

Implementation of a web-based asynchronous consultation service in a hospital in Northeast Scotland: a multi-method multi-lens assessment

BACKGROUND:

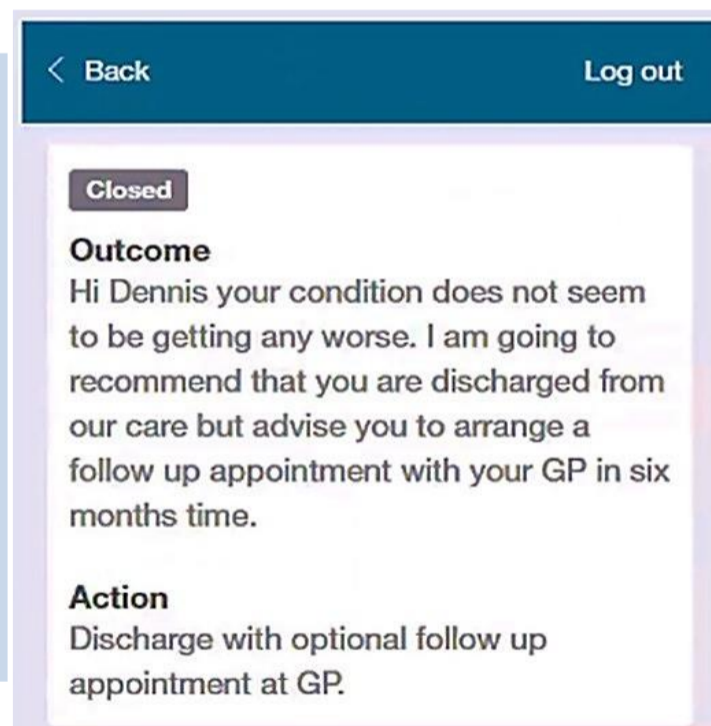
Asynchronous consultations have been extensively studied in primary care [1] but are increasingly used also in outpatient services, overall showing comparable outcomes to face-to-face appointments and lower healthcare costs for certain conditions [2]. Examining their adoption can help determine approaches to their implementation [3]. NHS Grampian (NHSG) board serves people in urban, remote, and rural areas across a vast geographic area. During the pandemic, Aberdeen Royal Infirmary expanded its outpatient asynchronous consultations from dermatology to gastrointestinal and pain management.

OBJECTIVE:

We conducted a multi-method study between April 2021 to September 2022 including staff, patient, and public perspectives and quantitative data from the NHS to obtain a rounded picture of innovation as it happened.

METHODS:

This service, called "digital appointment" by NHSG, is for routine consultations exclusively and requires users to answer speciality-specific health questions online within 5 days. After reviewing this form, the clinic may seek more information before deciding on the best outcome (treatment, being discharged from the clinic, open return, referred on).



Three online and one face-to-face focus groups with people at risk of digital exclusion (N=22).

Interviews with service adopters (staff) (N=14).

An NHS data analysis of service usage (collected between January and September or February and July 2022).

A patient survey (n=66) and six (n=6) follow-up interviews with patients.

Qualitative data were analysed thematically and quantitative data descriptively.



RESULTS:

Public's readiness for the new service

Most participants were very positive about the new service.



I think it's a good idea and it would benefit a lot of folks, especially folk out of town as well like you said, Peterhead or up and down the coast and that. (public)



Main points:

- Concerned about digital exclusion, the public emphasised personal preferences, adapting the service to patient's needs, and keeping the service optional.
- Expected benefits: improved access, efficiency, time and travel savings, and increased time flexibility for clinicians. Possible drawbacks: human contact loss, care fragmentation, and anxiety while awaiting a response.
- Participants suggested that community-funded programmes and safe spaces could help overcome practical barriers including lack of equipment and skills.



Staff experience with service deployment

Implementation was less straightforward than expected but successful and the service was found useful.



In the face of all the adversity and challenges that the work has faced, the fact that that still is getting used and patients are still buying into shows that it can be done. (staff)



Main points:

- Perceived benefits included improved triage, clinicians having greater time flexibility, improved patient convenience, and better information sharing.
- Patients' preferences shaped the service, but more input was desirable. Pre-assumptions about who was less likely to use it were not confirmed.
- Staff expected simple technical transfer from dermatology to other receptive specialities but despite the favourable context and NHSG support, it was complex.
- Sustainability depends on service transferability across specialities and funds for a clinician, operational staff, clinic coordinator, project manager, evaluation lead, and eHealth team's time.



NHS data analysis of service usage

There were a total of 1709 appointments offered to 1417 people between January and September 2022.

Acceptance: 41% accepted the service between February and July 2022, 17% declined, 29% did not react or needed a consultation and 11% had seen services or other.

New service users: The mean age was 38.7 years (SD=22.7); most were women (55.6%) and white British (79.4). User deprivation profiles of this and NHSG service in general, were similar.

Attendance: The overall non-attendance rate between January and September 2022 was 13.8% and rates were similar across all deprivation categories.

Appointment outcome: Open returns were the most prevalent (50%) outcome, followed by treatment (37%), discharged (10%), and referred (3%). People from most deprived areas were less likely to be discharged (14 vs 26%).

Estimated environmental impact: Digital appointments resulted in 44,712 fewer miles travelled than traditional face-to-face approaches.



Patient experience

While personal preferences varied, everyone thought it was a useful complementary care modality.



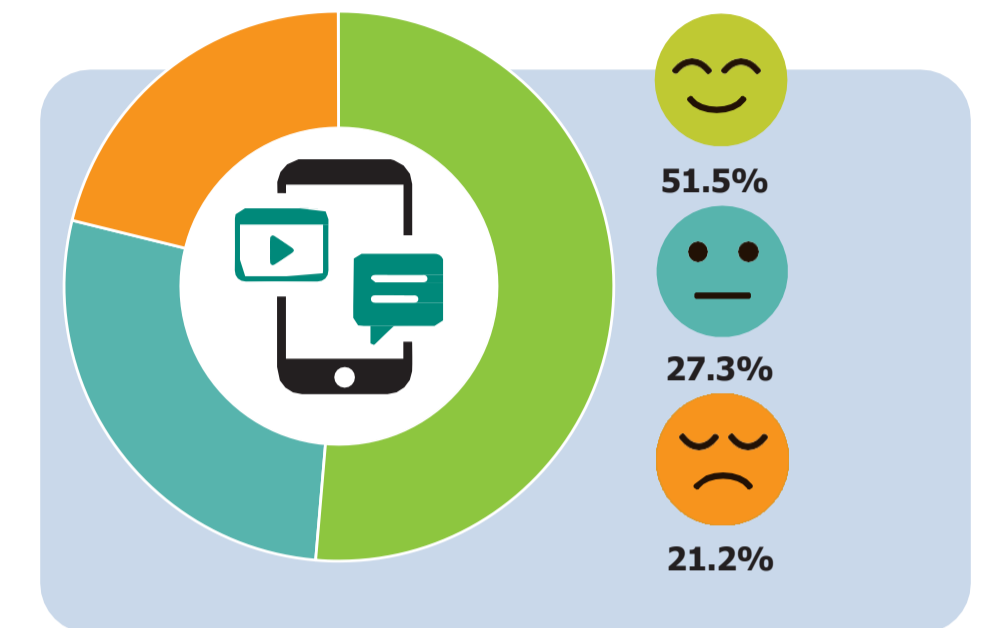
I had time to sit down and actually read the question and properly kind of, not prepare answers, but kind of rethink what my answers would be. Honestly, I think that would probably better the relationship because the doctors have a better understanding of the answers to the questions that they gave. (patient)



Main points:

- Saved time on travel and improved information collection and sharing were mentioned as key benefits.
- Four factors affected the ease of use: previous difficulties with getting timely care, cognitive and digital skills, health conditions (e.g. pain) and technical issues.
- Patients thought the term "digital appointment" was a misnomer - they viewed the service as an assessment to decide if they needed an appointment. Most had issues remembering details of the service provided.

Below is shown response breakdown to a patient satisfaction survey question: "How do you feel about using digital appointments for this type of healthcare service now you have tried it?"



CONCLUSIONS:

- There was no evidence that people from the most deprived areas are less likely to accept digital appointments, get treatment, or be given open return appointments.
- Asynchronous consultations in pain management and gastroenterology show the potential to be a key part of meeting increased demands on the NHS.
- Transfer of this technology into new services is easiest when there is limited disruption to existing administrative processes but regardless always needs significant and continuous support.
- For potential patients, careful technical support and explanation are needed, and a choice of consultation routes to ensure digital inclusion.

REFERENCES:

[1] Fuster-Casanovas A, Vidal-Alaball J. IJIC. 2022;22(3):7; [2] Nguyen OT et al. JMIR. 2021;23(5); [3] Bishop TF et al. Health Aff. 2013;32(8):1361-1367.

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Authors:
Magdalena Rzewuska^{a*}
Louise Locock^a
Andy Keen^b
Mike Melvin^c
Anthony Myhill^c
Craig Ramsay^a

^a Health Services Research Unit, University of Aberdeen
^b NHS Grampian
^c Public contributor
*magdalena.rzewuska@abdn.ac.uk

