Challenges of evaluating wellbeing technology in the NHS

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INTRODUCTION
Poor mental health affects about 14% of the UK population at any one time [1]. In 2005, Richard Lanyard presented a paper to the UK government arguing that poor mental health was one of the biggest causes of misery in the UK and a significant drain on resources, about 2% of GDP [2]. The UK has responded with substantial investment in primary care mental health services including the centrally managed program Increasing Access to Psychological Therapies (IAPT), which provides high throughput psychological therapies for common mental health problems in primary care [3].

Providing cost-effective care for mental health however has proven difficult and greater emphasis is being placed on the role that technologies might play in reducing this burden [4]. A large number of products have recently entered the market to address this problem, embodying a range of service models and concepts of wellbeing [5]. This burgeoning of ideas brings with it the need for evaluation to ensure evidence-based provision. This short submission discusses the challenges that have arisen in an on-going evaluation project of SilverCloud, an interactive online intervention for common mental health problems [6].

CASE STUDY
SilverCloud is a platform which enables the rapid development of Cognitive Behavioural Therapy (CBT) based interventions for common mental health problems. It contains a range of design strategies which enable it to be personalised, interactive, social, and supported as described in detail in [7].

MindBalance, an intervention for depression created on the SilverCloud platform, is being evaluated in the IAPT service. It is offered as an alternative to guided self help which is provided face-to-face or over the telephone with the support of manuals. Users with more serious conditions are given a series of appointments with a clinical psychologist. Service users receive between 6 and 10 contacts with the service. Although SilverCloud follows one of the more traditional models of e-mental health, and IAPT has a flexible service model, a number of evaluation dilemmas have occurred.

How to evaluate
Wellbeing technologies enable new service models which make it possible to make contact online. This is thought to increase appeal to those who do not like face-to-face treatment and reduce the stigma of acknowledged service attendance [8]. Online services require a surprisingly different organisational set-up which can be difficult to achieve solely for the purposes of evaluation. However, evaluating an online intervention that requires initial face-to-face contact is likely to distort both the use case and user-base.

This creates a trade-off between the resource needed to evaluate and the validity of the evaluation. We chose to evaluate through the existing IAPT face-to-face service model to reduce resource but it has affected recruitment into the study. More specifically, those who were seen face-to-face first were less interested in ‘switching’ to an online intervention. We will follow up this question when data collection is completed.

What to evaluate
As wellbeing technologies embody service models, careful thought has to be given to the boundaries of the evaluated entity. A surrounding service is likely to be responsible for encouraging and maintaining use. For example, people are more likely to commit to an intervention that has been officially prescribed to them and has follow up than one found searching online [9]. Such service elements are rarely captured and analysed in wellbeing evaluations. Indeed, doing so would suggest that the technology is not independent of the service, which would complicate evaluation strategies enormously.

We have chosen to use the processes and training already existing in the IAPT service as it is standard nationwide. This trades off new models of engagement for consistency of service to be evaluated.

What to measure
Improvement in clinical outcomes measures, such as the Becks Depression Index, is essential to validate a wellbeing technology for use in the NHS. However, such measures provide little feedback about the efficacy of the design. This is particularly problematic for this group of technologies, for which attrition, or drop-out, is high [10]. Indeed, health
researchers have called for “a science (and an art) of participation and encouragement” [11].

This raises a challenge to researchers in Human-Computer Interaction (HCI) as to how to use other data sources, such as log-data, to evaluate design concepts. We are addressing this challenge through usage pathway analysis.

DISCUSSION
The number of wellbeing products on the market is growing rapidly as demand from health services grow, but such products need to be evaluated to be used in the NHS. These few examples highlight some of the trade-offs and challenges of evaluation that HCI researchers will need to consider. I would suggest that these will be even more substantial for exceptionally novel technologies and service models.

REFERENCES