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Review

The rules for online clinical engagement in the COVID era

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Summary Coronavirus disease-2019 (COVID-19) has generated a need to rapidly increase online consulting in secondary care, an area in which it has previously been underutilised. We sought to review the guidance on conducting remote consultations and found that while there is a large amount of information about the implementation of remote consultations at an organisation level, there is a paucity of high-quality papers considering the guidelines for online consultations alongside practical advice for their implementation at the individual level. We reviewed guidelines from reputable medical sources and generated practical advice to assist practitioners to perform safe and effective video consultation. Additionally, we noted reports in the literature of a lack of transparency and resulting confusion regarding the choice of telemedicine platforms. We, therefore, sought to summarise key characteristics of a number of major telemedicine platforms. We recognised a lack of clarity regarding the legal status of performing remote consultations, and reviewed advice from medico-legal sources. Finally, we address the sources of these individual uncertainties, and give recommendations on how these might be addressed systematically, so the practitioners are well trained and competent in the use of online consultations, which will inevitably play an increasingly large role in both primary and secondary care settings in the future.

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Contents

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Introduction

The ongoing coronavirus pandemic has had an unprecedented impact on all facets of global healthcare systems. Notably, the urgent need for remote consultations has brought strategies, such as video consultation, to the forefront of national digital health initiatives. Video consultations are increasingly common in primary care with the latest NHS long-term plan to give mandatory access to online primary care services by 2023/24. However, remote consultation remains largely novel within surgical secondary care services. In the context of coronavirus disease-2019 (COVID-19), video consultations provide a crucial alternate pathway, which mitigates the risks associated with healthcare environments and allows safer access to care for non-COVID health problems. As a result, even in the absence of a good evidence base, online video consultation platforms, such as Attend Anywhere, have been implemented across secondary care, with a national licence for NHS trusts from April 2020. In this paper, we review current technical, medical and legal guidelines for video consulting to assist hospital doctors who are conducting remote consultations as a result of COVID-19.

Methods

We conducted a PubMed search with terms listed in Supplementary Table 1 and this returned 1679 results as of 26/6/2020. There were no articles providing a comprehensive and convincing review detailing the standards of a safe and appropriate video consultation alongside how to meet them.

We searched guidelines provided by reputable sources including the Royal College of Surgeons of England, and of Physicians, the British Medical Association, General Medical Council (GMC), NHS England as well as leading medico legal providers, such as the Medical Defence Union and Medical Protection Society, to create a comprehensive overview of current guidance. We also gathered information on a non-exhaustive list of leading telemedicine platforms through their websites and the Gov.uk Digital Marketplace, a government service designed for public sector organisations looking for digital solutions.

Results

When is video consultation appropriate?

Given that visual examination contributes greatly to patient management in surgical settings, video consulting has significant potential for integration into clinical practice. Current guidelines outlining the optimal scenarios and contraindications for remote consultations are summarised in Table 1. Based upon these recommendations, video consultations may be best utilised in surgical contexts for initial consultations, postoperative review settings where wound healing and any patient concerns are addressed or during more urgent consultations where patients may need to be screened through a triage system to determine their need for an in-person appointment. Common clinical signs can be assessed over high quality video calls, which may be supplemented by photos where higher quality is required. For instance, when we evaluate wound healing, signs such as skin colour, presence of exudate and discharge can be observed remotely. Some patients may also have equipment and expertise to perform parts of physical exams, and utilise home monitoring equipment, for example for temperature and blood pressure. Virtual consultations can also cater to patients with sensory loss or a disability by using specific software developed for patients with sensory impairment.

Notably, novel adaptations of remote consulting have been developed for non-urgent settings, such as ‘store-and-forward telemedicine’, which allow the collection of relevant patient data, e.g. patient complaints and physical findings by the transfer of images or video to the consultant for later evaluation. This form of remote consulting is ideal in non-urgent scenarios, such as postoperative and routine patient follow-up consultations. Some practices have im-
implemented this successfully using electronic messages to arrange subsequent video or urgent in-person appointments, after the ‘store-and-forward’ content has been reviewed by the clinician. Another significant advantage of video consulting in secondary care is the ability to conduct multidisciplinary care with ease. Practices have been able to coordinate facial nerve clinics with both the physician and facial therapist, thus maximising the efficiency of such consultations for the patient. While much can be achieved through remote consultations, the clinician should always keep in mind the option to escalate to a physical appointment.

What are the currently available platforms and technical requirements for conducting successful video consultations?

There are several technical aspects that need to be considered when conducting remote consultations. Several studies have demonstrated that issues of time lag and poor audio-visual quality due to insufficient bandwidth can be significant enough to inhibit meaningful communication, which results in poorer patient and clinical satisfaction. While minor technical breakdowns are unlikely to significantly disrupt the provision of care, major technical breakdowns reduce the perceived ethos and quality of the consultation. Whilst some healthcare organisations lack sufficient bandwidth for the widespread introduction of video call services (11 Mbps is a minimum for a high quality call, but 50 Mbps is ideal), additional funding has now been made available to facilitate technical capacity for video calls across all trusts. Given the increased bandwidth requirements for video consultations, it is recommended that telephone consultations should be used for scenarios where the addition of video is not necessary for clear communication and does not serve a clinical purpose.

Many specifically designed platforms are currently available for remote consultation. Table 2 reviews the technical aspects of some widely used telemedicine platforms in UK practice. As these providers have exclusively been developed by private companies, transparency over the cost, privacy settings and relative usage of different systems is somewhat limited. Most platforms have been developed for use in primary care and are online or app-based systems that are either integrated within or act as an adjacent to practice websites. With some providers, patients can access video or telephone consultation services either directly through a link or app or through clinician referral following the completion of an online form. Although observational studies and randomised control trials of video consultation in primary, secondary and tertiary care generally report a positive patient and clinician experience with remote consultation technology, studies of specific platforms are limited.

The NHS does not publish an exhaustive list of providers meeting data security standards, and there are a variety of accreditation schemes that may cause confusion. It is worth noting that the use of non-healthcare specific commercial products, such as Skype, WhatsApp and Facetime, are acceptable for use in the short term, and may be useful alternatives if a patient struggles to use healthcare-specialised applications. Individual clinicians will be best informed by the recommendations of their local trust, as even if alternatives are available, better protocols and technical support are likely to be available for the system the trust has in place.

How can good practice standards be upheld during remote consultations?

Most aspects of clinical good practice remain unchanged and remote consultations should be approached in a similar manner to in-person appointments. Figure 1 summarises the key steps required to conduct a remote consultation successfully. When starting the video consultation, the patient’s identity should first be confirmed by asking for their address in addition to their name and DOB. If there is any uncertainty about the identity of a patient, particularly if it is your first meeting, then a challenge should be made. This could be done by sending a code word or number to a previously recorded email or phone number or having them show their ID either on camera or through email.
Table 2 The technical aspects and features of some of the most significant telemedicine platforms in UK practice.

| Service Provider | Features | Software / Hardware requirement | Cost | Security | Integration within NHS networks | Current Usage |
|------------------|----------|---------------------------------|------|----------|---------------------------------|---------------|
| **Nye Health**   | Browser or mobile app-based telephone and video consultation platform. | Video consultations require app download. | Free with NHS email. | NHS Digital accreditation. Standard encryption technology. Stores personal patient data but no medical data. | - | - |
| **accuRx**       | Video consultation (Fleming) and SMS (Chain) software system for GP practices. Patients receive text link to video consultation. Up to 4 people allowed on one call. | No app download needed except in older iPhones (iOS 12 and earlier), which may need to download the Whereby app to join video consultation. | Free with NHS email. | NHS Digital Accreditation. Audio and visual information not stored on any server. | Integrated into NHS Patient Demographic Service. Chain SMS integrated into EMIS and SystmOne systems, so text messages are saved to a patient’s record. | Used by over 6000 GP practice in over 120 NHS Trusts. |
| **Attend Anywhere** | Video consultation service for GP practices. Patients sent a link to a virtual waiting room that displays the practice. Departmental video meeting rooms for up to 4–6 sites. | Platform web-based with no additional software requirement. | From £264 to £312 per user per year, however, as of April 2020 a National Licence for all NHS trusts has been procured to facilitate COVID-19 remote consulting. | No patient identifiable data stored | - | - |
| **askmyGP**      | Provides online triage of patients and flow management for GP practices. Patients complete online form, which is then reviewed to decide what further action is necessary. | Patients can access on any internet connected device. Staff can only access portal on a secure NHS compliant network (N3/HSCN) through a web browser. | From £0.57 to £1.09 per person per year. | NHS Information Governance Toolkit Compliant. | Integrated into NHS Personal Demographic Service. Data from each patient encounter copied into the practice clinical system. | - | (continued on next page)
Table 2 (continued)

| Service Provider | Features | Software / Hardware requirement | Cost | Security | Integration within NHS networks | Current Usage |
|-------------------|----------|---------------------------------|------|----------|---------------------------------|---------------|
| **eConsult**      | Online GP consultations, including a video consultation feature. Patients complete a pre-consultation online form. ‘Red flag’ functionality intercepts and diverts patients with serious symptoms. | No additional software requirement for patients. Usually integrated into existing practice websites. | From £0.21 to £0.63 per person per year. | No patient data retained on the platform. NHS Data Security and Protection toolkit compliant. | - | - |
| **GP at Hand**    | Provides GP video consultations and symptom checkers through a smartphone app. | Requires download of a smartphone app, and iOS 10 or higher and Android v4.3 or higher. | - | Stores health and medical data. Only patient and staff have access to medical records. Consultations are recorded and can be replayed by patients. | - | Used by 75,000 people. |
| **Proximie**      | Virtual augmented reality and chat software used by clinicians to remotely share expertise primarily during surgical operations. | Online platform. Works at a low bandwidth and can be integrated into existing software. | - | Videos stored and can be accessed by clinicians at a later date. | - | - |

Table 2 Sources: Suppliers\(^{21-27}\) and GOV.uk digital marketplace.\(^{28}\)
Figure 1  A summary of the key steps required to conduct successful video consultations.

Increasingly, identity verification software can be built into telemedicine platforms, to mitigate risks of impersonation. In case the consultation is disrupted, the patient’s phone number, email address and preferences for follow up communication should be confirmed or recorded. Email accounts held by the general public are not secure and may be open to breaches and this should be explained to the patient, so that they can confirm they are comfortable with communication through their personal email account. Although consent is considered to be implied by the patient accepting the invite and entering the consultation, it is best practice to take and record the consent for a virtual appointment. If the consultation is to be recorded, consent should be explicitly gained and recorded during the appointment even if it is included in the terms and conditions of the remote consultation programme, and even if it is
not recorded, the patient should be informed that clinical outcomes will be stored on their patient records.1 It may be beneficial to offer to record the call given that a significant proportion of the information conveyed during a typical consultation is not retained or retained incorrectly.32 Whilst the GMC requires doctors to obtain consent before recording their patients, patients do not need a doctor’s consent to record a consultation and, even if it is done covertly, this does not justify a refusal to continue to treat the patient.32 Recordings, including those made covertly, have been admitted as evidence of wrongdoing both by the GMC and in court.

Regarding confidentiality, the clinician needs to be in a private, well-lit space, and should ask the patient to do the same to ensure the physical privacy of the consultation on either end. It is vital for all staff in the consultation to introduce themselves, whether they are on camera or not.4 Reassuring patients that their privacy is respected is particularly important on video calls.33 Although we have previously discussed the selection of a secure telemedicine provider, care still needs to be taken to ensure that your internet connection is secure, and the patient should be advised to do the same. It is permissible to use personal devices for remote consultations with appropriate precautions, such as the use of encrypted apps and channels, secure connections and the avoidance of storing patient information only when absolutely necessary and only in a secure manner.11 The clinician must use up to date antivirus software and advise the patient of the same before consultation.3

Chaperones should be offered in the same contexts as they would be in normal practice. While it is good practice to ask the patient in advance of the video consultation whether they would like a family member or friend to join them,6 chaperones should usually be health professionals. As such a friend or relative is not a suitable chaperone, but if the patient requests that one be present, that should be accommodated if at all possible.

Patient manner on remote consultations is much the same in face to face consultations; however, there are a few points worth addressing. Whilst it is not necessary to look at the camera to demonstrate that one is paying attention, the patient should be informed if the clinician is taking notes both to ensure nothing is missed and to avoid the appearance of rudeness.6 As with normal practice, to summarise key points at the end of the consultation is an effective way to establish that nothing was misunderstood because of interference. Before closing the connection, the patient should be informed that the call is going to end.6 Although it can be harder to read non-verbal cues which may impair communication, some patients respond better to telemedicine.29 Remote consultations also offer the opportunity to highlight reputable online resources, to signpost patients to further sources of information and reinforce advice.

**What are the medico-legal aspects of remote consulting?**

The GMC’s core good medical practice principles still apply to remote consultations. In spite of this, online consulting services challenge the perception of risk during appointments. In face-to-face consultations, the clinician possesses most of the information required to manage risk, notably the patient records and the findings from a complete physical examination. Subsequently, the clinician is responsible for any malpractice in law. In contrast, during online consultations, patients seek help from clinicians with limited information and thus online consulting can pose a risk for both parties. The issue of negligence is beginning to be addressed; the government-funded Clinical Negligence Scheme for General Practise (CNSPG) was implemented from 1 April 2019, and covers all online consultation providers of NHS primary medical services.34 The clinical negligence scheme for coronavirus covers liabilities arising.
as part of the coronavirus response or for NHS work undertaken to backfill others as a consequence of coronavirus; however, clinicians are advised to refer to their medical defence organisation to ensure their practice is covered.\textsuperscript{35} Table 3 lists some key legal pitfalls and examples of how they might be addressed.

**Discussion**

Evidence regarding the use of telemedicine in secondary care is currently limited but is likely to grow in the post-COVID era as organisations, such as the GMC, are already conducting surveys of remote consultation and prescribing.\textsuperscript{39} Even studies focusing on primary care tend to be underpowered, meaning there is little high-quality evidence.\textsuperscript{33} Nonetheless, despite the absence of a robust evidence base, the pandemic has led to a surge in the use of remote consultation technology. A recent review examining the role of telemedicine in the management of chronic conditions found that health outcomes were broadly equivalent to in-person communication and although good patient satisfaction was achieved, clinician satisfaction was apparently reduced.\textsuperscript{40}

**Conclusion**

Remote consults are convenient for patients and potentially cost effective for organisations. They may raise misgivings amongst clinicians who worry about the clinical risk and perceptions of logistical and technical difficulties.\textsuperscript{41} By following the steps summarised in Figure 1, successful remote consultations can be achieved and will certainly contribute to the wider acceptance of this technology. In terms of recommendations, it remains apparent that more medicolegal support can be offered to secondary care services, where the introduction of a similar government-funded negligence scheme for secondary services will certainly assuage concerns about clinical risk and aid the wider adoption of remote consulting across all facets of clinical care. If we are to truly integrate remote consulting into routine medical services, then awareness and education about these services must be implemented across all levels of medical training.

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The authors have no conflicts of interest to declare.

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