

Guidelines for the use of the Attend Anywhere Platform for Telecommunications within the Pain Service

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Abstract

Introduction

Remote consultation is of growing in importance and gaining popularity in both primary and secondary healthcare settings. Reduced necessity for a physical presence of the patient within the healthcare setting is of particular benefit in the current COVID-19 era. It is also of benefit to a diverse group of patients, for example: those who are geographically distant from the base hospital, those suffering from mobility issues or chronic illness, those who require chaperoning as well as those with limited access to transport. We have developed guidelines for the use of the medical telecommunications platform, Attend Anywhere, which has been utilised across the English and Scottish National Health Services, as well as with the Australian Health service, and is now available in Health Service Executive (HSE) settings.

Herein we describe and recommend a process that we have found helpful, and we propose guidelines on how a Health Care Worker (HCW) might consider approaching a virtual consultation when initiating and safely executing a patient encounter on Attend Anywhere, in a secure and efficient manner. The guidelines were created following review of the literature on previous experience by others with this software, as well as recent guidance published by the Irish Medical Council. A proportion of this guidance is transferable to other platforms.

Methods

We also undertook a short survey of our patients and physicians in Sligo University Hospital, who used Attend Anywhere over a six-week period to gauge their satisfaction levels with the experience. We estimated distance that our patients would have travelled for their appointment had the traditional face-to-face consultation been carried out. We noted whether we considered the medium appropriate for the patient consultations.

Results

53 patients took part and satisfaction was rated from satisfied to very satisfied on a 3-point scale for all stakeholders. In addition, we found that remote consultation, when compared to face-to-face consultation, alleviated an average of 144km of unnecessary travel *per appointment*. Remote consultation was deemed appropriate in all cases and no rescheduled face-to-face appointments were required due to failure of the consultation due to difficulties encountered.

Conclusion

The authors recommend the implementation of the described guidance, with suggested Checklist, Information leaflet and Consent form, as a means of ensuring the confidentiality of the consultation and to ensure that processes are adhered to that optimise protection for both the patient and the clinician, while reducing the burden of attendance to the healthcare location.

Introduction

The use of digital platforms for remote consultations is becoming increasingly common among primary and secondary care globally, including Ireland, where there is increasing prevalence of virtual clinics among secondary care services especially in this COVID-19 era¹. It is therefore important that the safe access to, and application of, an accredited platform that is available to all HSE staff is paramount.

In the setting of a remote consultation there are some important responsibilities for the healthcare professional to consider;

Firstly, to ensure that the use of telecommunications is secure and confidential, in particular, that HSE guidance for General Data Protection Regulation (GDPR) is adhered to.

Secondly, to ensure that all clinicians carrying out remote consultations are aware of their personal responsibilities *in providing a confidential consultation service* and are supported by information governance training, as well as on going auditing processes.

This document is based on relevant standards provided by the Irish Medical Council, The Medical Protection Society as well as those produced in the UK by the NHS and the Royal College of General Practitioners²⁻⁷ to ensure the use of telecommunication software for remote consultation adheres to best practice, protecting both patients and clinicians from security risks.

Several studies have shown the benefit of implementation of telecommunication services in chronic conditions - including decreased emergency department (ED) attendances⁸, improved medication adherence, biomarkers and decreased financial burden on patient⁹⁻¹¹. Particularly of relevance in the current era is the reduced patient footfall within the primary and secondary care setting.

A systematic review of mobile technologies for health interventions in chronic conditions found that the potential of the tools is high. In 50 studies, 56% of patients exhibited improved regimen adherence, and 40% showed a significant clinical outcome¹².

This guideline suggests a process that might be followed in setting up and carrying out a telecommunications consultation. Specifically, we outline the use of a successfully piloted platform newly available to the HSE called Attend Anywhere.

In particular, we describe an information leaflet as well as a checklist that we have found useful to ensure that privacy of setting, personnel present and informed consent has been documented prior to remote consultation. We also include a sample Consent Form that can be signed after patient has received, read and understood the Information Leaflet.

Prior to Consultation

Patient selection should be carried out to identify the cohort for which this method of consultation would be beneficial.

Patient related aspects include:

- Amenability of the patient's condition (e.g., requirements for: examination, testing, imaging or blood work, intervention).
- Requirement of the patient to undergo intervention
- Ease of access to the hospital including: location, access to transport, mobility, health issues which may exacerbated by the journey (e.g. chronic pain).

Technical aspects include:

- Personal comfort with the technology,
- Access to the hardware and secure internet connection, access to a suitable area for privacy.

Preparation should be considered prior to the initial consultation. We suggest a checklist for undertaking a remote consultation and within this, the responsibilities of both the clinician and the patient (Table 1).

Table 1: Roles and Responsibilities.

Role	Responsibilities/Key Tasks
IT Support team	Technical set up of Attend Anywhere account and secure password
Clinician	Explanation of an Attend Anywhere remote consultation to the patient and gaining patient consent.

It is the clinician’s responsibility to liaise with the HSE-endorsed IT Department to arrange for telecommunications software to be loaded onto a HSE-issued device including desktop personal computers/laptops/iPads and mobile phones. Attend Anywhere is a secure and internationally utilised platform ¹³ which has recently become endorsed by the HSE for use in patient consultations.

A secure password should be set up to access the software.

Prior to the consultation (Table 2).:

- **Informed consent:**
The patient should be provided with adequate information about the process of remote telecommunications in order to give informed consent to the process. (See example patient information leaflet (Fig. 1)([view](#))).
- In keeping with guidance from the Irish Medical Council, the same principles in gaining valid informed consent apply in telemedicine as do in face-to-face consultations, and healthcare professionals should make sure that patients have given their consent to conduct the consultation through telemedicine and consent to any treatment provided ². This consent can be gained in person or verbally over the telephone, in preparation for the consultation.
- Verbal consent from the patient, or their legal representative, should be gained *prior to initiation* of the remote consultations (Fig.2) This can be gained through explanation and provision of relevant information (Fig.3). If a patient is deemed to lack capacity for a decision at a given time, despite efforts to assist them in understanding the nature of the decision that is to be made, a personal representative who legal authority for their health and welfare can do this on their behalf.
- All questions regarding the proposed remote consultation should be answered.

Table 2: Documentation required prior to the Consultation.

Form / Template	Purpose
Patient Information leaflets	To be provided to, and read by, the patient prior to gaining consent. (Fig.1)
Patient Consent Form	To be explained to and signed by the patient prior to the Telecommunications consultation if possible. (Fig.2)
If not possible, verbal consent can be confirmed and documented as such.	

Figure 2: Attend Anywhere Consultation Consent Form.

Patient Consent to the Use of Attend Anywhere for remote consultation	Affix Label Here
<ul style="list-style-type: none">• I have read and understand the information provided in the preceding page regarding Attend Anywhere consultations. I have had the opportunity to discuss this information and all my questions have been answered to my satisfaction.• I hereby give my explicit consent for the use of Attend Anywhere in my medical care and authorize the Clinician (doctor and/or nurse) to use Attend Anywhere to undertake remote consultations.•	
Patient Name: _____	Date of Birth: __ / __ / ____
Address: _____	
_____	Patient Signature: _____
Verbal Consent attained via telephone Attend Anywhere <input type="checkbox"/>	
In the case of the patient not being able to give consent, the patients' representative name and address should be completed along with signature	
Patient Representative	
Name: _____	
Signature: _____	
Power of Attorney <input type="checkbox"/>	
NOK <input type="checkbox"/>	
Verbal Consent attained via telephone/ Attend Anywhere® <input type="checkbox"/>	

Figure 3: Remote Consultation (Attend Anywhere) Checklist. (For the clinician (doctor or nurse)).

Remote Consultation (Attend Anywhere) Checklist		Person Responsible
1	The patient has received an explanation of the use of Attend Anywhere for a remote consultation with the Clinic Staff	Clinician
2	A copy of the remote consultation patient information leaflet has been given and explained to the patient.	Clinician
3	Any concerns about remote consultation have been addressed	Clinician
4	Verbal Consent has been gained from the patient, or their representative	Clinician
5	The clinician has prepared his/her office to maximise privacy as per of the Standing Operating Procedure (SOP)	Clinician
6	The patient is undertaking the consultation from their home	Clinician and Patient
8	On answering the Attend Anywhere call, the Clinic Staff member should ask whether or not the patient feels it is appropriate to undertake the consultation and clarify that the patient's confidentiality can be confirmed.	Clinician
9	The clinician will introduce themselves to the patient and confirm that the patient is happy to take part in the remote consultation.	Clinician
10	The patients identify should be checked by asking them to confirm their name, address and date of birth.	Clinician
11	The clinician should explain that if a physical examination is required, the clinician will invite the patient to come to the practice.	Clinician
12	Prior to concluding the consultation, the clinician and patient should agree that the patient understands the outcome of the discussion and have no further questions.	Clinician and Patient
13	The clinician will record the observations and outcome of the consultation in the same way as a face to face consultation is recorded in the patient's record and ensure any agreed actions are carried out.	Clinician

During the consultation

Privacy

- **Patient:**
The immediate area where the patient will be located during the remote consultation should be carefully considered to maximise privacy, to ensure that confidentiality will be maintained. Usually, the most suitable area for the consultation is in the patient's own home. If required and agreed by the patient, family members can also be present. Local access to participating medical sites may also be available in certain locations and as such access should be arranged if deemed necessary.
- **Clinician:**
The immediate area where the clinician will conduct the remote consultation should be carefully considered to maximise privacy, to ensure that confidentiality will be maintained. Ideally the consultation should be held from a private room with the door and windows closed. This should emulate the environment used for face-to-face consultations, without the provision of a physical examination area. The Clinician should ensure that there is no personal confidential data on view that can be observed by the patient. Telephones in the immediate vicinity should be put on silent. It is recommended that a door sign is used to identify that the room should not be entered during the consultation.

Timing

Telecommunication consultations should be carried out by the clinician during a defined Telecommunication Clinic or as part of a conventional clinic. Patients should have agreed to a specific time at which the consultation is to be carried out and, as stated above, all patients should have given verbal consent to partake in the consultation *prior to contact being made* via the online service.

Process of conducting the consultation

Once the clinician is confident that their environment is appropriate, the Attend Anywhere online waiting room should be attended by the clinician at a time which has been agreed with the patient.

On entering the remote consultation, the patient should be requested to acknowledge whether or not it is appropriate to undertake the consultation and should state that they are willing to proceed.

- The clinician should state that the patient's confidentiality can be confirmed within the clinician's setting.
- The clinician should introduce themselves to the patient and verbally verify the patient's consent to take part in the remote consultation.
- The patient's identity should be checked by asking them to confirm their name, address and date of birth.

The consultation should proceed, and the clinician should be mindful that the patient is following and understanding what he/she is being asked and what is being discussed.

Should a prescription or intervention be required as a result of the remote consultation, the clinician should satisfy themselves that an adequate assessment of the patient's needs have been made and consider:

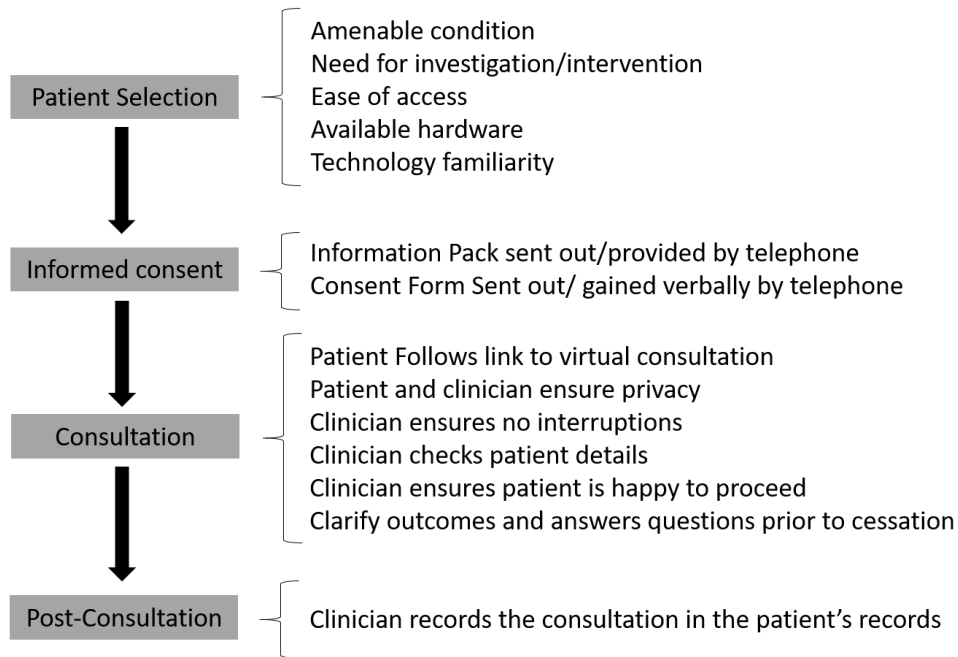
- The limitations of the medium through which they are communicating with the patient.
- The need for physical examination or other assessments e.g. investigations MRI, Blood test.
- Access to the patient's medical record.
- How necessary information and advice to the patient will be provided.

Concluding the consultation

Prior to concluding the consultation, the Clinician should clarify that the patient understands the outcome of the discussion and that all questions have been answered.

The clinician will document the observations and outcome of the consultation in the same way as a face-to-face consultation is recorded in the patient's records and any agreed actions that have been carried out. Telecommunication consultations should not be recorded by either party except where formal consent has been gained to do so. A summary of the consultation will be recorded by the clinician in the patient's record in keeping with current practice. A flow diagram outlining the process is shown in Figure 4.

Figure 4. Process of undertaking a Telecommunications Consultation.



Technical Aspects

While WebRTC video call media traffic is protected with AES 256-bit encryption between web browsers, the expectation that this is an adequate protection in the patient healthcare setting would be naïve. For example, call encryption does not prevent hacking if someone is able to highjack the signalling and listen in on the call.

As the volume of video consultations grow, there is a heightened public awareness around privacy and security, and the measures taken to protect against: Someone impersonating a clinician. *Example: Gaining access to the video room;* Unauthorised observation of a consultation. *Example: Gaining unauthorised access ('hacking') the video call signalling;* Third parties accessing the history of a consultation. *Example: Observing the call logs on the patient device).*

Unlike provider-centric meetings, video chat, or conferencing-based architectures (which are inherently less private and secure), Attend Anywhere has a three-tier privacy and security model that involves: Ensuring access is via a single point on the service provider website; Creating private video rooms for each consultation; Ensuring that the media signalling cannot be hacked in order to impersonate a clinician, or observe a consult. (Not simply protecting the call content.); Ensuring only authorised service providers from the clinic can join patients' rooms; Ensuring the media content is secure.

The Management Console is compliant with government privacy policies in Australia and the UK¹⁴.

The Management Console is implemented and run according to a System Security Policy approved by NHS National Services Scotland. This incorporates GDPR- and UK Data Protection Act 2018-compliant controls and policies¹⁴.

Patients enter online Waiting Areas via a trusted service provider website and wait in their own private video room. It does not matter if a Clinician is running overtime with another patient, as there is no chance of people running into each other. The room is deleted after the consultation.

Patients can be seen by any Clinician authorised to access the Waiting Area. Authorisation is accessed by a unique login and assigned roles in the platform. Organisation Administrators are responsible for assigning this access to their staff.

The Management Console does not retain patient identifiable information which means patients using the Attend Anywhere service leave no digital footprint.

The Attend Anywhere Management Console hosting and web application has multiple layers of protection from web attacks and exploits which include:

Web Application Firewall (WAF) with comprehensive Open Web Application Security Project (OWASP) Top 10 coverage, Distributed Denial-of-Service (DDoS) protection, Application server systems protection covering: Malware and virus protection, Automated system vulnerability assessment, on host intrusion protection and detection system, Virtual patching providing automatic update of protection modules for newly discovered vulnerabilities even before operating system or vendor patches are available.

We developed a suggested Information Leaflet (Fig. 1); a suggested consent form (Fig 2) and a suggested checklist for clinician prior to commencing a remote consultation (Fig 3).

Survey

Methods

We carried out a survey of all patient, as well as clinician, satisfaction over a 3 month period. Data recorded included:

- Number of consultations,
- Indications for clinic referral,
- Distance from the hospital,
- Number of consultations deemed inadequate and subsequent face-to-face alternative arranged,
- Patient satisfaction and clinician satisfaction were recorded: score range: 1-3 (1= not satisfied; 2=satisfied; 3=very satisfied)

Results

53 patients were surveyed. All were referred to the service due to chronic pain issues. All 53 patients underwent remote telecommunications consultation during the 3 month period. 100% of patients reported a satisfaction score of 2 – 3 and were keen to continue in the process.

Patients lived between 4-104km from the hospital with a median distance of 72km.

No consultations were deemed inadequate due to the medium and there were no additional face-to-face appointments required.

A similar result was obtained for the clinical staff who all reported a satisfaction score of 2 - 3 in their experience of using Attend Anywhere.

All patients have agreed to, and have had, subsequent remote consultations booked for on-going follow up.

Discussion

We have described a suggested guidance to implement a secure and validated telecommunications software and in doing so to reduce the requirement for patient face-to-face attendance in the healthcare premises. Given the current pressure to reduce patient footfall and shift to virtual clinics, the recent availability of this software has come at a most opportune moment for the HSE.

The HSE has made available information related to the use of the Attend Anywhere platform ¹⁵, while these had not yet been developed at the time of initiation of our service, it has informed and consolidated our guidelines.

The IMC have also recently published guidance related to the running of a telecommunications clinic ^{2,7} which has also informed our guidelines.

In addition, and with the expansion of remote consultations in the light of the COVID-19 pandemic, the Medical Protection Society has produced guidance for the provision of telecommunications consultation³ which informed our guidelines.

We suggest that these guidelines (Checklist, Information leaflet, Consent form) will serve as a basis for clinicians to gain confidence in this new medium and adopt their practices to include them, for the benefit of both clinician and patient.

Our survey has shown that patient and clinician satisfaction is very high and both groups wish continuation of our remote consultation service. We have demonstrated that this process can be an extremely effective form of consultation.

The majority of chronic pain patients attending our clinic for face-to-face consultation travel to the hospital by car and require an accompanying person, requiring often that a relative or friend be free to spend a significant part of the day of consultation in the hospital and driving, missing work for an often costly consultation.

Our survey showed that a potential 106 individual contacts with the hospital were avoided, 53 in-person consultations were avoided with a median round trip distance of 144km of traveling being avoided, amounting to a possible 7,632km of avoided unnecessary travel for chronic pain sufferers. It is noteworthy that this travel distance avoidance is the impact of 3 months remote consultations in one clinic.

It could be considered that if this was applied to similar patient cohorts across multiple outpatient services, the distance travelled by a large number of patients in a geographical catchment area such as ours, which includes: Sligo; Leitrim; Donegal South & West Cavan as well as North & East Mayo, would be dramatically decreased. The not inconsiderate reduced time saved for the accompanying person, the travel costs incurred and the reduction in avoidable road use is likely to be significantly beneficial to the patient cohort.

In addition, using emissions data obtained from Sustainable Energy Authority of Ireland ¹⁶, the reduction in carbon emissions related to just our featured cohort would amass to 855kg over this short period (112g CO₂/km) these numbers are also probably a gross underestimation as they are based on new cars sold in 2017. In addition, the most recent available data regarding the cost per kilometre of running an average car in Ireland, taking all running costs into consideration, indicates an average cost of 23.8 cent/km ¹⁷. On reflection of this numbers again its obvious that in this cohort alone there was an approximate saving of circa €1,800 (or €34 per person per hospital attendance). These figures are related to averages and are estimated values, which may very well underestimate the true figure, however it's easy to imagine the vast impact a nationwide implementation of this practice could have and the impact it could make on an environmental level as well as for the personal finances of certain patients traveling long distance several times a year for multiple appointments.

Based on patient and clinician feedback we recommend the implementation of the described guidance and checklist as an *AIDE MEMOIRE*, ensuring the confidentiality of the consultation so that both the patient and the clinician are protected, while reducing the burden of attendance to the healthcare location.

Declaration of Conflicts of Interest:

The authors have no conflicts of interest to declare.

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