

ECZEMAPAL: A Digital Behaviour-Change App to Improve Eczema Self-Management and Reduce Digital Health Inequalities



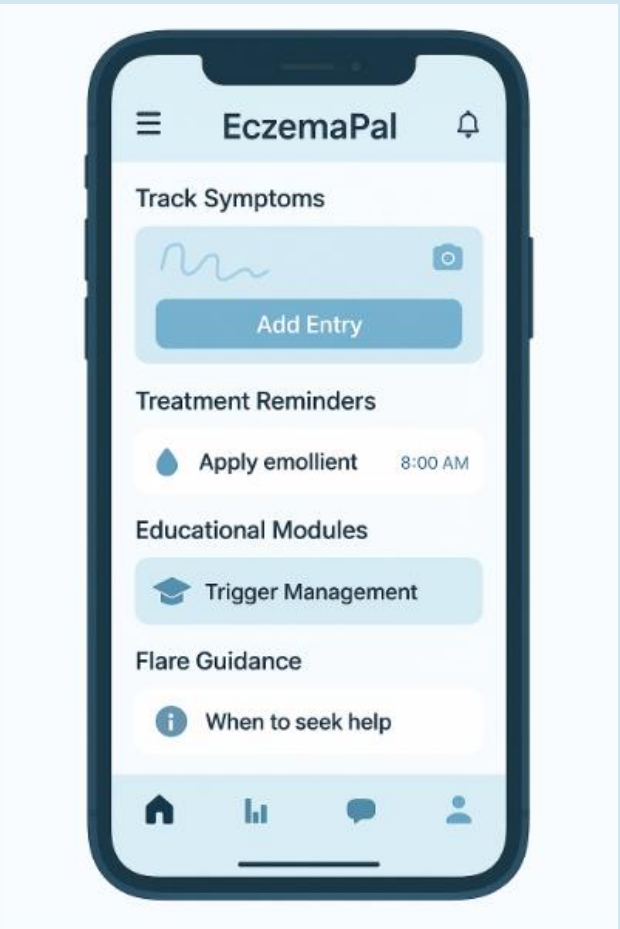
The Burden of Eczema

Eczema is a chronic inflammatory skin disease causing itching, discomfort, and visible rashes (Nemeth et al., 2022). Although not contagious, it significantly affects physical, psychological and social wellbeing, leading to sleep disturbance, social withdrawal and depression (Langan et al., 2024). Globally, 2.6% of the population are affected (Durango et al., 2024). In the UK, it affects 1 in 5 children and 1 in 10 adults and contributes to substantial economic pressure on families and the NHS (Dawson, 2023). Although treatments exist, poor adherence leads to frequent flares and avoidable GP appointments (Krejci-Manwaring et al., 2007).

Previous public health interventions have included GP-led clinics, community education, and symptom-tracking apps, but many lack personalised behavioural support (The British Association of Dermatologists, 2019):

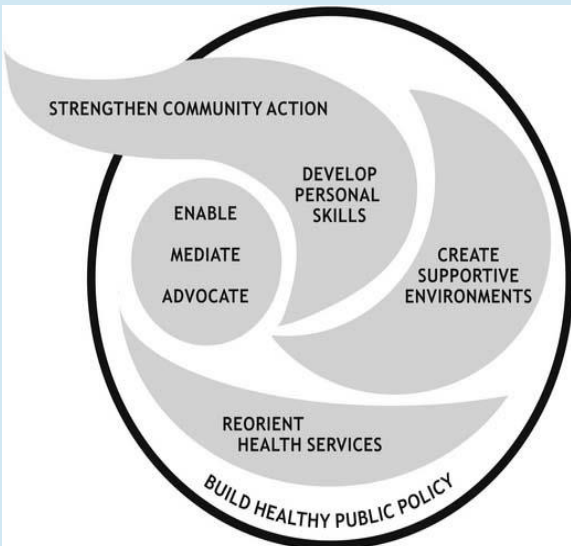
- NHS Skin Tracker
- EczemaWise
- Emollient and topical steroid prescriptions
- Public health campaigns on skin care (e.g., National Eczema Society)

EczemaPal is a digital self-management app offering reminders, symptom tracking and tailored education to improve treatment adherence, empower users, and reduce health inequalities.



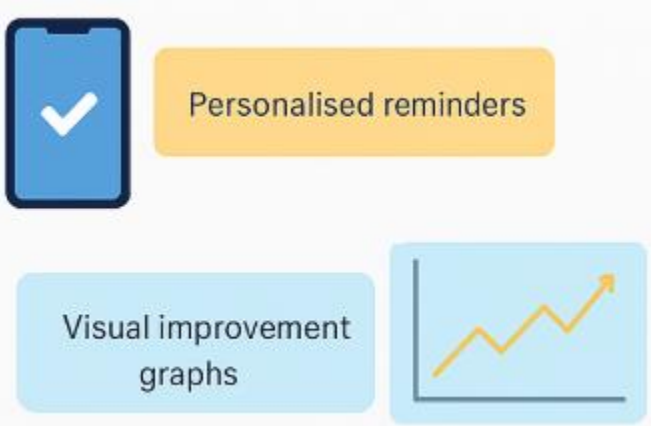
Promoting Health

Health promotion “enables people to increase control over their own health” (WHO, 2016) by enhancing knowledge, skills, supportive environments, and policies, addressing social and environmental determinants of illness, and promoting overall wellbeing (Rootman, 2001). In addition, the authors of the Ottawa Charter used the words enable, mediate and advocate as pillars for health promotion with the aim of achieving health equality (Saan et al., 2011). EczemaPal aligns with these principles by building personal skills through tailored education, creating supportive digital environments and strengthening self-management. The app promotes equality through simple language and free access, and encourages participation through co-design with users. By improving overall knowledge of the condition, EczemaPal also promotes prevention and reduces reliance on emergency care.



Changing behaviours

The Health Belief Model explains how individuals assess health risks and decide to act, based on perceived benefits, barriers, susceptibility, severity, self-efficacy, and cues to action influencing behaviour (Alyafei et al., 2024). Research shows that adherence to eczema treatments can drop by around 70% within just a few days of starting a regimen (Krejci-Manwaring et al., 2007), one of the main reasons being they believe they are ineffective or fear side effects (Tier et al., 2021). EczemaPal addresses these perceptions by offering educational modules which explain treatment benefits. Personalised reminders, streak-tracking and visual improvement graphs act as cues to action (Alharbi et al., 2024). The app also reduces perceived barriers by simplifying routines and providing emotional support through progress feedback. As users see clearer skin and fewer flares, confidence increases, reinforcing adherence and long-term behaviour change (Orji et al., 2012).



Why EczemaPal Matters

Benefits for Users:

- Better treatment adherence leading to fewer flares
- Improved sleep quality
- Higher school and work attendance
- Reduced infection risk
- Visual progress tracking to boost motivation

Benefits for the NHS:

- Fewer GP appointments
- Reduced dermatology referrals
- Less prescription waste

Promoting Health Equality:

- Free, accessible digital tool
- Supports users struggling to attend appointments
- Helps those with limited access to dermatology specialists

(Murray, 2020; National Eczema Society, 2025; Irish Skin Foundation, 2020 & Dawson, 2023).



Shaping the Future of Eczema Care

EczemaPal promotes self-management and adherence for users, reducing the healthcare burden this condition currently poses. In Policy there would need to be integration of digital tools into dermatology care. In education, training professionals to promote apps and interpret data will be essential. Finally, in research, it will be essential to evaluate real-world effectiveness, long-term engagement, cost-savings and access for digitally excluded populations.

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