London North West University Healthcare NHS Trust

Digital profiling and analysis of barriers to teleconsultations among ophthalmic patients in North West London (NWL)

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Introduction

- Technological advances have allowed new models of healthcare delivery through the use **of software, fast communication** and **advanced devices**. One such model is telemedicine which is defined as the use of digital means and information sharing in order to **provide healthcare from a distance** and has been shown to improve outcomes in patients (1).
- The Coronavirus pandemic has accelerated the uptake of telemedicine and teleconsultations (2).
- A significant proportion of patients may be unable to use telemedical solutions (3), leaving them digitally excluded and at risk of worse outcomes.

Methodology

- We aimed to:
  1) Capture patients' technological and internet access and experience, a 'Digital Profile'.
  2) Identify barriers to teleconsultation uptake among patients

A 28 item survey was administered by clinic staff to patients attending the Macula clinic in NWL involving demographics, current technological access and views towards teleconsultations. Hypothesis testing of multiple means was corrected using Bonferroni correction.

Results

Responses were collected from 106 patients

Mean Age: 75..3 ± 13..3

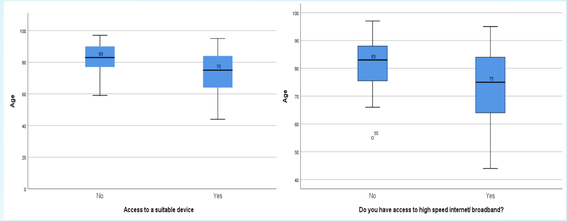
22% of patients had **Primary education or lower.**

34% of patients were **hard of hearing**

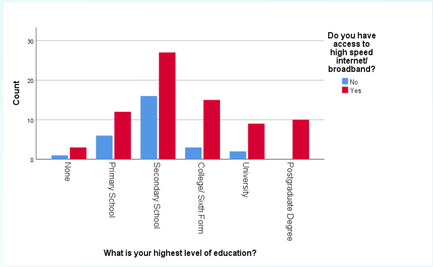
26% of patients had no access to the internet.
Those without internet access had significantly less confidence in teleconsultations (P<0.001)

The most owned device was a **smartphone** (66% of patients). 21% of patients owned no device.
Number of devices owned **correlated** with **confidence** (r=0.46; P=0.04) and **perceived utility** (r=0.20; P<0.001) of teleconsultations

The most common operating system owned was **Android** (50% of smartphone users).



Those without access to the internet or a suitable device were significantly older than those with (p=0.007 and p=0.01 respectively)



Those with lower educational attainment were more likely not to have internet access (P=0.01).

Discussion

- Our 'Digital Profile' showed the most common device owned was a smartphone with an Android operating system. Hence future healthcare innovations should consider focusing on this platform.
- Approximately a quarter to one fifth of patients do not have access to a suitable device, such as a smartphone or computer, or access to the internet. These patients will be excluded from novel healthcare technologies and therefore at risk of poorer outcomes.
- Those most likely to be digitally excluded are the elderly and less educated.

Conclusions

- Telemedical solutions are likely to be the basis for many healthcare innovations in the near future.
- Barriers exist to the uptake of these solutions in the form of access to suitable devices and to high speed internet.
- Vulnerable patients in society are most likely to be digitally excluded and therefore widen health inequality.
- Future research should explore other groups of patients which may be digitally excluded and potential solutions to combat this.

References
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