

Developing a framework for the evaluation of digital mental health applications

Background

Estimate per year:
 100,000 new health apps
 0.07% registered for clinical trials
 0.007% published results

"most health apps are mostly harmless and likely useless"

- Lack of dedicated regulation (except MHRA Medical Device)
- Lack of awareness and understanding
- Scientific methods under revision
- Limited resources and expertise
- Little incentive

Yet another framework?



Content comes from existing frameworks/guidelines - focus on **implementation** - **How do we get people to use the framework (correctly)?**

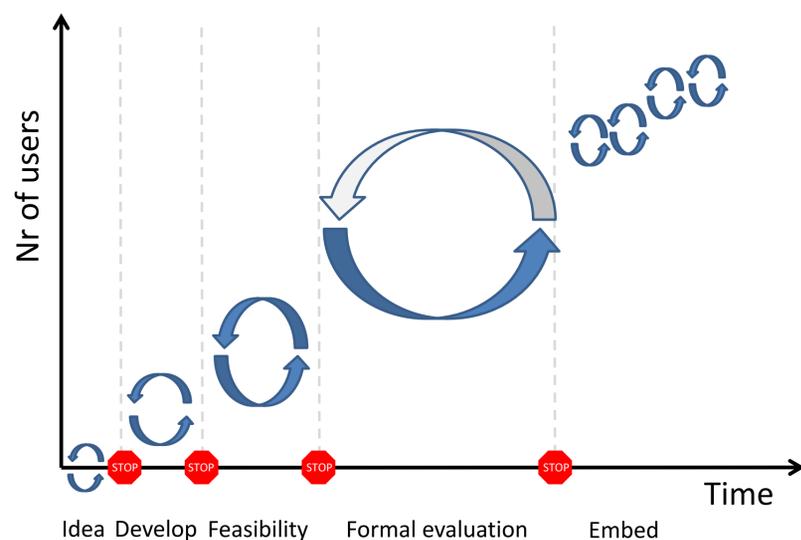
METHODS:

Educate and ask the various stakeholders (public/patients, developers, NHS commissioners, NHS staff, charities, academics etcetera)
 Co-design feasible evaluation strategy, test, do process evaluation, repeat - currently at small scale to prepare for scaling up in the future

FLEXIBILITY to adapt to

- type/aim of app (from prevention to substitution)
- development phase (initial idea to large scale 'RCT-ready')
- type of framework user (public, developer, NHS, academic etc.)
- current regulations, best practice, academic consensus, ...
- available resources and expertise for evaluation
- other real world constraints

Framework for developers



- Offer help with NHS Digital **Assessment Questions**: no jargon, applied (examples), links to resources, training
- 'Agile' science: adaptable, iterative, real world constraints, built into product development
- Co-design evaluation** with patients/public, clinicians, researchers, ...
Content: what is important to you?
Implementation: can we make it easy and maybe even fun for you!

Framework for general public



Workshop and interviews
 Public is interested in contributing to a **crowdsourced platform for app evaluation**

- Crowdsourced platform for app evaluation can help **pre-select promising apps** for expert review
- Even if not everyone uses the platform, it can still be used to **raise awareness & provide education**

- Non-commercial and transparent
- Trusted (recommendations by clinicians and trusted bodies)
- Up to date
- Train and educate users, make people understand the importance
- Offer incentives for reviews
- Intelligent searches/suggestions
- Useful categories e.g. app type, illness, user age group
- Personalization: allow people to use overall score or pick their priority topic(s) - people have different priorities

Questionnaire (in progress)
 Try it yourself at <https://goo.gl/O35ft9>

5 out of 6 responders (aged between 18-40 years) had used apps before for health or wellness and all felt confident using mobile apps and the internet.

Recommendations from people who have used a given app were rated just as highly as recommendations from friends, and higher than any other sources including the NHS, clinicians or other experts. This echoes the existing culture of checking online reviews by peers before committing to buy a product.

If there would be a crowdsourced platform, all responders said they would read reviews on health apps, 4 would endorse reviews (e.g. by clicking a 'like' button) and 2 would write them.

Which topics are important, how should we name and explain them?

If you would be reading a review about a health app you consider using, how important are these topics to you?



- Correct content
- Clinical safety
- Health benefits
- Cost effective
- Privacy
- Security
- Transparency
- User engagement
- User friendly
- Technical performance
- Compatibility
- Recommendations by experts
- Recommendations by users
- Future proof

Stage	Description	Key Questions
Idea	Theoretical ground work: expectations, existing evidence, planning	<i>Will this work?</i>
Product development	Co-design the product with stakeholders to ensure user friendliness/relevance Establish user engagement and clinical safety (as well as privacy, technical performance etc.) and keep tracking these throughout product's lifetime Start thinking about effectiveness and cost effectiveness	<i>Do people find it useful and easy to use?</i> <i>Do people use it correctly?</i>
Feasibility (formative evaluation)	Focus on process evaluation, qualitative analysis, predictors/indicators Allow methods and digital product to be adapted	<i>Is it possible that this tool has any health &/or cost benefits?</i>
Formal evaluation	Focus on outcome evaluation, quantitative analysis, validated outcome measures Improvement over current best alternative (if applicable) Methods and digital product remain stable RCT still golden standard but alternative designs being proposed and tested	<i>Which health benefits does this tool provide?</i> <i>Is it worth the cost?</i>
Embed	Keep up to date and implement small improvements while digital tool is being promoted and becoming 'mainstream'	<i>Does it still work?</i>