IMPAIRED DRIVING RISK ASSESSMENT

A PRIMER FOR PRACTITIONERS

TREATMENT INTERVENTIONS

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IMPAIRED DRIVING RISK ASSESSMENT: A PRIMER FOR PRACTITIONERS

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Traffic Injury Research Foundation

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This document is an extracted chapter from the 'Impaired Driving Risk Assessment: A Primer for Practitioners' publication. The full report as well as a complete reference list are available online at www.tirf.ca. You may also download directly the executive summary or any other chapters of the full report.

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7. TREATMENT INTERVENTIONS

Educational approaches to impaired driver programs have been utilized to target impaired drivers for more than four decades. A number of these programs have been evaluated and several comprehensive reviews have been produced, including a meta-analysis that reveals that these programs have limited effects in terms of reducing recidivism. Generally, these studies show an average reduction in recidivism of approximately 10% (NHTSA 1986; Wells-Parker et al. 1995). Among offenders who suffered from some degree of substance misuse problems, those programs that utilized a therapeutic approach are considered to have a greater effect, illustrating the value of treatment as an intervention to encourage rehabilitation and behavioural change (Wanberg et al. 2005).

As a general caveat, available interventions generally require offenders to be committed to addressing their substance use problems, and this often requires hard work on their part. This is perhaps most clearly illustrated by the fact that, according to probation officers across the United States, many impaired drivers elect to serve time in prison rather than enrol in treatment. It is underscored that offenders may be reluctant (to varying degrees) to participate in treatment because they are often challenged and taken out of their comfort zones in order to tackle substance misuse problems.

In the criminal justice literature, a strong emphasis is placed on the Risk–Needs–Responsivity model of offender rehabilitation (Ward et al. 2007). This model guides the selection of appropriate rehabilitation decisions for individual offenders according to three key principles: 1) the risk principle acknowledges that intensive services should be reserved for higher risk offenders; 2) the need principle recognizes that in order to reduce re-offending interventions must specifically target offender needs (Bonta et al. 2000; Ogloff and Davis 2004; Andrews and Dowden 2006); and, 3) the responsivity principle emphasizes the importance of designing and delivering treatment using strategies that accommodate offenders' learning style, ability, ethnicity, and sex. The key feature of this model is matching an offender to an intervention based on their propensity or risk to re-offend (Ogloff and Davis 2004). This

has been a dominant model that has influenced the development of offender treatment programs, for more than two decades, with research that has shown that programs that incorporate these principles are more effective than programs that do not (Dowden and Andrews 1999).

The results of a risk assessment in conjunction with resources that are available are two critical components of any intervention strategy. It is these two factors that ultimately determine what types and to what degree treatment interventions are made available to offenders, how services are delivered and managed, and the skills and experience of staff that deliver these interventions. A majority of treatment agencies are equipped to provide a range of interventions that incorporate diverse techniques and approaches. Assessment results are used to match the most appropriate services (of those available) to individual offenders.

There is growing evidence to suggest that combining appropriate sanctions and supervision with treatment interventions can be more effective than either strategy alone. The partnering of these different strategies can expand opportunities to achieve long-term risk reduction and to reduce and/or prevent repeat offending. In order to maximize the effectiveness of this approach it must be assessment driven and combine appropriate levels of supervision with appropriate treatment interventions.

This section briefly describes a variety of common approaches to treatment including screening and brief interventions (SBI), motivational interviewing (MI), cognitive behavioural therapy (CBT), pharmacological interventions, and web-based interventions. Each intervention is described in terms of purpose and objectives, general effectiveness, staff training requirements, mechanism of delivery, and strengths and weaknesses. Note that some of these interventions have been specifically evaluated on an impaired driving population whereas others are merely a source of emerging interest and more research is needed to gauge effectiveness with impaired drivers. In addition, a few key references are identified in relation to each intervention in order to provide additional information to practitioners seeking more knowledge about specific strategies.

7.1 Screening and Brief Interventions (SBI)

Purpose and objectives. SBI is a structured set of questions designed to identify individuals at risk for alcohol use problems, followed by a brief discussion between an individual and the treatment clinician or provider, with referral to specialized treatment as needed. A brief intervention consists of one or more time-limited conversations between a client and a clinician. Screening asks several questions to determine whether clients are misusing alcohol; that is, are they drinking too much, too often, or experiencing harm from their drinking? The provider evaluates the answers and then shares the results and their significance with the individual. The goals are to (1) help the drinker increase awareness of his or her alcohol use

and its consequences, and (2) encourage the person to create a plan to change his or her drinking behaviour to stay within safe limits. The conversations are typically 5-15 minutes, although they can last up to 30-60 minutes for as many as four sessions (NHTSA 2005). Brief interventions, as the name implies, are much smaller in number and shorter in duration than traditional treatment approaches.

Numerous types of brief interventions have been developed, ranging from providing advice to individuals to cut down on or quit drinking, to agreement on goals and objectives, to brief screening and feedback, motivational interventions, and contingency contracting. One of the more simple forms of brief intervention is screening itself. Given that screening often involves contact with the client in the context of questions and issues related to drinking behaviours, it can have some impact on the offender's behaviour. This makes screening not only a valuable tool for determining the nature and extent of alcohol problems but also a part of the therapeutic process itself. SBIs are increasingly being applied in a variety of settings and are recommended for offenders who misuse alcohol and are at risk for dependence but who are not yet alcohol dependent (Lapham 2004; 2005).

General effectiveness. Brief interventions have been increasingly utilized as part of remedial programs for impaired drivers with alcohol-related problems. Studies conducted in the United States, Australia, Bulgaria, Mexico, the United Kingdom, Norway, and Sweden show that there is clear evidence that well-designed brief intervention strategies are effective, cost-efficient, and easy to administer (WHO 2010; Davis et al. 2012).

The effectiveness of brief interventions has been demonstrated in various setting (e.g., Moyer et al. 2002; Poikolainen 1999), but few studies have examined the benefits with criminal justice populations. The exception seems to be a brief motivational intervention (usually in the form of feedback regarding test results and diagnosis), which has been shown to produce significant benefits in a criminal justice population (Moyer et al. 2002; Poikolainen 1999; McMurran et al. 2011). There is some evidence that recidivists who are younger, male, and exhibit more negative consequences and ambivalence towards their problem drinking show the most improvement as a result of SBI as compared to other groups (Brown et al. 2012).

Staff training requirements. SBI does not require investment in extensive training or expensive instruments, and does not require lengthy amounts of time to conduct (APHA 2008). Screening can be done with a minimal amount of training depending on the screening tool(s) utilized. The process can be included in routine training and ongoing staff development.

Mechanism of delivery. SBI can be offered within the criminal justice system or more commonly in remedial programs.

Strengths and weaknesses.

Strengths

- Brief interventions are low in cost.
- They can serve as treatment for hazardous and harmful drinkers, and as a way to facilitate referral of more serious cases of alcohol dependence to specialized treatment.
- They require minimal clinician and client time.

Weaknesses

- Brief interventions (excluding motivational interviewing) are not designed to treat persons with alcohol dependence.
- They can provoke clinician apprehension in primary care settings. Common concerns are that screening and brief intervention will require too much time and can antagonize clients over a sensitive personal issue.

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7.2 Motivational Interviewing (MI)

Purpose and objectives. MI is one form of brief intervention. MI is a collaborative, goal-oriented method of communication with particular attention to the language of change. It is designed to strengthen an individual's motivation for and movement toward a specific goal by eliciting and exploring the person's own arguments for change. The practice of MI involves the skilful use of certain techniques for bringing to life the "MI spirit," demonstrating the MI principles, and guiding the process toward eliciting client change talk and commitment to change. Change talk involves statements or non-verbal communications indicating the client may be considering the possibility of change (Miller and Rollnick 2010). This tool can be very important in keeping reluctant clients in treatment. More recently, Miller and Rollnick expanded upon their work in the 3rd Edition of their manual to further elaborate on the four key processes of MI (engaging, focusing, evoking and planning). It also contains work related to the use of MI in group settings as well as efforts to combine MI, and CBT to increase effectiveness.

General effectiveness. There is 17 years of research on MI, beginning when the method was developed by Rollnick and Miller (1995) as a client-centred style of counselling that helps clients to explore and resolve their ambivalence about changing their behaviour. A meta-analysis conducted by Dunn et al. (2001) examined 29 randomized trials of MI and concluded that on average it took 15 hours to learn and deliver MI. Sixty percent of the 29 studies yielded at least one significant behavioural change effect size. There was substantial evidence that MI is an effective substance abuse intervention method when used by clinicians who are non-specialists in substance abuse treatment, particularly when enhancing entry to and engagement in more intensive substance abuse treatment (Dunn et al. 2001; Palmer et al. 2011).

Additional studies have found that although MI may not be more effective than other addiction treatment approaches, it does work faster in remedying the client's addiction (Chanut et al. 2005). When provided as the sole treatment, MI can lead to improvements in outcomes that compare with those seen in a 12-step Alcoholics Anonymous (AA) program and in longer, more intensive cognitive-behavioural treatment interventions (Project MATCH Research Group 1997).

A recent study by Brown et al. (2010) suggests that MI may be more appropriate for impaired driving recidivists who were unmotivated, reluctant or resistant to participate in treatment, and who failed to acknowledge or recognize their problem(s) with alcohol. In particular, the brief nature of this strategy makes it easier to utilize with those hard-to-reach individuals who do not readily participate in impaired driver re-licensing programs. More recently, Brown and Ouimet (2013) also noted that, although initial studies investigating the use of MI with impaired driving populations have shown promising results, methodological differences across studies have made it difficult to generalize findings and to gauge which features or content associated with MI applications result in positive outcomes.

Staff training requirements. Training for MI varies. The most common method clinicians explore is to study print materials and view training videotapes. Although this can provide some understanding of the basic approach, self-training was not found to be effective in improving clinical skillfulness in MI (Miller and Rollnick 2010).

Training of up to one day can acquaint the audience with basic concepts and methods of MI, but is unlikely to increase the clinical skilfulness of participants in the practice of MI. With the 16-24 hours of training time, participants are provided with more in-depth understanding of the method of MI, and offered practical experience in trying this approach. Continuing education is also available.

Mechanism of delivery. MI is most often offered in remedial programs. However, it can be offered within the criminal justice system with proper training. These one-on-one patient-centred, non-confrontational counselling sessions are brief, and may be used in at least three different stages of an offender's processing. First, if an offender screens positively for alcohol use problems, a health care professional can share the screening results and their significance with the offender in a short, 10-15 minute interview. These are patient-centred and encourage the offender to create a plan of action which ranges from reducing their drinking to seeking substance abuse treatment (NHTSA 2005). Second, offenders who have been assessed as being unready to receive treatment may also be engaged in motivational interviewing, where the focus is on facilitating an offender's readiness for self-change or motivation to treatment (Marques and Voas 2005). The idea is to encourage the offender through engagement so they can accept their problem(s), understand the benefits of being treated for the problem, and then access the necessary services that are designed to help them overcome the problem. The premise of this technique is for professional staff to build a rapport with offenders and empower them to change on their own (Taxman et al. 2004). Third, MI is also useful throughout the supervision process for providing critical feedback to reinforce progress by helping offenders learn to "analyze" their own attitudes and behaviour and determine how they can advance their behavioural change (Taxman et al. 2004). Such aftercare programs may involve weekly counsellor-led sessions, offered at treatment sites (Harrison and Asche 2001).

Strengths and weaknesses.

Strengths

- Useful with clients in early stages of change.
- Draws out the client's own ideas; based on the belief that the motivation to change comes from the client, not the clinician.

Weaknesses

- Change may not happen immediately.
- Outside influences may be stronger, if a client returns home with peers and daily life pressures, motivation to change may cease.
- Not all clinicians are willing to change their intervention approach in line with the practice of MI.
- Maintenance of MI fidelity requires constant surveillance and quality assurance efforts.

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7.3 Cognitive Behavioural Therapy (CBT)

Purpose and objectives. CBT is a form of psychosocial therapy with an action-oriented perspective. CBT encompasses a wide range of cost-effective psychotherapeutic approaches that deal with cognitions and beliefs as a means to reducing problematic behaviours (Beck 1993). The objective of this approach is to identify thoughts, assumptions, beliefs, and behaviours that are related to negative emotions and underlying dysfunctional problems (e.g., drinking problems) and to replace these with more realistic and functional ones. Ultimately, the goal is to change an individual's thoughts in order to change their behaviour.

General effectiveness. A number of studies support the effectiveness of CBT in treating alcohol abuse:

- Longbauch et al. (1999) found that alcohol abusers who received CBT had better drinking-related outcomes than those who did not receive therapy.
- More than 24 randomized control trials found CBT to be comparable to or more effective than other treatments for alcohol abuse (Carroll 1996).
- Carroll (1998) also found that CBT was particularly effective in reducing the severity of relapse.
- Offering offenders with a high level of alcohol dependence extensive treatment such as CBT has been shown to be highly cost-effective (Holder et al. 2000; Berglund et al. 2003).

There has also been some more recent research that demonstrates the effectiveness of combining CBT with MI (see Timken et al. 2012). However, it should be noted that, although CBT is one of the most studied substance abuse treatment interventions, research investigating the effectiveness of CBT in reducing impaired driving recidivism is limited and only a small number of studies have specifically and rigorously tested the effectiveness of CBT, or variations of it, in reducing either alcohol misuse or impaired driving behaviour among this offender population (Brown and Ouimet 2013).

Staff training requirements. With appropriate training and supervision, a diverse range of therapists can implement CBT effectively. However, most training manuals focus on specific cognitive-behavioural techniques and do not cover basic clinical skills.

Certain minimal requirements are recommended:

- A master's degree or equivalent in psychology, counseling, social work, or a closely related field.
- At least 3 years of experience working with a substance-abusing population.
- Some familiarity with and commitment to a cognitive-behavioural approach.

Mechanism of delivery. CBT approaches are used with individual patients or with groups. Some of these approaches rely on more traditional client-therapist interactions; others rely on computer-based software.

Strengths and weaknesses.

Strengths

- Behaviour change is often a central part of the process.
- It is structured, which includes setting agendas and working toward clear goals.
- It is usually relatively short-term.

Weaknesses

- CBT does not suit everyone.
- It assumes the client has access to thoughts and emotions.
- Being committed and persistent in improving substance abuse problems can be hard work.
- Clients are challenged and often taken out of their comfort zones when tackling substance abuse problems.
- It has not been directly evaluated with an impaired driving population.

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7.4 Pharmacotherapies

Purpose and objectives. It is generally agreed that greater use of pharmacological interventions could enhance treatment progress since it stabilizes the patient and creates a facilitating environment. According to National Institute on Drug Abuse's (NIDA) Principles of Drug Abuse Treatment for Criminal Justice Populations, "medications are an important part of treatment for many drug abuse offenders" (NIDA 2006, p. 5). Indeed, it has been argued that there is a need for greater receptiveness of the fact that medications may be an integral part of treatment (Robertson 2007), and despite immense progress in pharmacotherapy research, medications that have been approved to treat alcohol dependence are still underutilized (Arias et al. 2008).

Programs and services that include a medicinal component may be referred to as pharmacotherapy, medication, drug therapy, and so forth. There are many medications that can be used for alcohol treatment purposes. However, pharmacotherapies are not frequently used to treat impaired driving offenders and their availability/use among this population is not known. Three products that are currently approved for treating alcohol dependence are naltrexone, acamprosate, and disulfiram (NIAAA 2008). They have been shown to help patients reduce drinking, avoid relapse to heavy drinking, achieve and maintain abstinence, or gain a combination of these effects.

- Naltrexone (ReVia®; Vivitrol®) is an opioid antagonist that has a short half-life so it has limited clinical utility. Side effects include nausea, dizziness and fatigue. Usual adult dosage is 50 mg daily.
- Acamprosate (Campral®) is a synthetic compound that is a putative glutamate modulator. Usual adult dosage is 2-3 grams. Common side effects include mild diarrhea.
- Disulfiram (Antabuse®) interferes with the metabolism of alcohol by the liver, permitting a toxic breakdown product of alcohol to accumulate in the bloodstream. Usual adult dosage is 250 mg daily (ranging from 125 mg to 500 mg). Common side effects include metallic after-taste, dermatitis, and transient mild drowsiness.

These medications are often used in combination with brief psychosocial interventions. These medications have been shown to help patients reduce drinking, avoid relapse to heavy drinking, achieve and maintain abstinence, or gain a combination of these effects (NIAAA 2005). For a comprehensive review of available pharmacotherapies for treating alcohol use,

please refer to Arias et al. (2008) in Alcohol Research and Health, the Journal of the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

General effectiveness. A 2004 meta-analysis of 17 randomized controlled trials (Mann et al.) found that acamprosate was associated with a significantly higher number of abstinent days and continuous abstinence rates at six months were significantly higher. Acamprosate appears to be especially useful in a therapeutic approach targeted towards achieving abstinence in recently detoxified, motivated alcohol-dependent patients (Bouza et al. 2004). In a 2005 meta-analysis of 24 randomized controlled trials, Srisurapanont and Jarusuraisin reported that naltrexone significantly decreased relapses but not a complete return to drinking (i.e., relapse decreased, but eventually some subjects did start drinking again). Naltrexone seems more indicated in or appropriate for programs geared towards controlled consumption. Treatment compliance is a significant issue in these and other studies and needs to be addressed adequately to assure their usefulness in clinical practice.

Staff training requirements. Prescriptions are needed in order for a client to receive any pharmacological intervention; as a result, a clinician can only make a recommendation to a client to seek pharmacological treatment and management of alcohol misuse. Whether a medication should be prescribed and in what amount is a matter between clients and their health care providers.

Mechanism of delivery. Prior to suggesting any pharmacological intervention it is recommended that the physician conduct a screening using a clinical interview and a screening instrument to determine the client's level of alcohol dependence.

Most studies recommended that pharmacological interventions for alcohol dependence include some type of counseling, and it is recommended that all clients taking these medications receive at least brief medical counseling. Offering the full range of effective treatments will maximize patient choice and outcomes, as no single approach is universally successful or appealing to patients. The different approaches - medications for alcohol dependence, professional counseling, and mutual help groups - are complementary.

Strengths and weaknesses.

Strengths

- Naltrexone is especially helpful for curbing consumption in patients who have drinking "slips."
- Acamprosate is thought to reduce symptoms of protracted abstinence such as insomnia, anxiety, restlessness, and dysphoria.

Weaknesses

- Generally speaking, compliance with the use of pharmacotherapies may be low. Long-acting injectable drugs such as Vivitrol may have greater compliance.

- Naltrexone is less effective in maintaining abstinence.
- Disulfiram can produce a very unpleasant reaction including flushing, nausea, and palpitations if the patient drinks alcohol.
- The utility and effectiveness of disulfiram are considered limited because compliance is generally poor when patients are given it to take at their own discretion.

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7.5 Internet-based Brief Interventions

Purpose and objectives. Computerized and web-based interventions for persons with substance misuse problems have increased in popularity with the growing availability and use of computers. The use of computerized interventions presents an opportunity for broad dissemination and improved access to services (Copeland and Martin 2004; Cunningham et al. 2005). These interventions are highly automated, non-resource intensive, and have the potential to reach large audiences in a convenient and timely fashion (Kypri et al. 2003; Riper et al. 2009; Bingham et al. 2010; Webb et al. 2010). In addition, with the exception of costs for program development, the typical cost associated with staffing and the requisite training to deliver the intervention is nominal and/or non-existent.

Internet therapies are accessible to a large segment of the population and can be a convenient option for those who may have difficulty accessing programming due to geographic location, time, or childcare constraints (Gainsbury and Blaszcynski 2010; Khadjesari et al. 2010). Another benefit associated with computerized or web-based applications relates to the level of openness and disclosure among subjects regarding their alcohol use patterns.

Online programs can also help ensure the consistent delivery of interventions as the material and content is identical for all of those who access the program (Noell and Glasgow 1999;

Carroll and Rounsaville 2007; Newton et al. 2010). Web-based interventions have the ability to be efficient – when changes to content are needed they can be implemented uniformly and immediately (Vernon 2010).

General effectiveness. There has been a growing body of research that examines the effectiveness of computerized or internet-based brief interventions designed to reduce alcohol use among a variety of populations. It is important to recognize that the effectiveness of these interventions with criminal justice populations generally, or impaired driving offenders specifically, has not been investigated and research on this application could not be located.

Web-based delivery may enhance the implementation of brief alcohol interventions. Studies have noted that there is great potential for web-based interventions to encourage changes in behaviours such as alcohol use (Pemberton et al. 2010). For example, Bendtsen et al. (2011) conducted a review of 85 studies (with a total sample of 43,236 subjects) and found that a variety of electronic screening and brief alcohol interventions showed small but significant effects on risky drinking behaviours for various age groups. Also, Rooke et al. (2010) conducted a meta-analysis and found that web-based interventions can be a cost-effective means of addressing uncomplicated substance use and related problems among adolescents, young adults, and adults (30+). Vernon (2010) notes that computer-based interventions for alcohol use designed for the general public are relatively new, rare, and scarcely studied. This would include programs targeted at an impaired driver population.

Staff training requirements. Staff training will depend on the computerized and web-based interventions utilized.

Mechanism of delivery. The computerized and web-based interventions can be delivered at the same time other interventions would take place. The only difference would be that the delivery will be by computer and not by a clinician.

Strengths and weaknesses.

Strengths:

- Highly automated.
- Convenient and can reach large audiences.
- Opportunity for broad dissemination and improved access to services.
- Consistently delivered and uniformly implemented.

Weaknesses:

- Could limit interaction with clinicians.
- Initial costs of purchasing multiple computers and training staff can be expensive.

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7.6 Summary

There is a range of treatment interventions that have been shown to be promising or effective in reducing recidivism among impaired driving offenders. However, each of these strategies rely upon different levels of resources, staff with different backgrounds and qualifications, different amounts of time, and have varying levels of cost. In addition, some interventions are more easily implemented and delivered than others. Perhaps what is most important is that efforts are made to best match interventions to the individual risks and needs of each offender.

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