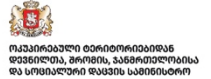# Telemedicine Implementation Guidance for the Assessment of Non-Communicable Diseases in Rural Georgia, and Follow-Up Where Required

July 2023 (V1.0)

World Health Organization

Leveraging digital solutions for health during the COVID-19 crisis and beyond Georgia

A joint EU-UN project to harness the potential of digital health in Georgia

Telemedicine implementation guidance for the assessment of non-communicable diseases in rural Georgia, and follow up where required.

July 2023 (v1.0)

Contents

1 Introduction

Telemedicine presents the opportunity to connect rural doctors and patients with medical specialists in the Regional Centres of Georgia for the assessment and follow up of non-communicable diseases.

Ultimately the aim is to improve access to Specialist care by removing the need for patients to travel into Regional Centres.

> *Telemedicine is the remote diagnosis and treatment of patients by means of telecommunications technology* (Google search 22/5/23 – Oxford Languages)

For the purpose of this guidance, telemedicine will include:

- Video consulting
- The use of integrated digital medical devices:
    a. 12 lead Electrocardiograph
    b. Digital Ophthalmoscope
    c. Digital Dermascope
    d. Digital Otoscope
- The use of interactive software within a digital platform which aggregates medical device data and delivers it to the remote specialist in real time. This will be known as the platform going forward.
- The use of interactive software within a digital platform which aggregates and stores medical device data for remote specialist review at a time out with the clinic consultation. This will be known as the platform going forward.
- The term consultation will be used in reference to clinical appointments for both the assessment of patients and follow up as required.

1.1 Purpose of the guidance

The guidance is to provide support for Rural Family Doctors establishing and using telemedicine in the assessment and follow up of non-communicable diseases. This may include the following priority conditions as well as those managed by Otolaryngologists, Ophthalmologists, Cardiologists and Dermatologists:

- Cardiovascular Disease
- Hypertension
- COPD
- Asthma
- Diabetes

It will focus on delivering this via three telemedicine models:

Synchronous Telemedicine

- The consultation is conducted in real time with the patient at the Rural Family Doctor's Clinic. The consultation is led by the remote Specialist over video. Digital medical devices, integrated with the platform, may or may not be used, depending on the purpose of the consultation.

Asynchronous Telemedicine

- The consultation is conducted by the Rural Family Doctor at their clinic, following clear clinical guidance. The findings from the subjective and objective assessments, and data from the integrated medical devices is stored on the platform (patinets electronic patinet) for review by the Specialist at a different time.

Video Consulting

- A direct video consultation between Specialist and patient via the video consulting function on the platform or other agreed video consulting service, for the purpose of follow up including the discussion of results, management plan and general review.

1.2 Scope

This guidance is for the use of telemedicine in the screening for, assessment of and follow up of non-communicable diseases and not for emergency triage or acute care.

Clinical guidance is based on National Institute for Health and Care Excellence (NICE) guidance https://www.nice.org.uk/ and is an example to be replaced by Georgian Clinical Guidance.

The resources referenced to in the appendix are examples of resources produced in Scotland for the implementation of Near Me Video consulting. These have been carefully selected to illustrate examples of resources, which will need to be created by Georgian Medical Holdings (GMH), to support local implementation of this guidance.

2 Technical set up

2.1 In the Rural Family Doctor's clinic room for synchronous and asynchronous telemedicine consultations:

Minimum technical requirements:

- Power: sufficient electricity sockets for the tower, PC and screen.
- Connectivity: Stable interconnection with minimum connection speed of 20 MGB local/10 MGB global.
- Information about the minimum technical requirements needs to be up to date and accessible to those seeking it. Appendix [1] contains a link for the Near Me website. This contains current technical requirements and the how to test these, an example of how this might be hosted by GMH.

Room Set Up

- Privacy
- Blackout blinds for use when using the ophthalmoscope.
- Lighting:
    a. Sufficient natural and/or artificial light to maximise video image quality.
    b. Avoid light directly behind the patient.
- Sufficient room within the room and length of cable on the tower to enable positioning of the tower to optimise video interaction whether the patient is seated or on the plinth for examination.

Digital Platform

- Familiarisation of functionalities within the telemedicine platform, including the modules which integrate the medical devices. See appendix [2] for examples of familiarisation leaflets.
- Trouble shooting simple problems with the platform. See appendix [3] for an example.
- Technical support including a contact for fixing and escalating technical problems.

Integrated Medical Devices

- Familiarisation with all available integrated medical devices (Electrocardiograph, digital otoscope, digital ophthalmoscope and digital dermascope).
- Care and maintenance of the integrated medical devices. (Create guidance from manufacturer's instructions).
- Trouble shooting simple problems with the integrated medical devices. (Create guidance from manufacturer's instructions).

2.2 In the Specialists Office for synchronous consultations with Rural Family Doctor and video consultations with patient in their own home using their own device e.g. smart phone, iPad, laptop.

Minimum technical requirements

- Power and stable internet connection.
- Laptop or PC with camera
- Access to telemedicine remote consultation software and platform.
- Two screens, one to allow access to the access to remote teleconsultation and other for access to note, electronic patient record, results etc.
- Headset or speaker

Room Set Up

- Privacy
- Lighting
    a. Sufficient natural and/or artificial light to maximise video image quality.
    b. Avoid light directly behind the patient.

2.3 In the Patient's home (or place near to home) for video consultation with the Specialist.

Minimum technical requirements

- Smart phone, tablet, laptop or PC with camera.
- 4G internet connection
- Depending on the video conferencing used an app or download may be required. To be clarified by Georgian Medical Holdings.

Room Set Up

- Privacy
- Lighting:
    a. Sufficient natural and/or artificial light to maximise video image quality.
    b. Avoid sitting with a strong light source e.g. window, directly behind.

3 Training

3.1 Specialist

- Leading a remote consultation. See appendix [4] for an example of a video which describes the skills and etiquette required to lead a remote consultation.
- Practical skills in navigating the Platform. To be provided by the platform providers / Georgian Medical Holdings. Examples can be seen in the video links in appendix [5].

3.2 Rural Family Doctor

- General understanding of Telemedicine – why and how it works. An example of such a video can be seen in appendix [5].
- Practical skills in navigating the Platform. To be provided by the platform providers / Georgian Medical Holdings. Examples can be seen in the video link in appendix [4].
- Practical skills in using the integrated digital devices. Training materials and resources to be provided by Georgian Medical Holdings.
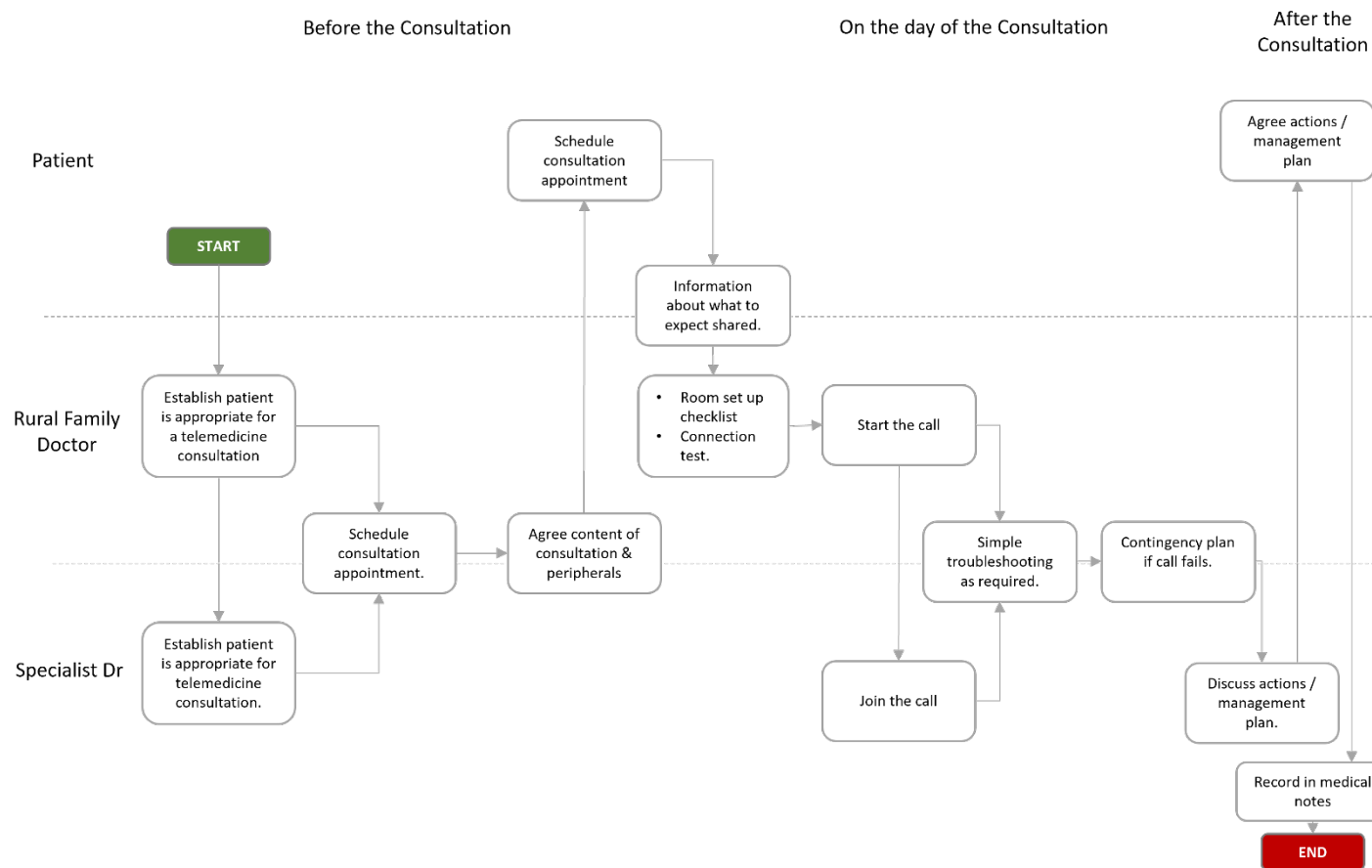
3.3 Patient

- What is telemedicine? An example of a video for the general public, describing Near Me video consulting can be seen in appendix [6].
- What is telemedicine? A patient leaflet describing Near Me video consulting can be seen in appendix [7].
- What is required for a video consultation at home. Website with easy to follow information for the public. The Near Me public facing website is an excellent example. Appendix [8]

4 Processes

These are high level processes and are to be used as the basis for local implementation.

4.1 Process for synchronous telemedicine consultation: Patient is with Rural Family Doctor in the clinic, Specialist is connecting remotely.

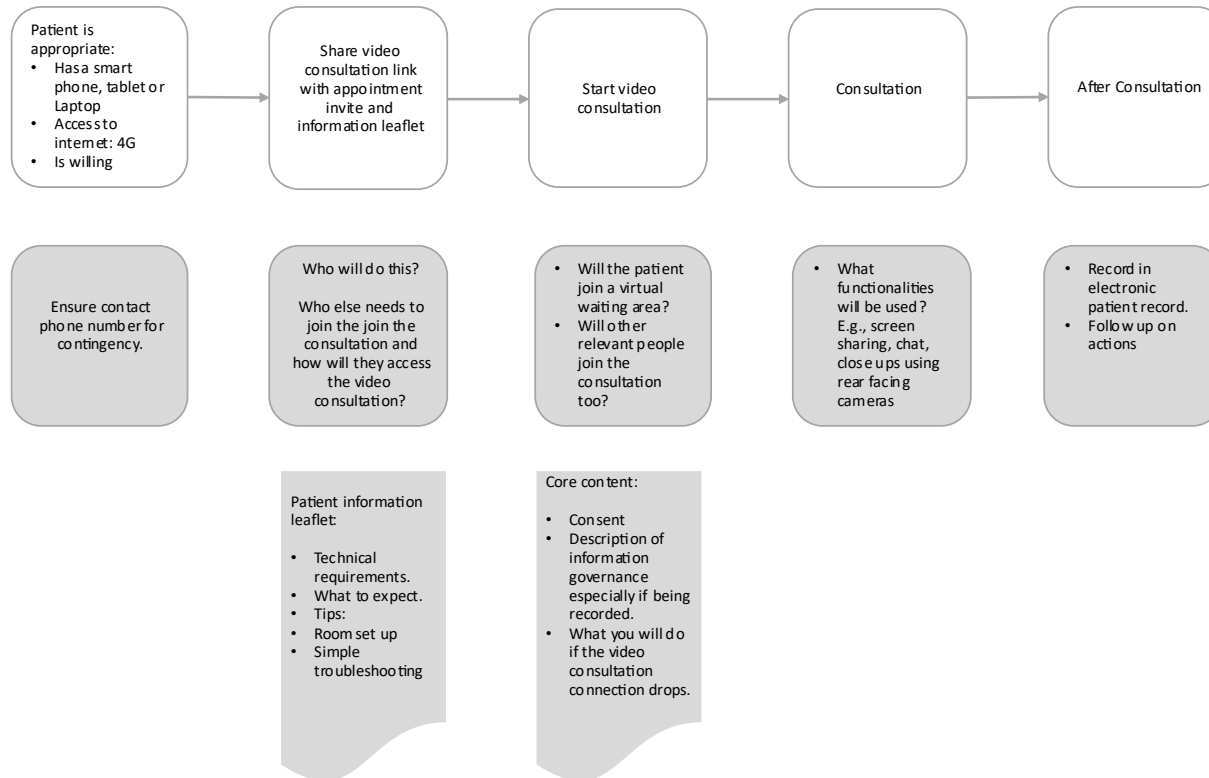**Process 1: Synchronous Telemedicine Consultation**

4.2 Process for asynchronous telemedicine consultation: Patient is with the Rural Family Doctor who completes the screening or review as per clinical guideline. The Specialist reviews the recording and digital data after this consultation.

Process 2: Asynchronous Telemedicine Consultation (Rural Family Doctor with Patient in clinic)
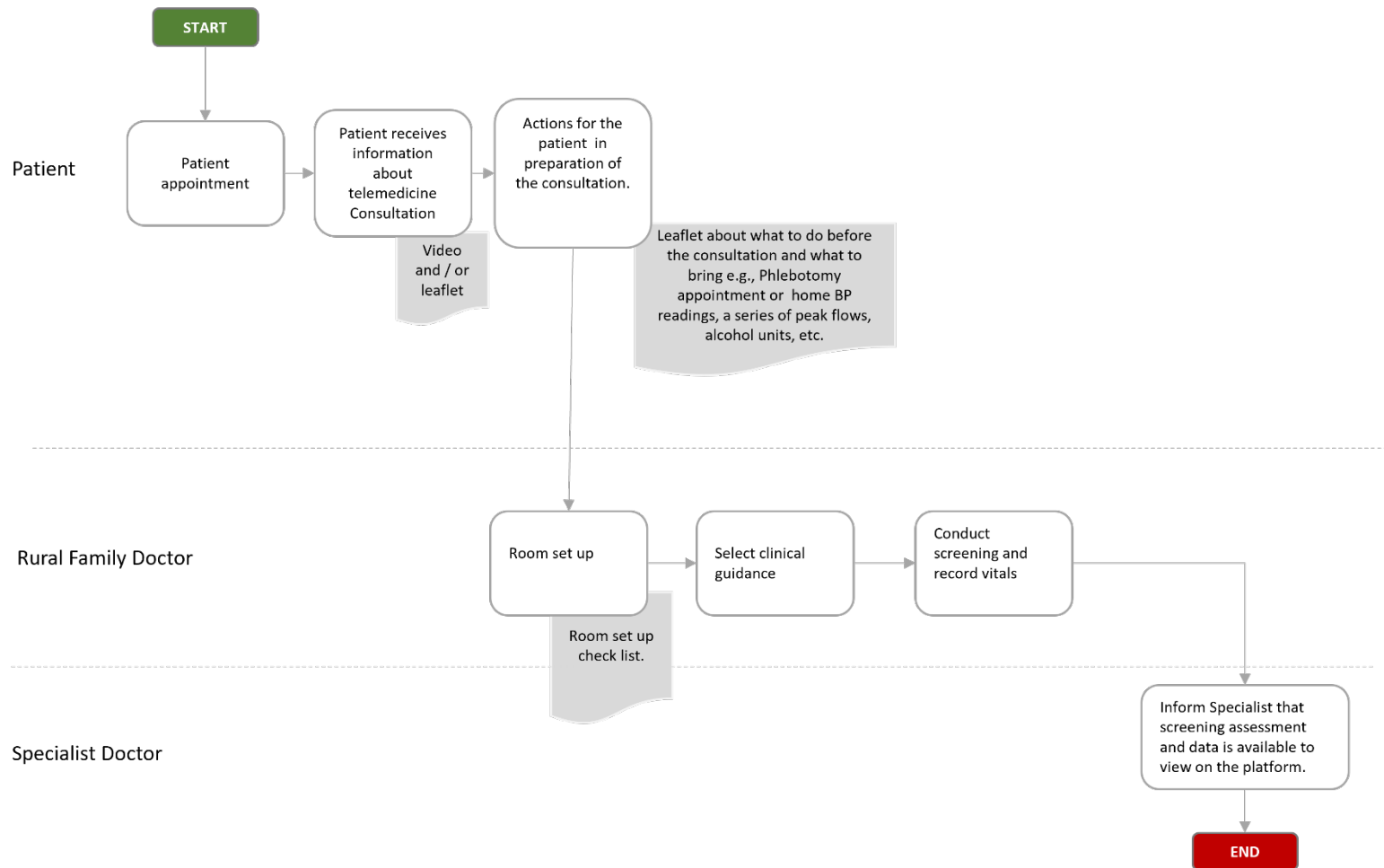
4.3 Process and considerations for video consultation between the Specialist and the Patient in their own home.

Process 3: Video Consultation with Specialist and Patient in their own home (near to home).
Patient using their own device.

Patient is appropriate:
- Has a smart phone, tablet or Laptop
- Access to internet: 4G
- Is willing

→ Share video consultation link with appointment invite and information leaflet

→ Start video consultation

→ Consultation

→ After Consultation

Ensure contact phone number for contingency.

Who will do this?

Who else needs to join the join the consultation and how will they access the video consultation?

- Will the patient join a virtual waiting area?
- Will other relevant people join the consultation too?

- What functionalities will be used? E.g., screen sharing, chat, close ups using rear facing cameras

- Record in electronic patient record.
- Follow up on actions

Patient information leaflet:

- Technical requirements.
- What to expect.
- Tips:
- Room set up
- Simple troubleshooting

Core content:

- Consent
- Description of information governance especially if being recorded.
- What you will do if the video consultation connection drops.

5   Risk and Mitigation

	Risk	Level	Mitigation
1	Stability of the internet connection	Medium	• Appropriate infrastructure on initial set up in clinic. • Contingency plan should the call fail e.g. will it be rescheduled or continue on telephone.
2	Clinical risk	Low	• This guidance is for routine screening and management. Separate processes will have to be developed for the diagnosis and management of acute disease.
3	Quality of imaging	Low	• Staff training with the devices. • Technical support line

6   Non communicable disease screening and telemedicine.

This section highlights which telemedicine components can be used during a clinical assessment. The following tables give examples of two of the five high priority diseases in Georgia, and the examples are based on guidance from the National Institute of Clinical Excellence (NICE). The intention is that pathways being updated by the Georgian Family Doctor service will be tagged with the following telemedicine recommendations.

6.1 Cardiovascular Disease Screening

	Cardiovascular disease: Screening based on https://www.nice.org.uk/guidance/cg181 The risk factors below are explored and tagged with telemedicine functionalities as appropriate.	Video Consultation	Electronic Patient Record	Digital Electrocardiogr	Digital Otoscope	Digital Ophthalmoscop
1	**Smoking history** can be gleaned during the subjective examination. Asking the patient in the video consultation and record in the electronic patient record (EPR).	✓	✓			
2	**Diabetes**. A record of an existing diagnosis may be found in the EPR, equally questioning and observation via the video consultation will glean further information.	✓	✓			
3	**Body Mass Index.** Scales, height measure and BMI calculator are required. This can be supervised via video consultation and recorded in the EPR.	✓	✓			
4	**Systolic Blood Pressure.** Recorded using standard or electronic sphygmomanometer and inputted into the EPR. This task may be supervised via video consultation.	✓	✓			
5	**Angina.** An existing diagnosis or history of angina symptoms can be explored as part of the video consultation.	✓	✓			
6	**Heart Attack.** Evidence of a previous heart attack may be evident on ECG or reported by the patient during the video consultation	✓	✓	✓		
7	**Atrial Fibrillation** Evidence may be evident on the ECG or medical history and treatment of may be available in the EPR.	✓	✓	✓		
8	**Chronic Kidney Disease.** Evidence in EPR	✓	✓			
9	**On BP medication.** Evidence in EPR or on questioning the patient during the video consultation.	✓	✓			
10	**Migraines**. Evidence in EPR or on questioning the patient during the video consultation	✓	✓			
11	**Rheumatoid Arthritis and Lupus**: Evidence in EPR or on questioning the patient during the video consultation	✓	✓			
12	**Regular steroid use.** Evidence in EPR or on questioning the patient during the video consultation	✓	✓			
13	**Severe mental illness – schizophrenia, bi-polar & Moderate / severe depression.** Evidence in EPR or on questioning the patient during the video consultation and **Atypical antipsychotic medication** Evidence in EPR	✓	✓			

14	**Erectile dysfunction.** Evidence in EPR or on questioning the patient during the video consultation	✓	✓			

6.2 Diabetes Screening

	Diabetes Examples of the subjective and objective examinations in the screening for diabetes, based on NICE Guidance: https://cks.nice.org.uk/topics/diabetes-type-2/diagnosis/diagnosis-in-adults/ Below the potential for using telemedicine functionalities are highlighted.	Video Consultation	Electronic Patient Record	Digital Electrocardiogr	Digital Otoscope	Digital Ophthalmoscope
1	**Computer based risk assessment tools** can be completed jointly as part of the video consultation.	✓				
2	**Acute medical history** may be available on the patient's EPR equally it can be explored as part of the subjective assessment via video consultation.	✓	✓			
3	**Weight & Body mass Index (BMI)**. To calculate this, scales, height measure and BMI calculator are required. This can be supervised via video consultation and recorded in the EPR.	✓				
4	**Smoking** can be explored as part of the subjective assessment via video consultation.	✓				
5	**Family History of diabetes & cardiovascular disease** can be explored as part of the subjective assessment via video consultation.	✓	✓			
6	**Medication History** can be explored as part of the subjective assessment or from information in the EPR. Video consultation enables the Doctor to see exactly what the patient is taking and can give helpful insight into patient's compliance with their medications.	✓	✓			
7	**Bloods:** fasting plasma glucose level, HbA1c level, Impaired fasting glucose, Impaired glucose tolerance, urine albumin: creatinine ratio (ACR) and estimated glomerular filtration rate (eGFR). Without point of care testing, process will have to be put into place to have phlebotomy completed ahead of the screening appointment, and results made available via EPR.		✓			
8	**Peripheral disease and Peripheral Neuropathy** are complications of diabetes. A physical examination of these can be directed over video consultation.	✓				
9	**Retinopathy** is another serious complication of diabetes. If the digital ophthalmoscope has the functionality to image the retina through a dilated pupil, this can be completed as part of the telemedicine consultation. **Cataracts and Glaucoma** are also complications which can be observed via digital ophthalmoscope.	✓				✓

Appendix 1 An example of technical requirement information

The Near Me website hosts information about the current technical set up requirements, for the Near Me platform and the how to test these: https://tec.scot/programme-areas/near-me/getting-started/technical-set

https://tec.scot/programme-areas/near-me/getting-started/technical-set

Technical Set Up

To make or receive a Near Me call, you will need a device such as a desktop or laptop PC, tablet or smartphone. There is no software to download, all you need is an up to date web browser. Such as: Google Chrome, Apple Safari or Microsoft Edge v86+

Staff members should also ensure they have a reasonable audio setup. A headset or a conference call speakerphone are ideal, but earbuds can also be used.

Up to date minimum equipment specification can be found in the Resource Centre.

Jabra speaker

Test your Connection

You can test your network connection by clicking on the image below. This should return an "Excellent". If not, consider optimising your network to ensure the best call quality.

WebRTC network readiness test

Run this test on a desktop/laptop computer, or Android device, using the following web browser:

Google Chrome 80 or later (Windows, Android)
Microsoft Edge 83 or later (Windows only)

What browser am I using now?

This test determines how well you can make WebRTC-based video calls within your organisation.

More information about this test

Begin Test →

Appendix 2 Examples of familiarisation leaflets.

There are many different functionalities within the Near Me video consulting platform. To compliment practical training and videos there is also a library of "how to" guides available on the Near Me website: https://www.vc.scot.nhs.uk/near-me/guides/

https://www.vc.scot.nhs.uk/near-me/guides/

NVCS Home   About Near Me   Technical Requirements   Apply   Guidance   Training   Group Calls   Consult Now

Demo site   Support

Clear browser cache (prevents and solves many issues)

Clearing a browser's cache can help alleviate a number of issues experienced in video calls. Cache clearing can also help prevent many problems in the first place, so we advise clinicians to do so before signing into the Attend Anywhere/Near Me platform.
Clearing the cache using the simple methods described in the PDF will preserve a user's favourites, bookmarks and passwords.

Easy cache clearing for Edge

Providers who are regular users of Near Me (or other WebRTC video calls) may want the benefit of clearing cache every time they restart their browser. in addition to the standard guide above, we've created a guide for Edge, detailing automated cache clearing or by an bookmark in Edge's favourites menu.

Switching cameras on mobile devices

The PDF to the left indicates how to you may be able to tell a patient to use their rear-facing camera while in a clinical examination with you. It covers both Android and iOS devices. We have an iPhone specific guide too.

Adding an extra participant into a patient/clinician call

This guide indicates one of the methods that can be used to invite another person into your call. Invitations can be sent, via text or email, from within the call screen, to anyone including other clinicians, patients or patients' family members. We've created an additional guide for iOS users who would like to add additional participants using the add from call queue, rather than invitation, method.
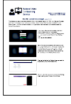
Content Sharing within a call

If a Service Provider or Service User enters a call using a supported Windows or macOS device, they will be able to share content within that call without adding any extensions to that browser first. The ability to do share content, or to choose to also share the content's audio varies by device and browser. The pdf to the left highlights some of the possibilities. Our guide on sharing PowerPoint presentations gives some useful advice for those with single screen systems.

PowerPoint sharing within a Group Consultation

Sharing PowerPoint presentations is simple but takes a little more preparation than standard desktop sharing. Our guide covers sharing presentation from within a browser tab, using the online version of PowerPoint available to O365 users. We cover single-screen system use but would recommend using a twin-screen PC, if possible.

Consult Now: enabling and use

The mid-October 2021 update to the Attend Anywhere platform also allows invitations to be sent that bypass the normal Waiting Area entry /answer process. Consult Now be used to make the escalation from a phone call to video very quickly. They may also be deployed to simplify virtual visits for patients as the links are one-off and have a short time for use.

Group Calls/Group Consultations

From mid-November 2021 it has been possible to use the Near Me platform to host large group sessions. These require dedicated Waiting Areas that can be requested using this form. Standard Near Me calls are only suitable for a handful of callers before degradation in call quality or drop-outs are noticed. We have a basic provider guide and one with more detail on the call controls. There's a basic guide for your callers too.

Change default browser on Samsung devices

New Samsung phones and tablets have Samsung Internet set as their default browser. For Near Me calls, the browser used on Android devices has to be Chrome. This guide shows how to change the default browser

Appendix 3 Examples of a troubleshooting poster and online resources.

This troubleshooting poster is used by clinicians to support their Near Me video consultations. In most offices and clinic rooms, it will be laminated and displayed on the wall, in easy view of the clinician.

Troubleshooting for service providers

Check your equipment

Ensure your camera, microphone, and speaker/headset are securely connected, or if wireless, switched on and fully charged.

Ensure your device is using the correct camera, microphone, and speaker/headset. See the device's camera and sound settings.

📷 Can't see?

Select the camera icon in the call screen's address bar to check that the browser is using the correct camera and that you have granted the necessary permission.

Make sure no other software, such as Skype, is using the camera. Restart if necessary.

Check that your firewall settings allow video. Your firewall administrator can advise.

📶 Poor video/audio quality?

Test your internet speed: **www.speedtest.net**

Check that your modem/router are working. If using WiFi, get closer to the modem/router.

If others are on video calls, available bandwidth may be limited.

Try the Refresh button

On the individual appointment call screen, select the **Refresh** button. This will solve many call issues.

🎤 Others can't hear you?

Click the camera icon in the call screen's address bar to check that the browser is using the correct microphone and that you have granted the necessary permission.

Make sure no other software, such as Skype, is using the camera. Restart if necessary.

Check that your microphone is not muted. See the call screen controls or device settings.

🔊 Can't hear others?

Check your speaker/headset/device volume.

If you hear an echo, check your device's sound settings.

Meet minimum specs?

Windows PC with i5 processor and 3GB of RAM (Windows 7 or later)

Apple Mac with i5 processor and 3GB of RAM (MacOS 10.11or higher for Chrome; 10.14 or higher for Safari)

Android-based smartphone or tablet (Android 5.1 or later)

iPhone (iOS 12.4+)

iPad (iOS 12.4+, iPadOS 13+)

Latest browser?

Make sure you have the latest version of one of the following:

- Chrome
- Safari
- Edge

How can I check the version of my browser? **www.whatismybrowser.com**

More troubleshooting tips

Visit **https://help.inductionhealthcare.com/attend/index.htm**

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Examples of further online troubleshooting resources available from the Near Me platform provider.
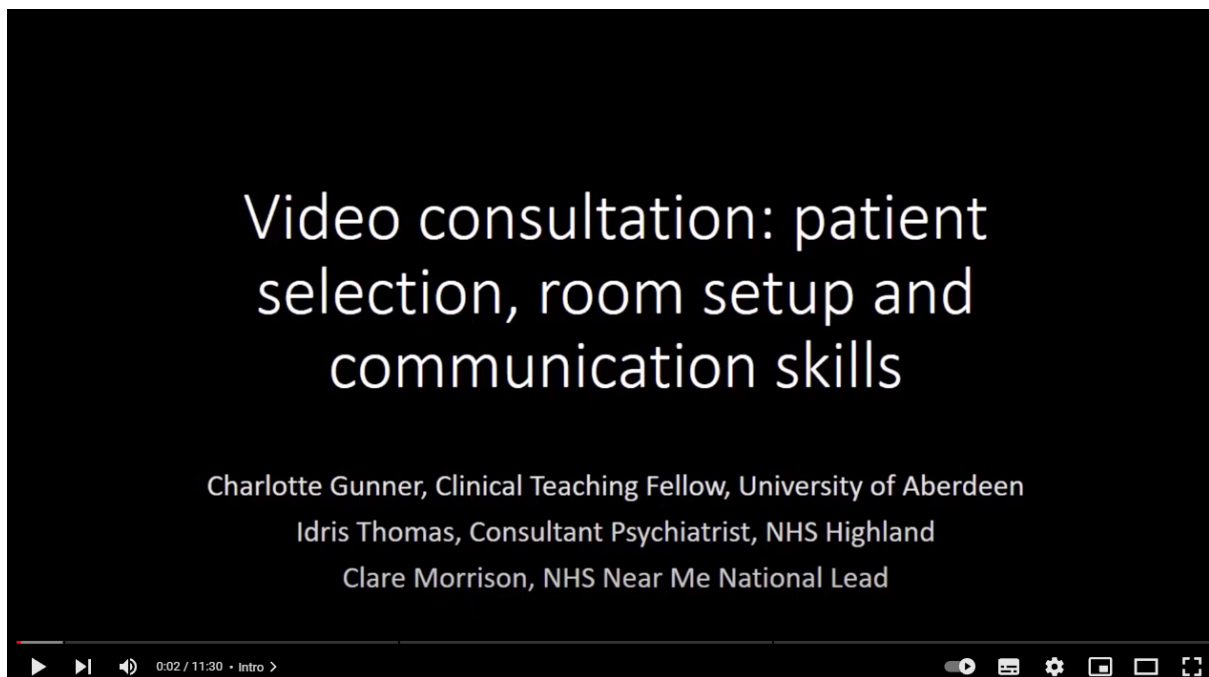
Appendix 4 Video example of telemedicine skills

The video below describes the skills involved in holding a Near Me video consultation. It considers patient selection, room set up and uses the examples of two scenarios: one highlighting a poor consultation and one demonstrating the softer skills and etiquette required for a good consultation.

https://www.youtube.com/watch?v=QQ5V1-OoY1g

Video consultation: patient selection, room setup and communication skills

Charlotte Gunner, Clinical Teaching Fellow, University of Aberdeen
Idris Thomas, Consultant Psychiatrist, NHS Highland
Clare Morrison, NHS Near Me National Lead

Appendix 5 Introducing your telemedicine platform to clinicians.

The example below is a 4 minute animated video for staff who will be using the Near Me video consulting platform. It provides an overview of the platform, the reason for using it and how to run the consultation.

https://www.youtube.com/watch?v=_WrHBghbU3U
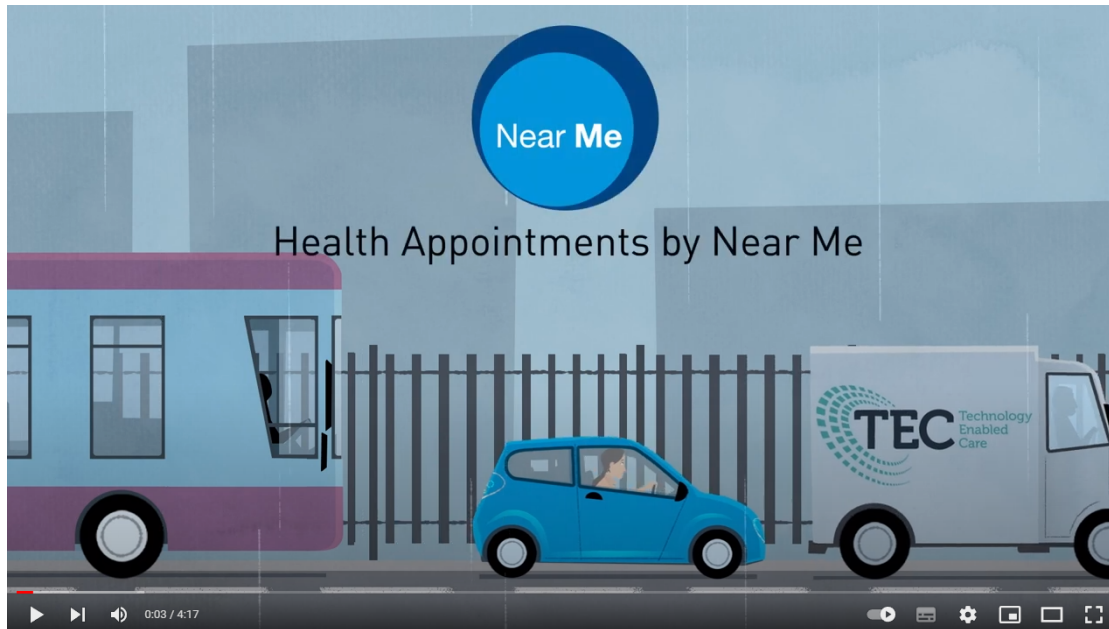
Producing animated videos can be costly. The video below uses a simpler, low cost, style to share training advice.

https://www.youtube.com/watch?v=aCuveNRC86Y
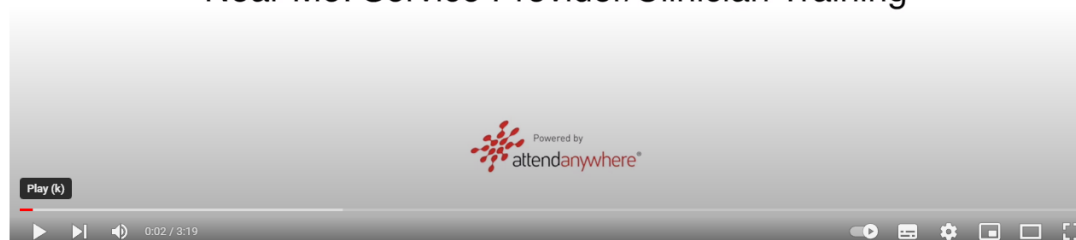
Appendix 6 Public communication - what is telemedicine?

Educating the public and patients new to telemedicine is important. The video below describes the benefits of having a Near Me video consultation, what to expect and what to do. It is an example of clear and consistent messaging for patients and the public.

https://www.youtube.com/watch?v=vtDELWFbJX8
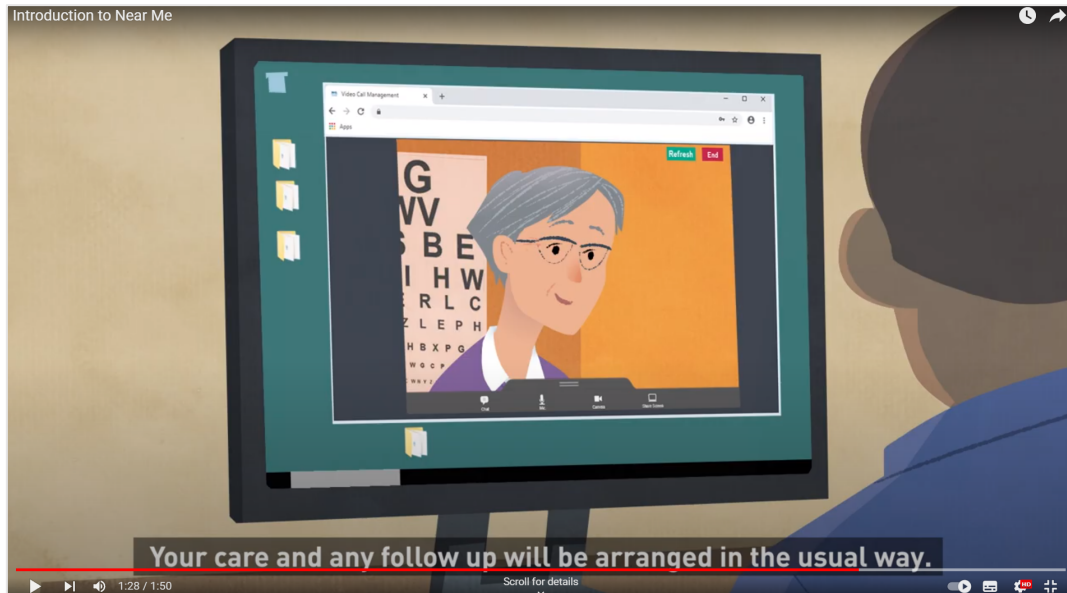
Appendix 7 Example of a Patient information leaflet

Below is the patient information leaflet shared with patients ahead of their Near Me video consultation. They are auto generated by the platform to ensure that the information is most

up to date and has a section that is customisable by the service conducting the video consultation.

Page 1

Page 2

What do I need to know?

Is it secure / confidential?

You have your own private video room that only authorised providers can enter.

No information you enter is stored.

How much does a video call cost?

The video call is free except for your internet usage.

Tip! If you can, connect to a Wi-Fi network to avoid using your mobile data.

How much internet data will I use?

The video call doesn't use data while you are waiting for someone to join you.

After the call connects, it uses a similar amount of data to Skype® or FaceTime®.

How do I make my video call?

1. Open your web browser and type the service's web address into the address bar (not the search box).

2. Depending on the available controls you may either:

- Click the **Start Video call** button and select your Waiting Area, or

  🗩 Start video call >

- Click **Enter Waiting Area**.

  Enter Waiting Area

3. If asked, allow your browser to access your camera and microphone.

4. Follow the on-screen prompts to start your video call.

5. To end the call, click **End**.

Tip! Many call issues can be fixed by clicking **Refresh**.

  Refresh   End

Tip! If a **Test call** button is available, make a test call before your appointment to check your setup.

1. Click the **Test call** button to run a quick test:

  🗩 Test call >

2. If asked, allow your browser to access your camera and microphone. The **Video call setup** runs through four testing stages: microphone, camera, connection, and speaker.

  🎤 📹 📶 🔊

What do I do if something's not working?

Visit **https://nhs.attendanywhere.com/troubleshooting**

More information

Please contact support on 01224 816666 or email vc.support@nhs.scot

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attend**anywhere**®

Appendix 8 Public Communication – telemedicine website.

Where do patients and the public find out more information about telemedicine. The simple link below is the dedicated public website about Near Me video consulting. It contains information:
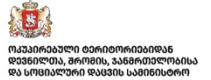
- ✓ What is Near Me?
- ✓ What do I need?
- ✓ How do I make a Near Me call?
- ✓ Opportunity to make a test call
- ✓ FAQs
- ✓ Video as seen in appendix 6

https://www.nearme.scot/
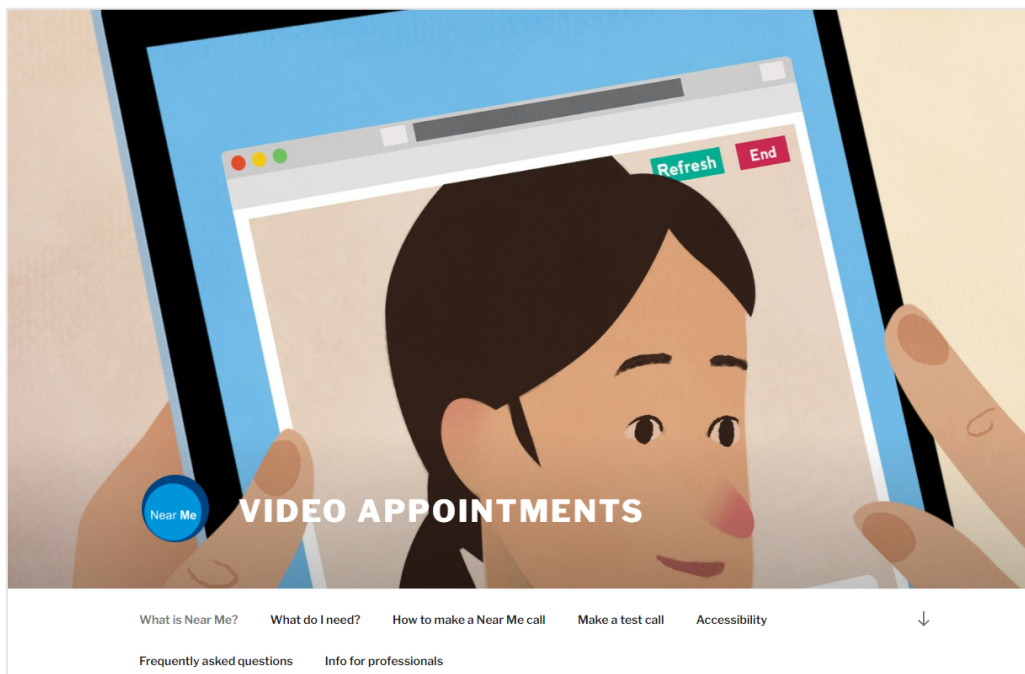
ABOUT THE PROJECT

- The European Union (EU), 4 UN organisations (WHO, UNFPA, UNICEF, UNOPS) and the Ministry of IDPs from the Occupied Territories, Labour, Health and Social Affairs of Georgia (MoIDPLHSA) team up to advance digital solutions for health

- A 3-year, €4.7 million project to protect and promote people's health and well-being, improve access to essential health services and reduce burden on the health-care system during the COVID-19 pandemic and beyond

- Builds on, and is complementary to, ongoing EU and UN support to Georgia's COVID-19 response and progress towards universal health coverage

FOR MORE INFORMATION VISIT:

European Union in Georgia
https://eu4georgia.ge/

United Nations in Georgia
https://georgia.un.org/

World Health Organization (WHO)
https://www.euro.who.int/en/countries/georgia

United Nations Children's Fund (UNICEF)
https://www.unicef.org/georgia/

United Nations Population Fund (UNFPA)
https://georgia.unfpa.org/en

United Nations Office for Project Services (UNOPS)

https://www.unops.org/