

**CHAPTER 7**

# **BRIEF E-HEALTH INTERVENTIONS FOR ALCOHOL USE AND RELATED- PROBLEMS**

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This chapter provides a description of brief e-health interventions and their role in addressing alcohol use and related problems. The chapter describes common components of e-health interventions and the current evidence base and provides references for current e-health interventions.



## BRIEF E-HEALTH INTERVENTIONS FOR ALCOHOL USE AND RELATED-PROBLEMS

As reviewed in [Chapter 6](#), Brief in-person Interventions are an effective and cost-effective way to reduce alcohol use problems. Despite this, most Australians who experience an alcohol use disorder (AUD) will never receive treatment, and for those who do, the average delay from emergence of AUD to first treatment contact is 18 years. Several barriers may prevent the implementation of Brief Interventions for alcohol use problems, such as: time, access to health professionals trained in brief intervention, lack of resources, cost, and the stigma associated with seeking treatment for problematic alcohol use. But brief e-health interventions (interventions delivered via internet, mobile phone, or computer) reduce several barriers to treatment. Specifically, brief e-health interventions for alcohol use problems are typically one session, can be accessed at the user's discretion, are easy to implement without special training, are cheaper than in-person interventions, have demonstrated good acceptability among people with alcohol use problems, and may reduce some of the stigma associated with seeking treatment. Indeed, among Australians who consumed alcohol in the past year, free online interventions are the preferred form of treatment for alcohol use. In Australia, brief e-health interventions for alcohol use are a particularly promising treatment option given that internet access (89%) and smartphone ownership (83%) is near ubiquitous. Thus, e-health interventions could be scaled up and become a critical tool to reach non-treatment-seekers, hard to reach communities, and younger people who drink (who are the most likely to have access to mobile phones and the internet).

### E-HEALTH INTERVENTIONS FOR ALCOHOL USE PROBLEMS

E-health interventions are those that use the internet, mobile phones, or computers to deliver intervention materials.<sup>1</sup> Most take a similar approach to in-person Brief Interventions and include some form of screening and personalised feedback. Although some components of Brief Interventions are difficult to translate to a digital platform (e.g., empathy), brief e-health interventions contain similar behaviour change techniques ('active ingredients') and the most common techniques used are feedback about drinking, social comparisons to encourage changes in alcohol use in line with low-risk levels, information and feedback about consequences, motivational enhancement and personal capacity for change. To date, most brief e-health

<sup>1</sup> this definition is similar to the World Health Organization's: "the use of information and communication technologies (ICT) for health"

interventions for alcohol use problems have used online computer-based interventions and have been fully automated (i.e., no clinician input). In contrast, despite the promise of mobile applications, there is less evidence supporting their effectiveness.

## **WHO TO TARGET FOR BRIEF E-HEALTH INTERVENTIONS**

Brief e-health interventions are an exciting method for treatment because (1) they can be easily sent out to a large group of people to prevent or intervene early with little clinician engagement (e.g., to an incoming cohort of university students) and (2) they can be used to screen and treat a broad range of people who drink as the feedback can be tailored to different drinking levels. Although they are promising, it is important to note that e-health interventions may be more accessible to certain populations (e.g., those with mobile devices, younger people with greater digital literacy) and less accessible to others (e.g., homeless, elderly people with poorer digital literacy). Furthermore, certain drinking groups may show a greater preference for e-health interventions than others (e.g., those who score lower on the AUDIT prefer e-health interventions compared to those who score higher). However, this is ideal as while there is evidence that brief e-health interventions are effective for treating individuals who are drinking above recommended limits, those who are drinking hazardously, with heavy episodic use, there is less evidence to suggest that they may be an effective treatment option for individuals recovering from AUDs and longer interventions are likely required to treat this additional level of severity of alcohol use problem.

## **WHO CAN DELIVER BRIEF E-HEALTH INTERVENTIONS**

Unlike in-person Brief Interventions, no specific training is required to deliver brief e-health interventions for alcohol use problems, and most are fully automated. Some evidence does exist, however, that larger improvements are associated with brief e-health interventions that incorporate personal support (e.g. emails or text messages from a clinician) and that come from a credible source. There is also some evidence to suggest that brief e-health interventions for alcohol use problems are effective across several different populations, including universities, healthcare settings,<sup>2</sup> and other community settings. However, the evidence base comparing these settings against each other is weak and this is seen as an area for future research.

## **ARE BRIEF E-HEALTH INTERVENTIONS MORE EFFECTIVE THAN NO INTERVENTION?**

Overall, the scientific consensus is that the effect of brief e-health interventions is small (range 2-5 standard weekly drinks; number needed to treat [medium risk to low risk] = 4.4) but consistent across studies, settings, and platforms, and is superior to control or minimal intervention alternatives. However, there is less evidence that brief e-health interventions are effective for more severe levels of alcohol use problems.

<sup>2</sup> Note that there has been mixed evidence in Emergency Department settings.

	RECOMMENDATION	GRADE OF RECOMMENDATION
7.1	Brief e-health interventions are effective in reducing alcohol use.	A
7.2	There is less evidence to suggest that brief e-health interventions are effective for more severe alcohol-related problems. At this stage, other strategies should be preferred.	B

## ARE BRIEF E-HEALTH INTERVENTIONS MORE EFFECTIVE THAN IN-PERSON BRIEF INTERVENTIONS?

Overall, there appears to be no detectable difference between e-health and in-person interventions in the short-term, but in-person brief interventions may be more effective over longer periods of time (i.e., beyond 14 weeks). However, additional research is needed as very few studies directly compare e-health to in-person Brief Interventions. Thus, we recommend that in-person brief interventions should be offered if possible (i.e., the practitioner is trained and there is time) but that brief e-health interventions are offered when time is limited, with hard to reach populations, when another intervention will not be offered, or in conjunction with a brief in-person intervention.

	RECOMMENDATION	GRADE OF RECOMMENDATION
7.3	In-person brief interventions should be preferred to e-health interventions because they may have longer-term impacts than e-health interventions.	B
7.4	Brief e-health interventions should be offered when time is limited, as a first step in a longer intervention, with hard to reach populations, when another intervention will not be offered, when it is preferred by the patient, or in conjunction with an in-person brief intervention	GPP
7.5	E-health interventions which include some human assistance (face-to-face, or via text message or email) may be more effective than fully automated interventions, notwithstanding the resource and scalability limitations of doing so.	B

## LIMITATIONS

There are several limitations to e-health interventions. First, e-health interventions tend to have a small effect (interventions reduce weekly drinking around 2-5 standard drinks), and this may discourage some clinicians from using them as a tool. However, once developed, e-health interventions are very cheap and cost effective and even small reductions may be meaningful. Second, most e-health interventions are fully automated and self-directed. Thus, they rely on the user to be engaged and motivated to use the interventions. Finally, the main concern for e-health interventions is selecting and determining which interventions are effective. Unfortunately, most e-health interventions with evidence from research are not being made available to non-research populations as researchers may not have the opportunity or resources to make evidence-based e-health intervention available after the trial. This concern is compounded by the fact that the most alcohol related smartphone applications available for download focus a) on facilitating drinking (instead of reducing it), b) use fewer active ingredients than research applications (3 vs 6-9), c) are unlikely to be guided by any specific theory, and d) are inaccurate. Given that the specific interventions we endorse may no longer be supported at the time of publication, we include a section with websites run by researchers and experts who rate e-health interventions based on their effectiveness. These websites are being maintained and new available interventions are expected to be listed.

	RECOMMENDATION	GRADE OF RECOMMENDATION
7.6	E-health interventions with an evidence base should be preferred, given that non-evidence-based resources may be inaccurate or less effective. We recommend using resources like Beacon to identify effective e-health tools.	GPP

## BEACON

<https://beacon.anu.edu.au/service/website/browse/23/Alcohol>

Beacon is an Australian website that uses a panel of health experts to categorise, review, and rate websites and mobile applications e-health tools (applications and websites) used for health behaviours. Beacon publishes these reviews on their website along with information about the intervention and the link to the intervention website. The rating system is very easy to use for both clinicians and consumers, and evidence is ranked from “there is no evidence currently”, “the evidence suggests the site doesn’t work” up to “sign up”. There is currently one alcohol intervention that is highly rated on this site.

## PSYBERGUIDE

<https://psyberguide.org/apps/>

Psyberguide uses a similar process to Beacon. However, they currently have very few applications for substance use. The Credibility Score represents the strength of the scientific research support for the app itself, and the therapeutic interventions the app provides.

## HEAD TO HEALTH

<https://headtohealth.gov.au/search-resources>

Head to health focuses more on resources and does not rate specific e-health interventions. They break down resources into 1) head to health information pages, 2) external websites, 3) apps and programs (specific resources), 4) forums for peer support, and 5) phone chat and email options. However, they do not currently provide a rating of the e-health interventions hosted on the website.

## SUMMARY

One way to reduce consumption levels is to provide a brief in-person intervention in primary care and various other community settings (see [Chapter 6](#)). However, there are several barriers to implementing brief interventions in practice, and thus brief e-health interventions may be an effective alternative when it is not feasible to use a brief intervention. Indeed, as overviewed in this chapter, e-health interventions have a small but significant effect on alcohol use, may have similar short-term benefits to in-person interventions, and are very cost effective.