


The Impact of the Coronavirus (COVID-19) Pandemic on Outpatient Services—An Analysis of Patient Feedback of Virtual Outpatient Clinics in a Tertiary Teaching Center With a Focus on Musculoskeletal and Rheumatology Services

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Abstract

The pandemic has resulted in many changes to health services, one of these is the shift from face-to-face consultations to virtual ones across all specialities. As the pandemic continues with no end in sight it seems that virtual consultations will continue for the foreseeable future. In this article, we analyze the patient feedback so far to virtual consultations in a large tertiary center and use this opportunity to reflect on this new service. We have a particular interest in musculoskeletal services as this is largely an outpatient-based speciality and the pandemic has consequently resulted in significant changes in practice. We also consider whether virtual clinics is a sustainable service post-COVID-19 and the benefits and disadvantages of this.

Keywords

COVID-19, virtual clinics, patient experience, musculoskeletal, rheumatology

Introduction

In December 2019, there was an outbreak of coronavirus in Wuhan, China, this was later identified to be COVID-19 (1). Over the next few months, we saw the virus spreading globally with the number of infected increasing. In England, the country went into a lockdown in March 2020 and new social restrictions were imposed (2). This resulted in significant changes to health services to limit unnecessary patient hospital visits and comply with these new rules. To keep providing specialist care to patients, traditional outpatient face-to-face clinics were changed to virtual ones. The alternative of cancelling outpatient services until the end of the pandemic would be catastrophic and unpredictable. Existing patients would not get their ongoing care and could potentially come to harm, and new patients would only be seen many months after referral; therefore, the switch to virtual consultations was a necessity.

Over the last few months, the shift of outpatient services to virtual has been observed across the country. The National Institute for Health and Care Excellence (NICE) and the

National Health Service (NHS) published a clinical guide in November 2020 to help clinicians and managers in secondary care deliver remote consultations during the pandemic (3). The guide highlighted the benefits of remote consultations including preventing transmission of disease, allowing clinicians to still speak to their high-risk patients who are unable to travel to hospital and enabling clinicians who are high risk themselves to conduct consultations from home. They encouraged the use of virtual consultations where possible especially in those who have chronic stable diseases. Where a physical examination or testing was required or if patients could not communicate via video/telephone they advised a face-to-face appointment. Risk stratification and quality assurance was to

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be done at a local level within each speciality to determine how to practically implement remote consultations and the patients suitable for this.

The use of telemedicine has now been implemented in a variety of services such as diabetes, glaucoma care and oncology to provide ongoing patient care (4–6). The Royal National Orthopaedic Hospital has increased its use of virtual clinics from 7% to 87% during the pandemic, and the patient satisfaction was high at 90% (7). Similarly, there was 92% to 98% patient satisfaction rate with virtual geriatric clinics (8). Although there are data about the implementation of virtual clinics in various areas of health care and some data on patient satisfaction in these respective specialities, there is a lack of detailed patient feedback from a broader perspective. We are interested in the overall progression of outpatient services into telemedicine and the difference aspects of patient experience. We are interested to know whether this new culture of virtual clinics is one that can be sustained for the NHS. There are certainly many benefits that extend beyond the pandemic; however, this all depends on the reception and expectation of patients.

As 2 rheumatologists ourselves, we have a particular interest in the performance of musculoskeletal (MSK) services as they have also largely become virtual. It will be interesting to look at patient feedback for this group as examination was quite a significant part of consultation. Rheumatology patients especially have an expectation that their joints will be examined due to the nature of their illness, and therefore it will be useful to know whether patients are still satisfied with their review without it.

This article examines patient feedback of virtual clinics across all outpatient services during the pandemic in a large tertiary teaching hospital with a particular focus on MSK services.

Method

A retrospective analysis of patient feedback from adult outpatient virtual appointments in a 4-month period was collated and reviewed (May–September 2020). Where possible once lockdown restrictions were implemented all face-to-face clinics were changed to virtual ones. Virtual clinics were organized by clinic coordinators and conducted in an outpatient room where previous face-to-face clinics were done. Patient notes were provided to the clinician for them to document the consultation; however, they were still expected to dictate a letter as they would previously. Previous clinic letters could be found in the clinic notes, but the virtual system was also connected to any prior letters. Patient investigations, imaging, and bloods could be accessed electronically via a different system which was also the case prior to the introduction of virtual clinics. The clinic timings varied for different specialities but on average a follow-up appointment is 15 minutes, and a new patient is 30 minutes. A clinic list would usually entail a mixture of new and follow-up patients and on average each clinic is 3.5 hours.

The setup timing of appointments and clinic length were all the same as before with face-to-face clinics. The only difference was the interaction with the patient which was now done either over the phone or by video. All the doctors who conducted outpatient clinics in their speciality were switched over to virtual clinics during the pandemic and kept their patient list. Therefore, follow-up appointments were with the same clinician that patients were already under and new patients were allocated a doctor.

Patients receive a text asking for feedback 90 minutes after they have been marked as “attended” on the online appointment system which would usually occur at the time of their appointment automatically. The text could not be sent any later than 6 PM; however, so patients “attending” on or after 4.30 PM will receive the text the following day. Texts are therefore sent between 9.30 AM and 4.30 PM each day. The text consisted of one main question asking patients to rate their experience of the virtual consultation and then a further comment section to express anything else they wish. The data from this briefer patient survey were obtained for all rheumatology patients over the 4-month period.

At the end of the text, there was a link for a more comprehensive online patient survey which patients could fill out if they wish to provide more detailed feedback. This survey asked patients several questions about the practicalities and quality of their virtual appointment. Questions included the speciality they had an appointment with, the type of consultation they had (video or telephone), if they knew in advance, they were going to receive a telephone/video consultation and if the appointment was on time. There was also an extra question on who has completing the survey (patient or family member).

Information on the quality included if the caller was polite, if they were given an opportunity to ask questions, if they were content with the information and advice given to them, their overall view of the consultation and any extra comments they had. The more detailed patient survey encompasses all outpatient specialities in the 4-month period who replied to the survey including MSK services (orthopedics, rheumatology, and MSK clinics). The feedback was completed anonymously, and the data had no identifiable patient information. Patients were informed their feedback would be used to help better services, but they could indicate if they wanted their comments to be kept privately and not shared.

Results

Cumulative Data

Over the 4-month period, there were 72 762 attended new patient appointments of 79 660 that were scheduled, 66% of these were face-to-face, and 34% were via virtual clinic. There was a total of 175 814 attended follow-up patients of 189 604 scheduled, 36% were face-to-face and 64% was virtual. The did not attend (DNA) rate for new patient appointments was 8.51% for face-to-face and 8.94% for

Table 1. Number of Patient Survey Responses Organized by Specialties From Most to Least Responses.

Speciality	Number of patient survey responses
Unsure of speciality	45
Cardiology	23
Orthopedics	20
Clinical oncology	16
Sleep disorders	16
Rheumatology	15
Urology	14
Gynecology	13
Respiratory	11
Dermatology	10
Endocrine	10
Gastro	9
Neurology	8
Immunology/Allergy	6
Diabetology	6
Breast Care	5
Hematology	5
Pediatric	4
Nephrology	3
Maternity scans	3
Hepatobiliary and pancreatic surgery	2
Anesthetics	2
Spinal surgery	2
Thoracic surgery	2
Pain management (Speciality)	2
Chemical pathology	2
Stroke medicine	2
Colorectal surgery	2
Gynecological oncology	1
Medical oncology	1
Cardiovascular	1
Vascular	1
Maxillofacial	1
Musculoskeletal	1
Infectious diseases	1
Geriatric medicine	1
Bone marrow transplantation	1
Renal transplant	1
Sports medicine	1
Ophthalmology	0
Total	269

virtual clinics and for follow-ups it was 9.50% and 5.98%, respectively.

There were 269 responses to the more detailed online patient survey from various outpatient clinics over the 4-month period. The number of responses from various specialties as answered by patients can be seen in Table 1. Most patients were unsure of the speciality they had an appointment with but after this the top specialties with most feedback were cardiology, orthopedics, clinical oncology, and sleep disorders.

Of all, 92% (n = 247) of the patient surveys were completed by the patient themselves the other 8% (n = 22) was completed by a family member who were present during the

virtual consultation. Most of these patients were adult patients who were elderly or had a language barrier, and therefore could not complete the survey themselves, only 2 were pediatric patients. By far the most common type of virtual consultation was telephone which was the case in 79% (n = 213) compared with 10% (n = 26) of video consultations.

Telephone Consultations

In all, 95% (n = 232) of patients knew in advance that they were going to receive a phone call instead of a physical appointment; 66% (n = 160) of these patients stated the call was on time; 91% (n = 221) of patients stated the caller was polite; and 89% (n = 216) felt they had an opportunity to ask questions. Overall, 87% (n = 212) were content with the information and advice given to them.

When asked what their overall view of telephone consultations were and whether they would prefer such consultations in the future, 43% (n = 104) of patients stated they would not mind conducting all future appointments via telephone, 23.5% (n = 57) felt that in the current situation a telephone consultation was acceptable but would have preferred a face-to-face consultation, and 7% (n = 16) were completely unsatisfied with a telephone consultation (Table 2).

Video Consultations

Twenty-six patients who responded to the online patient survey had video consultations, 85% (n = 22) of these felt they had clear instructions provided to them prior to their appointment on accessing and setting up the video consultation; 73% (n = 19) of these appointments took place on time; 85% (n = 22) felt comfortable or very comfortable using video consultation; and 88% (n = 23) experienced no technical issues. In terms of the quality of the appointment, 92% (n = 24) felt they had an opportunity to ask questions and 88% (n = 23) were satisfied with the information and advice given to them. Of those who had video consultations 67% (n = 16) stated they would not mind if future appointments were by video instead of face to face (Table 3).

Telephone and Video Consultations

The comment section enabled patients to express any positive or negative criticisms regarding their consultation. Overall, there were more positive than negative comments with certain themes that were expressed by multiple patients.

A lot of patients mentioned that the caller had good telephone manners and communication was clear. They felt listened to and the caller empathized with them leaving them very satisfied. Some patients also mentioned virtual consultations alleviated the stress of traveling, parking, and taking time off work and therefore found them to be more time efficient. Given the current pandemic patients were grateful

Table 2. Patients Overall Opinion on Telephone Consultations and Its Future Role.

Responses	Number of responses
Regardless of the current situation, I would like all my appointments by telephone in the future.	16
Regardless of the current situation, I think telephone consultations would be preferable unless it was necessary to attend the hospital.	88
In the current situation, a telephone consultation was an acceptable substitute.	66
In the current situation, I accept a telephone consultation was necessary but would have preferred to meet face-to-face.	57
I am completely unsatisfied with a telephone consultation.	16

Table 3. Patients' Overall Opinion on Video Consultations and Its Future Role.

Responses	Number of responses
Regardless of the current situation, I would like all my appointments by video in the future.	2
Regardless of the current situation, I think video consultations would be preferable unless it was necessary to attend the hospital.	14
In the current situation, a video consultation was an acceptable substitute.	4
In the current situation, I accept a video consultation was necessary but would have preferred to meet face-to-face.	4
I am completely unsatisfied with a video consultation.	2

Table 4. Musculoskeletal Patients' Overall Opinion on Telephone Consultations and Its Future Role.

Responses	Number of responses
Regardless of the current situation, I would like all my appointments by telephone in the future.	0
Regardless of the current situation, I think telephone consultations would be preferable unless it was necessary to attend the hospital.	12
In the current situation, a telephone consultation was an acceptable substitute.	13
In the current situation, I accept a telephone consultation was necessary but would have preferred to meet face-to-face.	10
I am completely unsatisfied with a telephone consultation.	1

that they could still speak to their consultant and stay in the safety of their own homes.

The main negative criticism included the frustration around receiving no phone call when they were scheduled to have one or calling later than anticipated. A few patients mentioned that they felt communication was poorer with virtual consultations and face-to-face appointments enables a more thorough review. One patient also mentioned that they needed a translator which was not organized for the virtual appointment; however, it is not known whether this patient requested for a translator prior to the appointment.

Musculoskeletal Services

From the patient responses to the detailed online survey, there were 20 orthopedic, 15 rheumatology, and 1 MSK response (total = 36). All but one survey was completed by the patient themselves and 29 patients had a telephone consultation.

A total of 94% (n = 34) of these patients stated they knew in advance they were going to receive a phone call instead of a face-to-face appointment. A total of 75% (n = 27) received their call on time and 97% (n = 35) said their caller was

polite; 92% (n = 33) stated they were given the opportunity to ask questions and 86% (n = 31) were satisfied with the advice and information given to them.

When asked their overall view on telephone consultations, 33% (n = 12) of patients stated they would not mind having telephone consultations in the future even after the pandemic, but 28% stated they would have preferred a face-to-face consultation still (Table 4).

Rheumatology Services

Most new and follow-up reviews in rheumatology were virtual; 426 of 706 and 7091 of 7454, respectively. There were 784 responses to the shorter patient survey via text message from rheumatology patients. All but one patient had a telephone consultation, the other one was a video consult.

When asked to rate their experience, 94% (n = 739) of patients stated it was either good or very good. There were a lot of comments around the high standard of care patients felt they received. A significant number of patients highlighted how they felt listened to, investigated and their issues addressed. The main reason for dissatisfaction was again due

to timing. Patients were unhappy when their call was later than anticipated and some mentioned that it would have been useful if they were informed that the clinic was running late.

Discussion

Virtual Clinics

With increasing demand for specialist services and longer waiting lists, cancelling outpatient clinics even during a pandemic is not an option. Over the past few months, the use of virtual consultations has enabled specialists to still see their patients and provide ongoing care. The current practice has been to review patients virtually if they have a chronic stable disease and reserve face-to-face appointments for new patients or those who require a physical assessment (3). The use of patient surveys has been a valuable tool to gain insightful feedback on patient's perspective of virtual consultations and whether this is viable post-COVID 19.

There are certain benefits of virtual clinics for patients; they do not need to take time out of their workday, they avoid travel to a busy hospital where parking can often be an issue and they are not waiting if the clinic is overrunning which they tend to do in a similar way to face-to-face clinics (9). This alleviates some of the anxiety associated with outpatient appointments and makes it a more pleasant experience which was fed back by patients. One specifically mentioned that they did not have to leave their relative for whom they were the primary carer, and therefore would prefer virtual clinics in the future. This has been consolidated by Healy et al who report that patient inconvenience is likely to lead to higher nonattendance rates in clinics and so if virtual clinics are more lifestyle friendly then patients are more likely to attend (9). In this study, there was not a significant difference in the DNA rate for first attendance appointments between the face-to-face and virtual group but there was for follow-ups. This may be influenced by an established patient–doctor relationship which encourages patients to attend their follow-up. However, a comparison study of face-to-face clinics pre-COVID with virtual clinics during COVID in outpatient pediatric otolaryngology services found nonattendance went from 15% to 2.5%, respectively (10), which provides further evidence that virtual clinics may be better attended though more research is needed to evaluate this.

Virtual clinics also protect patients who are at higher risk of contracting COVID-19 by avoiding hospital visits especially those who are immunosuppressed (11). Several patients in the survey mentioned that in the current situation they felt virtual consultations to be safer. Another positive point mentioned frequently was that patients felt the communication aspect of virtual consultations was excellent. They felt listened to, were able to ask questions, and were satisfied with the advice given to them. This feedback is not unique to this review and has also been replicated in other studies where virtual clinics have been evaluated across a variety of adult specialities both in surgery and medicine

(8,9,12,13). In all studies, it was found that the majority of the patients were satisfied with their appointment and communication standards were upheld.

The strengths of this study include timing of the questionnaire as it was sent to patients soon after their consultation either the same day or the day after and so it was completed when their experience was fresh, and less influenced by recall bias. However, the study may be limited by patient selection as the questionnaire was in English only, and therefore for patients whose first language is not English they are less likely to complete the questionnaire. Feedback was sent via text as phone numbers for all patients was already known. Feedback sent via post would have taken too long to send and receive and it was felt patients were more likely to respond the quicker feedback was sent after the appointment. Email is another option; however, patient emails were not on the system and therefore would have to be compiled which would take a considerable amount of time; therefore, text was felt to be the most practical and convenient method to request feedback.

The ability of virtual clinics to run effectively depends on having up-to-date contact details for patients and their ability to use technology especially various video platforms. It must be acknowledged that not all patients may possess the skill or equipment for this; however, most if not all should have a phone they know how to operate. There is also the issue of confidentiality as virtual consultations especially telephone relies on the patient to identify themselves. Currently, there is no password system set up so virtual consultations rely on the honesty of the recipient. There may also be an issue with privacy if a patient has other people around with whom they do not want to share their medical history and may feel unable to openly speak as they would do in a face-to-face appointment. Another specific issue is language barriers; one patient in the survey mentioned how there was a lack of translator for their appointment. This could be a challenge as the logistics of adding a translator to a virtual appointment can be complex and can lengthen the consultation time.

The other main frustration by patients with virtual clinics is that sometimes their call was not on time, but this issue is not unique to virtual clinics and would often occur with face-to-face appointments prior to the pandemic. A few patients stated the communication aspect of the consultation was not good, but this is more likely due to the patient–caller rapport rather than a feature of virtual consultations as it was largely outweighed by positive feedback in communication. A few patients stated they just preferred a face-to-face appointment though there was nothing specifically bad about their virtual one. It is likely patient's preconception and attitude toward virtual clinic compared with traditional outpatient appointments can influence their experience and subsequent response (14) though this was not directly assessed in this study.

This research did not look at the difference in cost between virtual and traditional appointments, but it is likely virtual clinics are more cost effective. The national tariff for

outpatient clinics in 2019/20 varied across specialities but the average was £202 for a first attendance with a consultant and follow-up was £96, for rheumatology it was £270 and £92, respectively (15). Money could be saved with telephone appointments as no extra software had to be purchased to conduct them. Medical records and results were available as they were before electronically, and every clinic room already had a working phone. “One Consultation” was the software that was used for video consultations, it was purchased by the Trust during the pandemic and was available on all computers. However, by not coming to clinic fewer nurses and health care assistants are needed to run it and patients save money on travel and parking and they do not have to take time off work to attend a hospital appointment which for some patients with chronic or complex conditions can be quite frequent (16). Therefore, the purchase of computer software to conduct virtual consultations can be considered as an investment which can be economically beneficial in the long term. This was reflected in the study conducted by McKirdy and Imbuldeniya who compared the cost of running a virtual fracture clinic service with traditional clinics (17). The local tariff for a virtual clinic was £64.03 compared with £96.08 for a face-to-face follow-up. The savings in the first year was almost £68 000 and there was a reduction in nonattendance, waiting times, and increase in timely reviews. The results are very encouraging and though there are a lot of variables to consider in different outpatient services that can influence cost it provides an insight into how virtual clinics can be cost-effective and can better performance.

The pandemic has seen a shift to virtual clinics not only in England but all over the world across various specialities (8,18–20). It is not necessarily unique to this Trust but far as we are aware there has not been a detailed review of patient experience of virtual clinics across adult outpatient services in a large tertiary teaching hospital. So far virtual clinics has had positive feedback from patients, and many are satisfied their care during the pandemic. The data collected has provided an enlightening review of patient experience and a foundation to build ongoing data collection.

In terms of future research, it would be extremely useful to know what clinicians think of virtual clinics and what their experience has been so far, it will add another important layer in understanding whether virtual clinics are sustainable.

Musculoskeletal Services

Compared with the cumulative results from all other specialities, the proportion of patients who preferred future virtual appointments was lower in the MSK group at 33% compared with 46% from the non-MSK specialities; 31% of MSK patients stated they were unsatisfied or would have preferred face to face compared with 29% in the non-MSK specialities.

The data could be interpreted as fewer patients in MSK group are satisfied with virtual appointments but given there

is a much smaller sample size of 36 patients it is likely less representative than compared with the 233 sample size from non-MSK groups. It may also be due to patient expectations as one patient stated that they anticipated examination for their MSK issue and therefore felt it was an improper review without one.

The overall feedback from MSK patients was quite positive but a few of those who described a positive experience also stated they would have preferred a face-to-face appointment. One of the reasons might be attributed to the rapport they have built with their doctor as a lot of them have a chronic issue and previously seen their doctor multiple times face-to-face. Nevertheless, 86% of patients were still satisfied with their appointment either fully or to some extent which is highly encouraging.

Rheumatology Services

The briefer patient survey completed by text message yielded a lot of responses from the rheumatology patients. Nearly all the patients reported a positive experience of their consultation and were glad to have had the opportunity to speak to their consultant.

The feedback from the patients could be influenced by previous established relationships with their consultant prior to the pandemic. However, a few patients who were new and had their initial appointment virtually mentioned how they were pleasantly surprised by the comprehensiveness of review without a face-to-face element. They still felt they had a thorough consultation and their concerns were addressed. This demonstrates virtual clinics can also meet the expectations of a new patient review without compromising the establishment of patient–doctor rapport.

Their positive experience is largely due to good communication from callers which again emphasizes the capacity to translate a physical consultation to a virtual one.

Conclusion

Since the start of the pandemic there has been a lot of changes to the way care is provided. Given the ongoing rise in numbers of COVID-19 cases, it is difficult to know when services will return to “normal.” At present, the use of virtual clinics seems to be well received by patients and most importantly their continuity of care is not compromised. Although the pandemic has forced us to conduct medical practices in unconventional ways it has also encouraged us to utilize technology. The introduction of virtual clinics can be one that sustains after the pandemic. From a patient’s perspective, there are many benefits to a virtual appointment and cumulative feedback so far suggests that majority of patients are willing to adapt to this new approach to outpatient appointments.

Authors’ Note

S.B. contributed to the data analysis and writing of the paper of all parts. K.S. came up with the concept and design of article. He

revised the intellectual content of the article and final approval for publication.


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