



Public Health
England

Evaluating digital health products

Encouraging better evaluation in digital health: guidance, training and community development

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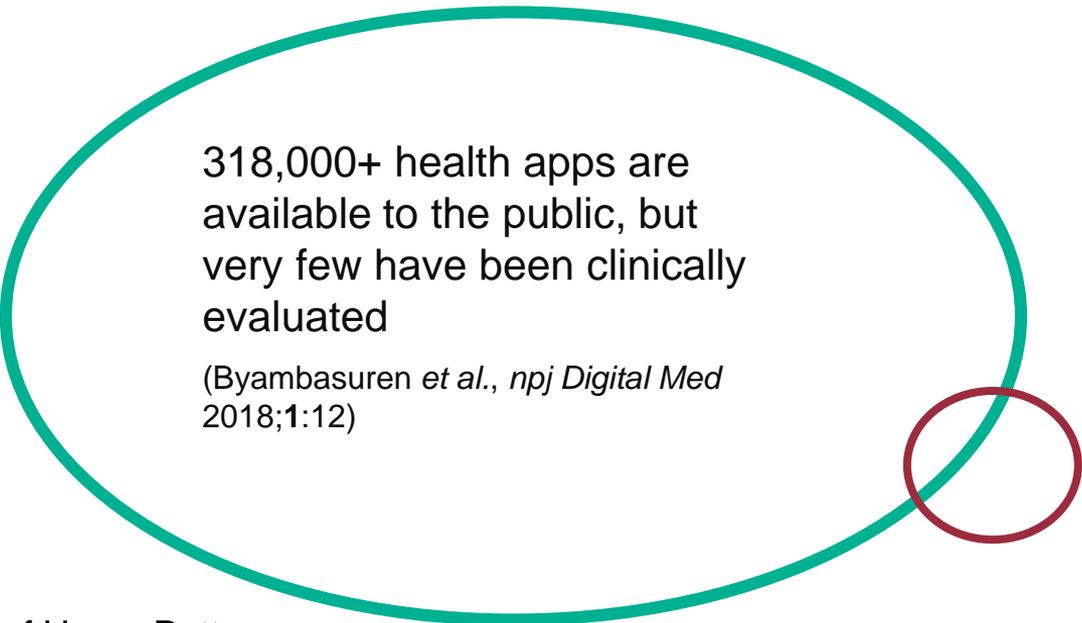


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The problem

Most publicly available apps have not been evaluated in the scientific literature

Most apps evaluated in the scientific literature are not publicly available



318,000+ health apps are available to the public, but very few have been clinically evaluated

(Byambasuren *et al.*, *npj Digital Med* 2018;1:12)

Of the health apps found to be efficacious in RCTs, only ¼ were publicly available and functioning

(Rogers *et al.*, *J Med Internet Res* 2017;19:e90)

Public Health England wanted to understand, and tackle pragmatically, the problem of evaluating digital health

- multidisciplinary team: service designers, academics, and public health professionals
- user-centred design methods, including qualitative research, and engagement with end-users and stakeholders
- identified opportunity areas, developed concepts, tested prototypes, and planned service implementation

JMIR Preprints

Karpathakis et al

An evaluation service for digital public health interventions: concepts, development and ways of working

Kassandra Karpathakis¹ BSc; Gene Libow² BA; Henry W W Potts³ PhD; Simon Dixon⁴ BA; Felix Greaves^{5,6*} PhD; Elizabeth Murray^{7*} FRCGP, FRCP (Edin), PhD



— What we did

We created **guidance** and **training models** for people developing digital health products with limited knowledge of evaluation

Evaluation guidance

Practical online guidance on GOV.UK, covering:

- how to conduct an evaluation
- where to get support
- in-depth explanations of different methods with digital health case studies

Methods library

Read more about specific evaluation methods. This is a quick-reference guide to the methods explained in the step-by-step guide.

[Analysis of routinely collected data: descriptive studies](#)

30 January 2020 Guidance

[Behaviour change techniques review: descriptive studies](#)

6 July 2020 Guidance

[Clinical audit: descriptive studies](#)

20 May 2020 Guidance

[User feedback study: descriptive studies](#)

30 January 2020 Guidance

[Before-and-after study: comparative studies](#)

30 January 2020 Guidance

[N-of-1 study: comparative studies](#)

16 July 2020 Guidance

[Randomised controlled trial: comparative studies](#)

30 January 2020 Guidance

[Crossover randomised controlled trial: comparative studies](#)

4 May 2020 Guidance

[Factorial randomised controlled trial: comparative studies](#)

20 March 2020 Guidance

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Evaluation training

Two facilitated workshops available to PHE staff

1. Creating a model of how your product works
2. Choosing measures and methods

The screenshot shows a digital interface for a 'Methods and measures workshop'. It features a blue header with the title 'Methods and measures workshop'. Below the header are three main columns: 'FUNCTION', 'OUTCOMES', and 'MEASURES'. The 'FUNCTION' column contains two entries: a green one by 'bobaksaadat' (18h) about assessment tools, and a pink one by 'bobaksaadat' (17h) about signposting. The 'OUTCOMES' column contains two entries: a green one by 'bobaksaadat' (18h) about user confidence, and a green one by 'Henry Potts' (1m) about user confidence. The 'MEASURES' column is currently empty, with a plus sign icon indicating it can be added. Each entry in the 'FUNCTION' and 'OUTCOMES' columns includes a heart icon for likes (0) and an 'Add comment' button.

We have developed ways to run workshops online since March 2020

Non-PHE staff can run the workshops themselves, using instructions in the online guidance.

We have also tested a train the trainers model.

Evaluation Service: next steps



<https://www.gov.uk/government/collections/evaluating-digital-health-products>

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