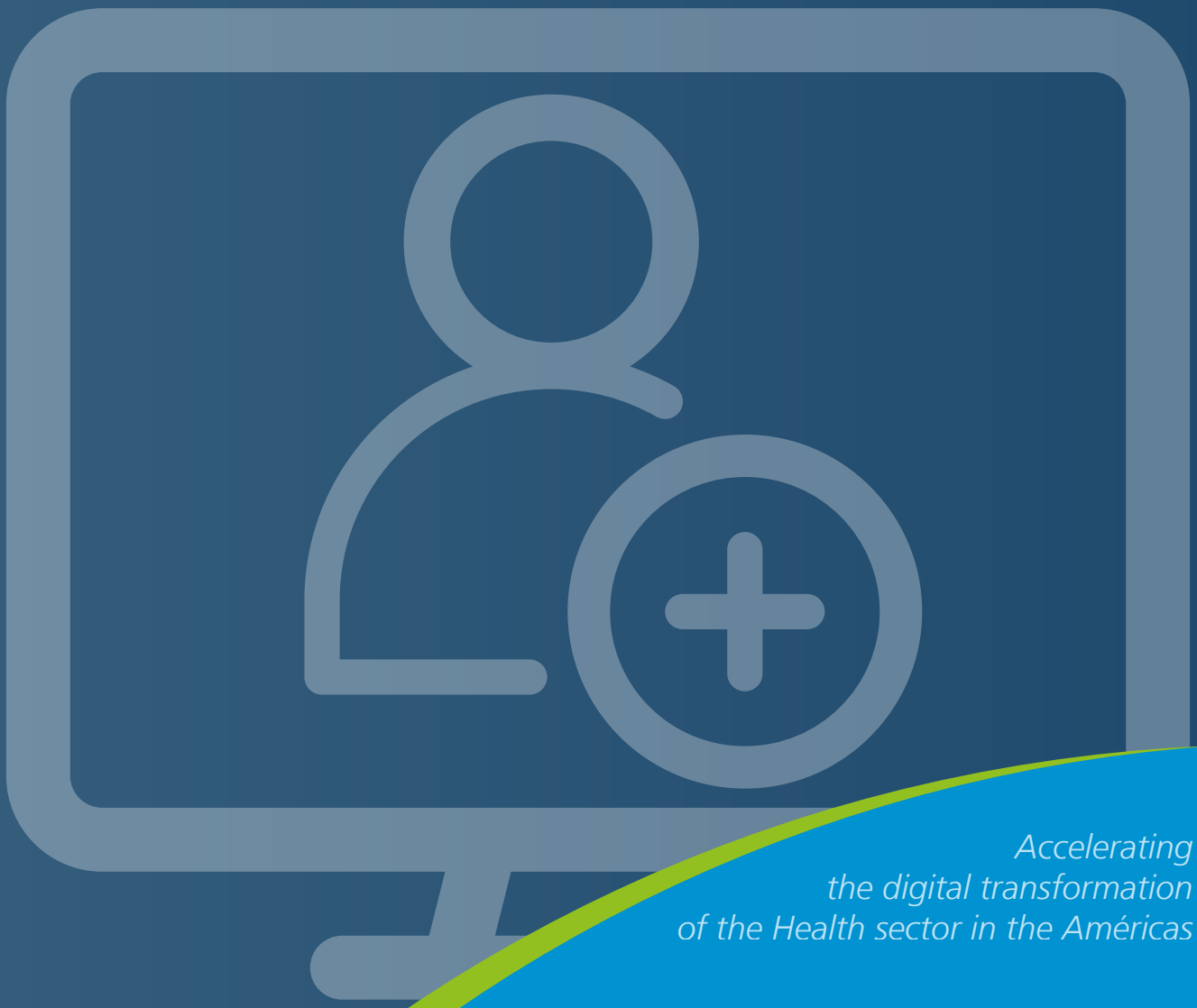

Accelerating
the digital transformation
of the Health sector in the Américas

ALL-IN-ONE
Telehealth Platform

User manual

PAHO
Pan American Health Organization
World Health Organization
Americas Region

ALL-IN-ONE
Telehealth Platform

User Manual

Version 1.0

Washington, D.C., 2023

PAHO Pan American Health Organization
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1. Introduction

All In One Telehealth Platform For The Americas is a platform developed by the Pan American Health Organization (PAHO) with the aim of implementing a digital public good for Latin America and the Caribbean countries. It focuses on the electronic clinical record and telehealth modules, with the purpose of being an integrated information system that promotes equitable access to healthcare services.

The implementation of a digital public good such as this platform seeks to facilitate access to healthcare for people and communities who may otherwise face difficulties. The platform is composed of applications designed to be easily implemented and scaled, adapting to different countries and contexts, and being interoperable with common systems used in the health field. To achieve this, open source components are used that respond to the needs of countries and provide multiple benefits.

1.1 Overview

The **All In One Telehealth Platform For The Americas** platform aims to improve care and patient follow-up, especially those with non-communicable diseases (NCDs). These diseases, such as cancer, cardiovascular diseases, diabetes, and chronic lung diseases, represent the leading cause of death and disability worldwide, being responsible for 71% of all deaths globally. In the Americas Region, around 5.5 million deaths related to NCDs are recorded.

Due to the chronic nature of these diseases, continuous care and adequate follow-up is needed. In this regard, the platform provides tools that help patients with this type of pathology to manage and control their disease effectively. In addition, it allows health professionals in remote areas to perform an **advanced triage** to assess and refer patients to an appropriate health center, thus avoiding unnecessary travel.

The **All In One Telehealth Platform For The Americas** platform was developed in 2022 with the financial support of the United States Government and is currently in the testing phase in several countries in the region. Its implementation seeks to improve the quality of healthcare, promote equity in access to healthcare services, and provide more effective care to the people and communities of Latin America and the Caribbean.

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2. Open Source Components. Definition and advantages.

Open source components are software whose source code is publicly available and can be freely modified, distributed and used. This type of development is characterized by being free, available to the general public, modifiable according to the specific needs of users and transparent by publishing its source code. Additionally, the open source approach promotes collaboration and knowledge sharing between developers and the user community, which leads to greater flexibility, innovation and continuous product improvement.

Open source solutions allow for greater customization and adaptability to the specific needs of each country. Developers can modify and adjust the source code to adapt the solutions to local requirements, which facilitates the implementation of healthcare systems that fit the particularities and specific requirements.

In addition, the open source approach encourages collaboration and contribution from the developer community. Experts from various fields can work together to improve and expand the functionality of the solutions, correct errors, and share best practices. This leads to continuous improvement of the solutions and to a higher quality of healthcare provided.

Another important benefit of using open source solutions is transparency and security. When the source codes are available, specialists can analyze them, identify vulnerabilities and perform security audits. This provides greater confidence in the integrity and security of the data and systems used in healthcare.

The **All In One Telehealth Platform For The Americas** platform is based on OpenEMR and Jitsi Meet as open source solutions.

OpenEMR is a widely used electronic medical record (EMR) platform that provides a comprehensive solution for managing medical records, scheduling appointments and other clinical functions. OpenEMR allows customization and adaptation to the specific requirements of each country.

Jitsi Meet is a communication and video conferencing platform that is particularly relevant for telehealth, as it allows for online medical consultations, medical conferences and remote collaboration between healthcare professionals. Both solutions are easy to use, scalable and offer security options suitable for medical environments.

The choice of these open source solutions is based on their ability to integrate with the platform, their wide adoption, and the trust in their functionality, security, and scalability. The implementation of the **All In One Telehealth Platform For The Americas** platform with open source components strengthens its flexibility, adaptability, transparency, and collaboration contributing to improve healthcare and promoting equitable access to healthcare services.

3. Using the system

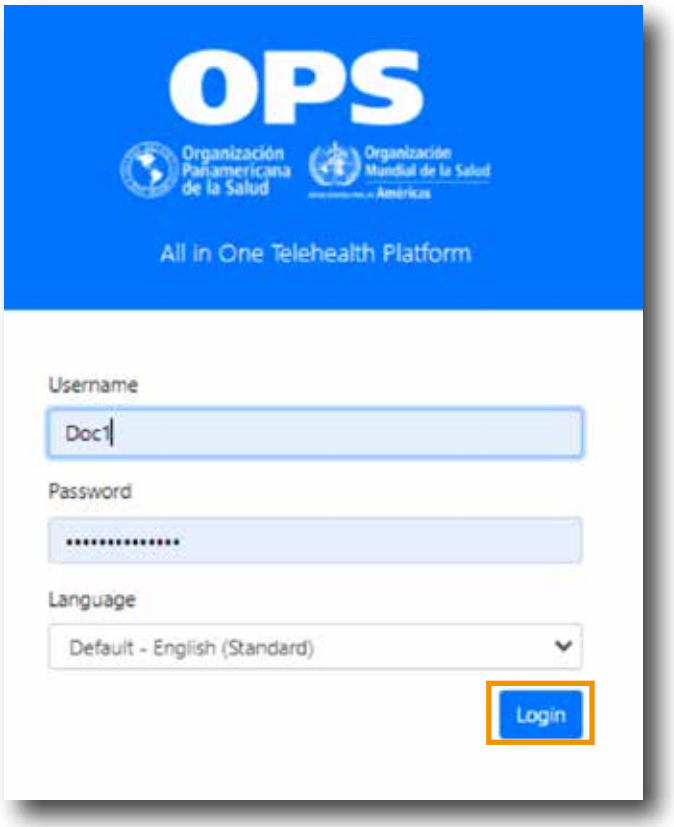
The following section contains all the information needed to use the **All-in-One Telehealth Platform for the Americas** effectively.

3.1 Login

To log in to the **All In One Telehealth Platform For The Americas** platform, you must click on the provided link.

Enter your assigned username and password in the corresponding fields, and click on **Login**.

● **Figura 1.** Login.

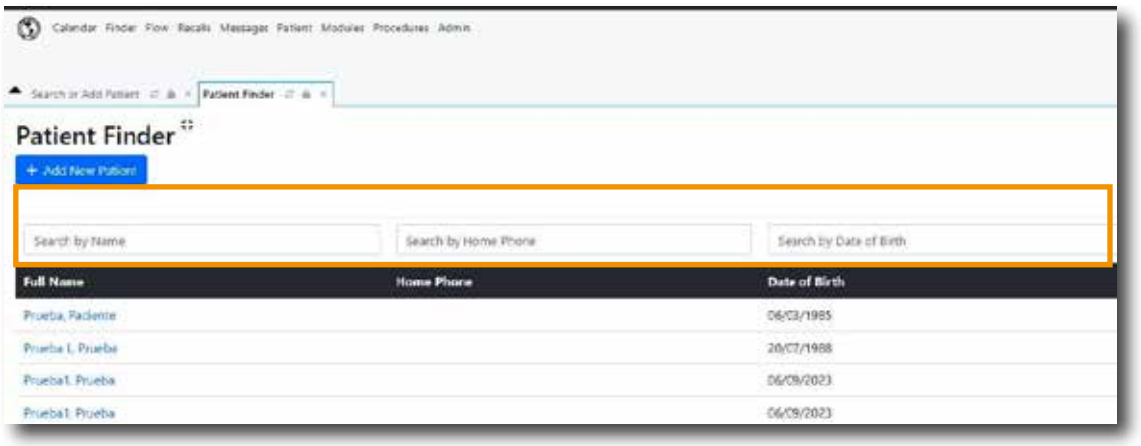


3.2 Patient finder

To search for a patient on the platform, follow these steps:

1. Click on the **Patient Finder** option located at the top.
2. Search for the patient using criteria such as their name, document type, and other relevant data.
3. The system will display the results that match the search criteria.
4. Select the desired patient from the list of results to access their data.

Figure 2. Patient finder.



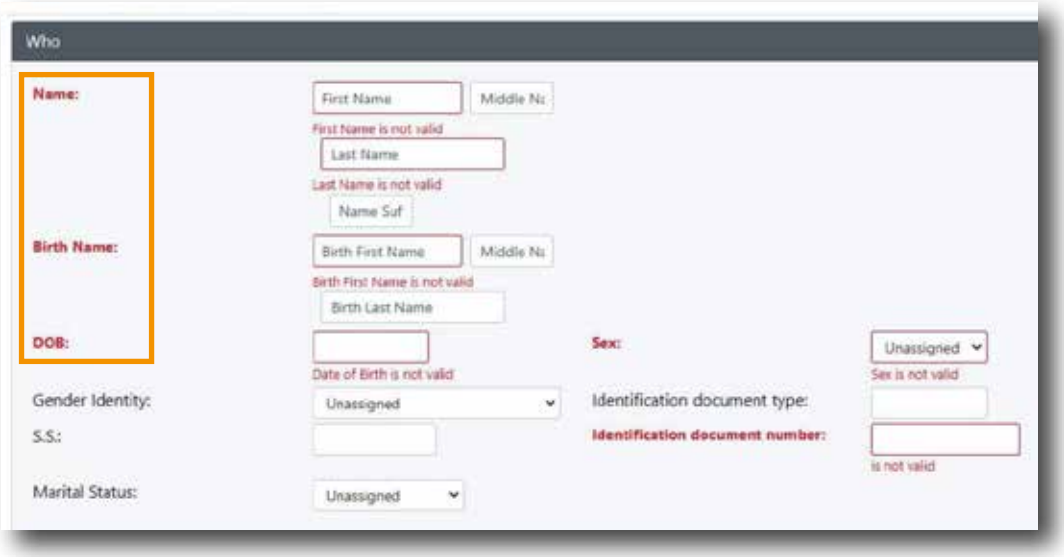
3.3 Add patient

To add a new patient to the **All-in-One Telehealth Platform for the Americas** platform, click on **+ Add New Patient**.

This option will allow you to add a new patient to the platform, where you can enter your personal information and relevant data in each of the sections:

1. **Who section**: the patient's data must be completed, as mandatory fields, including Name, Surname, Birth name, Date of birth, Sex, type and document number

● **Figure 3.** Add Patient.



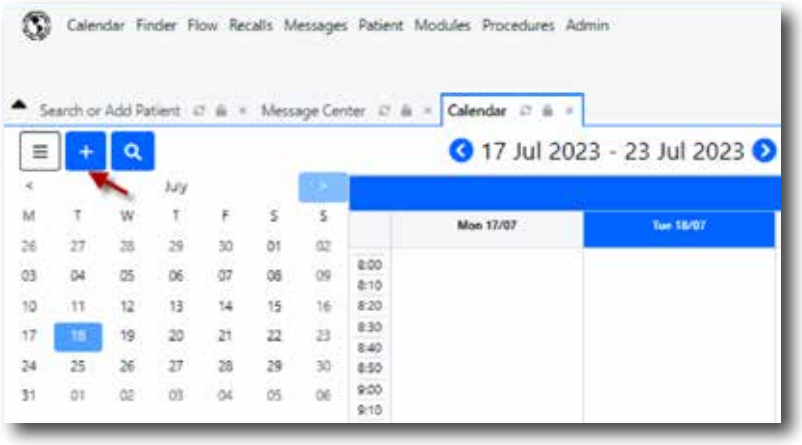
2. **Contact section**: optionally you can fill in the contact information such as address, contact telephone numbers.
3. **Options section**: additional information about the health provider can be completed. These fields are optional
4. Once the data is completed, you must select **Create a new patient** and confirm its creation to finish with the patient's discharge.
5. Once all the fields have been completed, click on **Save** to create the user. This will complete the registration process and the user will be registered on the platform with the specified data and access profile.

3.4 Professional`s agenda

To register the professional's agenda once the professional has been created on the **All In One Telehealth Platform For The Americas** platform, the following steps must be follow-ed:

1. On the top banner, click on the **Calendar** option.
2. Click on the **(+) sign**, which will display a pop-up window, with provider and patient tabs.

● **Figure 4.** Add Calendar.

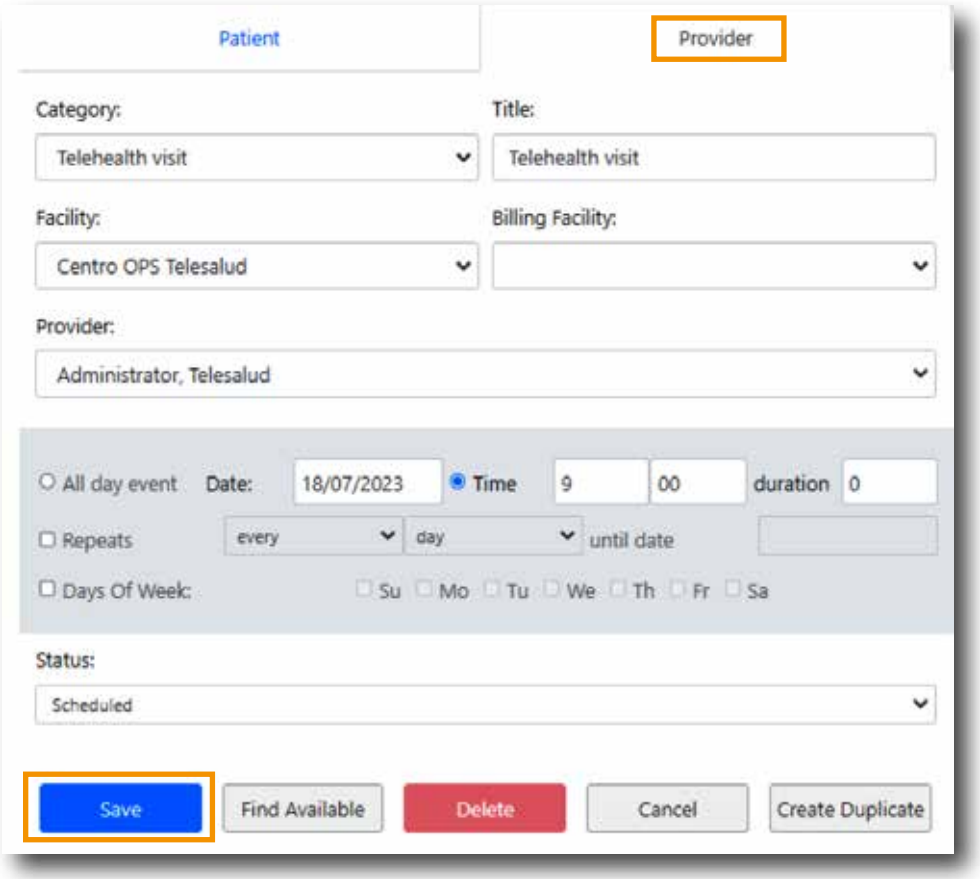


3. Select the **Provider** tab. In Category, select the corresponding option, for availability of consultations (in office), lunch hours, vacations, etc.

Select the start-end date, if applicable or select the days that apply, in Pref Cat , select the one that corresponds.

Once the form is completed, click on **Save**, and the schedules will show the availability of schedules to answer questions or block in case of vacations, etc.

● **Figure 5.** Add Provider.



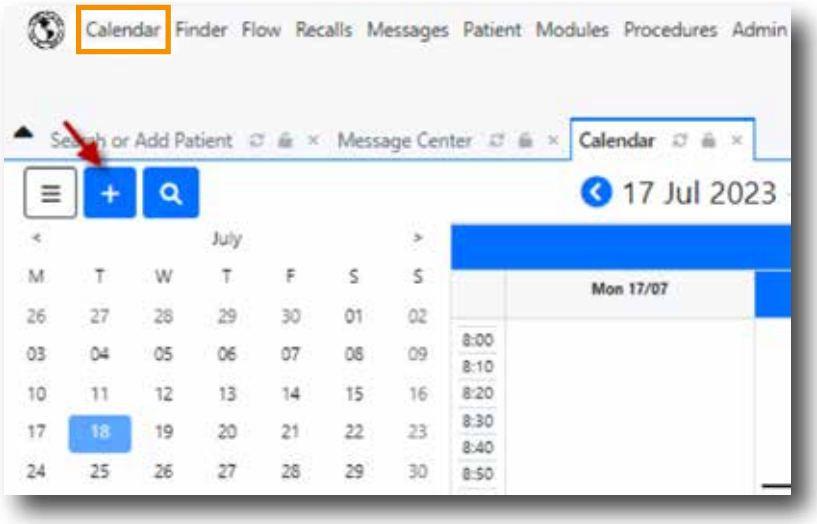
3.5 Patient appointment

To make an appointment for a patient on the professional's agenda on the **All in One Telehealth Platform for the Americas** platform, the following steps must be followed:

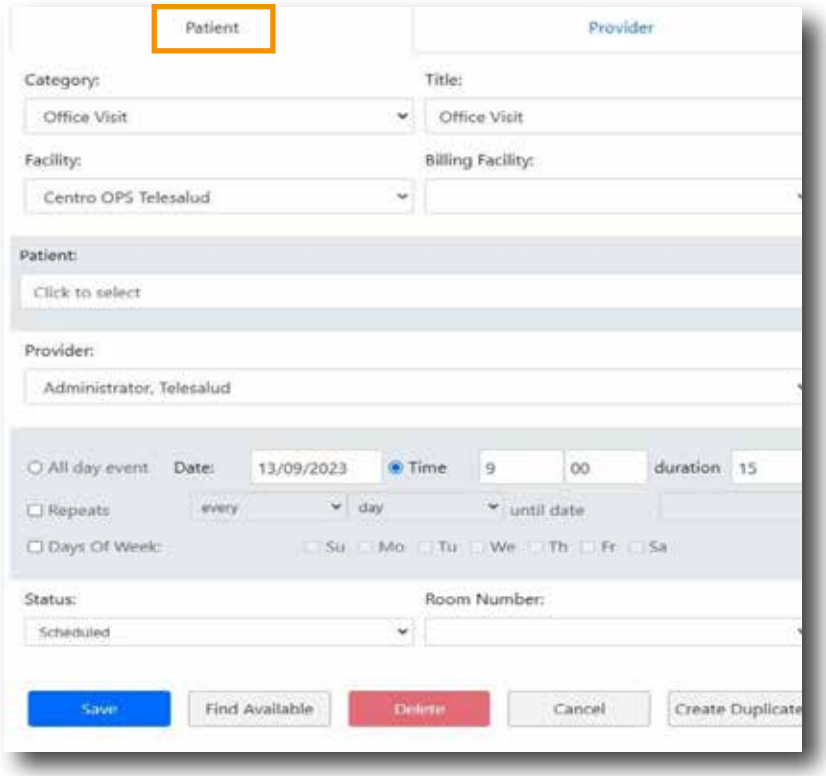
1. On the top banner, click on the **Calendar** option.

2. Click on the **(+) sign**, which will display a pop-up window, with provider and patient tabs.

● **Figure 6.** Add appointment.

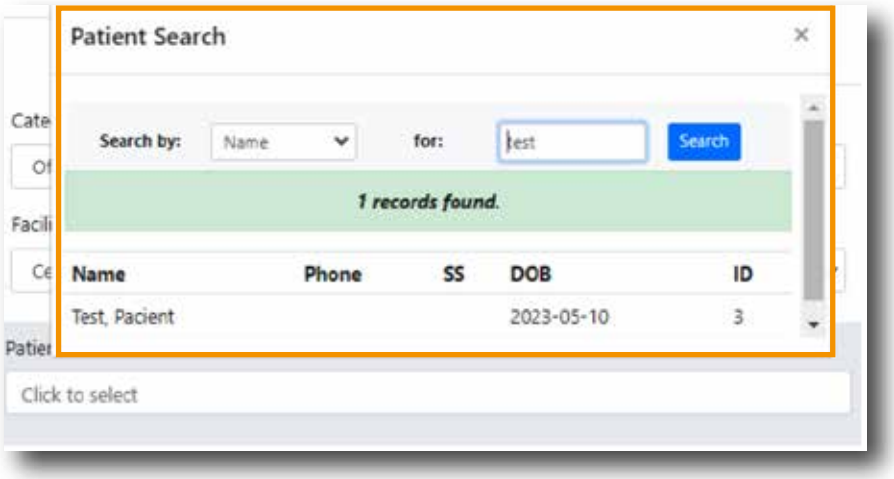


● **Figure 7.** Add patient appointments.



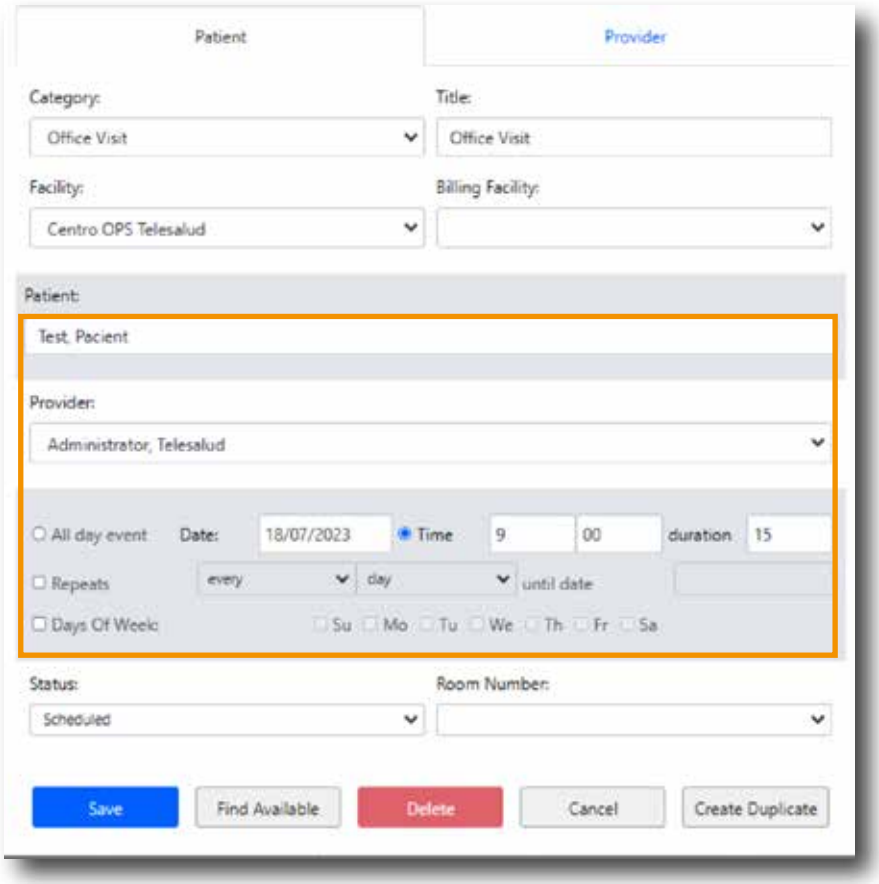
3. Select the **patient tab**, you must first search for the **patient** for whom you want to generate the shift. When performing this action, a pop up will be generated where you can search by last name, ID.

● **Figure 8.** Patient search



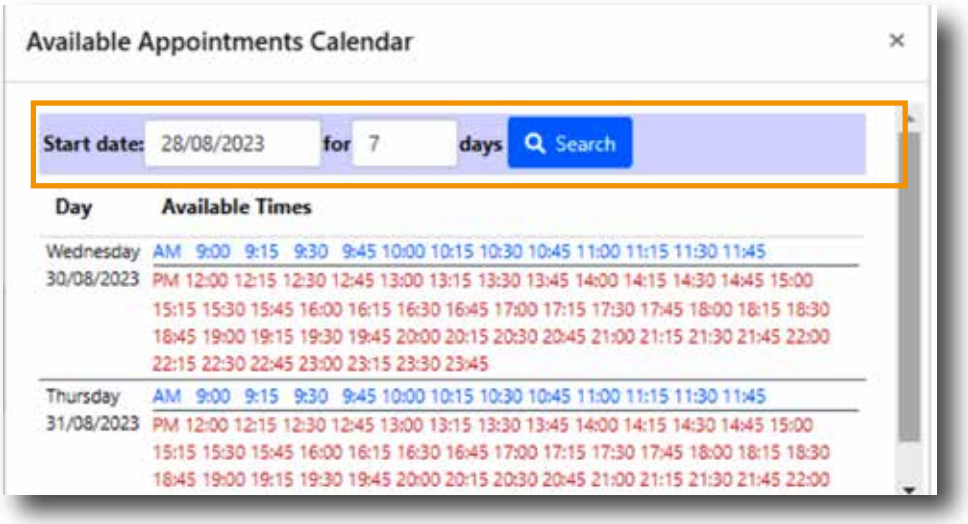
4. Once the patient has been selected, fill in the corresponding data and the start date of the appointment request.

● **Figure 9.** Appointment search.



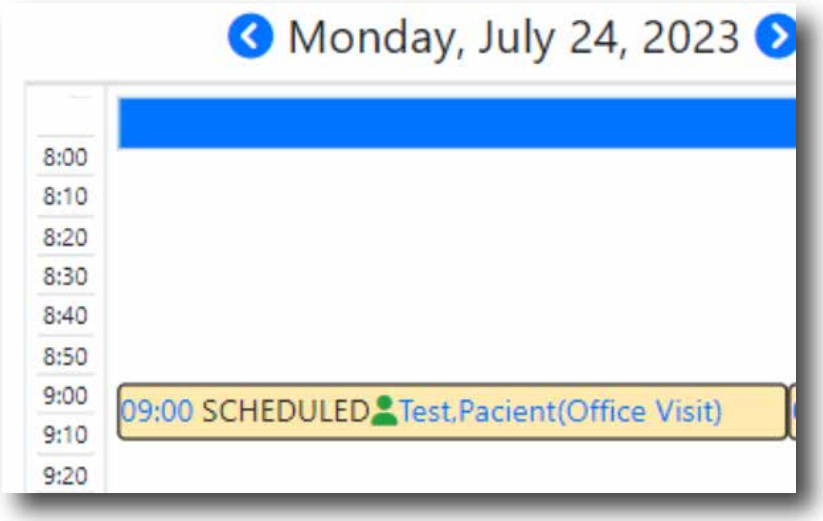
5. Click on **Find Available** where you will see the appointment offer for the professional and select the one you consider. You can select the start date to find appointment availability.

- **Figure 10.** Available appointments.



6. Once the appointment is selected, click on **Save** and the appointment given to the patient will be reserved in the professional's agenda.

- **Figure 11.** Scheduled appointment.

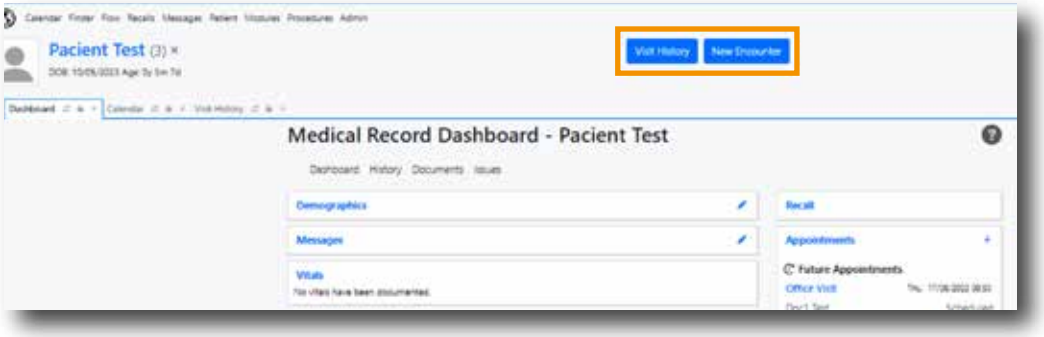


3.6 Adding clinical notes

To record progress on the **All In One Telehealth Platform For The Americas** follow these steps:

1. Access the patient's profile from the agenda by clicking on the name or through the patient search engine.
2. Create a **New Encounter** or access an existing visit from the **Visit History**

● **Figure 12.** Medical record dashboard.

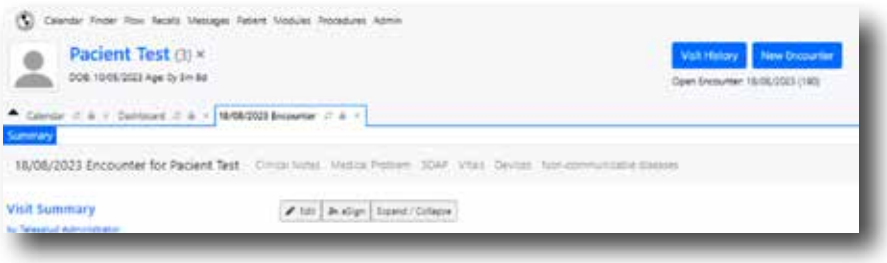


3. When creating a new visit, the system will inform you if there is already a scheduled visit and will provide an alert to record on it. If the record corresponds to the already scheduled visit, you must select **Cancel** to open it, otherwise you will click **Accept** to create a new one.

● **Figure 13.** Unavailable appointment slot.

Entering the appointment you can register in the different forms available as appropriate: Clinical Note, Medical Problem, SOAP, Vital Signs, Devices, Non-communicable Diseases.

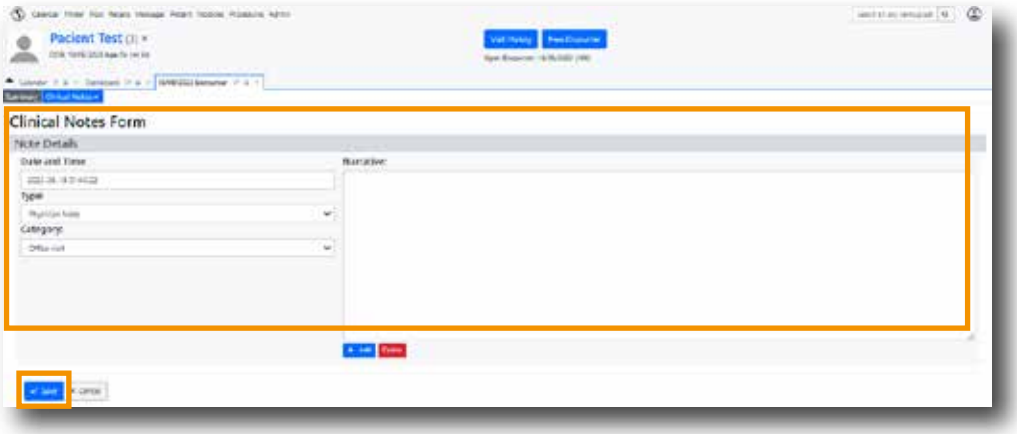
● **Figure 14.** Encounter register.



a. **Clinical Note**: the following fields must be completed in this evolution record:

- Date and Time: enter the date and time of the service.
- Type of Clinical Note: **Physician Note** appears by default, it can be changed to **Nursing note.**
- Category: corresponding to the type of care, **Office Visit** appears by default, it can be modified to **Second opinion** or **Telehealth Visit**.
- Narrative: free text field available to enter the record corresponding to the care
- At the end of the registration, select **Save**.
- The Clinical Note is saved within the selected visit. If necessary, it is possible to modify the registration made.

● **Figure 15.** Clinical notes form.

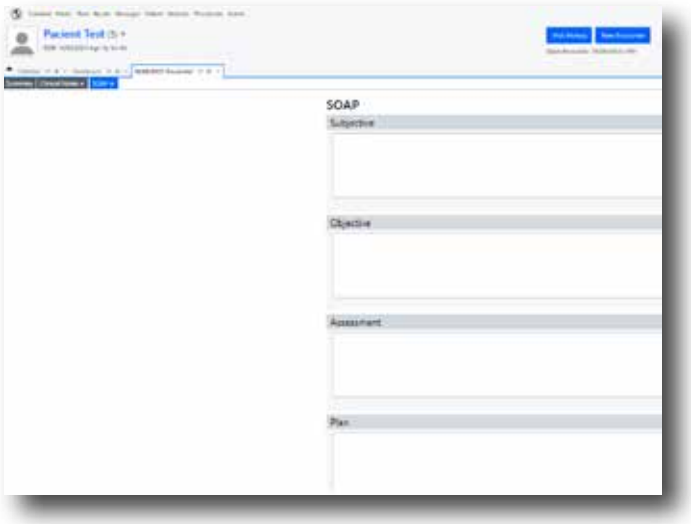


b. **SOAP** – form available to record the evolution in a structured way in four sections:

- Subjective: record what the patient reports
- Objective: record the findings obtained in the physical examination and the results of procedures and tests.
- Assessment: record the analysis carried out together with the confirmed, presumptive and/or ruled out diagnosis.
- Plan: record the behavior that will be taken with the patient

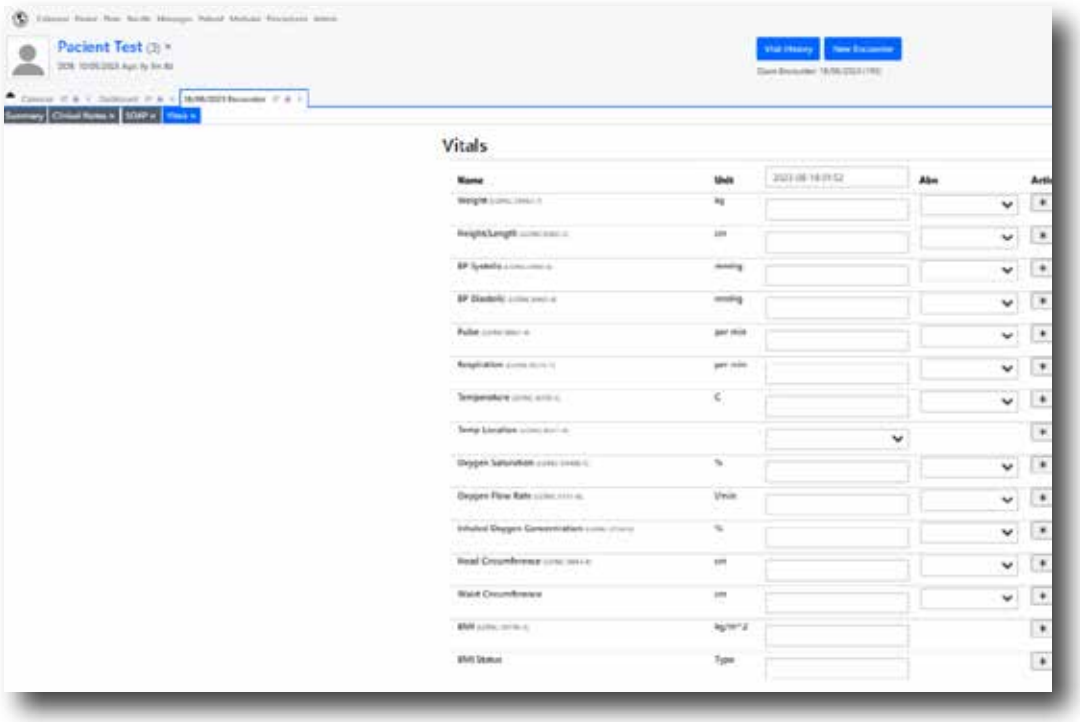
- At the end of the registration, select **Save**
- The SOAP form record is saved within the selected visit. If necessary, it is possible to modify the registration made.

Figure 16. SOAP Form.



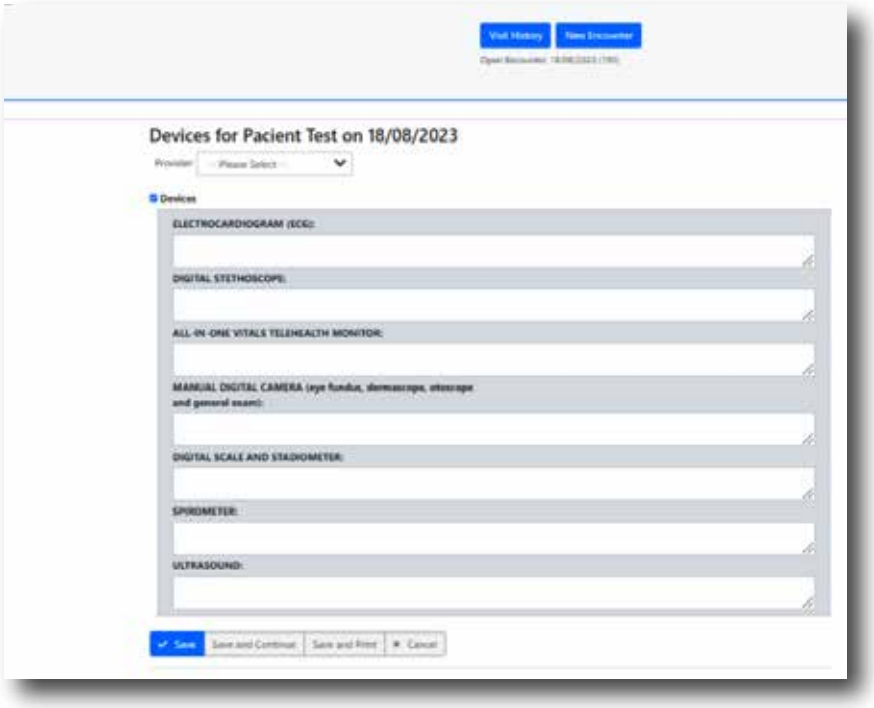
c. **Vitals** – within this form, the patient's vital signs can be recorded in a structured way, entering the values and their status according to the established normality ranges. Once saved, the record will remain within the selected visit. If necessary, it is possible to modify the form made.

Figure 17. Vitals Form.



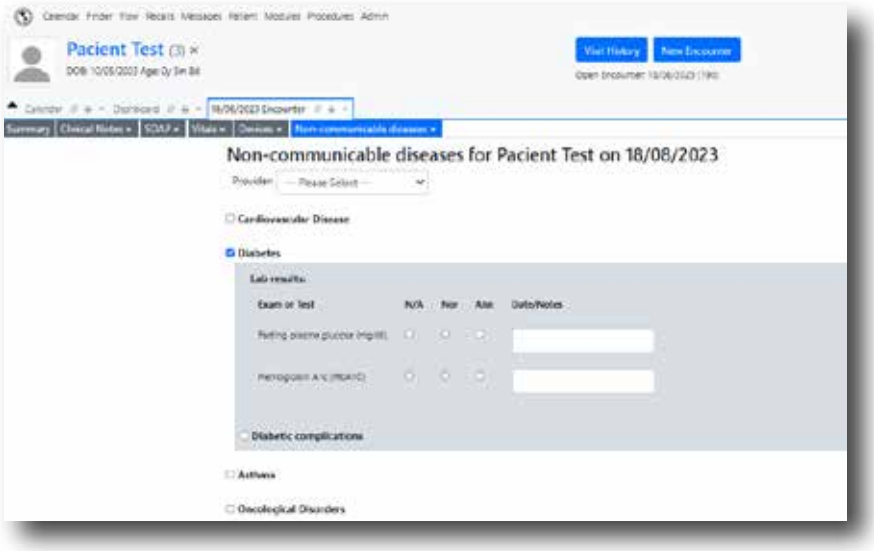
d. **Devices** – within this form you can record the result obtained in the devices used for the evaluation of the patient. Once saved, the record will remain within the selected visit. If necessary, it is possible to modify the form made.

● **Figure 18.** Devices form.



e. **Non-communicable Diseases (NCDs):** This is a form to record NCDs in a structured way. It consists of 4 sections. To access each one, the corresponding checkbox must be checked, consequently the content is expanded and the fields are enabled to complete (unchecking the checkbox compresses the information). The NCDs form record is saved within the selected visit. If necessary, it is possible to modify the registration made.

● **Figure 19.** NCDs Form.

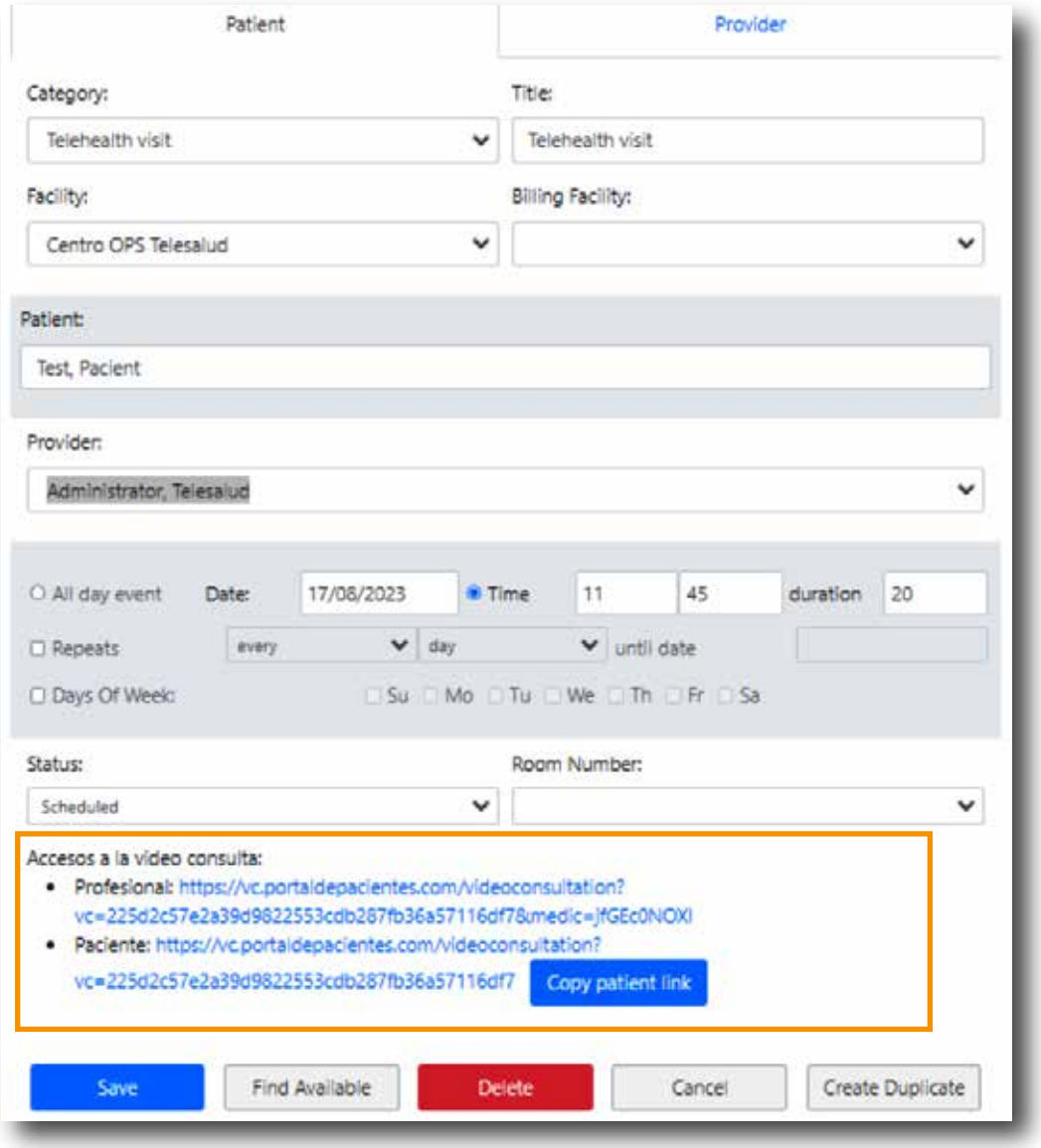


3.7 Telehealth visit

When scheduling a teleconsultation, an access link is generated. In the agenda it will be possible to view the status of the shift of the patients, changing to **@ arrived** in those patients who are waiting in the virtual waiting room.

1. To access the Telehealth visit, you must select the link corresponding to **Professional**.

Figure 20. Telehealth Visit.

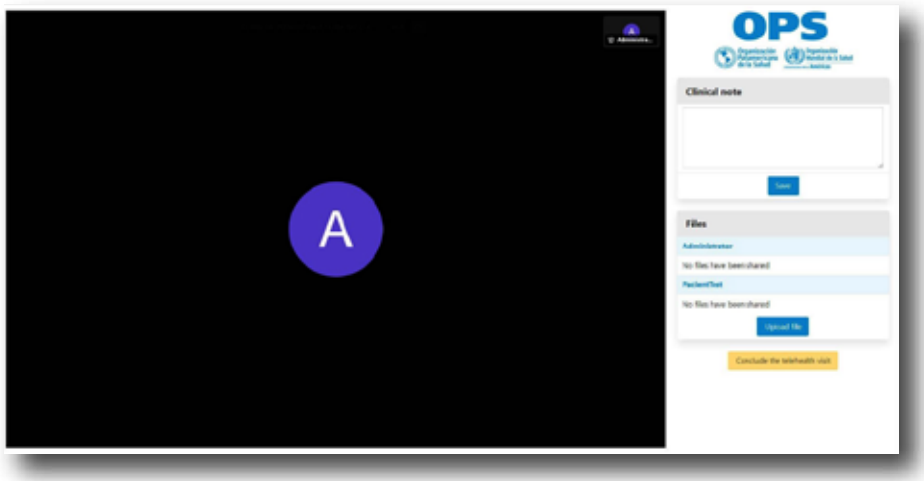


2. A new window will open where the telehealth visit will take place. To enter, you must select **Join meeting** and enable the microphone and camera for the platform. After accessing, you must wait a few minutes for the patient to enter the teleconsultation.

● **Figura 21.** Telehealth visit. Professional login.

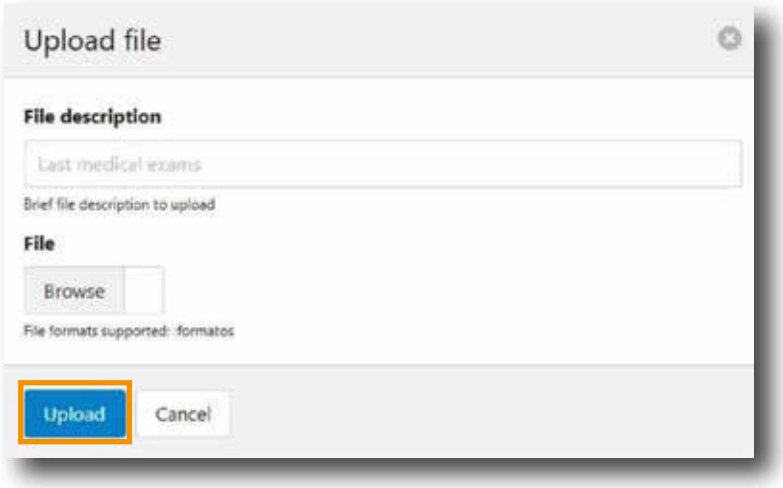
3. During the Telehealth visit, different functionalities are enabled that can be used:
   a. **Upload:** This option allows you to share and send relevant files during the Telehealth visit, such as results of medical examinations, images or other documents necessary for the follow-up of the patient.
   b. **Clinical Note:** in this section you can document the symptoms, diagnosis, recommendations and any other relevant information related to the telehealth visit.
   c. **Chat functionality:** This functionality can be used in case of interruptions in the audio of the video call.

● **Figure 22.** Telehealth visit. Professional`s layout.



4. File sharing functionality via attachments: in the right section of the screen you can see the files attached by the patient, they can be downloaded by clicking on the name.
5. To attach and send a file to the patient, click **Upload File**. A window will open in which you must select the file you want to send from the **Browse** functionality and then add a description to the chosen document.
6. After adding the description and selecting the file, click **Upload**. The patient will now be able to view the document in the list of files in the name of the professional. (In case of file selection error, you have to click **Cancel** and start over)

● **Figure 23.** File Share.



7. After adding the description and selecting the file, click **Upload**. The patient will now be able to view the document in the list of files in the name of the professional. (In case of file selection error, you have to click **Cancel** and start over)
8. At the bottom of the screen there are different buttons to activate and deactivate the camera and microphone, the Chat functionality and the button to end the telehealth visit.

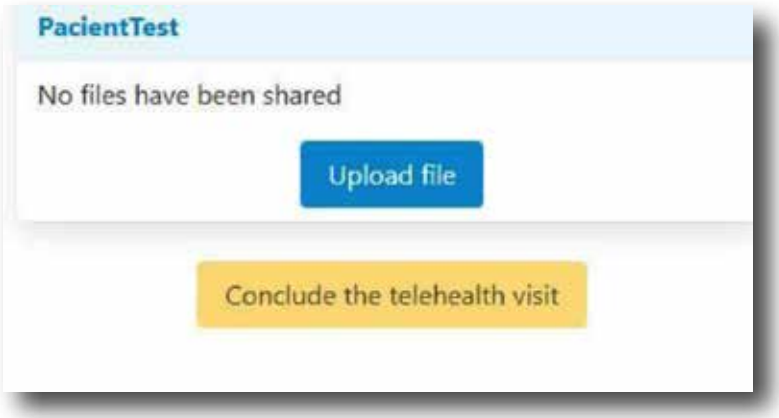
● **Figure 24**. Telehealth consult options buttons.

9. Chat functionality: Selecting the chat icon enables a window to exchange messages with the patient.

● **Figura 25**. Funcionalidad de Chat.

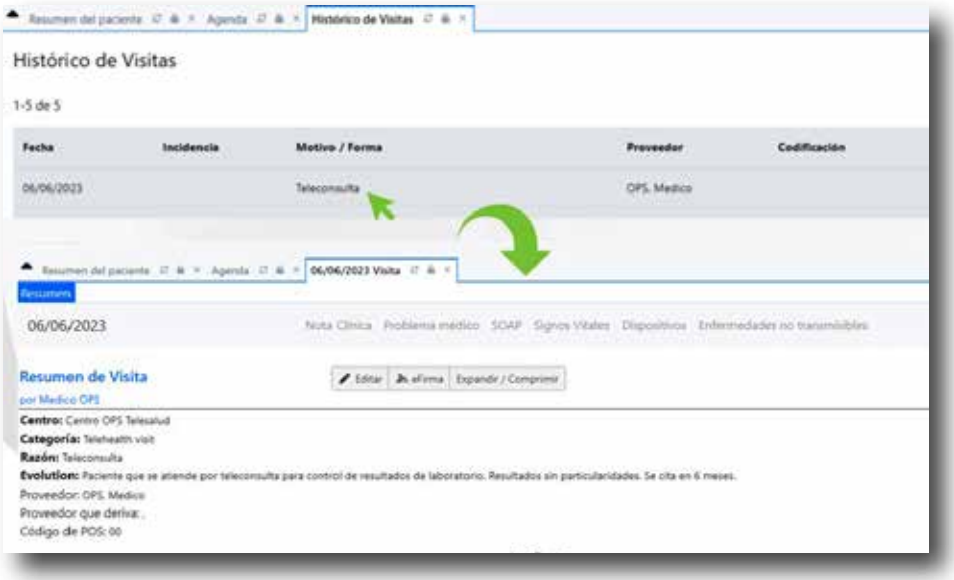
10. Once the telehealth visit is finished, you must select the button to end the video call. Finally, after completing the clinical note, click the **Finally Telehealth Visit** button.

● **Figure 26.** Telehealth visit Ending..



11. When accessing the patient's Clinical Record, a Telehealth visit meeting will have been generated in which the records made on the Platform where the video call was made will have been migrated.

● **Figure 27.** Visit history.



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