User-acceptability of an automated telephone call for post-op follow up after cataract surgery.

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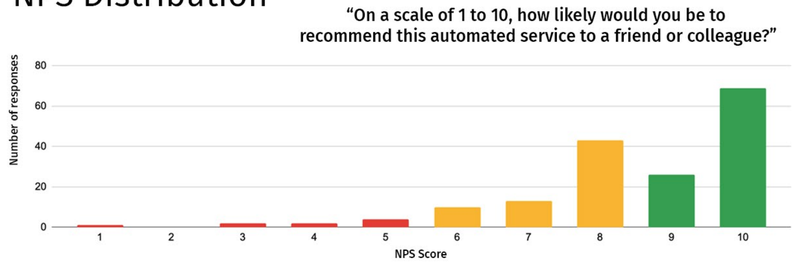
Background

- Demands on ophthalmology services are increasing, but many pathways involve **high-volume, low complexity highly stereotyped tasks** - presenting the potential for automation.
- We present a novel **clinical conversational assistant (Dora)** that is capable of delivering autonomous telemedicine calls following cataract surgery.
- We explore the **patient experience and acceptability** of undergoing routine follow up for cataract surgery with Dora in a real-world clinical pathway.

Results

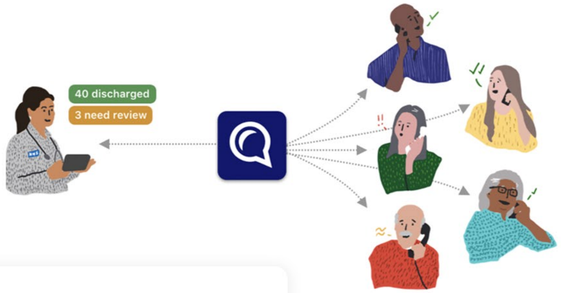
170	76	8.6/10	4/5
Calls completed auonomously	Mean participant age	Mean NPS score	Mean TUQ score

NPS Distribution



Who is Dora?

- UKCA Mark Class 1 clinical conversation assistant.
- Calls patients on any phone number.
- Has a natural-language conversation to elicit symptoms of operated eye.
- Is able to answer common questions.
- For patient, aims to have a similar experience to speaking to human clinician.
- No apps, websites, training or smartphones.



Telephone Usability Questionnaire (TUQ) results

- **24 patients** were consented for further acceptability interviews with a **mean age of 76.**
- High rates of overall acceptability, with a mean of **4.0/5** across the 16 questions.
- Simplicity, time saving and ease of use scored the highest with a median of 5;
- Whilst 'speaking to Dora feels the same as speaking to a clinician' scored a median of 3.

Appendix:
TUQ Questionnaire scores and individual quotes for each theme.

Methodology

- Mixed Methods Cohort Study.
- Aimed to recruit all patients with planned telephone follow-up after uncomplicated cataract surgery at Buckinghamshire Healthcare NHS Trust between June to August 2021.
- Consented at the time of follow up call - Between **2-4 weeks** post-op.

Acceptability

Net Promoter Score (NPS)
Dora asked all included patients as part of the follow up conversation:
"On a scale of 1 to 10, how likely would you be to recommend this automated service to a friend or colleague?"

Acceptability
- Randomly selected cohort underwent 15-30 minute **semi-structured interview** using the validated **Telephone Usability Questionnaire (TUQ)** consisting of 16 statements, and a free-form discussion.
- Patients agree or disagree with each statement on a 5-point likert scale
- The interview recordings were transcribed and assessed using thematic analysis with stepwise approach.

Overarching interview themes

1) "I can see why you're doing it"
Many patients inherently understood the utility of the innovation, and articulated that it could save time and money for the NHS, and also be more convenient for themselves.

2) "It went quite well actually"
Acceptability was influenced by prior expectations of automated systems. Patients fell into one of 3 categories: high acceptability because they knew what to expect, were apprehensive based on previous perceptions of technology and lastly those who did not accept it at all due to set views on wanting to speak to a doctor regardless of the circumstances.

3) "I just trust human beings I suppose.."
Dora was often referred to as a machine and compared directly to a human. Whilst people felt Dora was convenient and simple to use, many stated they would have prefered speaking to a human because of two categories - social interaction, and being able to have a discussion.

Conclusions

- Patients found the Dora system for autonomous telephone follow up after cataract surgery to be highly acceptable.
- This has the potential to make the cataract pathway significantly more efficient in a way which is convenient for patients.
- Further work is being done to assess safety as part of a multicenter study.

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