

Manuscript version: Author's Accepted Manuscript

The version presented in WRAP is the author's accepted manuscript and may differ from the published version or Version of Record.

Persistent WRAP URL:

<http://wrap.warwick.ac.uk/124715>

How to cite:

Please refer to published version for the most recent bibliographic citation information. If a published version is known of, the repository item page linked to above, will contain details on accessing it.

Copyright and reuse:

The Warwick Research Archive Portal (WRAP) makes this work by researchers of the University of Warwick available open access under the following conditions.

Copyright © and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable the material made available in WRAP has been checked for eligibility before being made available.

Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Publisher's statement:

Please refer to the repository item page, publisher's statement section, for further information.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk.

Digitally enabled primary care: the emperor's new clothes?

Digital technologies are seen as a key part of a modernised NHS that offers quick, convenient and acceptable care that makes better use of clinician time.(1) The NHS Long Term plan(2) asserts that 'digitally enabled primary care will go mainstream across the NHS' and corresponding changes have been made to the new GP contract with all practices expected to offer online consultation by April 2020 at the latest. But will digitally enabled primary care offer the solutions to the challenges facing general practice or is this a case of the emperor's new clothes?

What is digitally enabled primary care?

Digitally enabled primary care involves fully integrating digital technologies into routine primary care practice. 'Digital-first primary care' is a key part of this approach and this is the use of digital routes of access into primary care as default. It incorporates online services (booking, repeat prescriptions and access to records), online access for symptom checking and remote consultation with a clinician which may be via web chat, web forms, email or video.(2) These can be accessed by patients via a computer, smartphone or tablet that has access to the internet.

These approaches may be accompanied by remote monitoring. Digitally enabled remote monitoring (or telemonitoring) involves patients using devices to measure biometric information themselves, relaying this back to the clinician.(3) Unlike other digital approaches, access to the internet is not essential as text messaging (SMS) can be used to relay the information. Remote monitoring ranges in sophistication, from blood glucose monitors available to purchase from a chemist through to wearable technology such as continuous glucose monitors. Personal monitoring is on the rise via fitness and wellbeing trackers and apps for smartphones; just as millions count their steps on a watch, newer devices allow people to track a range of physiological parameters and collect health related data which they may or may not share with a clinician.

Will digitally enabled primary care solve our problems?

With digital technologies we observe 'digital exceptionalism' in action; the assumption that digital technology is inherently positive and progressive and should be above the need for robust independent evaluation. (4) Instead we see a reliance on individual examples of success stories. In reality, the existing research evidence paints a far more mixed picture than the unilaterally positive messages we receive from NHS organisations and government about digitally enabled primary care.(1)

When it comes to digital first primary care there are some things we do know; for particular patient groups and certain conditions a digital option is timely, convenient and acceptable and in some cases, preferable. For clinicians, being able to offer a modern and adaptable service is positive.(5) When it comes to the impact on workload we know far less, and what we do know indicates that there is the risk of increased workload via additional consultations and the generation of data that must be processed, acted upon and stored.(6-8) At present, uptake of digital technologies by patients and practices is relatively low,(5, 7) and so the full effect on workload and clinical outcomes is unlikely to be easy to measure for some time.

The use of digitally enabled remote monitoring has been more extensively researched particularly for self-monitoring of long-term health conditions and there is evidence that it is efficacious in blood pressure monitoring and a safe addition to care for other conditions.(3) However a key challenge has been implementation into routine practice (9) and this same challenge is faced for many digital technologies in primary care. (5, 7)

Contributing to the important discussion about the realities of implementing digital technologies in primary care are three research articles published in this issue of the BJGP. Hammersley and colleagues compared the content, quality and patient experience of video consultations, telephone and face-to-face consultations,(6) with an accompanying qualitative exploration by Donaghy and colleagues(10) which looked at the acceptability, benefits and challenges of using video consultation in general practice as part of the same study. Grant and colleagues(8) conducted an embedded qualitative study of the TASMINH4 randomised controlled trial to evaluate facilitators and barriers to self and telemonitoring interventions for hypertension. All three articles tackle the issue of getting the use of digital technologies into practice, by contrasting them with existing approaches - video as compared to telephone and face-to-face consultation, and text messaging (SMS) as compared to paper for self-monitoring.

We learn that video consultation offers benefits that relate to the visual element and the cues associated with this imagery, and that patients and clinicians find it acceptable for follow up appointments, ideally within an existing doctor patient relationship.(10) We also learn that technical issues derail video consultation and any benefit is tempered by the technical and logistical challenges of setting up video consultations and using them.(6, 10) These findings are somewhat mirrored with telemonitoring for blood pressure, with challenges faced including the safe transfer of data from the website receiving the data into the practice's clinical system.(8)

A concern arising when digital technologies are introduced is the risk of excluding those people who do not and cannot access the internet or do not have access to a smartphone, potentially creating inequitable access to general practice. Grant and colleagues use standard mobile telephony to facilitate their telemonitoring, (8) this is widely available technology and has a lower bar for access. However, Hammersley and colleagues demonstrate that those people choosing to do a video consultation are younger and more experienced with technology than those who have a face-to-face or telephone consultation(6) and previous studies have shown that whilst there is opportunity in the introduction of new routes of access, there is also a risk that disadvantaged groups will be excluded.(5) Managing this tension is part of the work of implementation.

What does this mean for everyday general practice?

Digital technologies are here to stay. There is evident potential in their use as part of the suite of tools available to general practice for delivering care in certain circumstances and patients find them acceptable in this context. (5, 6, 8, 10) Yet there should be the understanding that digital technologies may not bring the blanket benefits promoted by those organisations insisting on their adoption. It is clear that there is work involved in making them a successfully functioning element of practice.

To avoid them becoming another Emperor's new clothes we must understand how they are likely to impact on workload and equity of access for patients and the technical and logistical concerns must be fully understood and addressed. Most importantly, whilst the addition of digital technologies to the menu of options is promising, we must remember that the face-to-face consultation is seen by patients as the gold standard option,(5, 10) and for some patients is the only accessible and realistic way in which they can receive their healthcare.

Declarations: I am an author on Hammersley et al and Donaghy et al.

References

1. Donnelly T. 2019. Digital first primary care and how the NHS Long Term Plan set a clear direction to mainstream digitally enabled care across the NHS. Available from: <https://www.england.nhs.uk/blog/digital-first-primary-care-and-how-the-nhs-long-term-plan-set-a-clear-direction/>.
2. National Health Service. The NHS Long Term Plan. 2019. Available from: <https://www.longtermplan.nhs.uk/>
3. Hanlon P, Daines L, Campbell C, McKinstry B, Weller D, Pinnock H. Telehealth Interventions to Support Self-Management of Long-Term Conditions: A Systematic Metareview of Diabetes, Heart Failure, Asthma, Chronic Obstructive Pulmonary Disease, and Cancer. *J Med Internet Res*. 2017;19(5):e172.
4. The Lancet. Is digital medicine different? *The Lancet*. 2018;392(10142):95.
5. Atherton H, Brant H, Ziebland S, Bikker A, Campbell J, Gibson A, et al. The potential of alternatives to face to face face-to-face consultation in general practice, and the impact on different patient groups: a mixed methods case study. *Health Serv Deliv Res*. 2018;6(20).
6. Hammersley V, Donaghy E, Parker R, McNeilly H, Atherton H, Bikker A, et al. Comparing the content and quality of video, telephone, and face-to-face consultations: a non-randomised, quasi-experimental, exploratory study in UK primary care. *Br J Gen Pract*. 2019: bjgp19X704573.
7. Marshall M, Shah R, Stokes-Lampard H. Online consulting in general practice: making the move from disruptive innovation to mainstream service. *BMJ*. 2018;360.
8. Grant S, Hodgkinson J, Schwartz C, Bradburn P, Franssen M, Hobbs FDR, et al. Using mHealth for the management of hypertension in UK primary care *Br J Gen Pract*. 2019: <https://doi.org/10.3399/bjgp19X704585>
9. Hanley J, Pinnock H, Paterson M, McKinstry B. Implementing telemonitoring in primary care: learning from a large qualitative dataset gathered during a series of studies. *BMC Fam Pract*. 2018;19(1):118.
10. Donaghy E, Atherton H, Hammersley V, McNeilly H, Bikker A, Robbins L, et al. Acceptability, benefits, and challenges of video consulting: a qualitative study in primary care. *Br J Gen Pract* 2019:bjgp19X704141.