

# Optimising the alcohol reduction app, Drink Less

**Dr Claire Garnett**

*University College London*

Susan Michie, Robert West, Matt Field, Felix Greaves, Matthew Hickman,  
Eileen Kaner, Marcus Munafo, Robyn Burton, Matthew Walmsley, and  
Jamie Brown

 @ClaireVGarnett

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# Background

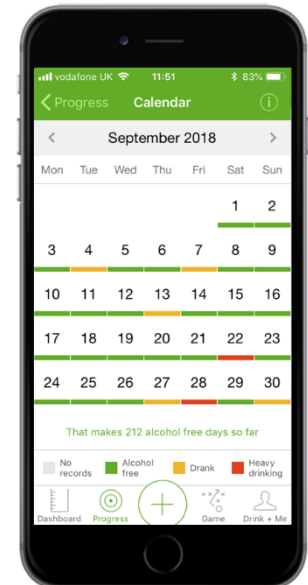
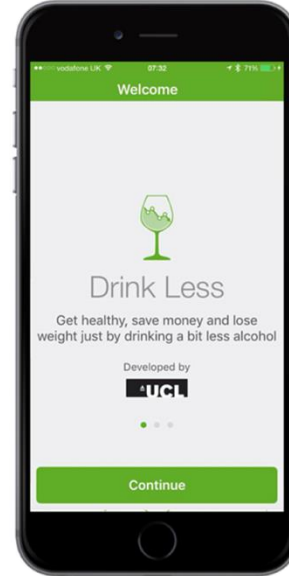
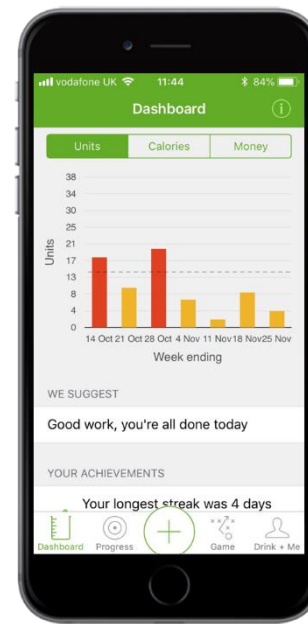
- Excessive alcohol consumption is a major public health problem in the UK
- Particular concern for health inequalities due to the 'alcohol harm paradox'
  - The most disadvantaged drink the least but suffer the most harm from alcohol
- Digital interventions
  - Reduce alcohol consumption<sup>1</sup>
  - Broad reach, anonymous, widely available
  - Potential to help disadvantaged groups when designed with appropriate user input<sup>2</sup>

# The Drink Less app

- Evidence- and theory-based development process<sup>1</sup>
- Followed the Multiphase Optimisation Strategy (MOST)

## *i) Identification of intervention components*

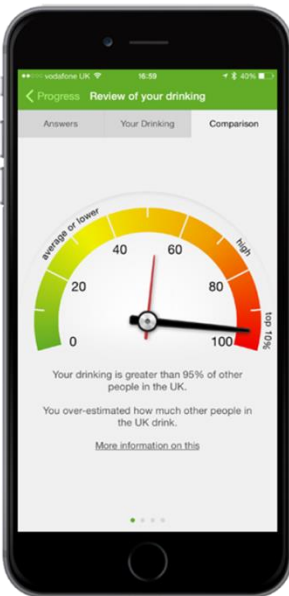
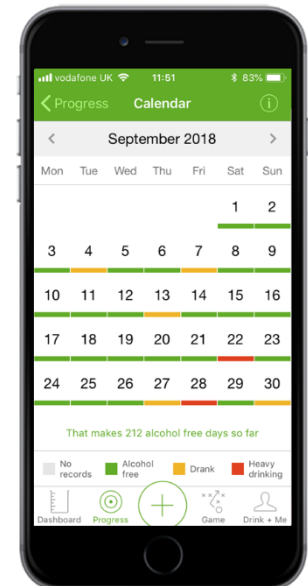
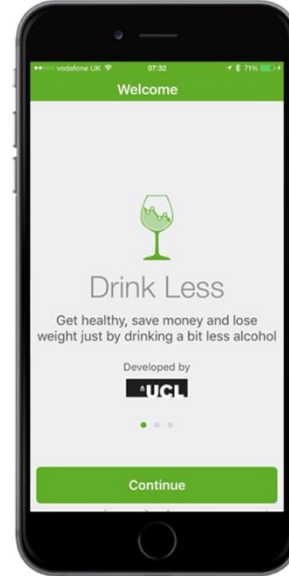
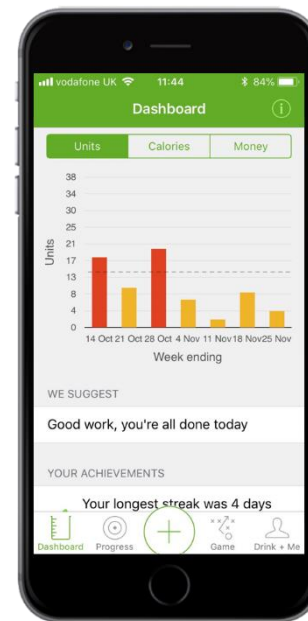
- Structured around goal setting with five intervention modules
- App professionally designed and built
- User testing to maximise usability across the social spectrum<sup>2</sup>



# The Drink Less app

## ii) Randomised factorial trial to evaluate the individual and interactive effects of the intervention modules

- N=672
- Combinations of certain modules produced modest improvements in alcohol-related outcomes after four weeks<sup>1</sup>
- Rated highly for *ease of use* and *user satisfaction*
- Average of *12 sessions per user* in the month following download
- No difference in effectiveness between users of low and high SES



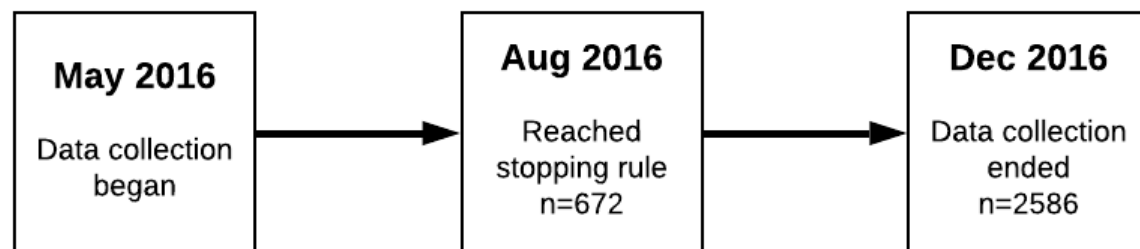
# Aim: to develop an optimised version of *Drink Less*

...informed by three work packages:

1. Using Bayes Factors to analyse additional data from factorial screening trial
2. Update of 2017 Cochrane review on effectiveness of components in digital alcohol interventions
3. Content analysis of user feedback

# WP1: Using Bayes Factors to analyse factorial trial dataset supplemented with extended recruitment

- Bayes Factors:
  - measure of relative strength of evidence
  - allow researchers to ‘top-up’ results
- Factorial trial continued to collect data after the stopping rule was reached



# WP1: Using Bayes Factors to analyse factorial trial dataset supplemented with extended recruitment

- There was weak evidence for a synergistic effect of four components
- How it informed optimisation of Drink Less:
  - Retain the four components with synergistic effect (Normative Feedback; Cognitive Bias Re-training; Self-monitoring; and Action Planning)
  - Remove other component – Identity Change



# WP2: Update of systematic review on digital alcohol interventions

- Last search for recent Cochrane Review on digital alcohol interventions was conducted in March 2017
- Field of research on digital interventions is rapidly expanding
- Updated the meta-regression of the BCTs associated with intervention effectiveness



**Cochrane  
Library**

Cochrane Database of Systematic Reviews

**Personalised digital interventions for reducing hazardous and harmful alcohol consumption in community-dwelling populations (Review)**

Kaner EFS, Beyer FR, Garnett C, Crane D, Brown J, Muirhead C, Redmore J, O'Donnell A, Newham JJ, de Vocht F, Hickman M, Brown H, Maniopoulos G, Michie S

# WP2: Update of systematic review on digital alcohol interventions

- An additional 12 studies
- Behaviour change techniques to add to Drink Less
  - Behaviour substitution
  - Information about antecedents

# WP3: Content analysis of user feedback

- User feedback via email and app store reviews (n=480)
- Content analysis with categories used for classifying user reviews
  - *Information giving*
  - *Feature request*
  - *Problem discovery*
  - *Information seeking*

# WP3: Content analysis of user feedback

- Information giving ( $n=263$ , 35%)
  - Positive feedback on app as a whole ( $n=220$ )

"I love your app. In 2 weeks it's helped me understand my consumption and learn to plan which has helped me cut down. I like the fact it's contributing to wider research too."

"Excellent app that is so useful. Would definitely recommend it."

"I would like to thank the developers who have worked on the app - it's been a real help for me ... it really has proved to be a game changer."

# WP3: Content analysis of user feedback

- Information giving (*n=263, 35%*)
  - Positive feedback on app as a whole (*n=220*)
- Feature request (*n=239, 32%*)
  - Ability to update the Normative Feedback (*n=82*)
- Problem discovery (*n=108, 15%*)
  - Bug when clocks changed (*n=34*)
- Information seeking (*n=104, 14%*)
  - How to navigate to mood diary (*n=27*)

# WP3: Content analysis of user feedback

- Strengths

- Data collection “in the wild” therefore unlikely to have a social confirmation bias
- Collected over 2 years therefore likely to reflect the issues of most importance to users
- Provides a list of high priority changes to make

## iOS App Ratings and Reviews

United Kingdom ▾

Most Recent ▾

4.1



368 Ratings

out of 5

All Versions ▾ All Ratings ▾ All Reviews ▾

145 Reviews

Really helpful ★★★★★

by Elsie Seelle – Mar 13, 2019

[Edit Response](#)

I really like this app - it makes tracking your drinking accurately so much easier. Only downside for me is that you can only see your daily or weekly drinking; I'd find it helpful to have a way of seeing a weekly/monthly/annual average to help track progress

← **Developer Response** - Mar 14, 2019

It's great to hear you like the app and have been finding tracking your drinking easier. To see a weekly summary, you can tap on any of your bars on the graph on the dashboard. Sorry that we don't currently have the ability to track your progress over months/years - though this is something we're planning for a future update so please bear with us!

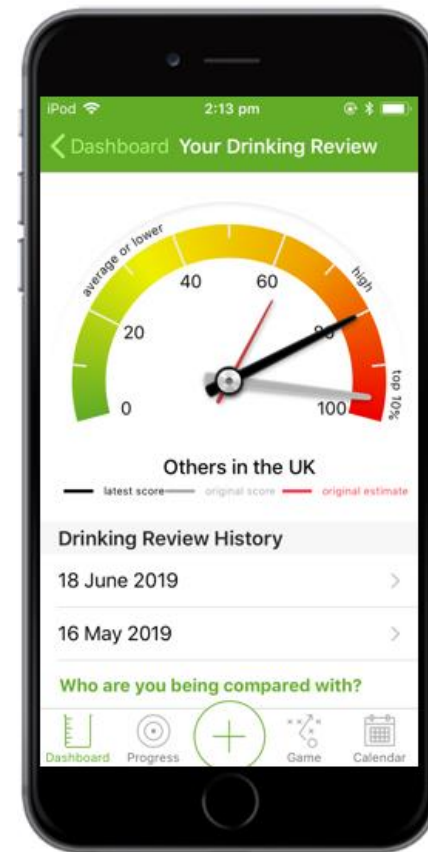
# WP3: Content analysis of user feedback

- Limitations

- Under-reporting bias - users with polarized (either positive or negative) feedback are more likely to report their reviews
- Not necessarily representative of the majority of users

# WP3: Content analysis of user feedback

- List of high priority changes:
  - customisable drink volumes
  - ability to update normative feedback
  - drinking calendar to start on Monday
  - bug fix relating to time zone changes
  - clarify how to edit drinks entries
  - how to navigate to the mood diary





# Conclusions

- Using a mixed methods approach to optimise Drink Less has provided different insights:
  - How to improve likely effectiveness of intervention
  - Provide users with what they want from the intervention – crucial for engagement with any intervention

## Next steps

- Conduct further user testing to improve its usability
- Evaluate the optimised version in a definitive trial



**Thank you for listening.  
Any questions?**

