REDUCING HAZARDOUS DRINKING AMONG WOMEN WHO HAVE SERVED IN THE UNITED KINGDOM ARMED FORCES: A RANDOMISED CONTROLLED TRIAL OF THE DRINKSRATION APP

CIMVHR FORUM 2026 | HALIFAX, NOVA SCOTIA

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FACULTY/PRESENTER DISCLOSURE

PRESENTER

- Daniel Leightley is employed by King's College London.
- He is a member of the UK Armed Forces Reserve.
- He was involved in the development and evaluation of the DrinksRation intervention.
- No relevant commercial or financial conflicts of interest to declare.

DISCLOSURE OF COMMERCIAL SUPPORT

PRESENTER

- No commercial support was received for this study or presentation.
- This study was funded by the UK Office for Veterans' Affairs (grant G2-SCH-2022-11-12241).
- Earlier development of DrinksRation was supported by the UK Medical Research Council and Forces in Mind Trust.
- Combat Stress has provided support towards computing costs associated with DrinksRation.

MITIGATING POTENTIAL BIAS

PRESENTER

- The presenter’s involvement in the development of DrinksRation represents a potential source of bias.
- The study used a randomised, participant-blinded design with pre-specified outcomes and analyses.
- Results reflect evaluation of the intervention as a whole, rather than the effectiveness of individual intervention components.

LEARNING OBJECTIVES

By the end of the presentation, participants should be able to:

01	**Describe**	why alcohol support should address the experiences of women who have served.
02	**Interpret**	the trial's 84-day alcohol and AUDIT outcomes, including uncertainty and attrition.
03	**Discuss**	implications for military and veteran services, and the limits of transferability.

WHY FOCUS ON WOMEN WHO HAVE SERVED?

A health need, barriers to support, and an evidence gap...

Health need

Women who have served report higher levels of hazardous drinking than women in the general population.

Access to support

Stigma and barriers to help-seeking can limit access to appropriate support.

Evidence gap

Earlier DrinksRation research did not address women's experiences and needs.

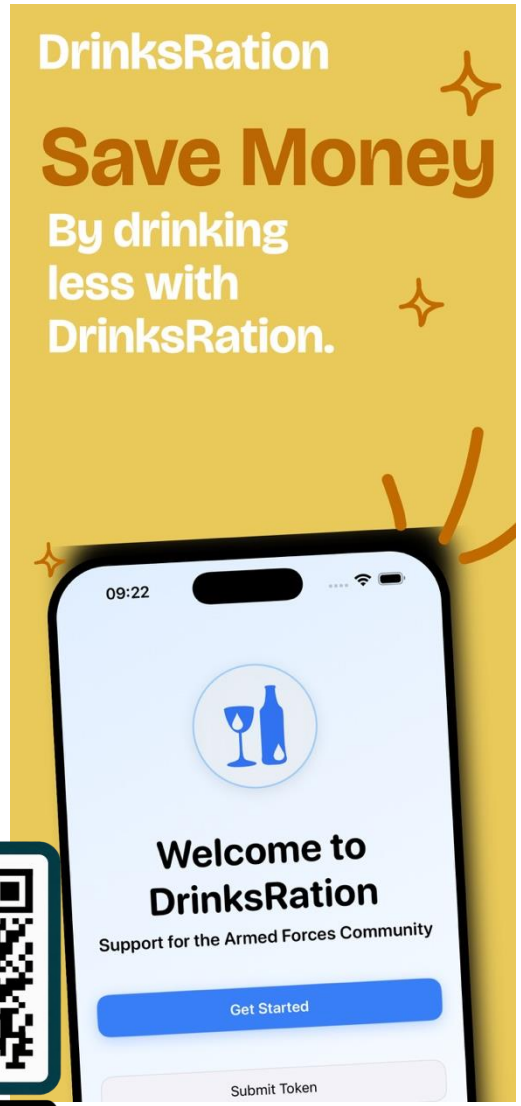
RESEARCH QUESTION

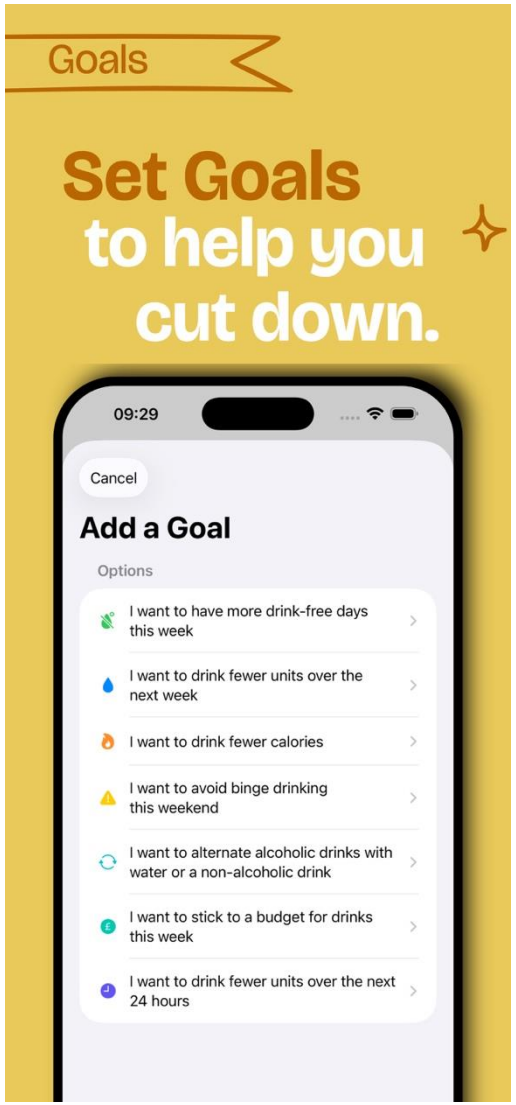
Does DrinksRation reduce weekly alcohol consumption more than standard digital advice over 84 days?

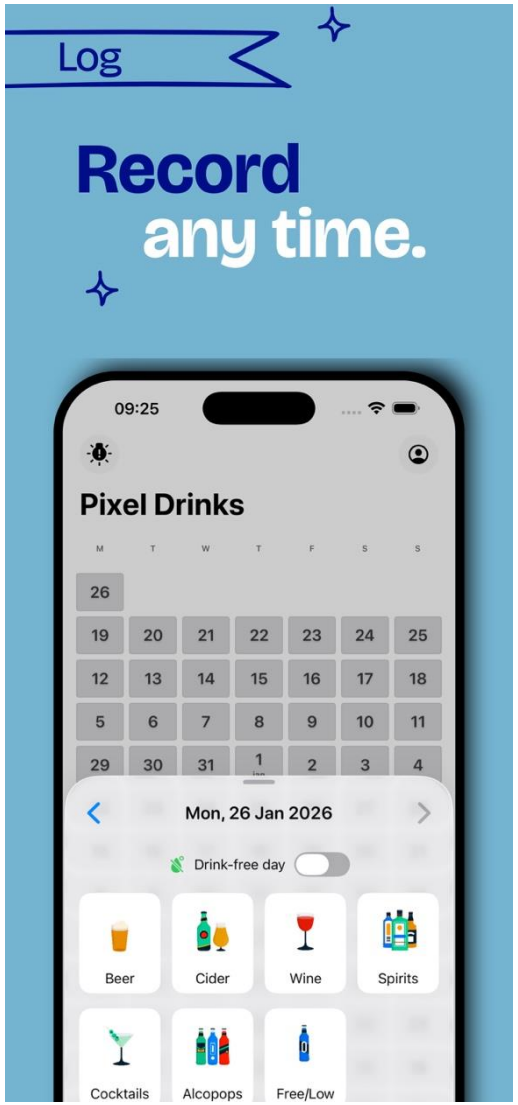
Rhead et al., 2020; Godier-McBard et al., 2022; Leightley et al., 2022; Williamson et al., 2023.

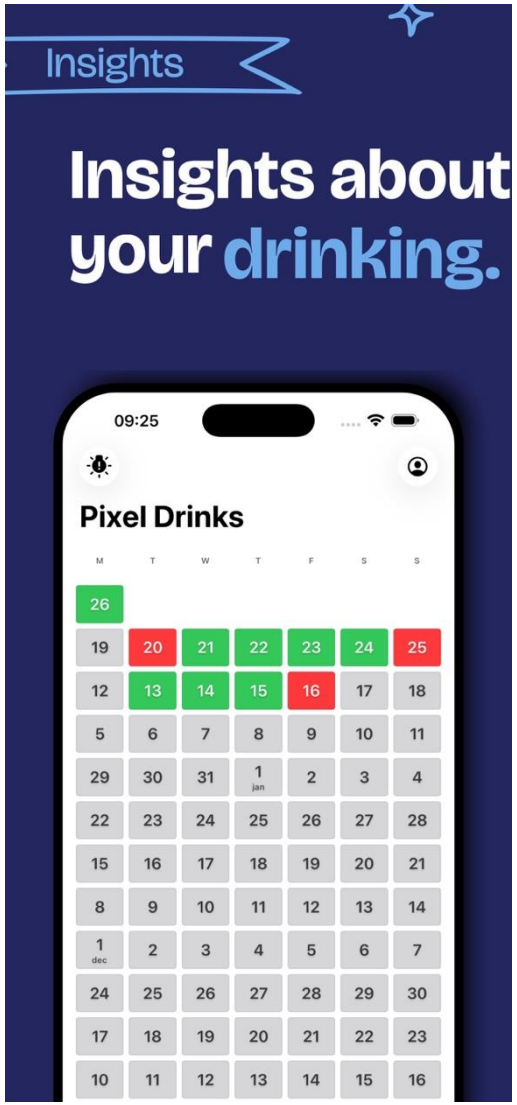
Evidence from ForcesAtlas
Explore the evidence

DRINKSRATION









Download on the App Store

Download DrinksRation on iOS

ADAPTING DRINKSRATION

The core was retained; content and presentation were co-designed.

CORE

DrinksRation

Self-monitoring

Feedback on drinking

Goals and progress

Personalised prompts

CO-DESIGN PROCESS

4 focus groups

4 to 6 women per group

4 months

Iterative adaptation

Pre-trial testing

WHAT CHANGED

Language and tone
Gender-sensitive; military-relevant

Drinks diary
Relevant drink options

Units and feedback
Clearer progress and customisation

Participants involved in co-design or pre-trial testing were excluded from the trial.

TRIAL DESIGN

Two-arm, participant-blinded, 1:1 randomised trial; fully remote

ELIGIBILITY

Women aged 18+; UK resident

At least one paid day of UK Armed Forces service

An iOS or Android smartphone

Consumed more than 14 UK units per week

OUTCOMES

PRIMARY

7-day Timeline Follow-Back: weekly alcohol units

SECONDARY

Alcohol Use Disorders Identification Test (AUDIT) score

Baseline and days 28, 56 and 84 | Primary endpoint: day 84 (12 weeks)

1 UK unit = 8g alcohol.

WHAT WAS COMPARED?

An interactive DrinksRation versus web-based alcohol advice

DRINKSRATION

Smartphone app

Diary, feedback and goal setting

Content for women who have served

Personalised messages and prompts

Questionnaires within the app

BEALCOHOLSMART

Web app

NHS advice and 7-day unit calculator

Emails at enrolment and assessments

Questionnaires through Qualtrics

Less interactive content and contact

Download on the App Store

Download DrinksRation on iOS

BEALCOHOLSMART

PARTICIPANT FLOW AND ANALYSED SAMPLE

1,247
Consented and screened

›

260
Randomised

›

150
Created an account
76 app | 74 control

›

88
Included in analysis
51 app | 37 control

Substantial loss occurred before inclusion in the analysis.

47.4 years
Mean age

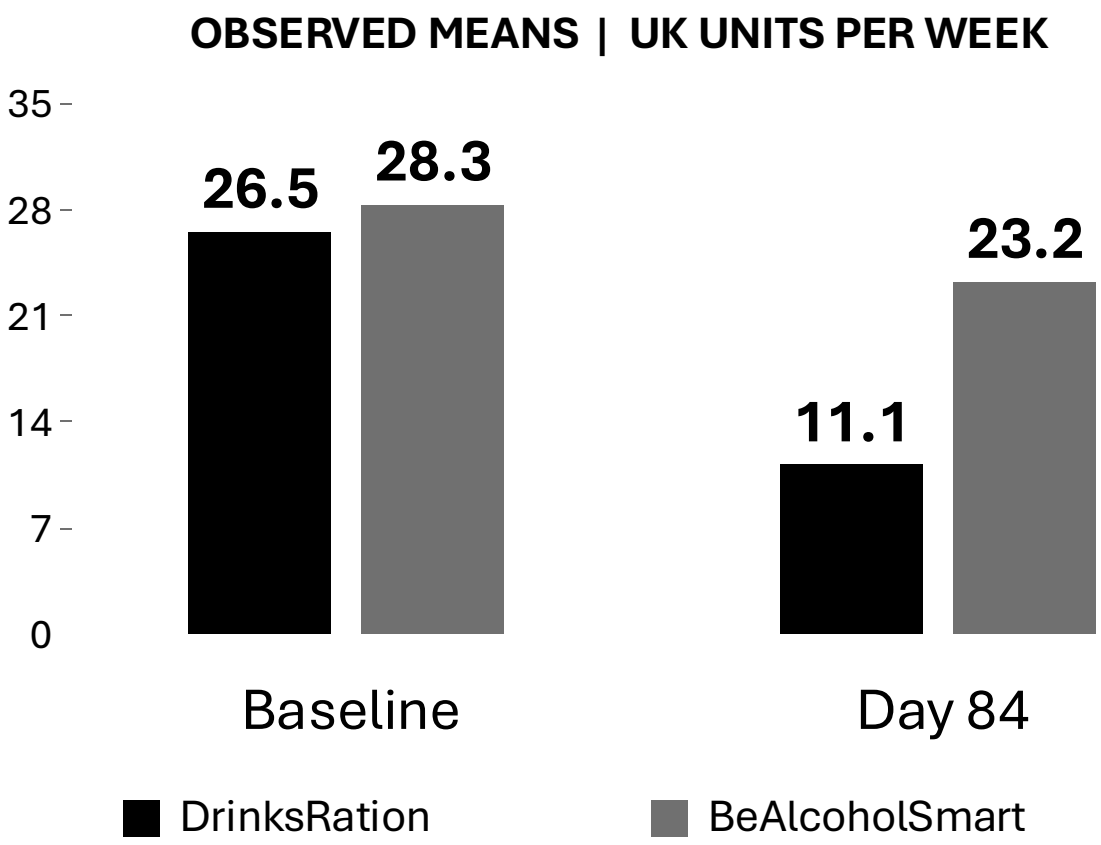
27.2 units
Baseline weekly use

PROBABLE MENTAL HEALTH CONDITIONS

Depression: 52% | Anxiety: 39% | PTSD: 31%

PRIMARY OUTCOME: WEEKLY ALCOHOL CONSUMPTION

Greater reduction in reported weekly alcohol consumption at day 84



ADJUSTED DAY-84 DIFFERENCE

−11.6

UK units per week

95% CI: −19.7 to −3.6

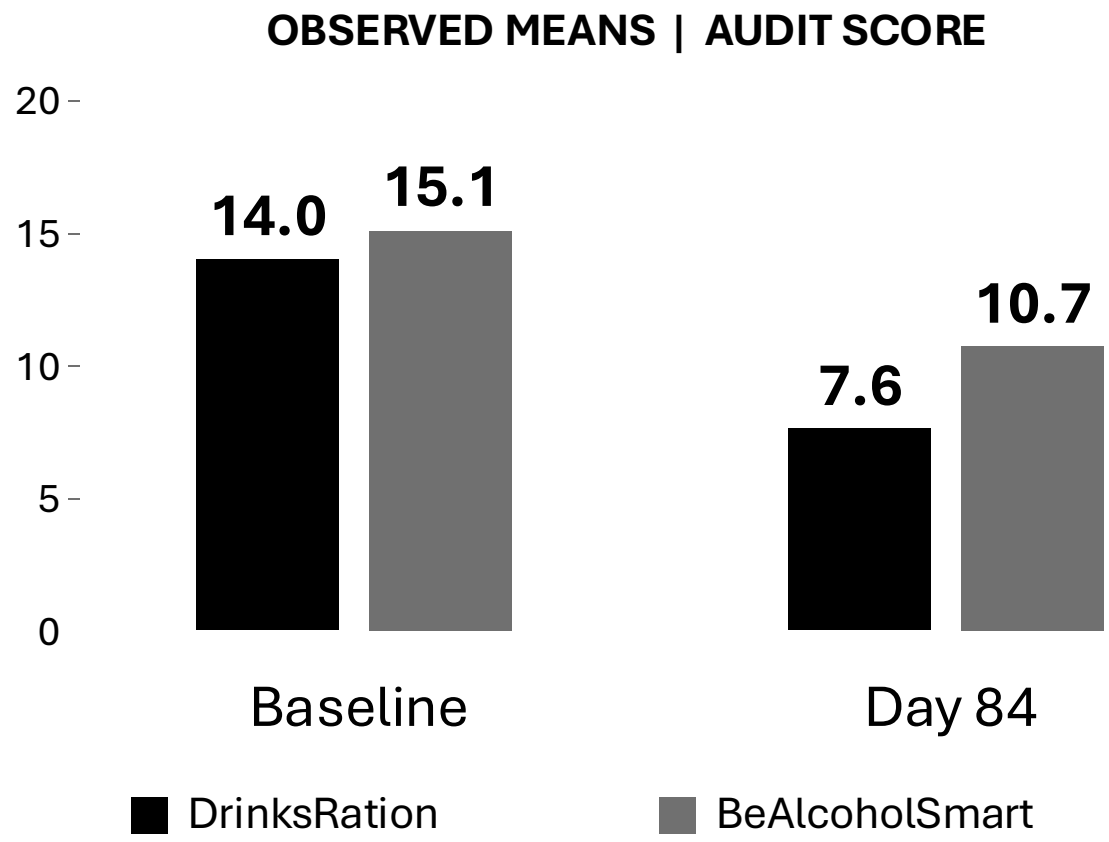
p=0.005

About 6.9 fewer Canadian standard drinks per week

Bars: unadjusted means. Box: adjusted between-group estimate. Unit conversion: NHS; Health Canada (1 standard drink = 13.45 g).

SECONDARY OUTCOME: AUDIT SCORE

AUDIT scores were also lower in the DrinksRation group at day 84.



ADJUSTED DAY-84 DIFFERENCE

−3.9

AUDIT points

95% CI: −6.9 to −1.0

p=0.010

AUDIT: Alcohol Use Disorders Identification Test. Bars: unadjusted means. Box: adjusted between-group estimate.

ENGAGEMENT, USABILITY AND SAFETY

More recorded engagement and higher usability ratings for the app

MEDIAN WEEKS ACTIVE

11 versus 1

DrinksRation versus BeAlcoholSmart

MEAN USABILITY AT DAY 28

6.22 versus 5.22

Out of 7; app *n*=39, control *n*=30

No serious safety concerns or technical issues were reported.

Usability: mHealth App Usability Questionnaire (MAUQ). Active week: at least three server interactions.

HOW CERTAIN ARE THE FINDINGS?

Results favour DrinksRation, but...

Selection and missing data

88 women contributed outcome data. The model assumes outcomes are missing at random.

Outcomes and duration

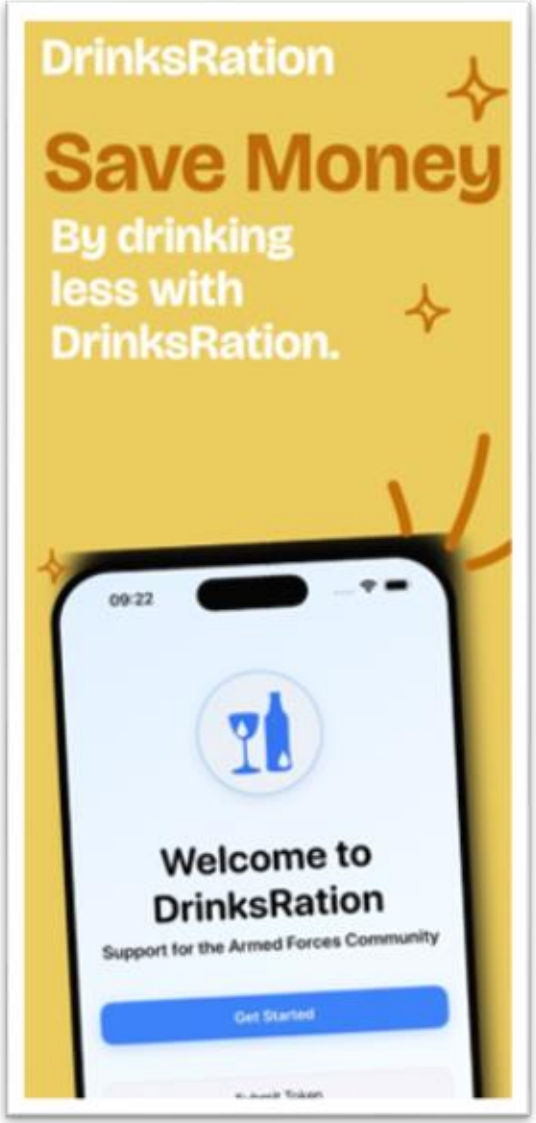
Self-reported alcohol use. Effects beyond 84 days and on clinical harm are not established.

Unequal intervention packages

Content, functionality and contact differed. Tailoring could not be isolated.

CONCLUSIONS

- DrinksRation significantly reduced weekly alcohol consumption and AUDIT scores at 84 days.
- Engagement and usability were high, with no safety or technical concerns.
- Findings support digital alcohol interventions for women who have served in the Armed Forces.
- Effects reflect the whole DrinksRation package, and substantial attrition and short follow-up mean further evaluation is needed.



THANK YOU

Research Team

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Grace Williamson
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Reducing alcohol consumption in UK Armed Forces veterans: feasibility of using personalized push notifications with AI
Daniel Leightley, Charlotte Williamson, Iain J. Marshall, Vasa Curcin, Roberto J. Rona, Dominic Murphy, Nicola T. Fear and Laura Goodwin. *PLOS Digital Health*, 2026.

In memory of Professor Nicola T. Fear, with gratitude for her exceptional contribution to this work and to military health research.

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