your decision will not disadvantage you in any way. If you do decide to participate, you may withdraw from the project at any time without
giving a reason and you have the option of withdrawing all data relating to you. Participants will also be free to withdraw any of their data, without question, at any stage throughout the study period, and up until 2 weeks following their final face-to-face assessment. After this time, all identifying markers will be permanently destroyed leaving unidentifiable data.

What are the risks and benefits of participating? - There are few risks associated with the study. Hopefully this project will expand your clinical repertoire for treating clients with co-existing mental health and drug & alcohol problems. Should you become distressed or have any questions while participating in this study you are encouraged to consult immediately with either your direct supervisor and/or a member of the research team.

Information provided by you for the study will have your name replaced by a code number and will be securely stored in the office of the chief investigator (Dr Kay-Lambkin). Only the researchers listed on this sheet will have access to your information. As Ms Wolfe, Ms Healey and Mr Childs are employees of the NSCCAHS – Area Drug and Alcohol Service, their access to research data will be restricted to aggregate and de-identified data only. Please be assured that none of your colleagues or supervisors will view any information you provide as part of this project, and will not know whether or not you decide to participate in the study. Moreover, all data will be reported as an aggregate.

Information collected in this study may be presented at mental health and drug & alcohol treatment related conferences, and published in professional journals. The students involved in this study (as identified above) will also report summarised, group data as part of their final research report (thesis). Individual Clinicians will not be identified in any reports arising from the project. Feedback about the study will be made available to you at the end of the study if you request it. All data acquired as part of this project will be de-identified and securely stored for a minimum of 15-years. During this time it is possible that this data may be used for further evaluation by the research team.

What do you need to do to participate? - Please read this Information Statement and be sure you understand its contents before you consent to participate. If there is anything you do not understand, or you have questions, please ask your direct supervisor or a member of the research team. If you would like to participate, please complete the attached Consent Form.

Please be assured that all information you provide as part of this project will remain confidential subject to any disclosure requirements established by law and departmental policy.

If you wish, you are free to seek and obtain any advice you may require before agreeing to participate in the study. If you would like to ask any questions that arise during the research study please contact either:

Dr Frances Kay-Lambkin on 4033 5690
or by email at Frances.Kay-Lambkin@newcastle.edu.au

Complaints about the Study - General (ethics related) information about the research study may be obtained from the Deputy Chair of the Northern Sydney Central Coast Health Human Research Ethics Committee, Telephone: 02 9926 8106, Fax: 02 9926 6179.

Should you have any concerns or you are unhappy with the conduct of this trial and do not feel comfortable contacting the research staff, you may contact the Complaints Manager/Patient Representative (Central Coast Health) who is an independent person within the Health Service on 4320 3920. If you do need to contact the Complaints Manager/Patient Representative, please have this form handy so you may readily quote the Protocol Number and Title of the Project to this person.
The ethical aspects of this project have also been approved by:

(a) The University of Newcastle, Human Research Ethics Committee, Approval No. H-2008-0094, and as additional complaints procedures are available to you. Should you have concerns about your rights as a participant in this research, or you have a complaint about the manner in which the research is conducted, it may be given to the researcher, or, if an independent person is preferred, to the Human Research Ethics Officer, Research Office, The Chancellery, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-Ethics@newcastle.edu.au.

(b) Macquarie University Ethics Review Committee (Human Research). If you have any complaints or reservations about any ethical aspect of your participation in this research, you may contact the Committee through the Research Ethics Officer (telephone [02] 9850 7854, fax [02] 9850 8799, email: ethics@mq.edu.au. Any complaint you make will be treated in confidence and investigated, and you will be informed of the outcome.
Integrated multimedia psychosocial treatment for co-existing substance use, depression, and anxiety within a stepped-care framework: A feasibility pilot study of treatment outcomes.

Researchers: Dr Frances Kay-Lambkin, A/Prof Jenny Bowman, Dr Andrew Baillie, Mr Aaron Simpson, Ms Mary Joy, Ms Alison Healey, Ms Samantha Wolfe, Ms Michelle Brooks and Mr Steve Childs.

You are being asked to participate in this study because you have recently commenced assessment and treatment services through the North Sydney Central Coast Area Health Service (NSCCAHS) – Area Drug and Alcohol Service, Central Coast Counselling Team. Mr Steve Childs from the North Sydney Central Coast Area Health Service (NSCCAHS) – Area Drug and Alcohol Service is also a researcher on this project.

Why is this research being done? - Traditionally, both drug & alcohol and mental health treatments have been conducted face-to-face. With the advent of new technology, evidenced-based computer-delivered treatments for mental health and drug & alcohol problems are now also available. The purpose of this project is to investigate people’s experience of combining both computer-delivered treatments with traditional face-to-face treatments for both drug & alcohol and mental health problems.

Even if you are not interested in computers or computer-delivered treatments we would still like you to participate in the study.

If you agree to participate in the study - Consenting participants would still have an assessment with their Drug & Alcohol Counsellor as normal. Consenting participants will be asked to complete an initial assessment with a researcher focusing on a range of topics including, mental health history, drug & alcohol use (past and current), and quality of life. In addition to this, participants will be asked to provide information about their thoughts on computer-delivered
treatments for drug & alcohol and/or mental health problems. Participants will also be asked about their access to, and current use of, computers.

For all consenting participants, counselling staff will complete a session-by-session checklist. This checklist will summarise the content of each session participants receive as part of their treatment through the NSCCAHS – Area Drug and Alcohol Service, Central Coast Counselling Team. This checklist will focus on when and how face-to-face and/or computer-delivered treatments are used during each session you receive.

Three-months after their initial assessment consenting participants will be asked to complete a follow-up assessment measuring their current mental health status and drug & alcohol use. In addition, participants will be asked about their perceptions and experience of computer-delivered treatments for drug & alcohol and mental health problems.

At the completion of both the initial assessment and 3-month follow-up assessments participants will be offered reimbursement for their expenses in completing these assessments. All participants will receive up to $20 as recompense for travel and other costs associated with participating in the study for each of these assessments.

**What are your choices?** - Participation in this research project is entirely your choice. Only those who give their informed consent will be included in the project. Whether or not you decide to participate, your decision will not disadvantage you in any way and will not effect the treatment you receive from the NSCCAHS – Area Drug and Alcohol Service, Central Coast Counselling Team. If you do decide to participate, you may withdraw from the project at any time without giving a reason and you have the option of withdrawing all data relating to you.

Participants will also be free to withdraw any of their data, without question, at any stage throughout the study period, and up until 2 weeks following their final face-to-face assessment. After this time, all identifying markers will be permanently destroyed leaving unidentifiable data.

**What are the risks and benefits of participating?** - There are few risks associated with the study, but should you become distressed while completing any questionnaires or when using computer-delivered treatment an appointment with your Drug & Alcohol Counsellor can be made available for you. A possible benefit of combining computer-delivered and face-to-face treatments for drug & alcohol and/or mental health problems is that you may gain a better understanding and management of your presenting problems.

Irrespective of your decision to participate in this study or not, all clients receive the same treatment from the NSCCAHS – Area Drug and Alcohol Service, Central Coast Counselling Team.

Information provided by you for the study will have your name replaced by a code number and will be securely stored in the office of the chief investigator. Only the researchers listed on this sheet will have access to your information. As Ms Wolfe, Ms Healey and Mr Childs are employees of the NSCCAHS – Area Drug and Alcohol Service, their access to research data will be restricted to aggregate and de-identified data only.

Information collected in this study may be presented at mental health and drug & alcohol treatment related conferences, and published in professional journals. The students involved in this project, as identified above, will write up the summarised results in a research report (thesis). Individual participants will not be identified in any reports arising from the project. Feedback about the study will be made available to you at the end of the study if you request it. Study results will not be reported on an individual basis. All data acquired as part of this project will be de-identified and securely stored for a minimum of 15-years. During this time it is possible that this data may be used for further evaluation by the research team.
What do you need to do to participate? - Please read this Information Statement and be sure
you understand its contents before you consent to participate. If there is anything you do not
understand, or you have questions, ask your Drug & Alcohol Counsellor or a researcher. If you
would like to participate, please complete the attached Consent Form.

Please be assured that all information you provide as part of this project will remain confidential
subject to any disclosure requirements established by law and departmental policy.

Your Drug & Alcohol Counsellor who explains this information to you will answer any questions
you have about the research project and will give you a copy of this Information Statement to take
with you. If you wish, you are free to consult with your own nominated treating doctor before
agreeing to participate in the study. If you would like to ask any questions that arise during the
research study please contact:

Dr Frances Kay-Lambkin on 4033 5690
or by email at Frances.Kay-Lambkin@newcastle.edu.au

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have this form handy so you may readily quote the Protocol Number and Title of the Project to
this person.

The ethical aspects of this project have also been approved by:

(c) The University of Newcastle, Human Research Ethics Committee, Approval No. H-2008-
0271, and as additional complaints procedures are available to you. Should you have
concerns about your rights as a participant in this research, or you have a complaint
about the manner in which the research is conducted, it may be given to the researcher,
or, if an independent person is preferred, to the Human Research Ethics Officer,
Research Office, The Chancellery, The University of Newcastle, University Drive,
Callaghan NSW 2308, Australia, telephone (02) 49216333, email Human-
Ethics@newcastle.edu.au.

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9850 7854, fax [02] 9850 8799, email: ethics@mq.edu.au). Any complaint you make will
be treated in confidence and investigated, and you will be informed of the outcome.
**Appendix F: Human research ethics - Certificate of approval**

**HUMAN RESEARCH ETHICS COMMITTEE**

*Certificate of Approval*

<table>
<thead>
<tr>
<th>Applicant: (first named in application)</th>
<th>Doctor Frances Kay-Lambkin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-Investigators / Research Students:</td>
<td>Associate Professor Jennifer Bowman</td>
</tr>
<tr>
<td></td>
<td>Mr Steve Childs</td>
</tr>
<tr>
<td></td>
<td>Mr Aaron Simpson</td>
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<tr>
<td></td>
<td>Miss Samantha Wolfe</td>
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<td></td>
<td>Miss Alison Healey</td>
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<td></td>
<td>Miss Michelle Brooks</td>
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<tr>
<td>Protocol:</td>
<td>Integrated multimedia psychosocial treatment for co-existing substance use, depression, and anxiety within a stepped-care framework: A feasibility pilot study of treatment outcomes</td>
</tr>
</tbody>
</table>

In approving this protocol, the Human Research Ethics Committee (HREC) is of the opinion that the project complies with the provisions contained in the *National Statement on Ethical Conduct in Human Research, 2007*, and the requirements within this University relating to human research.

*Note:* Approval is granted subject to the requirements set out in the accompanying document *Approval to Conduct Human Research*, and any additional comments or conditions noted below.

**Details of Approval**

| HREC Approval No: H-2008-0271 | Date of Initial Approval: 23-Sep-2008 |

**Approval**

Approval will remain valid subject to the submission, and satisfactory assessment, of annual progress reports. If the approval of an External HREC has been "noted" the approval period is as determined by that HREC.

**Progress reports due:** Annually.

*If the approval of an External HREC has been "noted", the reporting period is as determined by that HREC.*

**Approval Details**

**Initial Application**

15-Oct-2008

Approved

The Committee ratified the approval granted by the Deputy Chair on 23 September 2008 under the provisions for expedited review.
**Variation**

20-Oct-2010

Variation to:

1. Add Ms Michelle Brooks to the research team.

2. Add a self-compassion scale assessment for client participants to complete at the baseline and follow-up stage.

   - Participant Information Statement for Clinicians, Version 7 dated 30.8.2010
   - Clinician Consent Form, Version 4 dated 30.8.2010
   - Participant Information Statement for Clients, Version 7 dated 30.8.2010
   - Client Consent Form, Version 4 dated 30.8.2010
   - Self-Compassion Scale

   Approved

The committee ratified the approval granted by the Deputy Chair on 27/09/10 under the provisions for expedited review.

**Variation**

21-Jul-2010

Variation to:

1. Add Ms Alison Healey and Ms Samantha Wolfe to the research team as student researchers.

2. Amend the timing of assessments (now conducted at baseline and 3 months).

3. Add the following instruments to the assessments for client participants:
   a. Treatment Motivation Questionnaire;
   b. Opiate Treatment Index; and
   c. Computer Anxiety Questionnaire.

4. Add an Innovativeness Scale and Computer Opinion Survey to the clinician baseline and follow-up interview protocol.

5. Amend the follow study documents accordingly:
   a. Information Statement - Clinician (now v6, dated 30/04/10);
   b. Consent Form - Clinician (now v3, dated 30/04/10);
   c. Information Statement - Client (now v6, dated 30/04/10);
   d. Consent Form - Client (now v3, dated 30/04/10); and
   e. SHADE 2010 - Initial Assessment (modified 30/04/10).

   Approved

The Committee ratified the approval granted by the deputy chair on 30/06/2010 under the provisions for expedited review.

**Authorised Certificate held in Research Services**

Professor Allyson Holbrook - Chair, Human Research Ethics Committee
Appendix G: Measures

Measures:
- The SHADE project (2010). Interview: Initial (Final version – 30/04/2010); including opiate treatment index.
- The SHADE Project (2010). Interview: 15-week follow-up (Final version – 30/04/2010); including opiate treatment index.
- Depression, anxiety stress scale (21-Item Version).
- Session checklist.
- Individual opinion scale.
- Computer opinion survey.
THE SHADE PROJECT – 2010

KEEP THIS PAGE SEPARATE FROM THE PERSON’S COMPLETED ASSESSMENT

Client’s Name: __________________________________________________________

Client’s Address: ________________________________________________________

Client’s Phone: __________________________________________________________

Participant Number: □□□□

Date of Initial Assessment: □□/□□/□□□□

Interviewer: □□

Location: ________________________________________________________________

Alternative Contact person: ______________________________________________

Alternative Contact Address: _____________________________________________

Alternative Contact Phone (H/M): _________________________________________

Relationship to client: ___________________________________________________

General Practitioner: _____________________________________________________

Psychiatrist: _____________________________________________________________

Case Manager: ___________________________________________________________
The Shade Project 2010

Interview: Initial
(Final Version – 30/04/2010)

Participant Number: ☐️️️️️️

Centre for Brain and Mental Health Research,
The University of Newcastle

Referral Source?
0=Self
1= Community Mental Health
2= Media (newspaper/radio/tv)
3= Centrelink
4=Youth Services
5=University Health Services
6= Methadone Clinic
7= Probation and Parole
8= Private Psychologist
9= Private Psychiatrist
10=General Practitioner
11=Public psychiatric hospital
12=Public psychiatric unit in a public hospital
13=Private psychiatric hospital
14=Public drug and alcohol unit
15=Private drug and alcohol unit
16= Personal Support Provider (ie New Horizons)
88=Other (specify)
99=NA
SECTION A: DEMOGRAPHICS

A1. Date of birth

A2. Age (years)

A3. Sex  
1 = Male  
2 = Female

A4. Country of birth – What country were you born in?  
1 = Australia  
2 = UK and Ireland  
3 = Europe (including former USSR)  
4 = Central and South America  
5 = NZ, Pacific islands, PNG  
6 = South East Asia  
7 = Indian subcontinent and other Asia  
8 = Middle East  
9 = North Africa  
10 = Central and Southern Africa  
11 = Other

A5. Aboriginal / Torres Strait Islander descent  
Are you of Aboriginal or Torres Strait Islander descent?  
0 = No  
1 = Yes

A7. Present Marital Status  
What is your marital status? Have you been living with a partner for 6 months or more?  
0 = Single, never married  
1 = Married  
2 = Defacto  
3 = Separated  
4 = Divorced  
5 = Widowed  
8 = NK

A8. Number of children  
How many living children do you have? (include step-children)  
00 = No children

Skip to A11 if NO Children

A9. Children living with subject  
How many dependent children under the age of 18 do you have living with you? (Include step-children)  
00 = No children

A10. Main carer for the children or not.  
Have you been the main carer for the children in the last 12 months?  
0 = No  
1 = Yes  
8 = NK  
9 = NA
A11. Who do you live with?
1= Parent(s)  
2= Spouse +/- children  
3= Defacto partner +/- child  
4= Friend(s)  
5= Alone  
6= Children without partner  
7= Relatives  
8= Other (specify____________)  
9= No fixed address  
10= Institution

A12. Accommodation during last month
Where have you been living during the last month?  
How long have you lived there/been homeless?  
Code up to 3 types of accommodation in past month, if applicable  
Code number of weeks in each accommodation in last month (01=<1 week)

<table>
<thead>
<tr>
<th>Accommodation #1</th>
<th>N. Wks</th>
</tr>
</thead>
<tbody>
<tr>
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<td>N. Wks</td>
</tr>
</tbody>
</table>

| 01= Homeless / NFA | 06= Group home | 11= Own home |
| 02= Crisis shelter or rooming house | 07= Supported housing | 12= Family home |
| 03= Hostel | 08= Hotel/rented room | 88= Other (Specify_________) |
| 05= Institution: nursing home, lodge | 09= Rented room (public) | 99= NA |
| 10= Rented room (private) |

A13. Accommodation during the last 12 months
(excluding the past one month already rated)
Where have you lived for more than a week during the last 12 months?  
How long have you lived there/been homeless?  
Code up to 3 types of accommodation longest held (if applicable)  
Code number of weeks in each type of accommodation during the previous 12 months (01=<1 week)

<table>
<thead>
<tr>
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</tr>
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| 02= Crisis shelter or rooming house | 07= Supported housing | 11= Own home |
| 03= Hostel | 08= Hotel/rented room | 12= Family home |
| 05= Institution: nursing home, lodge | 09= Rented room (public) | 88= Other (Specify_________) |
A14. Age at leaving school
How old were you when you left school?
00= Never went to school
88= Still at school

A15. Secondary school completion
Did you complete the highest year of secondary school available?
0= No
1= Yes
9= NA

A16. Highest qualification obtained
What is the highest qualification you obtained?
1= Secondary school
2= Nursing qualification
3= Teaching qualification
4= Trade cert/apprentice
5= Technician’s/adv cert
6= Certificate other above
7= Associate diploma
8= Undergraduate diploma
9= Bachelor degree
11= Masters degree/doctorate
12= Left school, no qualifications
88= Other
99= NA

A17. During the past month, how frequently have you been taking part in any of the following jobs around the home? Would you say frequently, occasionally or not at all?
0= Not at all
1= Occasionally
2= Frequently
8= NK

Cooking for others....................................................................................................
Cleaning or washing up............................................................................................
Gardening................................................................................................................
Shopping for household...........................................................................................
Having meals together............................................................................................
Watching TV program together.............................................................................
Playing games..........................................................................................................
Doing Chores/Errands............................................................................................
Other Activities (specify: _______________).........................................................
A18. Participation in Household Activities
Over the past 12 months, have you been unable to do things that your family (or household) would normally expect of you?

What have you been unable to do?
Do others not let you do things? Why?
Is it that you lack interest in it?
Or have you been unable to do things because of physical/mental health or forgetfulness?

0= No dysfunction; has participated about as much as an average person of same sex/age group would under similar circumstances
1= Obvious dysfunction; household participation significantly reduced, due to lack of interest or incompetence
2= Severe dysfunction; no participation, self-alienated or excluded by others from daily household routine, or disruptive
8= Uncertain or impossible to assess
9= NA; does not share a household

A19. Availability of Friends
How many people do you regard as friends?
Ask the name of friend/s. Only count people outside the family. Some form of contact (face to face or phone conversation) over the last 12 months is required for considering a person a friend.
How often have you been seeing them over the past month?
And over the past year?
What do you do together?

0= None
1= One
2= A few
3= Many
88= NK
99= NA

A20. Perceived Need for Friends
Do you feel that you have as many good friends as you need or would you like to have more?

0= Does not need good friends at all
1= Needs and would like more friends
2= Has as many friends as needed
88= NK
99= NA

A21. Overall Socialising during past 12 months
How have you been getting on with other people at work, neighbours, family members during the last 12 months?
Did you go out to any social activities?
Did you meet any friends, or would you say that you are a bit reserved?
Did you make any phone calls to friends or other people you knew?
How much of the time did you spend alone, in your room, or just walking around on your own?
Did you feel lonely?
Rate overall socialising/isolation over past 12 months – rate isolation on its own merits, regardless of self imposed (eg. avoidance).
0= No dysfunction; has been socialising during the period as much as could be expected of an average person of same sex/age group and social background
1= Obvious dysfunction; may regard some people as friends but actual socialising with them is minimal, has been significantly reduced, sporadic participation in any organised activity
2= Severe dysfunction; no friends and no organised social activities, extremely restricted social relationships outside the household
8= Uncertain or impossible to assess
9= NA

A22. Social Withdrawal during last 12 months
Would you say that over the past 12 months you enjoyed company a lot or preferred to be on your own?
Did you find it difficult to mix or communicate with people?
Did you prefer to be left alone?
About how much of the time did you spend doing things by yourself?
Would you join in the company of others if encouraged to do so, or would you normally refuse even if asked?
Did the presence of other people annoy you?

Rate social withdrawal (ie. isolation which is not imposed by others or by the circumstances, but results mainly from subject’s active avoidance of social contacts).
0= No dysfunction; mixes and generally interacts with people as much or more than the average person of the same sex/age group would under similar circumstances
1= Obvious dysfunction; maintains a very restricted range of social contacts, generally avoids being with other people, but would mix with people if encouraged or pressured
2= Severe dysfunction; marked tendency to self-isolation, not responsive to encouragement, inaccessible, may frequently lock him/herself up or wander aimlessly
8= Uncertain or impossible to assess
9= NA

A23. Deterioration in Interpersonal Relationships
If you compare the past 12 months with previous years, do you think that your relations with friends, workmates or other persons may have gotten worse?
Did this happen because of your health or nervous problems?
Or because you lost interest or motivation?
Or because others have lost interest in maintaining a relationship with you?
0= No deterioration perceived in the past year compared to previous years
1= Deterioration perceived mainly attributed to subject’s own health/nervous problems or loss of interest
2= Deterioration perceived mainly attributed to other people’s loss of interest
3= Improvement perceived in past year compared to previous years
8= NK
9= NA
A24. **Intimate Relationships**  
*During the past 12 months have you had a close female/male friend – someone that you would share your thoughts and feelings with or think of as a best friend, or someone you might rely on for support when you need it?*
  
*Have you ever had such a special relationship?*  
*How often do you see this special friend?*

0= Not dysfunctional; has close and/or intimate affective relationship during the past 12 months  
1= Obvious dysfunction; has had close friends or intimate relationship in the past but not during the last 12 months  
2= Severe dysfunction; never had close friend or intimate relationship  
8= Uncertain or impossible to assess  
9= NA

A25. **Currently Employed**  
*Do you have a job at present?*

0= No job at present  
1= Employment outside the home (full time job)  
2= Employment outside the home (part time job)  
3= Household  
4= Studying  
5= Retired  
8= NK  
9= NA

A26. **If Unemployed, looking for work (past month)**  
*At any time in the last 4 weeks have you been looking for full time or part time work?*

0= No  
1= Yes; looking for a full time job  
2= Yes; looking for a part time job  
8= NK  
9= NA

A27. **Participation in rehabilitation or day programme in last 12 months**  
*When you were not in hospital, have you been involved in a rehabilitation or day program?*

0= No  
1= Yes  
8= NK  
9= NA  

Skip to A30 if 0

A28. **Number of weeks in rehabilitation or day program in last 12 months**  
*How many weeks did you attend rehab/day program at ________________?*  
(Range= 0-52)  
88= NK  
99= NA
A29. Frequency of attendance of rehab/day program

How many days per week did you attend the rehab/day program at ______? (Range= 0-7)

88= NK
99= NA

A30. Current Source of Income

What are your main sources of income in the past month?
Code up to 3 sources.

Source of current income #1

Source of current income #2

Source of current income #3

1= Wage/salary from employer
2= Own business
3= Family/spouse payment
4= Government pension/cash
5= Maintenance/child support
6= Superannuation/annuity
7= Workers compensation / accident or sickness
8= Other income
(specify ________________)

A31. Pension/other benefits

Have you received any of the following pensions or benefits in the past month?

Read out the items below as a checklist. Code up to 3 types of benefit.

Present=past month

Benefit #1

Benefit #2

Benefit #3

1= Age pension
2= Service pension
3= Disability support/invalid pension
4= Widow’s pension or wife’s pension
5= Carer’s pension
6= Sole parent’s pension
7= Sickness allowance/benefit
8= New start/job search/mature age allowance
9= Unemployed benefit
10= Special benefit
11= Other (specify_______)
88= NK
99= NA
A32. Self care in past month

How much effort have you been putting into care for your appearance in the past month? Or keeping yourself healthy and fit?

Did you make a lot of effort to look neat and tidy, stylish or was this something that was of little importance to you?
Did you think at all about healthy eating or physical exercise?
Would you say that you were able to look after yourself, keep yourself clean, tidy your own room, do your laundry?
Did you let other people do this for you because you were not interested or had no energy?

0= No dysfunction; level of care normal, takes appropriate interest in own appearance and maintains reasonable standards without, or with minimum supervision
1= Obvious dysfunction, self care below average standard, likely to make an unfavourable impression
8= Uncertain or unable to assess
9= NA

A33. Interests

How have you been keeping up with what is happening in the world in the past month?

Did you watch TV, or keep up with the news in other ways?
Would you say that you have been trying to keep up with the national/international news? Can you give examples?
Did you follow the football teams?
Have you been involved in any particular interests over the past four weeks?
Did you read any books, buy newspapers or magazines? Which ones?
Have you developed any interests or hobbies?

0= No dysfunction; seeks information, talks with people about local and world events, has a ‘world map’ as appropriate to sociocultural context
1= Obvious dysfunction; less than average interest, no special efforts to obtain information, never reads anything, does not listen to radio or watch news on TV
8= Uncertain or unable to assess
9= NA (eg. moderate to severe intellectual handicap)
Now I’m going to ask you some questions about your use of drugs.

Have you ever used any of the following drugs?
When was the last time you used (Drug)?

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Ever Used</th>
<th>When was the last time you used?</th>
<th>Is this the drug for which you are currently seeking treatment?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1= Yes</td>
<td>1= Never</td>
<td>1= Yes</td>
</tr>
<tr>
<td></td>
<td>2= No</td>
<td>2= More than 6 months ago</td>
<td>2= No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3= In the past 6 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4= In the past month</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5= In the past week</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6= In the past few days</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Opiates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphetamines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tranquilisers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbiturates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallucinogens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caffeine</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION C: OTI – ALCOHOL

1. When was the last time you drank alcohol?
   1= Never  
   2= More than 6 months ago  
   3= In the past 6 months  
   4= In the past month  
   5= In the past week  
   6= In the past few days

   If subject answers 1, 2 or 3, proceed to Cannabis

2. During the past month, how often did you drink alcohol?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week – Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answers 0, proceed to Cannabis

3. On what day did you last drink alcohol (in the past month)?

4. How much alcohol did you drink on that day?
   (Ask about all categories. Figures in square brackets are numbers of standard drinks in one unit)

<table>
<thead>
<tr>
<th>Wine</th>
<th>Spirits</th>
<th>Full Strength Beer</th>
<th>Light Beer</th>
<th>Fortified Wine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Middy (10oz/285ml)</td>
<td>Middy (10oz/285ml)</td>
<td></td>
</tr>
<tr>
<td>Glass (100ml) [1]</td>
<td>30ml nips [1]</td>
<td>Schooner (15oz/425ml) [1.5]</td>
<td>Schooner (15oz/425ml) [0.75]</td>
<td>Port glass (60ml) [1]</td>
</tr>
<tr>
<td>10 per lt.]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of standard drinks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL NUMBER OF STANDARD DRINKS = ________________________________

5. On which day before that did you drink alcohol? _____________________
6. **And how much alcohol did you drink on that day?**
(Ask about all categories. Figures in square brackets are numbers of standard drinks in one unit)

<table>
<thead>
<tr>
<th>Wine</th>
<th>Spirits</th>
<th>Full Strength Beer</th>
<th>Light Beer</th>
<th>Fortified Wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass (100ml)</td>
<td>30ml nips (1 ml)</td>
<td>Schooner (15oz/425ml)</td>
<td>Can (1.3)</td>
<td>Port glass (60ml)</td>
</tr>
<tr>
<td>[1]</td>
<td>[1]</td>
<td>[1.5]</td>
<td>[0.7]</td>
<td>[1]</td>
</tr>
<tr>
<td>750ml bottle</td>
<td>750ml bottle</td>
<td>Can (1.3)</td>
<td>Can (0.7)</td>
<td>750ml bottle</td>
</tr>
<tr>
<td>[7.5]</td>
<td>[25]</td>
<td></td>
<td></td>
<td>[10]</td>
</tr>
<tr>
<td>Flagon (2 lt.)</td>
<td>UDL can</td>
<td>Stubby (1.3)</td>
<td>Stubby (0.7)</td>
<td>Flagon (2 lt.)</td>
</tr>
<tr>
<td>[20]</td>
<td>[1.3]</td>
<td></td>
<td></td>
<td>[32]</td>
</tr>
<tr>
<td>__lt. cask</td>
<td>750ml bottle</td>
<td>750ml bottle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[10 per lt.]</td>
<td>(longneck)</td>
<td>(longneck)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL NUMBER OF STANDARD DRINKS = ______________________________________________________

7. **And when was the day before that? ___________________________________________________

8. **Would this be a typical pattern of drinking?**
1 = Yes
2 = No, more than usual
3 = No, less than usual

9. **If NO, What would be a typical pattern of drinking?**

10.  \( t_1 = 3 - 5 \) ...........................................................................................................

11.  \( t_2 = 5 - 7 \) ...........................................................................................................

12.  \( q_1 = 4 \) ...................................................................................................................

13.  \( q_2 = 6 \) ...................................................................................................................

14.  \( Q = \frac{q_1+q_2}{t_1+t_2} \)
SECTION D: OTI – CANNABIS

1. When was the last time you used cannabis (marijuana, dope, grass, hash, pot)?
   1= Never                      4= In the past month
   2= More than 6 months ago    5= In the past week
   3= In the past 6 months      6= In the past few days

   If subject answered 1, 2 or 3, proceed to Heroin

2. During the past month, how often did you use cannabis?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week – Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Heroin

3. On what day did you last use cannabis (in the past month)? _______________

4. How many joints/bongs/etc. did you have on that day? _______________

5. On which day before that did you use cannabis? ________________________

6. And how many joints/bongs/etc. did you have on that day? ______________

7. And when was the day before that? ___________________________________

8. Would this be a typical pattern of cannabis use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of using?
10. \( t_1 = 3 - 5 \) ........................................................................................................................................

11. \( t_2 = 5 - 7 \) ........................................................................................................................................

12. \( q_1 = 4 \) ........................................................................................................................................

13. \( q_2 = 6 \) ........................................................................................................................................

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION E: OTI – HERION

1. When was the last time you used heroin?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Other Opiates

2. During the past month, how often did you use heroin?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Other Opiates

3. On what day did you last use heroin (in the past month)? ______________

4. How many hits/smokes/snorts/pills/doses/etc. did you have on that day? __

5. On which day before that did you use heroin? ____________________________

6. And how many hits/smokes/snorts/etc. did you have on that day? ________

7. And when was the day before that? _________________________________

8. Would this be a typical pattern of heroin use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of heroin use?
10. \( t_1 = 3 - 5 \)

11. \( t_2 = 5 - 7 \)

12. \( q_1 = 4 \)

13. \( q_2 = 6 \)

14. \[ Q = \frac{q_1 + q_2}{t_1 + t_2} \]
SECTION F: OTI – Other Opiates

1. When was the last time you used other opiates?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Amphetamines

2. During the past month, how often did you use other opiates?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Amphetamines

3. On what day did you last use opiates (in the past month)? _______________

4. How many hits/smokes/etc. did you have on that day (record use occasions)? ________________________________________________

5. On which day before that did you use opiates? ______________________________

6. And how many hits/smokes/etc. did you have on that day (record use occasions)? ________________________________________________

7. And when was the day before that? _________________________________________

8. Would this be a typical pattern of opiate use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of opiate use?
10. \( t_1 = 3 - 5 \)

11. \( t_2 = 5 - 7 \)

12. \( q_1 = 4 \)

13. \( q_2 = 6 \)

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
1. **When was the last time you used other amphetamines (Speed)?**
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   **If subject answered 1, 2 or 3, proceed to Cocaine**

2. **During the past month, how often did you use amphetamines?**
   - Between 6-7 days each week – Score 28
   - Between 4-5 days each week – Score 20
   - Between 2-3 days each week - Score 12
   - One day each week – Score 4
   - One day each fortnight – Score 2
   - One day each month – Score 1
   - Not in the last month – Score 0

   **If subject answered 0, proceed to Cocaine**

3. **On what day did you last use amphetamines (in the past month)?**

4. **How many tablets/snorts/hits/etc. did you have on that day (record use occasions)?**

5. **On which day before that did you use amphetamines?**

6. **And how many tablets/snorts/hits/etc. did you have on that day (record use occasions)?**

7. **And when was the day before that?**

8. **Would this be a typical pattern of amphetamine use?**
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. **What would be a typical pattern of amphetamine use?**
10. $t_1 = 3 - 5$

11. $t_2 = 5 - 7$

12. $q_1 = 4$

13. $q_2 = 6$

14. $Q = \frac{q_1 + q_2}{t_1 + t_2}$
SECTION H: OTI – COCAINE

1. When was the last time you used cocaine (coke, snow, crack)?
   1= Never  
   2= More than 6 months ago  
   3= In the past 6 months  
   4= In the past month  
   5= In the past week  
   6= In the past few days  

If subject answered 1, 2 or 3, proceed to Tranquilisers

2. During the past month, how often did you use cocaine?
   Between 6-7 days each week – Score 28  
   Between 4-5 days each week – Score 20  
   Between 2-3 days each week - Score 12  
   One day each week – Score 4  
   One day each fortnight – Score 2  
   One day each month – Score 1  
   Not in the last month – Score 0  

If subject answered 0, proceed to Tranquilisers

3. On what day did you last use cocaine (in the past month)? ________________

4. How many hits/smokes/snorts/etc. did you have on that day (record use occasions)? _________________________________________________________

5. On which day before that did you use cocaine? _________________________

6. And how many hits/smokes/snorts/etc. did you have on that day (record use occasions)? _________________________________________________________

7. And when was the day before that? ______________________________________

8. Would this be a typical pattern of cocaine use?
   1= Yes  
   2= No, more than usual  
   3= No, less than usual  

9. What would be a typical pattern of amphetamine use?
10. \( t_1 = 3 - 5 \)

11. \( t_2 = 5 - 7 \)

12. \( q_1 = 4 \)

13. \( q_2 = 6 \)

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION I: OTI – TRANQUILIZERS

1. When was the last time you used tranquilizers (benzos, serepax, rohyponol, mogadon, valium)?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Barbiturates

2. During the past month, how often did you use tranquilizers?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Barbiturates

3. On what day did you last use tranquilizers (in the past month)?

4. How many pills did you have on that day (record use occasions)?

5. On which day before that did you use tranquilizers?

6. And how many pills did you have on that day?

7. And when was the day before that?

8. Would this be a typical pattern of tranquilizer use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of tranquilizer use?
10. $t_1 = 3 - 5$ ...............................................................

11. $t_2 = 5 - 7$ ...............................................................

12. $q_1 = 4$ ...............................................................

13. $q_2 = 6$ ...............................................................

14. $Q = \frac{q_1 + q_2}{t_1 + t_2}$
SECTION J: OTI – BARBITURATES

1. When was the last time you used barbiturates (nembutal, secondal)?
   1= Never  
   2= More than 6 months ago  
   3= In the past 6 months 
   4= In the past month  
   5= In the past week 
   6= In the past few days 

If subject answered 1, 2 or 3, proceed to Hallucinogens

2. During the past month, how often did you use barbiturates?  
   Between 6-7 days each week – Score 28  
   Between 4-5 days each week – Score 20  
   Between 2-3 days each week - Score 12  
   One day each week – Score 4  
   One day each fortnight – Score 2  
   One day each month – Score 1  
   Not in the last month – Score 0  

If subject answered 0, proceed to Hallucinogens

3. On what day did you last use barbiturates (in the past month)? __________

4. How many pills did you have on that day (record use occasions)?________

5. On which day before that did you use barbiturates? ______________________

6. And how many pills did you have on that day? __________________________

7. And when was the day before that? _____________________________________

8. Would this be a typical pattern of barbiturates use?  
   1= Yes  
   2= No, more than usual  
   3= No, less than usual 

9. What would be a typical pattern of barbiturates use?
10. \( t_1 = 3 - 5 \) .......................................................... ..........................................................
11. \( t_2 = 5 - 7 \) .......................................................... ..........................................................
12. \( q_1 = 4 \) .......................................................... ..........................................................
13. \( q_2 = 6 \) .......................................................... ..........................................................
14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION K: OTI – HALLUCINOGENS

1. When was the last time you used hallucinogens (LSD / Acid, ecstasy, magic mushrooms)?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Inhalants

2. During the past month, how often did you use hallucinogens?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Inhalants

3. On what day did you last use hallucinogens (in the past month)? _________

4. How many tabs/pills/etc. did you have on that day (record use occasions)?

5. On which day before that did you use hallucinogens? _______________________

6. And how many tabs/pills/etc. did you have on that day? ____________________

7. And when was the day before that? ______________________________________

8. Would this be a typical pattern of hallucinogens use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of hallucinogens use?
10. \( t_1 = 3 - 5 \) ...........................................................................................................

11. \( t_2 = 5 - 7 \) ..............................................................................................................

12. \( q_1 = 4 \) ......................................................................................................................

13. \( q_2 = 6 \) ......................................................................................................................

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
### SECTION L: OTI – INHALANTS

1. **When was the last time you used inhalants (amyl/rush, glue, laughing gas, aerosols, petrol)?**
   - 1= Never
   - 2= More than 6 months ago
   - 3= In the past 6 months
   - 4= In the past month
   - 5= In the past week
   - 6= In the past few days

   If subject answered 1, 2 or 3, proceed to *Tobacco*

2. **During the past month, how often did you use inhalants?**
   - Between 6-7 days each week – Score 28
   - Between 4-5 days each week – Score 20
   - Between 2-3 days each week - Score 12
   - One day each week – Score 4
   - One day each fortnight – Score 2
   - One day each month – Score 1
   - Not in the last month – Score 0

   If subject answered 0, proceed to *Tobacco*

3. **On what day did you last use inhalants (in the past month)?** _______________

4. **How many sniffs did you have on that day (record use occasions)?** ______

5. **On which day before that did you use inhalants?** _________________________

6. **And how many sniffs did you have on that day?** _________________________

7. **And when was the day before that?** _________________________

8. **Would this be a typical pattern of inhalant use?**
   - 1= Yes
   - 2= No, more than usual
   - 3= No, less than usual

9. **What would be a typical pattern of inhalant use?**
10. \( t_1 = 3 - 5 \)

11. \( t_2 = 5 - 7 \)

12. \( q_1 = 4 \)

13. \( q_2 = 6 \)

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION M: OTI – Tobacco

1. When was the last time you smoked cigarettes?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Next Section

2. During the past month, how often did you smoked cigarettes?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Next Section

   Please note that the strength of cigarettes in milligrams for each occasion of use

3. On what day did you last use tobacco (cigarettes)? ______________________

4. How many cigarettes did you have on that day (record use occasions)? ___

5. On which day before that did you smoke cigarettes? ______________________

6. And how many cigarettes did you have on that day? ______________________

7. And when was the day before that? _________________________________

8. Would this be a typical pattern of smoking?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of smoking?
10. \[ t_1 = W_3 - W_5 \]

11. \[ t_2 = W_5 - W_7 \]

12. \[ q_1 = W_4 \]

13. \[ q_2 = W_6 \]

14. \[ Q = \frac{q_1 + q_2}{t_1 + t_2} \]
**POLY-DRUG USE**
Tick the relevant boxes for substances used in the past month. Add up the total number of boxes ticked to get the poly-drug use score.

<table>
<thead>
<tr>
<th>Alcohol (M14)</th>
<th>Tranquilisers (S14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cannabis (N14)</td>
<td>Barbiturates (T14)</td>
</tr>
<tr>
<td>Herion(O14)</td>
<td>Hallucionogens (U14)</td>
</tr>
<tr>
<td>Other Opiates (P14)</td>
<td>Inhalants (V14)</td>
</tr>
<tr>
<td>Amphetamines (Q14)</td>
<td>Tobacco (W14)</td>
</tr>
<tr>
<td>Cocaine (R14)</td>
<td></td>
</tr>
</tbody>
</table>

**Poly-Drug Use Score:**

\[
P = L14 + M14 + N14 + O14 + P14 + Q14 + R14 + S14 + T14 + U14 + V14 =
\]
Global Assessment of Functioning Scale (GAF)

Consider psychological, social and occupational functioning on a hypothetical continuum of mental health-illness. Do not include impairment in functioning due to physical (or environmental) limitations. **Code** (Note: Use intermediate codes when appropriate e.g. 45, 68, 72.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>91–100</td>
<td>Superior functioning in a wide range of activities. Life’s problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.</td>
</tr>
<tr>
<td>81-90</td>
<td>Absent or minimal symptoms (e.g. mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g. an occasional argument with family members)</td>
</tr>
<tr>
<td>71-80</td>
<td>If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g. difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (e.g. temporarily falling behind in school work)</td>
</tr>
<tr>
<td>61-70</td>
<td>Some mild symptoms (e.g. depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g. occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.</td>
</tr>
<tr>
<td>51-60</td>
<td>Moderate symptoms (e.g. flat effect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g. few friends, conflicts with peers or co-workers).</td>
</tr>
<tr>
<td>41-50</td>
<td>Serious symptoms (e.g. suicidal ideation, severe obsessional rituals, frequent shoplifting) OR any serious impairment in social, occupational or school functioning (e.g. no friends, unable to keep a job).</td>
</tr>
<tr>
<td>31-40</td>
<td>Some impairment in reality testing or communication (e.g. speech is at all times illogical, obscure or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgement, thinking or mood (e.g. depressed man avoids friends, neglects family and is unable to work; child frequently beats up younger children, is defiant at home and is failing at school.</td>
</tr>
<tr>
<td>21-30</td>
<td>Behaviour is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g. sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g. stays in bed all day, no job, home, or friends).</td>
</tr>
<tr>
<td>11-20</td>
<td>Some danger of hurting self or others (e.g. suicide attempts without clear expectation of death, frequently violent, manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g. smears faeces) OR gross impairment in communication (e.g. largely incoherent or mute).</td>
</tr>
<tr>
<td>1-10</td>
<td>Persistent danger of severely hurting self or others (e.g. recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.</td>
</tr>
<tr>
<td>0</td>
<td>Inadequate information</td>
</tr>
</tbody>
</table>
THE SHADE PROJECT – 2010

KEEP THIS PAGE SEPARATE FROM THE PERSON’S COMPLETED ASSESSMENT

Client’s Name: _________________________________________________

Client’s Address: ______________________________________________

Client’s Phone: ________________________________________________

Participant Number: □□□□

Date of Initial Assessment: □□/□□/□□□□

Interviewer: □□

Location: ______________________________________________________

Alternative Contact person: ______________________________________

Alternative Contact Address: ________________________________

Alternative Contact Phone (H/M): ________________________________

Relationship to client: ________________________________

General Practitioner: _________________________________________

Psychiatrist: ________________________________________________

Case Manager: _______________________________________________
The Shade Project 2010

Interview: 15-week Follow-up
(Final Version – 30/04/2010)

Participant Number: □□□□

Centre for Brain and Mental Health Research,
The University of Newcastle
SECTION A: DEMOGRAPHICS

A1. Date of birth

A2. Age (years)

A3. Sex

1 = Male
2 = Female

A11. Who do you live with?

1 = Parent(s)
2 = Spouse +/- children
3 = Defacto partner +/- child
4 = Friend(s)
5 = Alone
6 = Children without partner
7 = Relatives
8 = Other (specify__________________)
9 = No fixed address
10 = Institution
6 = Children without partner
7 = Relatives
8 = Other (specify__________________)
9 = No fixed address
10 = Institution

A12. Accommodation during last month

Where have you been living during the last month?
How long have you lived there/been homeless?
Code up to 3 types of accommodation in past month, if applicable
Code number of weeks in each accommodation in last month (01=<1 week)

Accommodation #1
N. Wks

Accommodation #1
N. Wks

Accommodation #1
N. Wks

01 = Homeless / NFA
02 = Crisis shelter or rooming house
03 = Hostel
05 = Institution: nursing home, lodge
06 = Group home
07 = Supported housing
08 = Hotel/rented room
09 = Rented room (public)
10 = Rented room (private)
11 = Own home
12 = Family home
88 = Other (Specify__________)
99 = NA
17. During the past month, how frequently have you been taking part in any of the following jobs around the home? Would you say frequently, occasionally or not at all?

0= Not at all
1= Occasionally
2= Frequently
8= NK

Cooking for others............................................................................................................
Cleaning or washing up.................................................................................................
Gardening......................................................................................................................
Shopping for household.................................................................................................
Having meals together.................................................................................................
Watching TV program together....................................................................................
Playing games............................................................................................................... 
Doing chores/errands.................................................................................................
Other activities (specify: _______________):................................................................

A25. Currently Employed
Do you have a job at present?
0= No job at present
1= Employment outside the home (full time job)
2= Employment outside the home (part time job)
3= Household
4= Studying
5= Retired
8= NK
9= NA

A26. If Unemployed, looking for work (past month)
At any time in the last 4 weeks have you been looking for full time or part time work?
0= No
1= Yes; looking for a full time job
2= Yes; looking for a part time job
8= NK
9= NA
A30. **Current Source of Income**  
*What are your main sources of income in the past month?*  
Code up to 3 sources.

Source of current income #1

Source of current income #2

Source of current income #3

1= Wage/salary from employer  
2= Own business  
3= Family/spouse payment  
4= Government pension/cash  
5= Maintenance/child support  
6= Superannuation/annuity  
7= Workers compensation / accident or sickness  
8= Other income  
88= NK  
99= NA

A31. **Pension/other benefits**  
*Have you received any of the following pensions or benefits in the past month?*  
Read out the items below as a checklist. Code up to 3 types of benefit. Present=past month

Benefit #1

Benefit #2

Benefit #3

1= Age pension  
2= Service pension  
3= Disability support/invalid pension  
4= Widow’s pension or wife’s pension  
5= Carer’s pension  
6= Sole parent’s pension  
7= Sickness allowance/benefit  
8= New start/job search/mature age allowance  
9= Unemployed benefit  
10= Special benefit  
11= Other (specify______________)  
88= NK  
99= NA
A32. **Self care in past month**

*How much effort have you been putting into care for your appearance in the past month? Or keeping yourself healthy and fit?*

Did you make a lot of effort to look neat and tidy, stylish or was this something that was of little importance to you?

Did you think at all about healthy eating or physical exercise?

Would you say that you were able to look after yourself, keep yourself clean, tidy your own room, do your laundry?

Did you let other people do this for you because you were not interested or had no energy?

O = No dysfunction; level of care normal, takes appropriate interest in own appearance and maintains reasonable standards without, or with minimum supervision

1 = Obvious dysfunction; self care below average standard, likely to make an unfavourable impression

8 = Uncertain or unable to assess

9 = NA

---

A33. **Interests**

*How have you been keeping up with what is happening in the world in the past month?*

Did you watch TV, or keep up with the news in other ways?

Would you say that you have been trying to keep up with the national/international news? Can you give examples?

Did you follow the football teams?

Have you been involved in any particular interests over the past four weeks?

Did you read any books, buy newspapers or magazines? Which ones?

Have you developed any interests or hobbies?

0 = No dysfunction; seeks information, talks with people about local and world events, has a ‘world map’ as appropriate to sociocultural context

1 = Obvious dysfunction; less than average interest, no special efforts to obtain information, never reads anything, does not listen to radio or watch news on TV

8 = Uncertain or unable to assess

9 = NA (eg. moderate to severe intellectual handicap)
SECTION B: DRUG USE HISTORY

Now I’m going to ask you some questions about your use of drugs.

Have you ever used any of the following drugs?
When was the last time you used (Drug)?

<table>
<thead>
<tr>
<th>Drug Class</th>
<th>Ever Used</th>
<th>When was the last time you used?</th>
<th>Is this the drug for which you are currently seeking treatment?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1= Yes</td>
<td>1= Never</td>
<td>1= Yes</td>
</tr>
<tr>
<td></td>
<td>2= No</td>
<td>2= More than 6 months ago</td>
<td>2= No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3= In the past 6 months</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4= In the past month</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5= In the past week</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6= In the past few days</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cannabis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Opiates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amphetamines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tranquilisers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barbiturates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallucinogens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobacco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caffeine</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION C: OTI – ALCOHOL

1. When was the last time you drank alcohol?

1 = Never  
2 = More than 6 months ago  
3 = In the past 6 months  
4 = In the past month  
5 = In the past week  
6 = In the past few days

If subject answers 1, 2 or 3, proceed to Cannabis

2. During the past month, how often did you drink alcohol?

Between 6-7 days each week – Score 28  
Between 4-5 days each week – Score 20  
Between 2-3 days each week – Score 12  
One day each week – Score 4  
One day each fortnight – Score 2  
One day each month – Score 1  
Not in the last month – Score 0

If subject answers 0, proceed to Cannabis

3. On what day did you last drink alcohol (in the past month)?

4. How much alcohol did you drink on that day?

(Ask about all categories. Figures in square brackets are numbers of standard drinks in one unit)

<table>
<thead>
<tr>
<th>Wine</th>
<th>Spirits</th>
<th>Full Strength Beer</th>
<th>Light Beer</th>
<th>Fortified Wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass (100ml) [1]</td>
<td>30ml nips [1]</td>
<td>Schooner (15oz/425ml) [1.5]</td>
<td>Schooner (15oz/425ml) [0.75]</td>
<td>Port glass (60ml) [1]</td>
</tr>
<tr>
<td>lt. cask [10 per lt.]</td>
<td></td>
<td>750ml bottle (longneck) [2.5]</td>
<td>750ml bottle (longneck) [2]</td>
<td></td>
</tr>
</tbody>
</table>

Number of standard drinks

TOTAL NUMBER OF STANDARD DRINKS =

5. On which day before that did you drink alcohol?
6. And how much alcohol did you drink on that day?
(Ask about all categories. Figures in square brackets are numbers of standard drinks in one unit)

<table>
<thead>
<tr>
<th>Wine</th>
<th>Spirits</th>
<th>Full Strength Beer</th>
<th>Light Beer</th>
<th>Fortified Wine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass (100ml) [1]</td>
<td>30ml nips [1]</td>
<td>Middy (10oz/285ml) [1]</td>
<td>Middy (10oz/285ml) [0.5]</td>
<td></td>
</tr>
<tr>
<td>750ml bottle [7.5]</td>
<td>750ml bottle [25]</td>
<td>Can (15oz/425ml) [1.5]</td>
<td>Can (15oz/425ml) [0.75]</td>
<td></td>
</tr>
<tr>
<td>Flagon (2 lt.) [20]</td>
<td>UDL can [1.3]</td>
<td>Stubby (60ml) [1]</td>
<td>Stubby (60ml) [0.7]</td>
<td></td>
</tr>
<tr>
<td>10 per lt.</td>
<td>750ml bottle (longneck) [2.5]</td>
<td>750ml bottle (longneck) [2]</td>
<td>Flagon (2 lt.) [32]</td>
<td></td>
</tr>
</tbody>
</table>

Number of standard drinks

TOTAL NUMBER OF STANDARD DRINKS = ____________________________________________

7. And when was the day before that? __________________________________________

8. Would this be a typical pattern of drinking?
   1 = Yes
   2 = No, more than usual
   3 = No, less than usual

9. If NO, What would be a typical pattern of drinking?

10. \[t_1 = 3 - 5 \] .................................................................................................................. 

11. \[t_2 = 5 - 7 \] .................................................................................................................. 

12. \[q_1 = 4 \] .................................................................................................................. 

13. \[q_2 = 6 \] ..................................................................................................................

14. \[Q = \frac{q_1+q_2}{t_1+t_2} \]
SECTION D: OTI – CANNABIS

1. When was the last time you used cannabis (marijuana, dope, grass, hash, pot)?
   1= Never                                    4= In the past month
   2= More than 6 months ago                   5= In the past week
   3= In the past 6 months                     6= In the past few days

   If subject answered 1, 2 or 3, proceed to Heroin

2. During the past month, how often did you use cannabis?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week – Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Heroin

3. On what day did you last use cannabis (in the past month)? _______________

4. How many joints/bongs/etc. did you have on that day? _______________

5. On which day before that did you use cannabis? _______________

6. And how many joints/bongs/etc. did you have on that day? _______________

7. And when was the day before that? ______________________________________

8. Would this be a typical pattern of cannabis use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of using?
10. \[ t_1 = 3 - 5 \]  

11. \[ t_2 = 5 - 7 \]  

12. \[ q_1 = 4 \]  

13. \[ q_2 = 6 \]  

14. \[ Q = \frac{q_1 + q_2}{t_1 + t_2} \]
SECTION E: OTI – HERION

1. When was the last time you used heroin?
   1= Never  
   2= More than 6 months ago  
   3= In the past 6 months  
   4= In the past month  
   5= In the past week  
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Other Opiates

2. During the past month, how often did you use heroin?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Other Opiates

3. On what day did you last use heroin (in the past month)? ________________

4. How many hits/smokes/snorts/pills/doses/etc. did you have on that day? __

5. On which day before that did you use heroin? ____________________________

6. And how many hits/smokes/snorts/etc. did you have on that day? _________

7. And when was the day before that? ________________________________

8. Would this be a typical pattern of heroin use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of heroin use?
10. \( t_1 = 3 - 5 \) .......................................................... ..................................................

11. \( t_2 = 5 - 7 \) .......................................................... ..................................................

12. \( q_1 = 4 \) .......................................................... ..................................................

13. \( q_2 = 6 \) .......................................................... ..................................................

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION F: OTI – Other Opiates

1. When was the last time you used other opiates?
   1= Never  
   2= More than 6 months ago  
   3= In the past 6 months  
   4= In the past month  
   5= In the past week  
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Amphetamines

2. During the past month, how often did you use other opiates?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Amphetamines

3. On what day did you last use opiates (in the past month)? _________________

4. How many hits/smokes/etc. did you have on that day (record use occasions)? ________________________________

5. On which day before that did you use opiates? ________________________________

6. And how many hits/smokes/etc. did you have on that day (record use occasions)? ________________________________

7. And when was the day before that? ________________________________

8. Would this be a typical pattern of opiate use?  
   1= Yes  
   2= No, more than usual  
   3= No, less than usual

9. What would be a typical pattern of opiate use?
10. \[ t_1 = 3 - 5 \]

11. \[ t_2 = 5 - 7 \]

12. \[ q_1 = 4 \]

13. \[ q_2 = 6 \]

14. \[ Q = \frac{q_1 + q_2}{t_1 + t_2} \]
SECTION G: OTI – Amphetamines

1. When was the last time you used other amphetamines (Speed)?
   1= Never  4= In the past month
   2= More than 6 months ago  5= In the past week
   3= In the past 6 months  6= In the past few days

If subject answered 1, 2 or 3, proceed to Cocaine

2. During the past month, how often did you use amphetamines?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Cocaine

3. On what day did you last use amphetamines (in the past month)?

4. How many tablets/snorts/hits/etc. did you have on that day (record use occasions)?

5. On which day before that did you use amphetamines?

6. And how many tablets/snorts/hits/etc. did you have on that day (record use occasions)?

7. And when was the day before that?

8. Would this be a typical pattern of amphetamine use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of amphetamine use?
10. \( t_1 = 3 - 5 \)
11. \( t_2 = 5 - 7 \)
12. \( q_1 = 4 \)
13. \( q_2 = 6 \)
14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION H: OTI – COCAINE

1. When was the last time you used cocaine (coke, snow, crack)?
   1= Never  4= In the past month
   2= More than 6 months ago  5= In the past week
   3= In the past 6 months  6= In the past few days

If subject answered 1, 2 or 3, proceed to Tranquilisers

2. During the past month, how often did you use cocaine?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

If subject answered 0, proceed to Tranquilisers

3. On what day did you last use cocaine (in the past month)? ________________

4. How many hits/smokes/snorts/etc. did you have on that day (record use occasions)? __________________________________________

5. On which day before that did you use cocaine? __________________________

6. And how many hits/smokes/snorts/etc. did you have on that day (record use occasions)? __________________________________________

7. And when was the day before that? ______________________________________

8. Would this be a typical pattern of cocaine use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of amphetamine use?
10. \( t_1 = 3 - 5 \) ...........................................................................................................

11. \( t_2 = 5 - 7 \) ...........................................................................................................

12. \( q_1 = 4 \) ...................................................................................................................

13. \( q_2 = 6 \) ...................................................................................................................

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION I: OTI – TRANQUILIZERS

1. When was the last time you used tranquilizers (benzos, serepax, rohyponol, mogadon, valium)?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Barbiturates

2. During the past month, how often did you use tranquilizers?
   - Between 6-7 days each week – Score 28
   - Between 4-5 days each week – Score 20
   - Between 2-3 days each week - Score 12
   - One day each week – Score 4
   - One day each fortnight – Score 2
   - One day each month – Score 1
   - Not in the last month – Score 0

   If subject answered 0, proceed to Barbiturates

3. On what day did you last use tranquilizers (in the past month)? __________

4. How many pills did you have on that day (record use occasions)? ________

5. On which day before that did you use tranquilizers? ______________________

6. And how many pills did you have on that day? __________________________

7. And when was the day before that? _____________________________________

8. Would this be a typical pattern of tranquilizer use?
   1= Yes
   2= No, more than usual
   3= No, less than usual
9. What would be a typical pattern of tranquilizer use?

10. $t_1 = 3 \rightarrow 5$

11. $t_2 = 5 \rightarrow 7$

12. $q_1 = 4$

13. $q_2 = 6$

14. $Q = \frac{q_1 + q_2}{t_1 + t_2}$
SECTION J: OTI – BARBITURATES

1. When was the last time you used barbiturates (nembutal, secondal)?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

If subject answered 1, 2 or 3, proceed to Hallucinogens

2. During the past month, how often did you use barbiturates?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

If subject answered 0, proceed to Hallucinogens

3. On what day did you last use barbiturates (in the past month)? _____________

4. How many pills did you have on that day (record use occasions)? ___________

5. On which day before that did you use barbiturates? _______________________

6. And how many pills did you have on that day? __________________________

7. And when was the day before that? ______________________________________

8. Would this be a typical pattern of barbiturates use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of barbiturates use?
10. \( t_1 = 3 - 5 \)

11. \( t_2 = 5 - 7 \)

12. \( q_1 = 4 \)

13. \( q_2 = 6 \)

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION K: OTI – HALLUCINOGENS

1. When was the last time you used hallucinogens (LSD / Acid, ecstasy, magic mushrooms)?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Inhalants

2. During the past month, how often did you use hallucinogens?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Inhalants

3. On what day did you last use hallucinogens (in the past month)? ____________

4. How many tabs/pills/etc. did you have on that day (record use occasions)?

5. On which day before that did you use hallucinogens? _______________________

6. And how many tabs/pills/etc. did you have on that day? _____________________

7. And when was the day before that? _______________________________________

8. Would this be a typical pattern of hallucinogens use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of hallucinogens use?
10. \( t_1 = 3 - 5 \)

11. \( t_2 = 5 - 7 \)

12. \( q_1 = 4 \)

13. \( q_2 = 6 \)

14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
SECTION L: OTI – INHALANTS

1. When was the last time you used inhalants (amyl/rush, glue, laughing gas, aerosols, petrol)?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

If subject answered 1, 2 or 3, proceed to Tobacco

2. During the past month, how often did you use inhalants?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

If subject answered 0, proceed to Tobacco

3. On what day did you last use inhalants (in the past month)? ________________

4. How many sniffs did you have on that day (record use occasions)? ______

5. On which day before that did you use inhalants? __________________________

6. And how many sniffs did you have on that day? __________________________

7. And when was the day before that? ______________________________________

8. Would this be a typical pattern of inhalant use?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of inhalant use?
10. \( t_1 = 3 - 5 \) ...........................................................

11. \( t_2 = 5 - 7 \) ...........................................................

12. \( q_1 = 4 \) ............................................................... 

13. \( q_2 = 6 \) ............................................................... 

14. \[ Q = \frac{q_1 + q_2}{t_1 + t_2} \]
SECTION M: OTI – Tobacco

1. When was the last time you smoked cigarettes?
   1= Never
   2= More than 6 months ago
   3= In the past 6 months
   4= In the past month
   5= In the past week
   6= In the past few days

   If subject answered 1, 2 or 3, proceed to Next Section

2. During the past month, how often did you smoked cigarettes?
   Between 6-7 days each week – Score 28
   Between 4-5 days each week – Score 20
   Between 2-3 days each week - Score 12
   One day each week – Score 4
   One day each fortnight – Score 2
   One day each month – Score 1
   Not in the last month – Score 0

   If subject answered 0, proceed to Next Section

Please note that the strength of cigarettes in milligrams for each occasion of use

3. On what day did you last use tobacco (cigarettes)? ________________________

4. How many cigarettes did you have on that day (record use occasions)? ___

5. On which day before that did you smoke cigarettes? ________________________

6. And how many cigarettes did you have on that day? ________________________

7. And when was the day before that? _______________________________________

8. Would this be a typical pattern of smoking?
   1= Yes
   2= No, more than usual
   3= No, less than usual

9. What would be a typical pattern of smoking?
10. \( t_1 = W_3 - W_5 \)
11. \( t_2 = W_5 - W_7 \)
12. \( q_1 = W_4 \)
13. \( q_2 = W_6 \)
14. \( Q = \frac{q_1 + q_2}{t_1 + t_2} \)
**POLY-DRUG USE**

Tick the relevant boxes for substances used in the past month. Add up the total number of boxes ticked to get the poly-drug use score.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol (M14)</td>
<td></td>
</tr>
<tr>
<td>Cannabis (N14)</td>
<td></td>
</tr>
<tr>
<td>Herion (O14)</td>
<td></td>
</tr>
<tr>
<td>Other Opiates (P14)</td>
<td></td>
</tr>
<tr>
<td>Amphetamines (Q14)</td>
<td></td>
</tr>
<tr>
<td>Cocaine (R14)</td>
<td></td>
</tr>
<tr>
<td>Tranquilizers (S14)</td>
<td></td>
</tr>
<tr>
<td>Barbiturates (T14)</td>
<td></td>
</tr>
<tr>
<td>Hallucinogens (U14)</td>
<td></td>
</tr>
<tr>
<td>Inhalants (V14)</td>
<td></td>
</tr>
<tr>
<td>Tobacco (W14)</td>
<td></td>
</tr>
</tbody>
</table>

**Poly-Drug Use Score:**

\[ P = L14 + M14 + N14 + O14 + P14 + Q14 + R14 + S14 + T14 + U14 + V14 = \]


# Global Assessment of Functioning Scale (GAF)

Consider psychological, social and occupational functioning on a hypothetical continuum of mental health-illness. Do not include impairment in functioning due to physical (or environmental) limitations. **Code** (Note: Use intermediate codes when appropriate e.g. 45, 68, 72.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>91–100</strong></td>
<td>Superior functioning in a wide range of activities. Life’s problems never seem to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.</td>
</tr>
<tr>
<td><strong>81-90</strong></td>
<td>Absent or minimal symptoms (e.g. mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g. an occasional argument with family members)</td>
</tr>
<tr>
<td><strong>71-80</strong></td>
<td>If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g. difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (e.g. temporarily falling behind in school work)</td>
</tr>
<tr>
<td><strong>61-70</strong></td>
<td>Some mild symptoms (e.g. depressed mood and mild insomnia) OR some difficulty in social, occupational, or school functioning (e.g. occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.</td>
</tr>
<tr>
<td><strong>51-60</strong></td>
<td>Moderate symptoms (e.g. flat effect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g. few friends, conflicts with peers or co-workers).</td>
</tr>
<tr>
<td><strong>41-50</strong></td>
<td>Serious symptoms (e.g. suicidal ideation, severe obsessional rituals, frequent shoplifting) OR any serious impairment in social, occupational or school functioning (e.g. no friends, unable to keep a job).</td>
</tr>
<tr>
<td><strong>31-40</strong></td>
<td>Some impairment in reality testing or communication (e.g. speech is at all times illogical, obscure or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgement, thinking or mood (e.g. depressed man avoids friends, neglects family and is unable to work; child frequently beats up younger children, is defiant at home and is failing at school.</td>
</tr>
<tr>
<td><strong>21-30</strong></td>
<td>Behaviour is considerably influenced by delusions OR hallucinations OR serious impairment in communication or judgement (e.g. sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g. stays in bed all day; no job, home or friends).</td>
</tr>
<tr>
<td><strong>11-20</strong></td>
<td>Some danger of hurting self or others. (e.g. suicidal attempts without clear explanation of death; frequently violent; manic excitement) OR occasionally fails to maintain minimum personal hygiene (e.g. smears faeces) OR gross impairment in communication (e.g. largely incoherent or mute).</td>
</tr>
<tr>
<td><strong>1-10</strong></td>
<td>Persistent danger of hurting self or others (e.g. recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.</td>
</tr>
<tr>
<td><strong>0</strong></td>
<td>Inadequate information.</td>
</tr>
</tbody>
</table>
# Depression, anxiety stress scale (21-item version)

**DASS**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
</table>

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

*The rating scale is as follows:*

0  Did not apply to me at all  
1  Applied to me to some degree, or some of the time  
2  Applied to me to a considerable degree, or a good part of time  
3  Applied to me very much, or most of the time

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I found it hard to wind down</td>
</tr>
<tr>
<td>2</td>
<td>I was aware of dryness of my mouth</td>
</tr>
<tr>
<td>3</td>
<td>I couldn't seem to experience any positive feeling at all</td>
</tr>
<tr>
<td>4</td>
<td>I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)</td>
</tr>
<tr>
<td>5</td>
<td>I found it difficult to work up the initiative to do things</td>
</tr>
<tr>
<td>6</td>
<td>I tended to over-react to situations</td>
</tr>
<tr>
<td>7</td>
<td>I experienced trembling (eg, in the hands)</td>
</tr>
<tr>
<td>8</td>
<td>I felt that I was using a lot of nervous energy</td>
</tr>
<tr>
<td>9</td>
<td>I was worried about situations in which I might panic and make a fool of myself</td>
</tr>
<tr>
<td>10</td>
<td>I felt that I had nothing to look forward to</td>
</tr>
<tr>
<td>11</td>
<td>I found myself getting agitated</td>
</tr>
<tr>
<td>12</td>
<td>I found it difficult to relax</td>
</tr>
<tr>
<td>13</td>
<td>I felt down-hearted and blue</td>
</tr>
<tr>
<td>14</td>
<td>I was intolerant of anything that kept me from getting on with what I was doing</td>
</tr>
<tr>
<td>15</td>
<td>I felt I was close to panic</td>
</tr>
<tr>
<td>16</td>
<td>I was unable to become enthusiastic about anything</td>
</tr>
<tr>
<td>17</td>
<td>I felt I wasn't worth much as a person</td>
</tr>
<tr>
<td>18</td>
<td>I felt that I was rather touchy</td>
</tr>
<tr>
<td>19</td>
<td>I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)</td>
</tr>
<tr>
<td>20</td>
<td>I felt scared without any good reason</td>
</tr>
<tr>
<td>21</td>
<td>I felt that life was meaningless</td>
</tr>
</tbody>
</table>
Session checklist

Clinician instructions: At the completion of each therapy session, please tick the main interventions provided during that session.

<table>
<thead>
<tr>
<th>Date:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td></td>
</tr>
<tr>
<td>MRN:</td>
<td></td>
</tr>
<tr>
<td>Session No.</td>
<td></td>
</tr>
</tbody>
</table>

Please indicate what you think is your client's drug of concern is? _________________________________________

Do you think your client is participating in the SHADE research project?

□ Yes  □ No

Session orientation: (please tick)

□ Initial appointment
□ Assessment
□ Scheduled appointment
□ Non-scheduled client contact

Intervention type(s): (please tick all that apply)

□ Assessment
□ Brief solutions focussed strategies
□ Case management: Crisis management
□ Case management: referrals / general
□ Cognitive restructuring activities
□ Communication / drug refusal skills
□ Counselling: Mental health issues
□ Counselling: Relationship / family issues
□ Drug & alcohol education / information / harm minimisation info.

□ Family therapy
□ Goal setting – Abstinence / moderation
□ Managing craving / urges
□ Managing high-risk situations
□ Managing slips / lapses
□ Motivational enhancement
□ Narrative therapy strategies
□ Other (specify): _________________________________________

Multimedia: (please tick)

- During the session was computer-delivered intervention used / recommended?
  □ Yes  □ No
- If Yes, computer-delivered intervention was utilised – In session / Homework / Both (circle)
- Type of computer-delivered intervention used –
  □ Self-Help for Alcohol/other drug use and Depression (please tick all modules that apply)
    □ My story so far
    □ Improving motivation
    □ Getting moving again
    □ Managing alcohol / other drug use
    □ Changing your thoughts
    □ Allowing and letting be
    □ Solving problems
    □ Worrying productively
    □ Getting healthy inside and out
    □ Staying well
    □ Internet-delivered intervention (specify): _________________________________________
- If No, computer-delivered intervention was not utilised because:
  □ Computer-delivered intervention was offered but client declined
  □ Not appropriate, because (specify): __________________________________________
  □ Other (specify): ___________________________________________________________

Was the client provided with a formal debriefing / discussion on the computer-delivered intervention(s) used?

  □ Yes  □ No

Approximately how long did you spend discussing SHADE or Internet-delivered resources? (circle)

  < 10min  11-20min  21-30min
  31-40min  41-50min  51-60min
  > 60min

Thank you for completing this inventory – please place completed forms into the secure box provided.
**Individual opinion scale**

**Instructions** - Please indicate how you feel about the following statements. Circle each question to indicate your feelings:

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Neither agree or disagree</th>
<th>Slightly agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am suspicious of new inventions and new ways of thinking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. I am reluctant about adopting new ways of doing things until I see them working for people around me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. I rarely trust new ideas until I can see whether the vast majority of people around me accept them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. I am generally cautious about accepting new ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>5. I must see other people using new innovations before I will consider them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>6. I often find myself skeptical of new ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>7. I am aware that I am usually one of the last people in my group to accept something new.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8. I tend to feel that the old way of doing things is the best way.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>9. I consider myself to be creative and original in my thinking and behaviour.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>10. I am an inventive kind of person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>11. I seek new ways to do things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>12. I enjoy trying out new ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>13. I find it stimulating to be original in my thinking and behaviour.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>14. I am receptive to new ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>15. I frequently improve methods for solving problem when an answer is not apparent.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>16. I feel that I am an influential member of my peer network.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Item</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Slightly disagree</td>
<td>Neither agree or disagree</td>
<td>Slightly agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------</td>
<td>-------------------</td>
<td>--------------------------</td>
<td>----------------</td>
<td>-------</td>
<td>----------------</td>
</tr>
<tr>
<td>17. My peers often ask me for advice or information.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>18. I enjoy taking part in leadership responsibilities of the groups I belong to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>19. I am challenged by unanswered questions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>20. I am challenged by ambiguities and unsolved problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
# Computer opinion survey (CAIN)

**Instructions** - Please indicate how you feel about the following statements. Circle each question to indicate your feelings:

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Slightly disagree</th>
<th>Slightly agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Having a computer available to me would improve my productivity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. If I had to use a computer for some reason, it would probably save me same time and work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. If I use a computer, I could get a better picture of facts and figures.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. Having a computer available would improve my general satisfaction.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. Having to use a computer could make my life less enjoyable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. Having a computer available to me could make things easier for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. I feel very negative about computers in general.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8. Having a computer available to me could make things more fun for me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. If I had a computer at my disposal, I would try to get rid of it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. I look forward to a time when computers are more widely used.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11. I doubt if I would ever use computers very much.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12. I avoid using computers whenever I can.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13. I enjoy using computers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14. I feel that there are too many computers around now.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15. Computers are probably going to be an important part of my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16. A computer could make learning fun.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>17. If I were to use a computer, I could get a lot of satisfaction from it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>18. If I had to use a computer, it would probably be more trouble than it was worth.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>19. I am usually uncomfortable when I have to use computers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>20. I sometimes get nervous just thinking about computers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>21. I will probably never learn to use a computer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>22. Computers are too complicated to be of much use to me.</td>
<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>23. If I had to use a computer all the time, I would probably be very unhappy.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24. I sometimes feel intimidated when I have to use a computer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25. I sometimes feel that computers are smarter than I am.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26. I can think of many ways that I could use a computer.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
Appendix H: Welcome to SHADE Information Pack