

Technology for Mental Health

Opportunities, Challenges and Working Together

NewMind Workshop, 7th July 2015

National Council for Voluntary Organisations, 8 All Saints Street, London, N1 9RL

10:00 – 10:30 Registration

During registration delegates will be asked to indicate how confident they feel about technology providing solutions and improving the lives of people with mental health problems.

10:30 – 10:50 Welcome & Introduction

Professor Chris Taylor, Principal Investigator of NewMind: Introducing the network, providing an overview of the engineering & physical science themes being researched, summarising the work of the network to date, and outlining the purpose of the day.

10:50 – 11:20 Mental health charities & technology

Eve Critchley, Mind & Colin Capper, Alzheimer's Society: Understanding technological developments from a charity perspective, followed by an open discussion: what has and hasn't worked when developing technologies for mental health?

11:20 – 12:20 What can technology offer people with mental health problems? (1)

Using scenarios (see attached), delegates will explore how existing and future technologies could be applied to help people with mental health problems, identifying opportunities and issues. How do charities see their role in influencing the development of technology solutions?

12:20 – 12:50 Solution providers & technology

Kat Cormack, BuddyApp & Patrick Gaydecki, KMS Solutions: Examples where user involvement and insight has aided the development of a product or service, followed by open discussion: what lessons can be learnt and how can charities help?

12.50 – 13.00 Ethical principles for technology development

Rapid fire ideas-gathering on what ethical principles need to be upheld in the development of new technologies for mental health.

13:00 – 14:00 Lunch

Delegates will be asked to vote for the ethical principles that seem most important to them.

14:00 – 15:00 What can technology offer people with mental health problems? (2)

Working in groups, delegates will explore the NewMind desired outcome framework (see attached), adding more detail and assessing each broad theme: is the outcome genuinely desirable or viable? What are the practicalities of achieving the outcome?

15:00 – 15:30 Exploring outcomes in more depth

Based on the previous discussion, each delegate will choose a desired outcome theme to discuss with others in more depth, explore options relevant to their area of interest, develop ideas for what 'acceptable scenarios' for intervention and tech development might look like, and identify potential collaborations.

15:30 – 16:00 Closing exercise & next steps

Revisiting the confidence gauge that delegates completed during registration, discussing future engagement activities, and identifying follow-up actions.

Background

NewMind aims to facilitate the engineering and physical science research required to underpin new technologies for supporting individuals with mental health problems, and their carers (both professional and informal). We are considering four broad areas of technology:

- *sensors* (wearable, mobile phone, in the home) for providing a real-time picture of what is happening to an individual;
- *information management* to integrate information from sensors and other user input with an individual's health record;
- *data analytics* to make sense of realtime data, providing useful summaries and recognising unusual patterns (for the individual);
- *user-centred design* of devices, prompts and information presentation to make technologies usable in everyday life.

Working with service users and providers, NewMind has so far identified four main types of *desired outcome* where technology might have a role to play. These are summarised below, each illustrated by an example scenario. In the first breakout session participants will be invited to discuss opportunities and issues, building on the example scenarios. In the second breakout session participants will be invited to develop the desired output framework, adding more detail, suggesting new categories, and prioritising objectives.

Early warning and prevention

Using technology to identify problems early, supporting the deployment of coping strategies, and allowing timely intervention.

Fred has serious mental health problems, with flare-ups that have sometimes resulted in emergency admission as an in-patient. He agrees to wear a wristwatch that monitors his activity, a range of vital signs, and medication adherence, all in real time. This information is used to give his carers early warning of deterioration, before it is too late, and by his service providers to better understand his condition.

Optimising care

Using technology to build a more complete picture of an individuals' mental health, empowering self-management, and informing more effective intervention.

Carole suffers from a mood disorder that is often debilitating. She uses a smartphone app that samples her mood regularly via a short questionnaire and captures information on her physical activity and on both her use and the content of voice calls and texts. This information is mined to infer her mental state in real time and this is used by the app to augment her health record, trigger CBT coaching at the point of need, and adapt her medication dynamically.

Supporting personal aspirations

Using technology to support individuals in overcoming barriers to setting and achieving challenging personal goals.

Jean is beginning to show symptoms of cognitive impairment, but wants to live independently for as long as possible. She invests in an electronic personal assistant that she can train to look after her in the way that she wants, before her condition deteriorates. The assistant senses her environment and is able to make informed decisions influenced by how Jean would have acted in various situations acting for her and/or providing prompts as her cognitive ability begins to decline.

Enhancing social interaction

Using technology to help individuals build strong social networks and manage social interactions more effectively.

Ben has Asperger's Syndrome. He has a wearable device that helps him interact with other people more effectively by inferring their emotional state and intentions in real time, and helping Ben understand them: e.g. "Michael is very busy today so that is why he is frowning."