

**POPULATION HEALTH AND DIGITAL HEALTH
PROMOTION – COMPONENT 1
BLOGS**

Programme: MSc Public Health and Social Care in Practice

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BLOG 1

The impact of telehealth blood-pressure monitoring on hypertension control in the UK

Hypertension is a leading modifiable risk factor for cardiovascular disease in the UK and remains incompletely controlled in many patients, contributing to stroke, myocardial infarction and avoidable healthcare costs. Remote blood-pressure telemonitoring — patients measuring BP at home and transmitting results to clinicians — has emerged as an evidence-based approach to improving BP control by enabling timely medication titration, personalised feedback and ongoing behaviour support. Randomised trials and systematic reviews show that telemonitoring plus professional support produces clinically meaningful reductions in systolic and diastolic blood pressure compared with usual care. The TASMINH4 trial demonstrated improved BP control when self-monitoring (with or without telemonitoring) was used to guide antihypertensive titration in primary care.



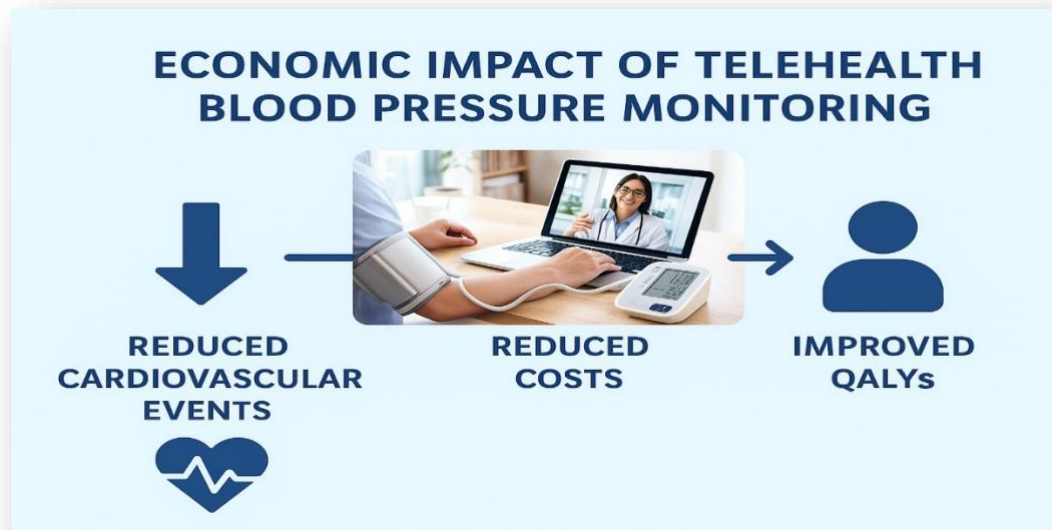
(iHealth Labs, 2025)



(Mishra and Sahu, 2025)

Meta-analyses and recent systematic reviews confirm these benefits across varied populations: pooled analyses show modest but clinically relevant reductions in systolic BP and improved achievement of target BP when digital support is integrated with clinical management. A BMJ Open meta-analysis (2024) and a 2024 eClinicalMedicine review both report consistent BP improvements and better patient compliance with telemedicine interventions, although heterogeneity exists between studies in intensity and components of the interventions

Telehealth also shows promise from an economic perspective: systematic economic evaluations indicate home BP monitoring combined with telehealth support can be cost-effective over medium–long-time horizons, particularly when bundled with team-based care or pharmacist-led titration. This suggests telemonitoring could reduce downstream event costs by improving BP control.



(Bashshur et al., 2020)

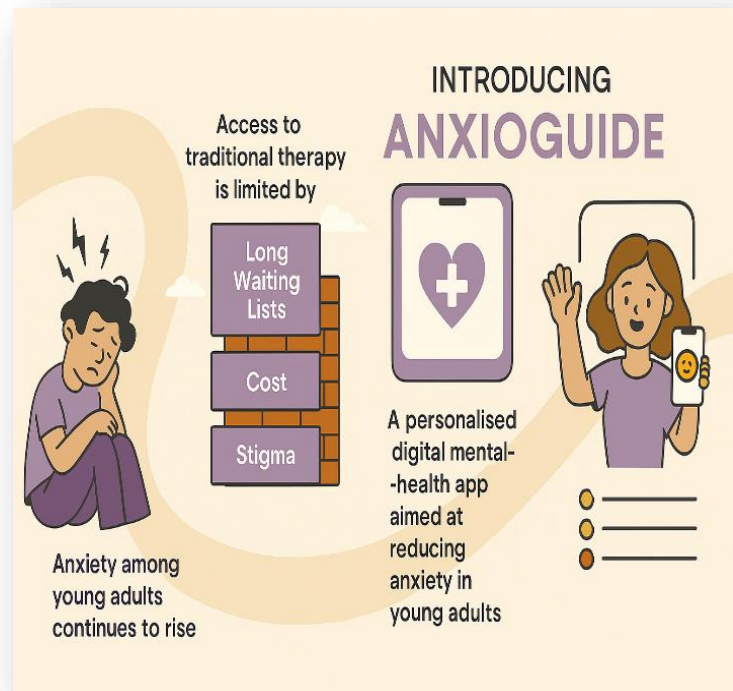
However, implementation challenges remain. Digital inequality (limited device access or low digital literacy), data overload for clinicians, variable long-term engagement, and concerns about data security are frequent barriers reported in the literature. Implementation science reviews emphasise the need for workflow integration, clinician training, triage algorithms to limit workload, and equity-focused strategies to avoid widening disparities.

In summary, telehealth-enabled BP monitoring is an effective, evidence-based tool to improve hypertension control when combined with professional support and integrated care pathways. To maximise impact in UK settings, services should prioritise equitable access (device provision/subsidy), simple user interfaces, automated data-triage, and clear clinical pathways for medication adjustment and follow-up.

BLOG 2

Designing “Anxietude”: A Personalised Digital App for Anxiety in Young Adults

Anxiety among young adults continues to rise, yet access to traditional therapy is limited by long waiting lists, cost, and stigma. Digital mental-health tools offer an alternative, but many current apps lack personalisation, sustained engagement features, or pathways for guided support. To address these gaps, this blog proposes “AnxioGuide”, a personalised digital mental-health app aimed at reducing anxiety in young adults through CBT-based content, behaviour-change theory, and AI-driven adaptation.

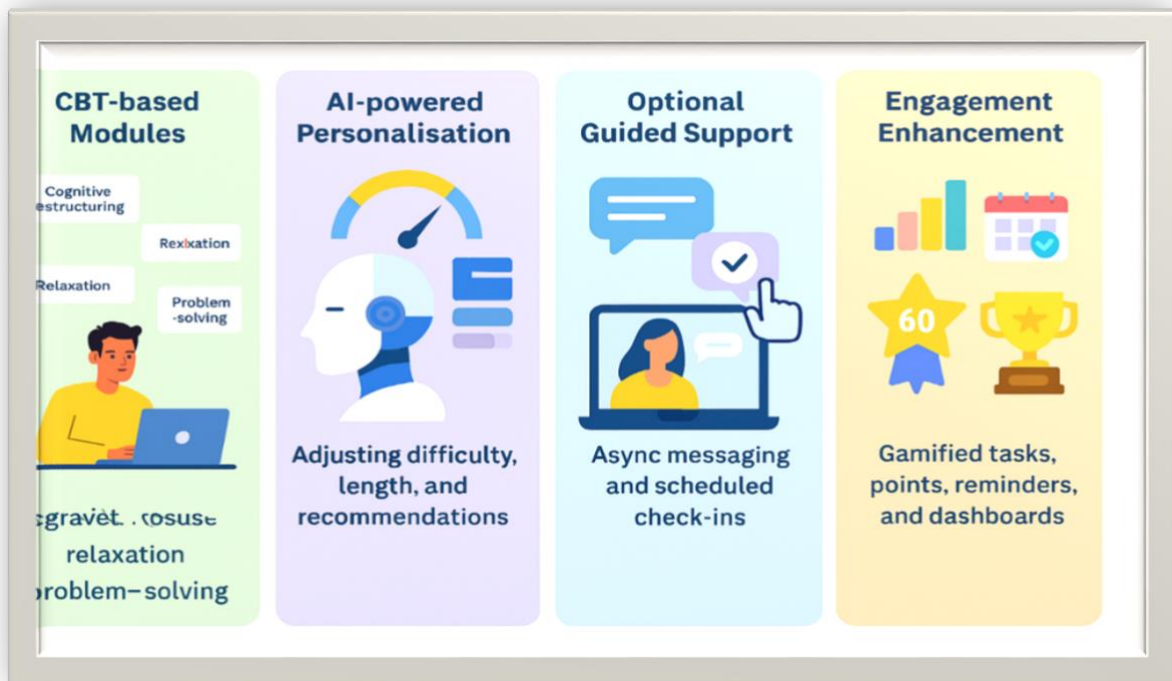


Description of the Technology

(Firth et al., 2020)

AnxioGuide integrates four core components:

1. CBT-based modules including cognitive restructuring, graded exposure, relaxation, and problem-solving. These mirror evidence-based structures used successfully in trials such as Maya (Gunning et al., 2025).
2. AI-powered personalisation, adjusting content difficulty, module length, and recommendations based on user patterns. Personalisation features are increasingly recognised as essential for effectiveness in youth digital interventions (Richards et al., 2025).
3. Optional guided support, where users can choose asynchronous messaging or scheduled check-ins with trained practitioners. Guided DMHAs have demonstrated larger treatment effects, particularly for social anxiety disorder (Walder et al., 2025).
4. Engagement enhancement, including gamified tasks, reward points, reminders, and progress dashboards designed to increase motivation and reduce dropout. Evidence suggests that engagement is closely related to symptom improvement in digital CBT programmes (Karyotaki et al., 2023).



(Torous et al., 2018)

Expected Impact

By combining evidence-based CBT, AI personalisation, and optional guidance, AnxioGuide aims to enhance adherence, reduce anxiety symptoms, and improve long-term wellbeing. Research consistently highlights that digital CBT is effective for anxiety in young adults (Gunning et al., 2025), and meta-analyses confirm its ability to produce moderate effect sizes when implemented using structured modules (Chen et al., 2024). Integration of behaviour-change techniques based on the COM-B model—increasing capability, opportunity, and motivation—should further strengthen user engagement and real-world application.

Limitations and Solutions

Key challenges include digital exclusion, privacy concerns, and sustaining long-term engagement. Accessible design, offline functionality, transparent data protection, and personalised booster modules can mitigate these issues. Additionally, incorporating a web-based version expands reach to users without modern smartphones.

Conclusion

AnxioGuide offers a scalable, evidence-grounded tool that addresses gaps in current mental-health apps. Through AI personalisation, guided options, and CBT-based content, it aims to reduce anxiety and support young adults in developing long-term coping skills.

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