

# Digital technology for unmet needs in monitoring, support and management of ADHD: A qualitative study of patient, parent and staff views.

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## Introduction

**Background:** E-mental health (using technology to support and improve mental health, including the use of online resources, social media and smartphone applications and mobile health (mHealth) [1]) has the potential to transform care in mental health by connecting patients, services and health data in new ways [2] and could offer a potential solution for better management of ADHD symptoms, allowing for improved quality of life and autonomy. **However**, little is known about whether patients and healthcare professionals would support the introduction of digital technology to support treatment for and living with ADHD.

**Aims:** To explore patient, parent and professional views and attitudes towards digital technology to assist in the treatment and life management of ADHD.

## Methods

**Design:** A cross sectional qualitative study using focus group design to facilitate discussion between participants.

**Participants:** The 11 groups included 12 adults and 8 young people with ADHD, 8 parents of children with ADHD, and 31 healthcare professionals (HCP).

**Analysis:** We employed thematic and framework analysis in order to extract overarching interpretive themes and patterns in these themes across the groups.

## Results

### THEME 1: Potential for Digital Technology to Support Living with ADHD

Across the sample there was positive interest in digital to play a greater role in the management of ADHD. Two key areas were identified:

#### 1. Symptom tracking to improve the quality of clinic consultations.

*"You can look back over the previous 4 weeks or 3 months and focus questions...It should help parents to be more productive in giving the information we need" (HCP)*

#### 2. Supporting greater self-management.

The ability to self-monitor symptoms, chart them over time and identify any patterns of behaviour would increase people knowledge, self-awareness, understanding of and confidence in dealing with their condition.

*"Sometimes I think I'm doing well for a few weeks, then I look back and realise I wasn't. Something to help me accurately monitor that. That in itself would be an aid to the medication... so you can look back and see what you've done well and what things you need to concentrate on doing better." (Adult)*

### THEME 2 : Barriers and Limitations for Assistive Digital Technology

Barriers and limitations to digital were highlighted in all focus groups, although clinicians foresaw more barriers than parents, young people or adults. Two key barriers were:

#### 1. Access to technology.

Accessibility to technology was discussed in all groups including physical access, ability to use the technology, interoperability with smartphone platforms and clinical services, access to phones at school, and wifi and mobile data availability.

#### 2. Incorporating digital technology into clinical care.

Digital was seen as a positive addition to the clinical process only if it *"adds to what's there already...not if it's used as an excuse to see people less"* (Adult).

HCPs stressed that the time required to analyse digital self-monitoring information should be properly accounted for and costed.

Data confidentiality and privacy were also discussed by several groups, as well as the need to consider information governance for safe-guarding young people.

HCPs and adults raised concerns about the immediacy of sending data into the clinic and whether people would be there to respond.

### THEME 3: Imagining an Ideal App

#### Organisational Aid

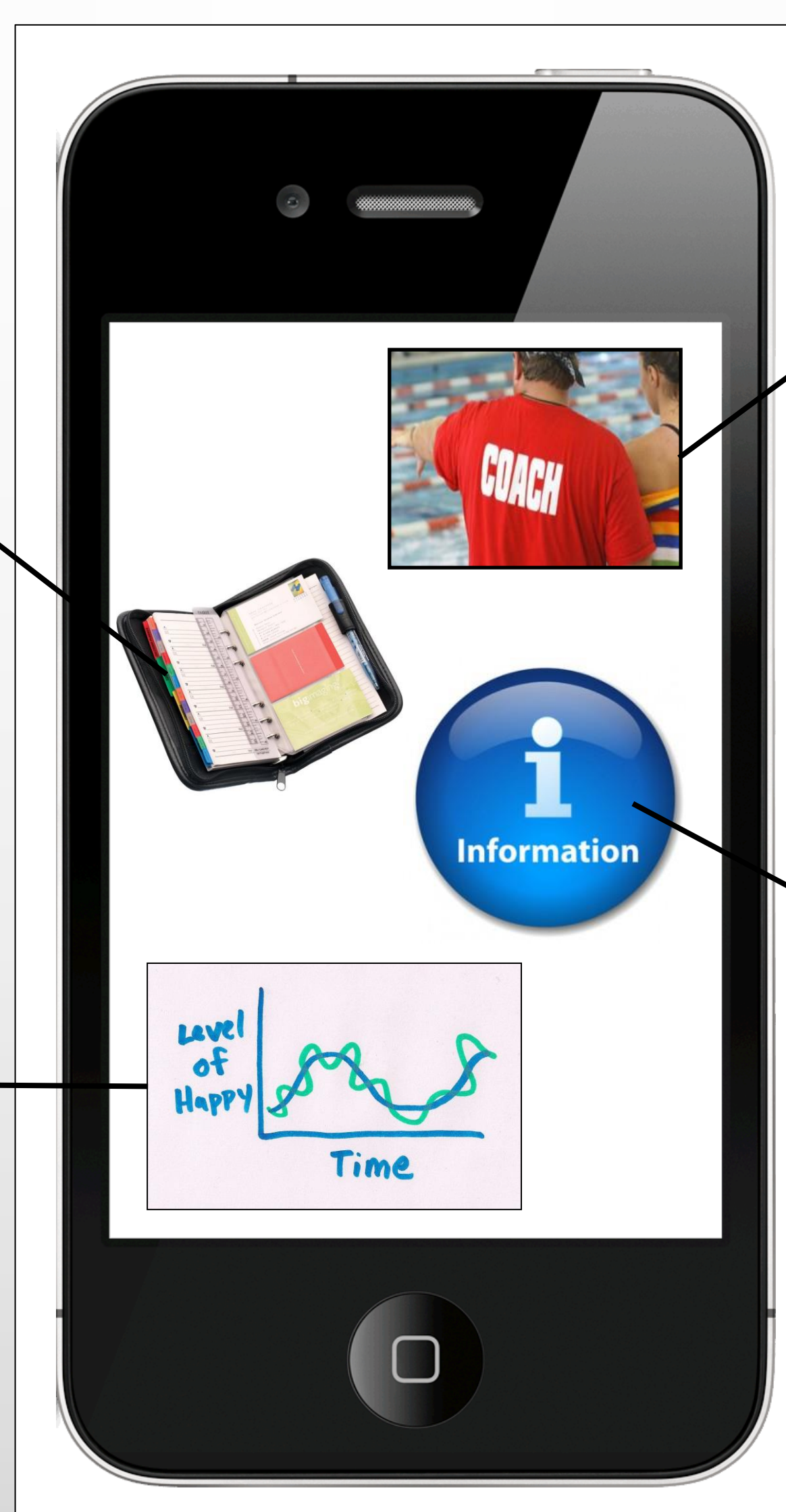
*"Something that helps you keep on task and achieve goals...incorporating pre-set plans and lists of tasks" (Adult)*

*"[Something] to figure out how long it takes you to do certain daily tasks e.g. showering. The app could then tell you what time you would need to get up to get everything done" (Adult)*

#### Self-Monitoring

*"Graph would be useful for example for... patients who stop taking meds but parents and teachers say they have improved. It might help to have the parent and teacher graphs to see" (HCP)*

*"Monitoring mood swings and side effects such as headaches may be useful" (Young Person)*



#### Coaching & Peer Support

*"[It] could have some information based on how long the process should take with messages such as 'you may not be seeing any improvements yet, but stick with it'... or you could have messages to parent such as 'Derek might be struggling this week" (HCP)*

#### Trustworthy and Tailored Information

*"[Information that was] reliable (Adult; Parent) precise and specific to the individual, based on personal experiences (Adult) and professional knowledge (Parent)."*

## Conclusions

Research has shown that using generic smartphone features such as calendars, task lists and notes, with the support of a human online coach, can be effective in managing ADHD symptoms [3]. Future care pathways for ADHD should capitalise on the receptiveness of patients and HCP towards digital assistance. Research should aim to focus on the development and evaluation of inclusive, engaging and customisable digital tools to meet needs. Care strategies should also focus on improving access to and the quality of these tools in order to address the unmet need of additional peer support and personalised information, both of which would contribute to the general wellbeing of patients and parents. Ultimately, our results reflect overarching support for a **tech-enabled personalised model of care for ADHD**.

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