PREVENTION RESEARCH QUARTERLY

DRUG INFO
www.druginfo.adf.org.au

AUGUST 2011 NUMBER 14
ISSN 1832-6013

Information and communication technologies in reducing alcohol and other drug-related harms

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In 2009 it was estimated that over a quarter of the world's population used the Internet and that five billion people owned a mobile phone. Over 65 per cent of Australian households have Internet access and 90 per cent of 16–29 year-olds use the Internet daily.[1]

The integration of the Internet and wireless technologies into everyday life has greatly expanded opportunities for service providers to cost-effectively reach greater numbers of people. Information and communication technologies (ICT) are increasingly preferred methods of providing and accessing health information and treatment, and appear to be of particular appeal to younger populations. There is a growing body of evidence supporting the use of online and technology-based interventions for reducing harms related to alcohol and other drugs (AOD), including the potential to access new and difficult-to-reach populations.

This paper provides a summary for AOD practitioners of ICT best practice in preventing and reducing AOD-related harms. In addition to a review of the relevant literature, views of key informants were sought and current examples of ICT implementation in the field are provided. The paper concludes with practical strategies for development and implementation and expected ICT future directions.

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Information and communication technologies for alcohol and other drug-related harms

ICT refers to an electronic means of storing and sharing information, such as the Internet, email, short message service (SMS) texting and wireless connections. Within the health field, Internet and mobile technologies are widely used from managing data and using electronic health records, through to delivering interventions at both the population and individual level.

The efficacy of ICT has been demonstrated in treating a variety of mental health issues, including mood, anxiety, sexual or adjustment disorders, as well as relationship issues, headaches, gambling concerns, and eating disorders.[2–8] Reviews of the

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The research in this publication represents work done on behalf of *DrugInfo* by Simone Rodda, Angela Harney, and Professor Dan Lubman.

The work of the authors was supported by a Reference Group that included key stakeholders: Francesca Lace, Department of Health; Isaac Reid, Department of Health; Eddie Micallef, Ethnic Communities' Council of Victoria; Nicholas Orchard, VACCHO; Ray Stephens, Moreland Hall; Sarah Jaggard, Australian Drug Foundation; Cindy Van Rooy, Australian Drug Foundation.

DrugInfo is an initiative of the Australian Drug Foundation and the Victorian Government.

AOD and ICT literature have shown promising outcomes in delaying the age of first use, reducing alcohol and drug consumption and/or preventing risk. These include decreasing alcohol consumption in adults[7, 9–11] and young people,[12] within primary care,[13] at work,[14] as well as reducing substance abuse.[12, 15]

The following section describes types of ICT including websites, self-assessment, moderated forums, self-directed therapy and e-counselling. It also includes a summary of the research literature as relevant to primary prevention, harm reduction and treatment. The technology available to deliver programs is changing quickly, however it is hoped that this paper will provide a snapshot of what works and the importance of incorporating ICT into service delivery. As such, a series of case studies and practical approaches for integrating emerging developments into current practice is included.

Health promotion websites

The most predominant use of ICT for primary prevention is through the wide variety of health promotion websites. Harm reduction and health promotion websites are generally operated by government or not-for-profit organisations and are especially common for youth related issues. Web resources may be AOD specific, part of a broader youth health or mental health promotion site, or be operated by agencies that also provide counselling and treatment services.

Sites aimed at young people, people who use AOD, or their families and friends, provide a wide range of education materials and tools. These include information on substances and their health effects, consumption statistics, strategies for quitting or cutting down and relapse prevention. Websites are also progressively incorporating varied and interactive modes of content delivery, using multimedia and "social media" as a means of promoting harm prevention messages.

Social media are web-based or mobile technologies that are interactive and enable content to be created and exchanged within communities. These technologies include video sharing, blogs, and social networking services. Internet users, and young people in particular, are no longer just consumers of information but are active contributors of content. Websites such as YouTube allow people who use AOD to post a video accessible by anyone in the world using the Internet, while "wiki" type sites enable communities to collaboratively write, edit, and link documents and web pages. Social networking services (SNS) such as Facebook and Twitter are online services that allow an individual to manage a profile and communicate between a selected group of users at specific websites.[16] This technology's potential for promoting harm reduction messages is particularly significant since it is estimated that 97 per cent of Australian 16–24 year-olds own a mobile phone with almost all using social networking services on a regular basis.[1]

There are many Australian examples of youth-focused health promotion and harm reduction websites. The online resource **www.tuneinnotout.com** includes drug and alcohol information and provides access for young people to relevant podcasts, videos, peer-developed content, and blog articles as well as enabling people who use AOD to comment and create their own site content. Similarly, the Australian Government's *Don't Turn A Night Out Into A Nightmare* campaign (**www.drinkingnightmare.gov.au**) aimed to encourage teenagers and young adults to think about their choices about drinking alcohol. Along with an information website, the campaign included a Facebook page with videos, photos of campaign events and an interactive game (**www.facebook.com/nationalbingedrinkingcampaign**). Also covering topics related to AOD, the ReachOut.com web-based initiative (**www.reachout.com.au**) provides information and support to help young people improve their understanding and response to mental health issues and includes blogs, a peer forum and a YouTube channel.

Online approaches to AOD prevention and health promotion are relatively new and evidence about their efficacy is somewhat inconsistent. A recent review of web-based interventions for problematic use of AOD in young people found that interventions to prevent the development of alcohol-related problems in those who do not currently drink appear to have minimal impact.[12] However, web resources can widely disseminate information, potentially reduce stigma and increase access for young people who may need support, but either do not yet recognise the need or are not ready to seek professional help. For example, an evaluation of the cannabis and mental health site, **www.highsnlows.com.au**, found that 40 per cent of visitors over a five-month period were seeking information for the first time.[17] The ReachOut.com website received over one million unique visitors in 12 months. Additionally, a survey of over 1500 site visitors indicated that 71 per cent were experiencing high levels of psychological distress, but that almost half this group (47 per cent) did not report they were visiting the site looking for help,[18] suggesting that young people may be using the site to better understand their issues and options.

Health promotion websites and online resources appear to be useful components for AOD use prevention programs for adolescents and young adults. The attractiveness of ICT does however introduce risk to both client and provider. Websites often contain information that is not evidence based. A study by Eysenbach and Kohler observed participants searching for health information and found few participants recalled the website that provided them with the information.[19] People are unlikely to differentiate between good and not so good sites in terms of information provided. Whether this is harmful to the individual is not

yet known but providers should aim to provide evidence-based information that is referenced and contained within a professionally branded website (for more information on developing ICT for AOD see page 9).

Self-screening and assessment websites

Early screening and brief interventions to motivate behaviour change are effective and widely used methods in addressing AOD use, particularly in adolescents and young adults.[20] Online information and service provider websites are increasingly using secondary prevention interventions such as screening and assessment, and feature existing or adapted tools for self-scoring AOD use or mood. They provide information for self assessment (i.e. know the signs of a problem), and may use assessment tools as a component of sign-up to a program. The tools and "quizzes" encourage interaction with the website and greatly increase the reach of the assessment material. Well-utilised websites can screen large numbers of people, as demonstrated by the **www.alcoholscreening.org** site, which has tested the risky drinking behaviour of over one million people.

After answering questions or a quiz, the type and level of interaction with online screening and assessment varies. The client may manually calculate a score, enter data where a score is computed, or receive a summary score, personalised/normative feedback (where test norms are presented the person can then see where they fit against the rest of the population) or feedback with options. Online tools frequently make use of visual aids and animation to present this advice, and the options offered may include suggestions on what to do next, other modules to complete or options for treatment. Generally, results are available immediately or are emailed to the person.

CASE STUDY 1

Online youth health information with question and answer forum

Somazone: www.somazone.com.au
Australian Drug Foundation

About the program

Somazone is an online resource for young people aged 14–18 years, providing information and support for a range of health and wellbeing issues including mental health, relationships and AOD use. First launched in 1999, the website includes fact sheets, a searchable service directory, advice and links for getting help, a shared stories section and a question and answer (Q&A) forum.

Outcomes, ICT and harm reduction

Young people can anonymously submit a relevant personal story to *Somazone*, or ask a question which is answered by a volunteer health professional and published on the site in 1–3 weeks. Site users can also comment on stories and email pages of interest via the "send to a friend" function.

- The Q&A forum can be searched by categories such as "drugs", which includes information listed by substance type and topics such as "quitting and cutting down".
- Youth participation and organisational partnerships are key features; young people were involved in the original development of the site and provide the majority of content, and partnerships with other organisations provide expertise and support.
- There have been over 400 000 visits to the site in 2010, with around 25 per cent from Australia.
- Marketing includes other website links, postcards/promotional material, search engine optimisation and Google AdWords.

Challenges and considerations

Somazone covers sensitive topics and moderation is important. Guidelines are used to try and balance retaining the contributors' own voices and language, while ensuring relevance for other young people and preventing publication of inappropriate material.

Young people, like many Internet users, are increasingly using and expecting up-to-date sites and instantaneous communication (e.g. Facebook updates). While *Somazone* does not provide an immediately responsive experience, it is consistently updated and improved and is still highly interactive, using a delayed publication approach that minimises costs and potential for risk.

CASE STUDY 2

Online screening and intervention

The OnTrack program: www.ontrack.org.au
Institute of Health and Biomedical Intervention, Queensland University of Technology (QUT)

About the program

OnTrack provides online psychological treatment and resources for Australian adults experiencing a range of mental health and wellbeing issues, including risky drinking and low mood. The website includes information sheets, help-seeking advice and quizzes about drinking and mood. Treatment programs use motivational therapy and CBT, can be guided by clinicians or self led and can be accessed for free, at any time and in any sequence.

Outcomes, ICT and harm reduction

- Quizzes provide tailored feedback and can be accessed without user registration.
- The intervention programs use therapeutic strategies found to be effective in trials of face-to-face treatment and remote therapy such as postal correspondence[e] and are currently being evaluated.
- Over 10 000 people have visited the site including 300 practitioners.
- Site users with quiz scores indicating a high risk of alcohol dependence and/or more severe mental health issues are advised to seek clinical supervision.
- Early findings from the alcohol programs indicate positive changes in drinking behaviours, with some people benefiting from only minimal use of the program activities.

Challenges and considerations

While remotely-delivered mental health and AOD-use treatment has the potential to avert risk through early detection of problems, it also raises concerns about responding to risk and crisis. This site provides crisis support contact details, obtains contact details of users at program registration and advises clinical supervision where appropriate.

A challenge for this, and many online programs, is to maintain and increase engagement with the site particularly, via clinician referral. As use of online therapies are promoted, and geographic and socio-economic barriers to Internet access reduce, there is an opportunity to reach large populations of people, many of whom may not have other means to access psychological treatment or support.

e. See program website for list of relevant research: **https://www.ontrack.org.au/web/ontrack/about/previous-research**

Research suggests that the presentation of online tools in either active or passive platforms influences AOD client outcomes. Personalised feedback has been found to be more effective than education/information alone,[21] and more effective than online assessment (e.g. collecting baseline data prior to an intervention) without any feedback.[22] Motivational interviewing techniques are commonly used in face-to-face assessments and the inclusion of these elements in online personalised feedback programs has also shown positive outcomes. The *Check Your Drinking* (**www.checkyourdrinking.net**)[21] and *Drinkers Checkup* (**www.drinkerscheckup.com**)[23] online assessments have shown effectiveness in shifting readiness to change and willingness to consider treatment. Human interaction may improve outcomes of Internet-delivered programs, however the provision of a personalised guide to re-present self-assessment data has also been shown to be more engaging than text-based responses.[24] In the future, personalised motivational feedback may be more often delivered via digital guides than as text or images.

As well as increasing access, online screening and assessment tools using personalised feedback may be particularly attractive to younger groups and to people uncertain whether they want to change or engage in treatment. Research involving almost 30 000 people was conducted with users of the online *QuitCoach* program (**www.quitcoach.org.au**), which offers tailored feedback and advice for smoking cessation. The study showed online service users were younger, less nicotine dependent and less likely to have already quit when compared with users of the Victorian Quit telephone helpline.[25]

Moderated forums

The development and use of online spaces for discussion and advice are utilised by both clinicians and the community. Moderated forums, also called message boards, communities, peer-to-peer or Internet support groups, can provide peer-to-peer stories or information, operating as a stand-alone site or with psycho-education materials provided on the website, email support or structured self-help programs.[26] In this way, they may be considered health promotion resources, secondary prevention or a treatment modality, depending on the type of board and activity of the person using AOD. Usually a sign-up is required to post information or engage in discussion, although they are commonly open access and allow unregistered viewers or "lurkers".

Recognising that Internet-delivered interventions are attractive to those experiencing barriers to face-to-face treatments (e.g. shame and stigma, or geographical isolation), moderated forums for alcohol use have been developed (e.g. **www.alcoholhelpcenter.net**).[27] Posts within this Canadian forum include specific strategies (e.g. urge management), success stories and general encouragement from the moderator and peers. Over the first nine months of service, 155 members had joined the site with about one-third posting messages. Moderators encouraged member activity by initiating threads with questions and educational content.

There are a range of potential risks arising in discussion forums, particularly where submitted comment appears on the message board immediately. Typically a professional moderates the forum to ensure posts adhere to organisation policies, such as excluding identifying information, abusive or offensive messages and excluding and responding to suicidal posts.

One of the largest forums relating to drug use was initiated in the harm reduction community and moderated by peers. Bluelight (**www.bluelight.ru**) is an international message board, which includes Australia-specific content, and aims to educate the public about responsible drug use by providing information and promoting free discussion. It is an anonymous space and people actively taking drugs can talk to each other about harm reduction and receive accurate information from a range of sources that is easy to understand. The site has a Wiki project, blogging access, is optimised for smart phones and has a presence on Twitter. While it is not an example of ICT application by service providers, it is a source of information that is frequently visited for information on new drug trends and current concerns by a broad range of people who use AOD.

Evidently, online forums and other applications of social media may evolve from the wider community or be initiated and delivered by organisations. The creation of online communities has begun to be harnessed in diverse ways by the AOD and health sectors, such as the blog sharing sites *Between the lines*, a drug discussion site (**www.betweenthelines.net.au**) and *Hello Sunday morning*, an alcohol reduction campaign (**www. hellosundaymorning.com.au**). The latter began as one individual's blog about not drinking for a year and is now a health promotion charity and online community. While there are thought to be positive benefits of peer-led forums and SNS for promoting harm reduction messages, such as a degree of credibility with young people and/or people who use drugs, there does appear to be a role for organisations to engage with these technologies.

While many professionally moderated and open non-moderated forums operate, research on their effectiveness is still developing.[26] Initial research suggests that forums may have better outcomes if people who use AOD are encouraged to discuss behaviour-change and strategies rather than focusing on symptoms.[28] They may also be a useful adjunct to other treatment modalities such as providing post-treatment support for face-to-face AOD programs.[29] Although evidence on the efficacy of using social media for health promotion and intervention is still limited, and some risks may exist for organisations relating to online discussion of illegal drug use, it has been noted that there is great potential for improved use of forums, message boards and chat rooms for health promotion and harm reduction.[30]

Wireless and mobile technology

Mobile phone applications and SMS are increasingly being applied as tools for health promotion, harm reduction and therapeutic intervention. Text messages are used both as unidirectional and interactive communication for providing reminders of appointments or medication compliance, advice and information. Health promotion and cognitive behavioural therapy-based messages can assist in relapse prevention or increase engagement in self-guided programs.

SMS text messaging for appointment reminders is usually delivered by a provider using an online platform and has been found to be a cost-effective way of improving appointment attendance.[31,32] In an Australian youth mental health outreach setting, an audit of SMS exchanges between the client and therapist was helpful in arranging meetings and maintaining contact, while real-time plans and "micro co-ordination" assisted face-to-face meetings.[33]

Evidence of the efficacy of SMS for health behaviour change and clinical care is growing but rigorous evaluation studies are limited.[34,35] Preliminary research emphasises the influence of

using SMS messages that use tailored content and interactivity to improve effect. A New Zealand smoking cessation study indicated positive longer-term outcomes for young people who received personalised messages about managing their urges, relaxation strategies and general health. Messages were sent over 26 weeks with intensive then decreasing frequency. The intervention group had reduced lapses and a higher overall quit rate at completion.[36]

Of interest, use of SMS for sexual health promotion research also indicates potential for behaviour change. An Australian randomised controlled trial of a 12-month intervention delivering sexually transmissible infections (STI) prevention slogans via SMS and email to young people, reported improved STI knowledge in both sexes, increased STI help-seeking and testing in women, but no impact on condom use.[37] While further evaluation is needed, SMS health promotion and support messaging appear low-cost, readily received, and convenient methods with potential for reducing drug and alcohol-related harms.

The text-tips approach is being used by a range of websites and services. The **www. meth.org.au** self-help website for young people using methamphetamines enables subscribers to receive SMS-delivered tips at a nominated time of the week on topics such as harm reduction and remaining abstinent. Similarly, the Reach Out site offers SMS tips for issues such as stress management during exam periods.[38] However, these services found there was low uptake of the text tips relative to the number of website visitors. The use of this potentially effective health promotion technology may be supported by peer workers and mobilisation programs. For example, young people at the Big Day Out music festivals registered and received educational messages about sexual health. Recruitment at these events is high, as is program retention.[37,39]

CASE STUDY 3

Use of mobile phones and interactive software in primary care

Mobiletype: The Mobile Tracking of Young People's Experiences (www.mobiletype.com.au)
Murdoch Childrens Research Institute

About the program

The mobiletype program is a mental health assessment and management tool for young people aged 14–21 years. Electronic diaries downloaded onto mobile phones are used to monitor wellbeing. Participants are sent daily prompts to answer questions about their current activities, moods, experience of stress, depression and use of alcohol and cannabis. The real-time data is sent to a secure website, responses are collated and the participant's treating doctor receives a feedback report for use with the young person at their next appointment.

Outcomes, ICT and harm reduction

Young people may have some reluctance to communicate face-to-face with health professionals. Early program trials indicated that using momentary sampling or "real-time" data collection on mobile phones was feasible with young people, had relatively good response rates and diary completion, and some participants showed decreased signs of depression and anxiety.

Early reports from the current RCT trialling the program in primary care indicate:

- General practitioners generally felt the program saved time and enabled cost-effective collection of large amounts of patient information.
- Many young people felt better understood by their doctors and responded positively to using the program and to the process of self-monitoring.

Challenges and considerations

Mobiletype is a trial and challenges include longer-term funding and investment if wider use by GPs and allied health professionals is to be supported. Feedback from participating GPs appears positive however initial willingness and engagement of health professionals may also be a challenge.

While the current program does monitor alcohol and cannabis use, mobile data collection may also be applicable for more intensive AOD treatment such as additional monitoring and tracking of pharmacotherapy use and medication compliance, and behavioural responses and triggers.

Self-monitoring can raise awareness of behaviours and may lead to behaviour change. Smart phone applications and SMS have been found to be reliable methods of monitoring behaviour.[40–43] A range of drinking-related applications that track alcohol consumption are now offered for smart phones**.** Features may include being able to monitor expenses, compare drinking patterns with alcohol-use guidelines, calculate blood alcohol levels and utilise global positioning system (GPS) applications to assist with getting home or finding a taxi (see further information on page 10 for examples). While applications and novel interventions are likely to engage more people, there is a risk that the intervention becomes a game or challenge that may cause harm. To protect the individual, programs should be evidence based and unintended consequences should be explored.

Self-guided interventions

Self-guided programs are evidence-based treatment modules usually involving assessment, motivational interviewing and/or cognitive behavioural therapy (CBT). These programs are commonly delivered across 4–6 sessions via the Internet or as a computer-based resource (e.g. DVD). The efficacy of self-guided interventions with or without support has been demonstrated by numerous randomised controlled trials for a range of issues including anxiety,[4] depression[6] and risky drinking.[44] Generally, support provided by a clinician, coach or administrative staff has better outcomes than no support.[3] While self-guided interventions are showing efficacy as stand-alone programs, clients perceive support as important,[45] and it may have better long-term outcomes for addictive disorders.[46] Support might be provided via the telephone, email or peer-support via moderated forums.

Programs typically provide modules for assessing the problem followed by preparing and implementing change. For example, a United Kingdom (UK)

program called *Down Your Drink* (**www.downyourdrink.org.uk**)[47] combines a three-phase program that starts with decision making (e.g. costs and benefits of current behaviour, assessment and normative feedback). Phase two reflects the action stage of change and incorporates a drinking patterns diary and cognitive approaches (e.g. identifying triggers). The final phase focuses on relapse prevention including cravings, dependence and lapses.

Self-guided interventions may focus on single and dual issue treatment.[48] Self-guided interventions have shown equivalent efficacy compared to face-to-face treatment in treating alcohol and/or cannabis and depressive symptoms at 12-month follow-up.[48] In this latter study, participants completed an Internet-delivered brief intervention for depressive symptoms followed by either face-to-face or Internet-delivered treatment for alcohol and/or cannabis.

Modules may also be incorporated into regular treatment to ensure clients receive the most up-to-date evidence-based treatment. Research has shown that clients are positive about self-directed modules and may gain access to content that may have been missed in generalist counselling.[49] For example, an early intervention program **www. moderatedrinking.com** found the addition of modules to online or face-to-face groups reduced alcohol consumption and increased the number of abstinent days.[44]

Self-guided interventions are also used in school-based drug education programs and may include teacher discussions of materials. Programs only providing information have been found to be less effective in reducing use than interactive programs on social competence and/or including harm reduction information.[20] In Australia, the CRUfAD Schools program (**www.crufadschools.org**) provides online alcohol and cannabis education, combining computer-based and classroom activity components around issues such as alcohol and the law, consumption, consequences and problem-solving. Subsequent evaluations demonstrated that when compared to those students completing normal health classes, students undertaking the CRUfAD Schools program had significantly better alcohol and cannabis knowledge and a reduction in average weekly alcohol consumption and cannabis use at six-month follow-up.[50,51]

Programs are often delivered with multiple ICT platforms. Computer-based parenting programs have included CD-ROM type education materials[52] and more recently, information websites with video instruction. A new Australian web-based prevention program targeting adolescent alcohol misuse, **www. parentingstrategies.net**, provides parenting guidelines (using an online survey and personalised feedback) and a tailored web-based intervention endorsed by longitudinal research evidence and expert consensus.

E-counselling

E-counselling includes synchronous and asynchronous counselling that may provide early intervention through the provision of information, advice or counselling. Many websites provide question-and-answer information or counselling via email.

Email is a common method of providing contact between a program and a client. It is used across the spectrum of Internet-delivered programs, from requests for information, support within a self-help program (either from a clinician or administrative support), sending information to clients (automated or individually constructed) through to a stand-alone email counselling program.

Email is referred to as asynchronous as both parties do not need to be in the same room at the same time. This mode removes barriers such as geographic location and allows the possibility of the same counsellor at every interaction. There are often limits to the number of contacts/emails (e.g. **www.kidshelp.com.au** recommends other counselling after four email contacts), but usually there are no limits when there is a fee for service. Despite the proliferation of Internet-delivered interventions without therapist involvement, people prefer to have support if using a website.[45] In an online survey of AOD websites, participants reported email support was their preference followed by a website with face-to-face support.

Along with email, e-counselling is currently provided in an immediate "chat" mode. Synchronous chat is characterised as exclusively text-based where both client and counsellor are in the same virtual room (similar to instant messaging). The majority of programs can be accessed anonymously or registered where the person may have access to counselling transcripts at follow-up sessions. Similar to telephone help lines, clients usually do not have the same counsellor unless it is a private provider.

Many services provide immediate access to a counsellor (e.g. *Kids Help Line* or *Counselling Online*) or by appointment. There are many free synchronous programs offered in Australia and Europe. These services are usually positioned with a complementary helpline and similarly provide information, counselling and referral.

Research is yet to demonstrate whether text-based therapy works the same as face-to-face treatments. However, client demographic and usage data suggest that this mode of service delivery is attracting a new cohort of treatment seekers. Swan and Tyssen reported that the AOD-focused *Counselling Online* service **(www.counsellingonline.org.au)** had a high rate of young, employed and female clients with highest demand on weekends and outside business hours.[53] Whether online treatments

CASE STUDY 4

Real-time text-based counselling

Counselling Online: www. CounsellingOnline.org.au
Turning Point Alcohol and Drug Centre

About the program

Counselling Online provides real time text-based counselling for anyone affected by an alcohol or other drug issue. Launched in 2006, it has attracted over 200 000 people to the website from Australia (70 per cent) and internationally (30 per cent). Over 14 000 people were connected with a professionally trained counsellor within a couple of minutes, with an average talk time of around 30 minutes.

Outcomes, ICT and harm reduction

A 2010 evaluation of Counselling Online found high rates of young females accessed the service. Compared with DirectLine (a telephone-based counselling service), there were higher rates of contact after-hours (65 per cent compared with 35 per cent) with a preference towards anonymous contact (75 per cent). Around half of all contacts were associated with alcohol use with 15 per cent reporting cannabis as the drug of concern.

A client survey of a similar program for gamblers provided by Turning Point found that online counselling was valued as:

- easy to access—immediate, 24/7, from the comfort of home
- easy to talk—less tension and shame and easier disclosure
- easy to do privately—fewer interruptions, anonymous, confidential.

Challenges and considerations

Approximately 7 per cent of Australians who visited the site engaged in an immediate counselling session. For some, Counselling Online provides a means of discussing treatment options or engaging in an immediate intervention. While some who visit the site may proceed to community-based interventions, there is an opportunity to engage greater numbers in lower level interventions to reduce harm or increase readiness to engage in treatment. This could include integrated mobile applications that deliver self-help, peer support or monitoring as well as easy escalation to a counselling session.

are as effective as face-to-face is often asked by clinicians and funding bodies. Studies have shown that therapeutic characteristics such as conveying warmth, empathy and trust can be developed in an online environment.[54] E-counselling potentially addresses some of the barriers to treatment (e.g. structural factors such as geographic location or individual barriers such as shame or stigma) and provides an alternative or adjunct to traditional services.

Summary

Outcome-based studies reviewed above suggest self-assessment and self-guided modules can be effective in harm reduction and prevention of AOD harm. However, health promotion websites and newer technologies such as smart phone applications have limited evidence of efficacy. While there is a growing body of research on Internet-delivered interventions to reduce AOD use, many of these are process studies (e.g. treatment satisfaction, usage statistics, demographic characteristics) rather than demonstrating that the program elicits change.[55]

Evidence for ICT-related primary prevention programs is somewhat inconsistent. However, a range of primary prevention approaches have shown promise and indicate positive effect on AOD use intention and behaviours, providing good principles from which to work. In particular, interventions that can maintain the program over a longer time and include more than one type of strategy, such as social marketing or parental involvement, have shown the most success.[52]

From a consumer perspective, the anonymity of many health promotion online services can reduce the stigma or embarrassment associated with seeking help, and anonymous online therapy can facilitate faster and more extensive disclosure. In this context, online programs are being accessed by groups under-represented in traditional services such as young people, women and populations with less severe psychopathology.[7]

Developing information communication technologies support for alcohol and other drug use

From a provider perspective, ICT is often more cost-effective because large numbers of people can be reached, support can be provided at a distance and in places where services are not available.[56] However, developing an ICT project involves some key steps that are unique to this modality. Areas such as determining geographic reach and program functionality are described below for consideration when scoping out the project.

Clarify program goals. Determining what you are trying to achieve and who you are trying to reach is essential to understanding the type of technologies, if any, that may be successfully applied. For online resources and interventions, understanding program requirements before approaching a web developer saves time and money. For example, if the goal is to improve care following a residential program, then a closed moderated forum might be a relatively inexpensive option to develop and operate. However, if the scoping identifies a requirement to track a client through multiple components of a website, such as their use of message boards, self-help material and email support, then the technology is significantly more complex and expensive. If the goal is to develop an online presence, then social media or SNS provide a relatively basic, low cost option.

Review the evidence and gain consumer input. Together with a literature review, an environmental scan can provide information on similar websites and their use of technology (e.g. email or chat), branding (e.g. images, program name), terms and conditions (e.g. program specifications), language used (e.g. sign-up or register), and the availability or existing gaps of current service provision (e.g. opening hours).

Consulting the target population is an important process to clearly identify their information and service needs. Focus groups can be employed to ensure that the site provides meaningful content and is presented as a brand that will be engaging and trusted. They can assist in determining people who use AOD's preferences for the service name, logo design and tagline. In addition, consultation can provide input on site features and functionality as well as the format, depth and type of content that should be made available.

Consider geographic reach. The reach of ICT programs is global and limited only by funding arrangements and the type of service being provided. It is possible to limit service access to a specific population (e.g. password required for sign-up) or by geographic location (i.e. can block by IP address at country level) depending on the goals of the program and funding arrangements. Programs may be accessed anonymously or require some version of sign-up if the characteristics of people who are using AOD are of interest (e.g. anonymous users may have limited access to programs, therefore signing up has benefits).

Programs that do not involve human resources, such as unassisted self-help materials or screening tools, may draw larger populations without increasing operating costs if not branded as a location-specific program. Programs such as synchronous counselling require people to deliver the program. Dissemination of such programs may be restricted to delivery within the area of the funding body.

Make content accessible to the target market. The design, content and technology used should be appropriate for the needs and preferences of the target audience. In general, the language should be simple and include short sentences so that content can be read quickly and easily.

CASE STUDY 5

Alcohol and other drug agency's web presence and use of social media

Uniting Care Moreland Hall www.morelandhall.org

About the program

Uniting Care Moreland Hall is a Victorian non-profit agency providing alcohol and other drug treatment, education and training. They have initiated and operated online projects, including the Heads Together social network for the AOD sector, and the Bluebelly online community for sharing methamphetamine harm reduction information.

Outcomes, ICT and harm reduction

Moreland Hall also utilise social media and are currently developing the agency website to increase its interactivity and usefulness, including: a question and answer section, an email contact form, feedback form, ability to comment on news items or share them via email or SNS.

- Online engagement is part of the organisational communications strategy—newsletters and media releases are posted on the website with updates and links via SNS.
- The website's Q&A feature is a small, safe type of interactivity which has provided an additional contact point and useful feedback via the types of questions being asked by the community.
- Facebook engagement is basic, mainly used for communicating news to stakeholders and current/potential or ex-service users.
- Twitter is very active, has been effective for sector communication, building networks and for communicating about and from, conferences and events.

Challenges and considerations

A current focus and challenge is to continue making the organisation's online presence up-to-date and more interactive. Social media generally requires little time or cost however the options and forms are diverse. Moreland Hall is developing a strategy to clarify their aims and interests to more effectively target and engage with different online mediums and audiences.

There are potential risks involved in using the immediate communication of SNS while representing the organisation. Moreland Hall attempt to incorporate SNS into usual processes for external communication, and are developing a specific policy to guide behaviour and expectations.

Professional development in writing for the web is offered on- and off-line by organisations such as Vision Australia.

Given that mobile phones are increasingly used to access websites, organisations should consider mobile optimisation which makes the website easier to view from a mobile (e.g. **m.headspace.org.au**) but significantly reduces the content. This adds to the cost of building a website but may be an intermediary step between a website and smart phone application (e.g. **www.drinkcontrolapp.com**).

A recent survey of people who had previously accessed AOD websites, explored what people wanted in an AOD online program.[45] Information related to the effects of AOD was most often searched for with just over half finding the information that they were seeking within 5 to 15 minutes. Over 80 per cent of respondents said websites should be easy to navigate, available without registration, provide the right amount of information with the ability to download or print information, and pictures and graphics were rated as important interactive features. Being able to ask a question was rated as important whether through posting anonymous questions via a comments section or message board, access to a chat room or a frequently asked questions section.

Engage a range of internal and external expertise. A partnerships approach to website and resource development was highlighted by key informants and may be especially relevant for smaller organisations. Internal or external partnerships are likely to be required for IT expertise, but may also be useful for assistance with developing or sharing specific website content (e.g. evidence-based fact sheets), understanding the target audience or approaches to writing for the web. Building partnerships, including informally via social networking, can help identify current best practice in the field, share ideas on innovative social marketing and promotion activities or assist in resolving technical issues.

Review relevant operating standards. These are usually determined by the geographic location and type of service (e.g. website, counselling). Privacy legislation should be considered, especially if collecting or storing identifying information or health information records (see for example Rippen & Risk;[57] Whitehead & Proudfoot[58]). Applicable standards for the provision of online and wireless therapeutic interventions may include:

- Australian Psychological Society (APS) (2008) *Guidelines for providing psychological services and products on the Internet*[a]
- Victorian Government (1999) *Guidelines for the development of online counselling and crisis management services*[b]
- American National Board for Certified Counsellors (NBCC) (2006) *Standards for the ethical practice of Internet counselling*[c]
- The Australian Government's adoption and implementation of *Web Content Accessibility Guidelines version 2.0 (WCAG 2.0)* which provides guidelines for improving website accessibility and usability.[d]

These guidelines suggest that online services should provide information about the organisation's privacy and confidentiality protocols, emergency contacts, clear advice to guide people who use AOD 's expectations and behaviour, and evidence of efficacy or effectiveness.

Develop administrative website content. Sometimes left to last, the program terms and conditions can be time consuming and may require external expertise (e.g. legal advice). Websites may also include information on practitioner qualifications, working with minors and accurate and transparent information on who is funding and operating the website.

Other things to consider are that there is a time stamp for the last update, and the website content should meet readability standards in its appearance and design.

Budget for program maintenance. This includes updating content, site moderation and content management and should be costed at the planning stage. After setting up programs it is tempting to believe that no further work is required. It is common for links, pages and website functionality to break connection with the linking site. Social Networking Services (SNS) and other interactive applications need to be kept "live" and updated, and forums need to be regularly accessed if moderated. Employees should also be aware of organisational policies around employee risk management and online behaviour (e.g. their use of social networking when representing the organisation).

Tell someone about the service. Think about how and why your audience will know about and make use of your site, application or intervention. The development of online and offline marketing should be considered, and promotion via SNS can highlight a program among the many Internet and/or mobile accessible services. The use of online marketing via a profile page, presence on Twitter or the use of Google AdWords can support more traditional, offline marketing strategies and has considerable potential to increase the use of services and sites. A media release or provision of information to referring websites can assist traffic to the site. These may include the Australian National University (ANU) Beacon (**www.beacon.anu.edu.au**) portal, which provides an evidence-based rating of services.

KEY INFORMANT TOP TIPS

- Clearly define project objectives and target population.
- Research and review the evidence.
- Involve the target audience.
- Understand the range of expertise required.
- Consider external partnerships.
- Plan funding and resources for ongoing maintenance and updates.
- Consider and develop risk management strategies and policy.
- Develop online and offline dissemination and marketing strategies.

Future directions

Research indicates that no single treatment type or modality is equally attractive or accessible to all populations. At the systems level, this requires a range of flexible, less-intensive treatment responses in addition to mainstream counselling options to meet different client needs. Websites, forums, self-assessments and self-guided treatments are increasingly used in primary prevention as health promotion messages, tools of dissemination, data collection and peer communication.

While ICT for anxiety, depression and tobacco cessation now have a considerable body of research supporting their efficacy, demonstrated efficacy of AOD-related

a. Guidelines require APA member login at **http://www.psychology.org.au** or are available via **http://aipa.groups.psychology.org.au/Assets/Files/EG-Internet%5B1%5D.pdf**

b. Guidelines available at **http://www.mmv.vic.gov.au/Assets/569/1/CounsellingOnline.pdf**

c. Guidelines available at **http://www.nbcc.org/assets/ethics/internetcounseling.pdf**

d. Guidelines available at **http://www.finance.gov.au/publications/wcag-2-implementation/index.html**

programs is still in its infancy. Questions that are still to be answered include the best treatment approaches for different target groups across the population, the dose required for an effective outcome and whether telephone or face-to-face interventions improve efficacy.[59]

In the future, it is expected that Internet interventions will play a greater role within a stepped care approach.[60] A client that does not improve via an Internet-delivered program may then proceed to a more intense program offered in a face-to-face environment. However, given that for some people their preference is online treatment, researchers are currently examining how a stepped care model may be fully applied within the online environment. Agency funding and health sector support are required to build and maintain programs and to facilitate stepped care. It is expected that the current definition of an episode of care will be expanded to include a range of ICT delivered programs.

High levels of comorbidity between mental health and AOD issues suggest trans-diagnostic treatments might be helpful. They can target multiple disorders at the same time where the clinical features or maintaining factors are similar and have shown initial promising findings in the treatment of emotional disorders.[61] The Internet is also an ideal vehicle for reaching populations who are unevenly distributed. Culturally and linguistically diverse (CLD) populations can be provided culturally-specific programs with greater reach, and this may be more attractive than what is traditionally offered within face-to-face services.

Consumers have been quick to adopt this new mode of information and treatment delivery and are increasingly taking responsibility for managing their help seeking.[49] In only a few years, the Internet and mobile technology have exponentially increased the community's access to evidence-based treatments and it is expected that smart phone applications and GPS technology will increasingly provide key information on how to improve behavioural outcomes to both providers and individuals. Compared with traditional modes, Internet-delivered interventions allow users greater control over their treatment-seeking and the intensity or level of treatment received, as well as enabling access at a time and place that is convenient and/or when the problem comes to mind.

Within the context of primary prevention evidence, the range of programs and websites offering interactive tools, activities and the creation of communities may be most engaging for young people and most likely to influence behaviours. Internet-delivered programs will increasingly fill gaps in service provision and it's not too late for AOD agencies to get involved. This could be adding a message board to maintain client engagement between sessions, incorporating self-directed modules or employing real-time counselling options to prevent relapse.

Acknowledgements

The authors wish to thank the following key informants for their time and expertise to assist the production of this paper:

David Kavanagh, Queensland University of Technology, School of Psychology and Counselling, Institute of Health and Biomedical Innovation

Sophie Reid, Centre for Adolescent Health, Murdoch Childrens Research Institute

Linda Jenner, Director, LeeJenn Health Consultants Pty Ltd

Atari Metcalf, Senior Evaluation Officer, Inspire Foundation

Monica Barratt, National Drug Research Institute

Rick Loos, HealthLink, Turning Point Alcohol and Drug Centre

Anne Collyer, Program Coordinator, *Somazone*, Australian Drug Foundation

Ray Stephens, Manager Online Projects, Moreland Hall

Further information

Understanding and working with information communications technologies

www.beacon.anu.edu.au provides a portal to health online applications for mental and physical disorders including AOD use. Websites are rated by a panel of health experts based on research into the effectiveness of the Internet-delivered program/website.

www.isrii.org is the website for the International Society for Research on Internet Interventions. The website provides information, program delivery guidelines and has a focus on developing the evidence base for the delivery of Internet interventions.

www.morelandhall.org provides a good example of how web-based seminars can reach greater numbers of people than face-to-face approaches. The seminar also describes how using Web 2.0 can be used to facilitate greater client engagement while reducing harms. The seminar is available at: **http://www.morelandhall.org/index.php?option=com_content&view=article&id=63:seminarseries&catid=14:education-and-training&Itemid=34**

www.reachoutpro.com.au is a professional extension to the Reach Out program. It provides professionals with information and advice on how ICT can be applied to enhance the effectiveness of services to young people.

Alcohol and other drugs and information communications technologies

www.adf.org.au is the website of the Australian Drug Foundation and provides links to a range of its programs and services which provide free, quality-assured information on alcohol, other drugs and harm prevention. It includes information about AOD policy and related debates and updates of latest relevant news.

www.adin.com.au provides a powerful search engine where users can search and get access to quality Internet-based AOD information. The *Australian Drug Information Network (ADIN)* is funded by the Australian Government Department of Health and Ageing and managed by the Australian Drug Foundation.

www.alcohol.gov.au is a website provided by the Australian Government Department of Health and Ageing that includes information and fact sheets on alcohol and health.

www.checkyourdrinking.net is a Canadian site providing information and screening with personalised feedback for alcohol use. It is also offered in the moderated forums provided by the same group at **www.alcoholhelpcenter.net**

www.coldhardfacts.health.qld.gov.au is a campaign site of the Queensland Government providing information and harm reduction messages on amphetamines.

www.counsellingonline.org.au provides free real-time chat, 24/7 to anyone concerned about AOD issues. It is provided by a professional counsellor and is operated nationally by Turning Point Alcohol and Drug Centre.

www.crufadschools.org provides a range of Internet-delivered schools-based programs including alcohol and cannabis use. CRUfAD also provides evidence-based effective Internet-delivered programs for depression and anxiety.

www.den.org.au is the website of the Tasmanian Drug Education Network Inc. and aims to reduce AOD-related harm by providing information and a peer-to-peer forum via **www.tuneinnotout.com**. Forums and the website are targeted at people aged 16–25.

www.drinkerscheckup.com is a US program that provides personalised feedback on assessment for alcohol consumption.

www.drinkingnightmare.gov.au is a game about drinking choices and is part of an Australian Government campaign on binge drinking.

www.druginfo.adf.org.au is a website by the Australian Drug Foundation that provides information about the prevention of AOD-related harms. People can search for information about individual drugs, find resources for clients and for professional development, and find out where to get help.

www.hellosundaymorning.com.au is an Australian website that supports people to abstain from alcohol for three or more months. People can post their goals, challenges and successes via a blog or video blog.

www.justaskus.org.au is a site funded by the Australian Government Department of Health targeted at university students providing personalised feedback via self-assessment for cannabis, alcohol and mental health.

www.meth.org.au is a Victorian site providing self-assessment and information for self-management, as well as options for specialist treatment for methamphetamine-related issues.

www.ontrack.org.au provides self-assessment with normative feedback for depression and risky alcohol use. It also provides a self-guided program for alcohol and depression for the user or family and friends.

www.parentingstrategies.net aims to reduce the incidence of adolescent alcohol misuse by providing parents with evidence-based information. It also provides a tailored intervention for parents.

www.therightmix.gov.au is a website and support service provided by the Australian Government Department of Veteran Affairs targeting ex-service men and women, their families and friends. It provides screening tools with personalised feedback for alcohol and harm minimisation information.

www.wiredin.org.uk promotes community involvement in recovery from AOD use via online and offline community groups.

www.youthcentral.vic.gov.au provides young people with information on AOD provided by the Victorian Government.

Alcohol and other drug smart phone applications

www.slappme.com calculates blood alcohol content (BAC) by gender, age, height and weight via real-time recording of consumption.

www.drinkcontrolapp.com provides real-time tracking of alcohol use and a comparison against country specific consumption guidelines.

www.nhs.uk/Tools/Pages/iphonedrinks.aspx provides alcohol consumption self-monitoring with personalised feedback.

Young people and information communications technologies

www.headspace.org.au provides alcohol-related harm reduction information for young people via their website.

www.kidshelp.com.au is a large provider of telephone and online e-counselling (both immediate chat and email) to young people across Australia.

www.reachout.com.au is provided by Inspire Foundation receiving around 1.3 million site visits per year by 450 000 young people. In addition to information it provides moderated forums and blogs supported by social media.

www.somazone.com.au is a website specifically targeting young people where they can share stories, ask questions and read fact sheets on alcohol and other drugs as well as mental and physical health. Responses to questions appear on the website rather than personalised responses.

Other health-related sites

www.betterhealth.vic.gov.au provides health and medical information to help individuals and communities improve their health and wellbeing.

www.betweenthelines.net.au is funded by the Australian Government Department of Health and Ageing and provides information, a blog and an opportunity for young people to comment on articles relating to drugs.

www.gamblinghelponline.org.au provides free 24/7 real-time chat and an email support with a professional counsellor for anyone concerned with a gambling issue. It also provides tailored feedback for risk of a gambling problem and a self-assessment of gambling spending.

www.moodgym.anu.edu.au is an Australian self-directed program for depression and anxiety. It has been made available in multiple languages and via extensive research shown to be effective.

www.oxygen.org.au is a smoking cessation site targeting young people. Provided by the Cancer Council of South Australia, it provides information and is linked into the state-wide website **www.kickit.quitsa.org.au**

www.quit.org.au is the state of Victoria's smoking cessation program website. It includes information, screening and access to the Quit Coach, email reminders and a cost calculator.

www.sane.org website provides information (fact sheets) and an email information service for mental health. The site hosts campaigns such as "snapshots", which aims to reduce stigma associated with mental health.

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Prevention Research Quarterly

ISSN 1832-6013

Any enquiries or comments on this publication should be directed to the Program Manager (Information Services), at
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