Towards a framework for the appraisal of digital products for mental health

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Today’s talk

- Who we are and why we did this work
- The need for a proportionate approach to evaluation of apps
- What’s different about apps for mental health
- Our approach: what we did and who was involved
- The draft framework
- What’s next
NIHR Healthcare Technology Co-operatives

- A catalyst for the development of new technologies
- Focusing on 8 areas of high unmet clinical need
- Working with NHS, service users, academia & industry

Bradford: Wound Care
Leeds: Colorectal Therapies
Sheffield: Devices for Dignity
Nottingham MindTech: Mental Health & Dementia
Cambridge: Brain Injury
Bart’s: Gastrointestinal Disease
Guy’s: Cardiovascular Disease

MindTech Healthcare Technology Co-operative
Why we’re looking at mental health apps

Users:
Which of the many thousand apps should they use and which are recommended or endorsed by the NHS?

NHS organisations and staff:
How should apps be evaluated and how should concerns over safety, privacy and effectiveness be addressed?

Developers:
What evidence and information do users & the NHS require? How to differentiate ‘effective’ or evidence-based apps from the thousands of others.

Researchers:
What role do (could/should) apps have in mental healthcare and how can they be evaluated?
What we hope to achieve

- A start!
- A tool that is helpful and flexible – not prescriptive/one-size fits all
- To improve understanding of NHS & user requirements for apps
- To raise standards by improving the market ‘pull’ for apps that:
  - Are evidence-based
  - Address safety, privacy and security
  - Are developed with meaningful service user involvement
- Increase the adoption, use and evaluation of apps
- To work with others looking at apps, mobile & digital health
The need for a proportionate approach

- There are many different types of apps
  - Some claim they will result in clinical benefit
  - Others are ‘just’ a tool to assist with everyday life
- Large scale evaluations are expensive & time consuming
- Apps are (currently) inexpensive and rapidly evolving
- Not appropriate to hold all apps to the same standard
- However, some factors should always be considered:
  - Safety,
  - Privacy,
  - Security, etc.
What we did

- Brought together a wide range of people:
  - Service users
  - Range of clinicians
  - Academics
  - Information Governance experts
  - NHS IT specialists
  - Digital technology developers

- To consider:
  - What’s different about apps for mental health?
  - What are the issues that should be (are already) considered?
  - What level of evaluation is appropriate for the different types of apps?
What’s different about mental health apps?

Different challenges:

- Wide ranging symptoms which can change rapidly:
  - What severity of symptoms is the app suitable for?
  - Which users?
  - And who it isn’t aimed at
- Users may be vulnerable (or may become vulnerable)
- Stigma of mental health
  - app may be someone’s only source of support and information
  - reluctance to use apps (name, appearance, etc. will be important)
- Reliance on apps: what happens if they disappear or change?
- Use of an app may increase symptoms (e.g. anxiety)
- Equity of access: certain groups are less likely to have access to devices and internet
What’s different about mental health apps?

But there are also different opportunities:

- Many evidence-based therapies are ideally suited to digital delivery
  - Talking therapies (especially ‘top-up’ between appointments)
  - Peer support
  - Psychoeducation

- Regular (self) monitoring particularly useful for mental health: daily rather than weekly, monthly or yearly

- Many people already use digital technology and social networking to help manage their condition e.g.: Facebook, #bpd #BigMadChat

- For mild & moderate conditions digital tools may provide flexibility, choice, self-management strategies

- MH user communities are already active and include many digital health leaders
The Framework: 5 Categories

1. Safety, security and privacy
   - What data is collected, who owns it, what’s done with it?

<table>
<thead>
<tr>
<th>SAFETY, SECURITY AND PRIVACY</th>
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</thead>
<tbody>
<tr>
<td>Is it clear what data is collected by the app (both automatically and entered by user)</td>
</tr>
<tr>
<td>Who has responsibility for the data? (e.g. who is the data controller and who is the data processor)</td>
</tr>
<tr>
<td>Who owns the data?</td>
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<tr>
<td>Do any third parties have access to personal data? (advice that this should not be the case unless for a clinical purpose)</td>
</tr>
<tr>
<td>What data does it ask users for? Is any of it personal data</td>
</tr>
<tr>
<td>Will the data (personal or otherwise) be sold or given to anyone?</td>
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<tr>
<td>Are third party services delivered through the app? If yes, are they (a) acceptable (b) if yes, how will the user be informed?</td>
</tr>
<tr>
<td>Is it possible to delete the app and all assorted data? (if yes, this needs to be clearly explained to the end user)</td>
</tr>
<tr>
<td>Is the user security fit for purpose? (i.e. authentication)</td>
</tr>
<tr>
<td>Where is the data stored and for how long? (must be in the UK)</td>
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<tr>
<td>Is third party licensing required? (e.g. for materials used on the app)</td>
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<tr>
<td>Is the software compliant with relevant open interface standards?</td>
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<tr>
<td>Is the software able to interoperate with other relevant IT platforms?</td>
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<tr>
<td>What functions of the phone does the app use? (sensors, camera, microphone, gps, etc.)</td>
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<tr>
<td>Does it ask users to register (by email or Facebook)?</td>
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<tr>
<td>Is the media employed appropriate/proportionate to the activity?</td>
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<td>Can the analytics/usage data be checked and accessed?</td>
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If yes, this may have implications for repurposing the app in the future.

Is this a good thing or bad thing?
The Framework: 5 Categories

2. Source
   - Who developed it, who’s making money from it, who was involved?

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Who developed this product?</td>
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<tr>
<td>Who commissioned/funded this product?</td>
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<tr>
<td>Who is making money from it?</td>
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<tr>
<td>How are the developers linked to relevant communities</td>
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<tr>
<td>What design processes were used – which stakeholders were involved?</td>
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<tr>
<td>Does it adhere to design industry standards on accessibility?</td>
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<tr>
<td>Have appropriate considerations been made for people with communication or sensory impairments?</td>
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<tr>
<td>What is the business/sustainability model? Is it likely to be regularly updated and available in the long-term?</td>
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</table>
3. Access
   - How do you get it, what does it cost, what devices do users need?

<table>
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<tr>
<td>How does the user access the tool – independently or through the NHS?</td>
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<tr>
<td>Is there any cost to using the tool or other aspects which might affect equity of access?</td>
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<tr>
<td>What devices can be used (smartphone, tablet, iOS, Android) and can it be used across devices?</td>
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</table>
4. Relevance, content and accuracy
   - Does it address a need or priority? Is it based on good practice or theory of change?

<table>
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<th>RELEVANCE, CONTENT AND ACCURACY</th>
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<tr>
<td>Is it relevant?</td>
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<tr>
<td>How did the developers decide the product was relevant? How was the unmet need for this product been defined?</td>
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<tr>
<td>Does the need for this product link with a local or national NHS Strategy or priority?</td>
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<tr>
<td>What research/evidence base is there for this product?</td>
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<tr>
<td>What involvement did key stakeholders (e.g. service user/clinician) have in selecting this app?</td>
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<tr>
<td>What theory of change/psychological model/established or good practice is the product based on?</td>
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What hierarchy of evidence has been used? Links to info

Link to resources, e.g. Nominet Trust, Nesta
5. Impact

- Who will potentially benefit from the use of the app and how can this be measured?
  - A range of evidence may be considered depending on availability and what's appropriate, e.g. case studies, facts and figures, patient and clinician evaluations.
  - Include links to information on evaluation

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<tr>
<td>User – could use PROMS (Patient Reported Outcome Measures) or PREMS (Experience) or Holistic Needs Assessment.</td>
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<td>Provider – info on NET economic impact (e.g. reduction in hospital admissions, QALYs)</td>
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<tr>
<td>Organisation – workflow/time/productivity gains, opportunity costs, attitudinal change in workforce confidence in such tools.</td>
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<tr>
<td>Commissioners – better/more appropriate use of services, efficiency, has it created new ideas for transformation?</td>
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<tr>
<td>What are the potential benefits for quality outcomes?</td>
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<tr>
<td>What are the potential cost benefits?</td>
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<tr>
<td>What are the potential benefits for clinical quality</td>
</tr>
<tr>
<td>What are the potential unintended outcomes/risks for users</td>
</tr>
<tr>
<td>What are the potential unintended outcomes/risks for providers</td>
</tr>
<tr>
<td>What are the potential unintended outcomes/risks for organisations</td>
</tr>
<tr>
<td>What are the potential unintended outcomes/risks for commissioners</td>
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Proportionate Assessment – excel-based tools

Category A: diary, logging or goal-setting: no connectivity or sharing

Category B: Information or signposting

Category C: Connect and share with family, friends and peers

Category D: Connects with NHS services and/or systems
What’s next?

- Download from mindtech.org.uk
- Use it and send us your thoughts, suggestions and criticisms
- Partner with us to refine the toolkit and build on this ‘starting point’
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