Background

Hello Sunday Morning offers a digital membership service, Daybreak, for people wishing to make changes to their alcohol use. Daybreak mixes peer-to-peer support with access to a library of over 90 cognitive-behavioural therapy and Acceptance and Commitment Therapy informed experiments, and optional real-time chat with health coaches.

To maximise the effectiveness of Daybreak we have piloted ARCHIE (the Alcohol Relationship Change Interactive Engine), a machine learning function to facilitate a tailored, individualised approach to online care for people wishing to address alcohol use issues.

Effectiveness

Progress reports of alcohol use for 5776 members were matched to 78 socio-demographic characteristics and behavior variables to predict alcohol consumption.

We were able to predict likelihood of alcohol consumption with 74% accuracy. The area under receiver operating characteristic score for predicting non-drinking and alcohol consumption was 0.83. The model was more proficient in finding alcohol consumption than non-drinking with higher true positive rates at lower false positive rates for identifying alcohol consumption.

Conclusion and Next Steps

Although predicting alcohol consumption is of some clinical utility, the next step for our service involves identifying lapse and relapse to drinking, and when our members are meeting their drinking goals (whether it be moderation, abstinence or maintenance). This overcomes the assumption that an occasion of alcohol consumption requires intervention, and will assist us to deliver online interventions which are responsive to individual consumer preferences, needs and goals.

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