

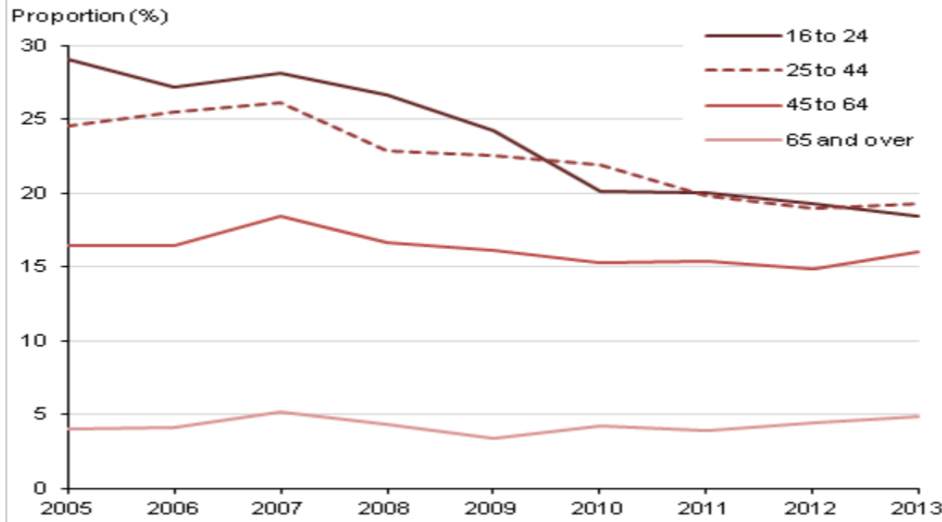
A Digital Health Promotion Approach to Reducing Alcohol Misuse in the UK Using AlcoWatch



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Figure 6: Binge drinking among adults, by age, Great Britain, 2005-2013



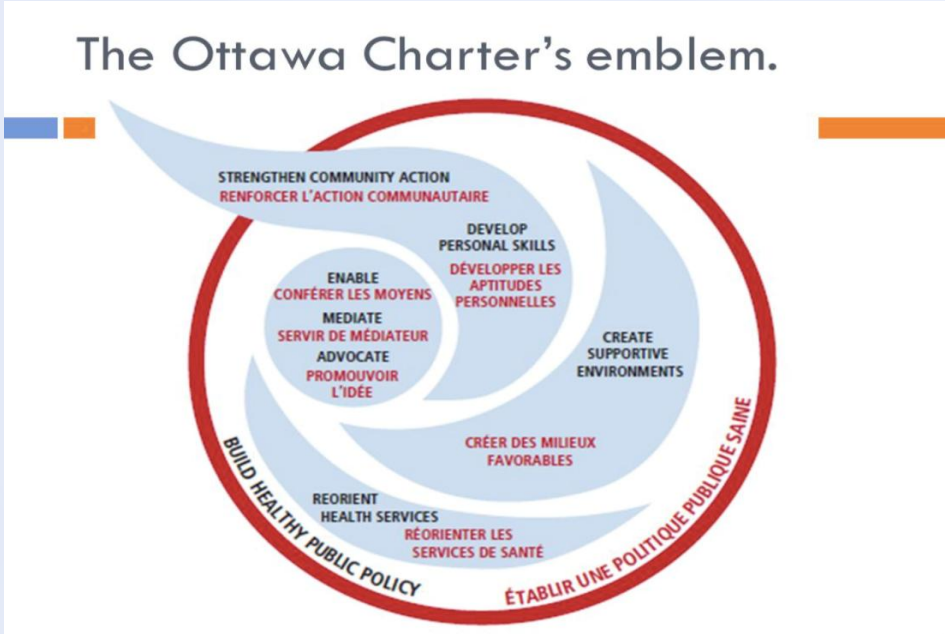
(UK Health Security Agency, 2015)

. Background

Alcohol misuse is a major public health concern in the UK, contributing to more than 980,000 hospital admissions annually and increasing long-term morbidity and mortality (NHS, 2023; UKHSA, 2023). Heavy drinking is linked to liver disease, cancers, stroke and mental health decline, making it a leading preventable cause of disease burden (WHO, 2023). Young adults aged 18–35 are particularly affected by binge drinking and normalised high-risk alcohol consumption (PHE, 2021). Previous interventions have included national awareness campaigns, mobile apps such as Drinkaware, and brief behavioural counselling. AlcoWatch, a wearable sensor paired with a mobile app, offers a real-time digital intervention to monitor alcohol intake and encourage safer behaviours (MedTech Europe, 2023).

Health Promotion Values and Principles:

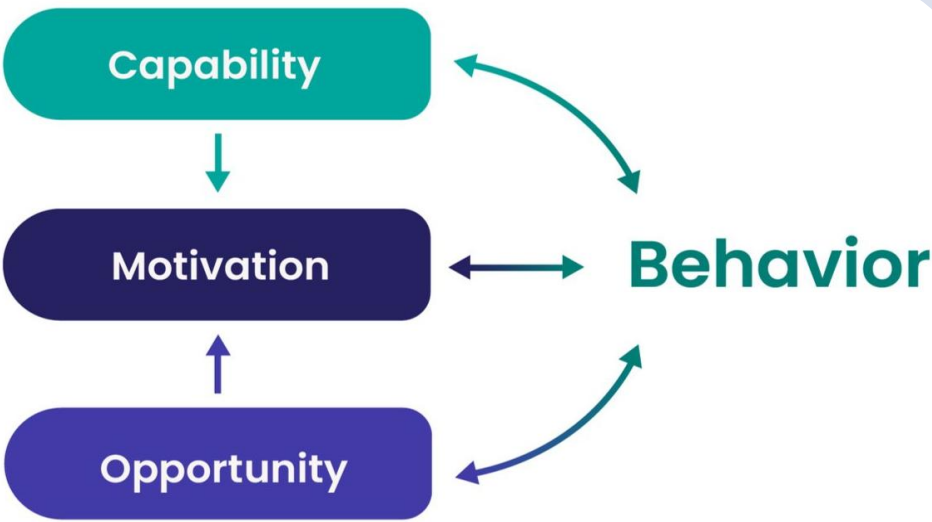
Health promotion is grounded in empowerment, equity, participation and enabling individuals to gain control over determinants of health (WHO, 2021). Principles include addressing inequalities, strengthening individual capabilities, and using evidence-based strategies aligned with the Ottawa Charter. AlcoWatch supports these values by providing objective, personalised data, helping users understand their drinking patterns and make informed decisions. Its real-time feedback empowers individuals to self-manage alcohol use (PHE, 2021). The digital format enhances accessibility for those reluctant to seek face-to-face support. By integrating behaviour-change tools, AlcoWatch aligns with UK health promotion priorities to reduce alcohol harm and promote long-term wellbeing (NHS, 2023).



(bsahely.com, 2018)

Behaviour Change Theory: The COM-B Model

- The digital intervention aligns strongly with the COM-B model (Capability, Opportunity – Behaviour), widely used in digital health design (Michie et al., 2019).



(The Center for Implementation, 2025)

Capability

AlcoWatch increases psychological capability by improving users' understanding of their drinking patterns through accurate biosensor data (MedTech Europe, 2023).

Opportunity

Real-time prompts during high-risk periods provide timely cues for harm reduction, expanding social and environmental opportunity to change behaviour (PHE, 2021).

Motivation

Personalised feedback, goal-setting features and visible progress tracking strengthen reflective and automatic motivation, promoting sustained reductions in alcohol intake (Michie et al., 2019).

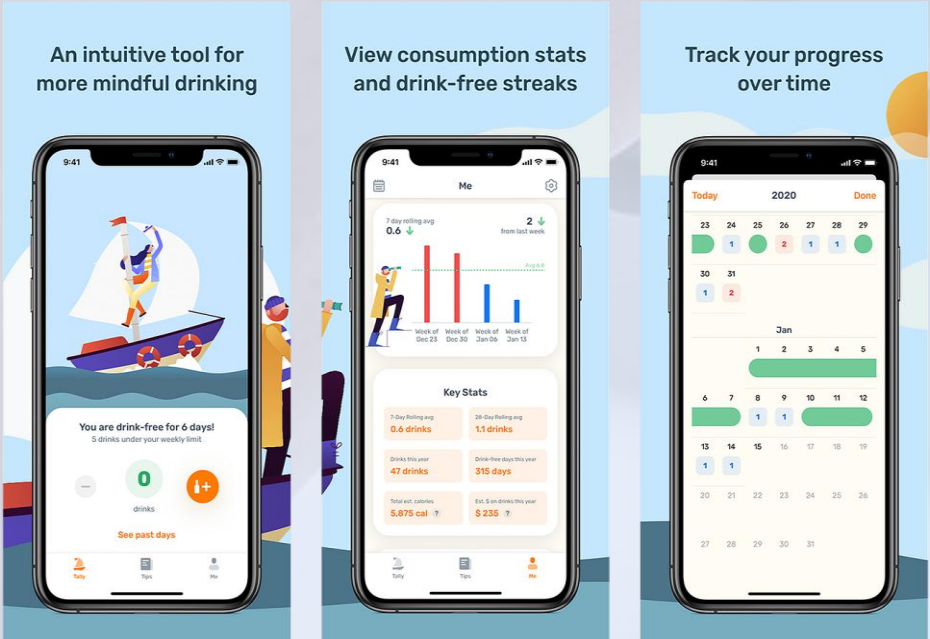
By applying COM-B, AlcoWatch creates a digital environment where individuals have the skills, context and motivation needed to adopt healthier drinking behaviours.

Expected Outcomes:

1

Individual Behaviour Change

Increased awareness of drinking habits, more drink-free days, and reduced weekly alcohol consumption (Michie et al., 2019). Real-time biosensor feedback minimises inaccuracies found in self-reporting and enables earlier behavioural adjustment (MedTech Europe, 2023).



(Mmaser, 2018)

2

Population-Level Impact

The intervention may reduce alcohol-related admissions, strengthen self-management and support harm-reduction strategies aligned with UK health promotion priorities (UKHSA, 2023; NHS, 2023).

Conclusion:

- AlcoWatch demonstrates substantial potential for improving digital public health by offering an accessible, personalised intervention that supports early behaviour change and reduces alcohol harm. Its integration into UK health systems could inform policy development on digital monitoring tools, strengthen public health education on safer drinking, and provide new research opportunities in biosensor-based behavioural interventions (PHE, 2021).

➤ By aligning with health promotion values and behavioural science, AlcoWatch contributes to addressing alcohol misuse and reducing digital health inequalities across the population (WHO, 2023).

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