

A SERVICE EVALUATION OF THE USE OF TELEDENTISTRY IN ORTHODONTIC ASSESSMENT DURING COVID-19: FROM A CLINICIAN AND PATIENT PERSPECTIVE

12.05.21

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Introduction

- In December 2019 a newly identified β -coronavirus, named coronavirus (Covid-19), occurred in Wuhan, China and has spread rapidly throughout the world.
- In an effort to slow viral transmission, severe quarantine and lockdown measures were imposed by governments world-wide, with dental organisations recommending that all elective procedures, except for urgent and emergency care, to be postponed, particularly those in hospital-based practices (ADA, 2020; CDC, 2020; NHS NSS,2020).
 - Throughout the Covid-19 pandemic, Orthodontic treatment has been significantly affected as it involves a large population who need routine return-visits which are not classified as essential treatments. This has led to an unprecedented number of patients having their appointments cancelled and being left without treatment, the long-term consequences of which yet to be known.
 - In order to provide a service to patients, it was decided to utilise teledentistry to assess and examine routine and emergency Orthodontic patients within a Hospital Orthodontic Department, using the NHS *Attend Anywhere* Platform.

Aims

- To assess the feasibility, strengths, weaknesses, and value of teledentistry in the assessment of orthodontic patients, during Covid-19, from a clinician and patient perspective.

Materials

- Design: Service evaluation of the NHS *Attend Anywhere* Platform to assess and examine routine and emergency Orthodontic patients
- Setting: One NHS hospital Orthodontic Department within a large health board, including rural areas, in Scotland.
- Participants: Twenty orthodontic patients were chosen at random from the departmental waiting list. These patients included emergency orthodontic patients and those patients whose orthodontic appointments had been cancelled and treatments postponed, as a result of Covid-19.

Methods

- Data was collected over a series of virtual Orthodontic clinics. One clinician assessed and examined the twenty patients.
 - For each participating patient, they were emailed or texted a URL code to access the system.
- A questionnaire which recorded patient demographics and asked nine questions (using a Likert Scale), was completed by clinician and patients.
- Responses and observations were entered into a Microsoft Excel spreadsheet and data was analysed. Data was expressed as percentages.
 - Descriptive statistics were used to compile and organise the characteristics of the data set.

Clinician's Questionnaire

Before beginning consultation take note of the following:

1. What device is the patient using? _____
 - a) If using mobile phone, was frontal or rear camera view used?
 - b) If front facing camera view, ask patient to switch to rear camera view. Assess if image quality has improved?
 - c) Does this make it more difficult for them?

2. The distance the patient would have travelled to attend face to face consultation: _____

After completing the consultation record:

3. Length of consultation: _____

Each of the following affirmative statements is to be measured against the following Likert Scale:

1. Strongly agree 2. Agree 3. Disagree 4. Strongly Disagree 5. Not applicable

Questions for clinician:

1. I was able to establish an appropriate diagnosis
2. I was able deliver information to the patient quickly and accurately
3. I felt confident that the information delivered to the patient was understood
4. I was able to identify problems that may not have been reported.
5. I was able to make a general assessment of the patient's oral hygiene.
6. It was possible for me to assess the patient's occlusion (overbite, overjet and incisor relationship).

Questions for both clinician and patient:

7. I found the system easy to use
8. I found the visual quality acceptable
9. I found the audio quality acceptable

Anything that you would like to add:

Patient's Questionnaire

If applicable: When switched from frontal to rear camera view, is this more difficult?

Each of the following affirmative statements is to be measured against the following Likert Scale:

1. Strongly agree 2. Agree 3. Disagree 4. Strongly Disagree 5. Not applicable

Questions for patient:

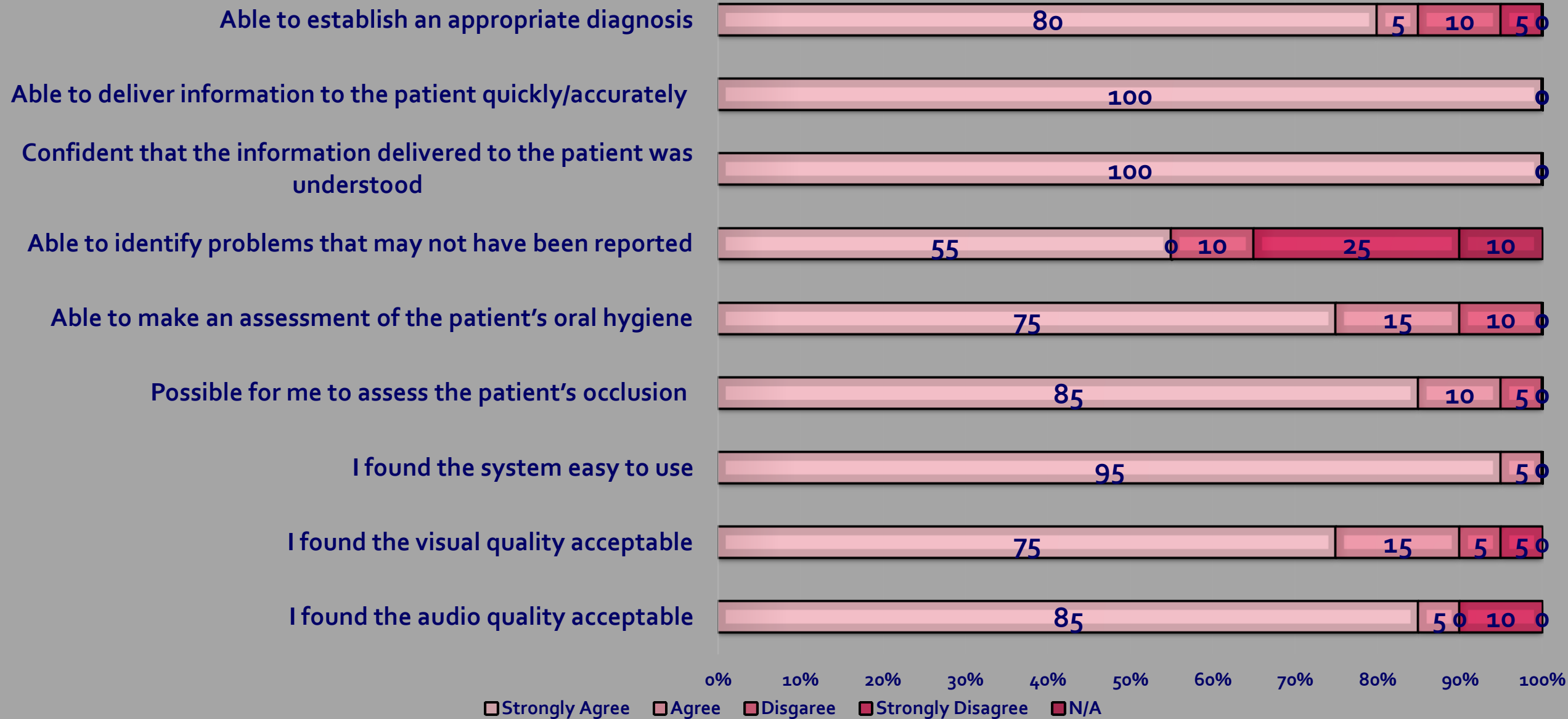
1. I was able to effectively communicate any orthodontic issues that I was experiencing
2. I was able to understand the information and instructions delivered by the dental team
3. I found the appointment reassuring
4. I missed the personal interaction experienced when attending a face-to-face appointment .
5. The cost of travel saved by NOT having to attend in clinic was significant to me .
6. The time saved by NOT having to attend in person in clinic was significant to me

Questions for both clinician and patient using near-me:

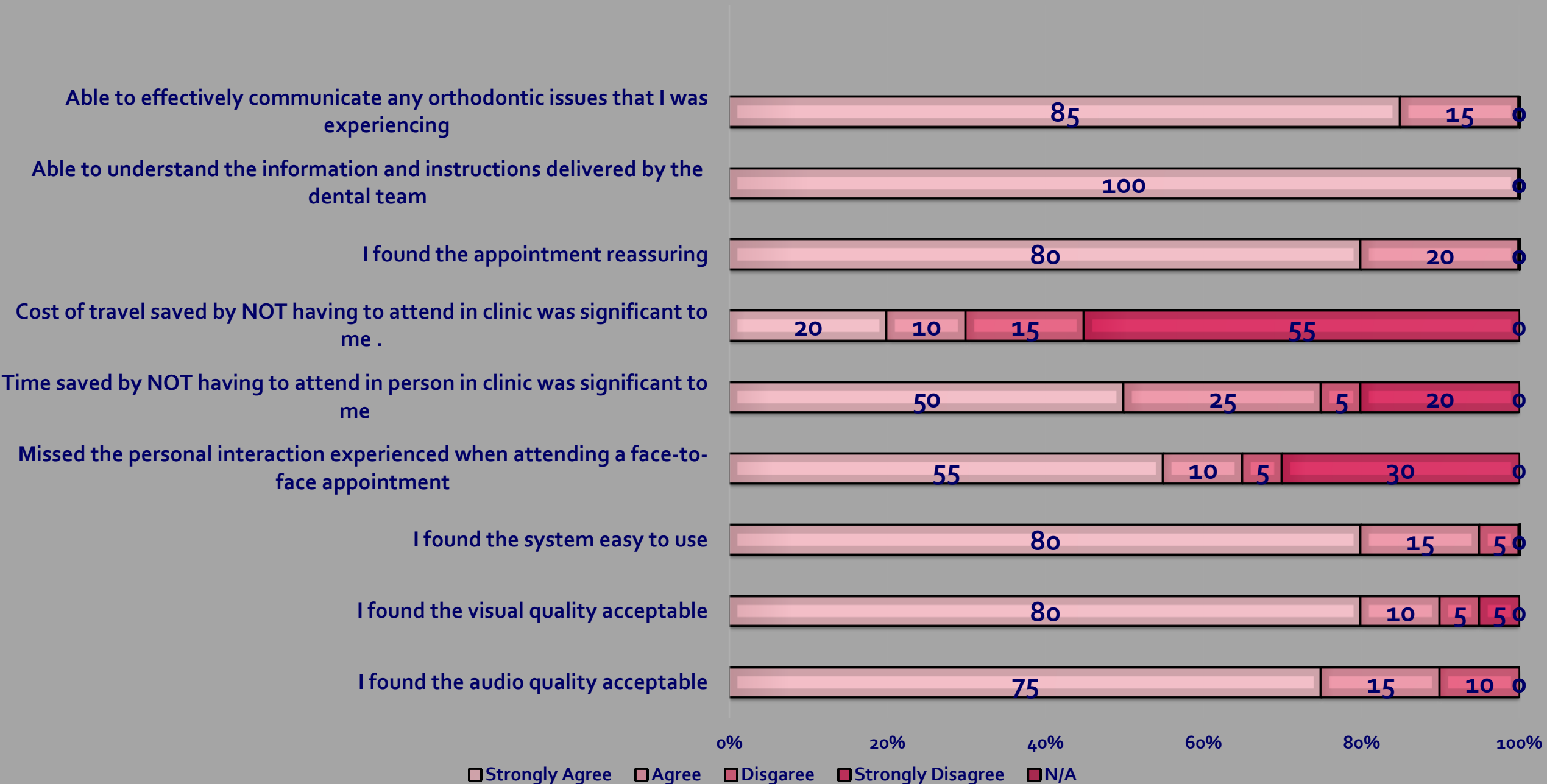
1. I found the system easy to use
2. I found the visual quality acceptable
3. I found the audio quality acceptable

Anything that you would like to add:

Clinician's results



Patient's results



Key findings

- There was a response rate of 100% with the mean age being 19.55 years.
- The average distance saved (by not having to attend a face-to-face appointment) was 28.2 miles.
- From a clinician's perspective, it was possible to establish an appropriate diagnosis for 85% of patients.
- The clinician felt that they were able to deliver information to the patient quickly and accurately for 100% patients.
- The clinician felt that they were able to make a general assessment of a patient's oral hygiene for 90% patients (18/20).

Key findings

- It was possible for the clinician to assess the occlusion (overbite, overjet and incisor relationship) of 95% (19/20) patients.
- From a patient's perspective 100% felt that they were able to effectively communicate and 100% of patients found the appointment to be reassuring.
- The personal interaction of attending a face-to-face appointment was missed by 65% patient (13/20).
 - Overall, both clinicians (100%) and patients (95%) found the system easy to use.

Conclusion

- Teledentistry is not without its shortcomings however, our results found that there was a high acceptability for the use of teledentistry amongst patients and clinicians alike during Covid-19.
- In a worrying time, teledentistry provided reassurance to both orthodontic patients and clinician alike, allowing examinations and information to be offered and delivered in a safe manner.
- Teledentistry has served as a temporary solution, beyond the crisis it has the potential to provide access to dental care for millions of patients worldwide.
- In a post-Covid-19 world, perhaps integrated teledentistry will become part of the “new normal”.

Questions?

Thank you!



References

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