OTH

REMOTE HEALTHCARE MADE SIMPLE

Clinician Portal - Clinician Manual

Date: January 17, 2022

Table of content

Introduction

This user manual of OTH Clinician Portal has been written for clinicians. The user manual has been written in a way so that it is thorough and understandable for all clinicians, and no prior teaching or workshop participation is necessary to understand it. All clinicians must read this entire user manual before using the OTH Clinician Portal.

Intended use of OTH software

Intended use:

OpenTele version 2 is a software platform consisting of two integrated parts, a web application and a mobile device application. The software platform is intended to provide patient information from the patient to a remote healthcare team through relevant network technology.

OpenTele version 2 is intended for booking and management of appointments, patient interaction through video consultation and text messaging, capture of electronic questionnaires, aggregation, storage and management of clinical data, as well as information management of independent external physiological measurement devices connected either directly to the mobile device application or through digital communication technologies such as USB, Bluetooth or Bluetooth Low Energy (LE).

Product claims:

The OpenTele software platform allows HCPs to remotely monitor patients' vital signs **(blood pressure, pulse, body weight, and SpO2)** through questionnaires and/or forms requesting the patient to report on their health status and/or perform measurements. This combination of objective data and subjective responses enables HCPs to make informed, timely decisions for patients diagnosed with COPD, CHF or HTN.

OpenTele enables the healthcare professional to design and distribute individualized or generic electronic questionnaires and/or forms. The healthcare professional may add threshold values for reference when reviewing reported information in the web application.

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Indication for Use:

OpenTele version 2 is indicated for use by patients and by healthcare professionals for collection and reviewing of data from patients who are capable and willing to engage in the use of OpenTele.

OTH software installation and update

There are no installation or updates required for the client, since the software is accessed through a browser.

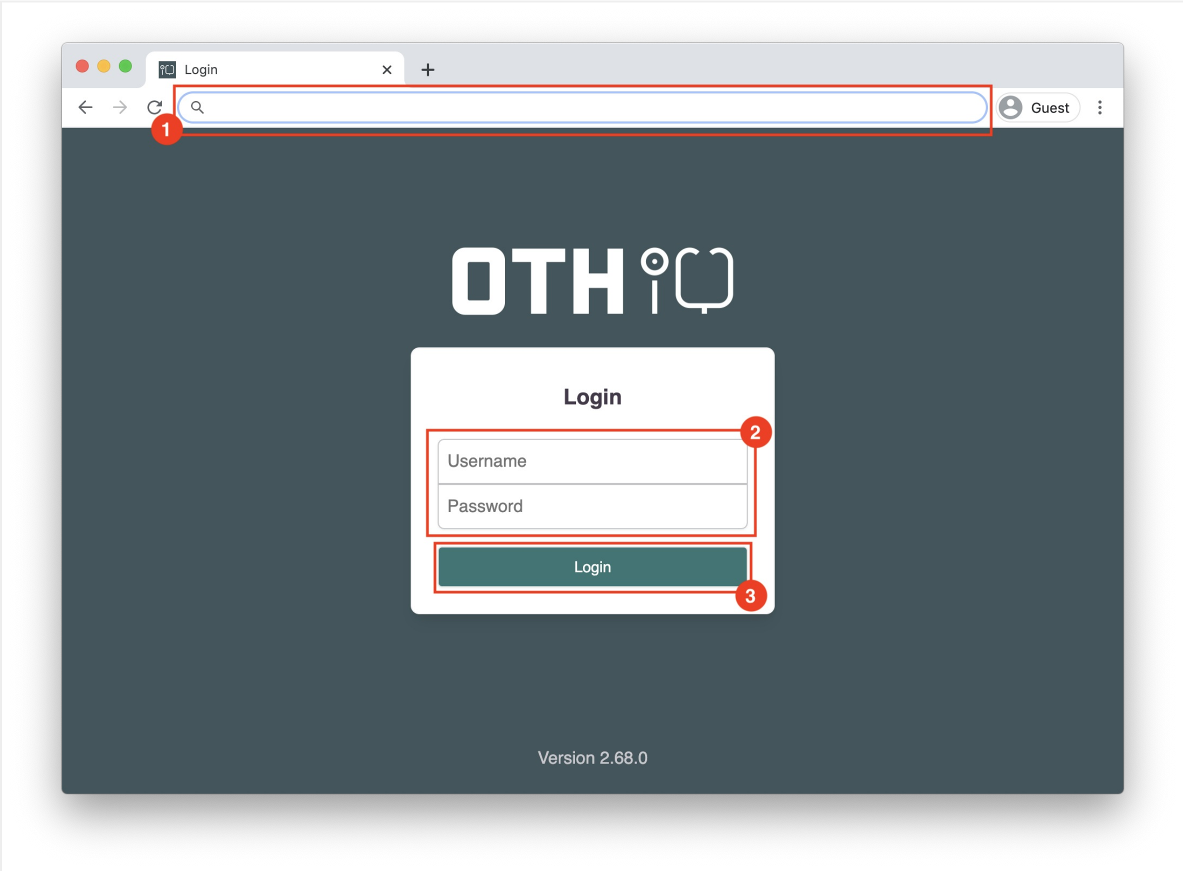
A up-to-date version of Google Chrome, Mozilla Firefox or Microsoft Edge is recommended when using the OTH platform to ensure proper operation.

An internet connection that provide access to the relevant server installation, is required.

General Navigation

Logging into the system

1. **Visit** the OTH clinician portal web site in your internet browser. URL is provided upon installation. The OTH clinician portal is a web based application and can be used anywhere as long as you have access to a web browser. The website functions best with Google Chrome, Mozilla Firefox or Microsoft Edge.
2. **Type** your username and password. Your username and initial temporary password will be provided by the administrator. Upon initial login, you will be asked to change your password. Passwords must be at least 8 alpha numeric characters in length and must contain 1 number.
3. **Click** “Login”.

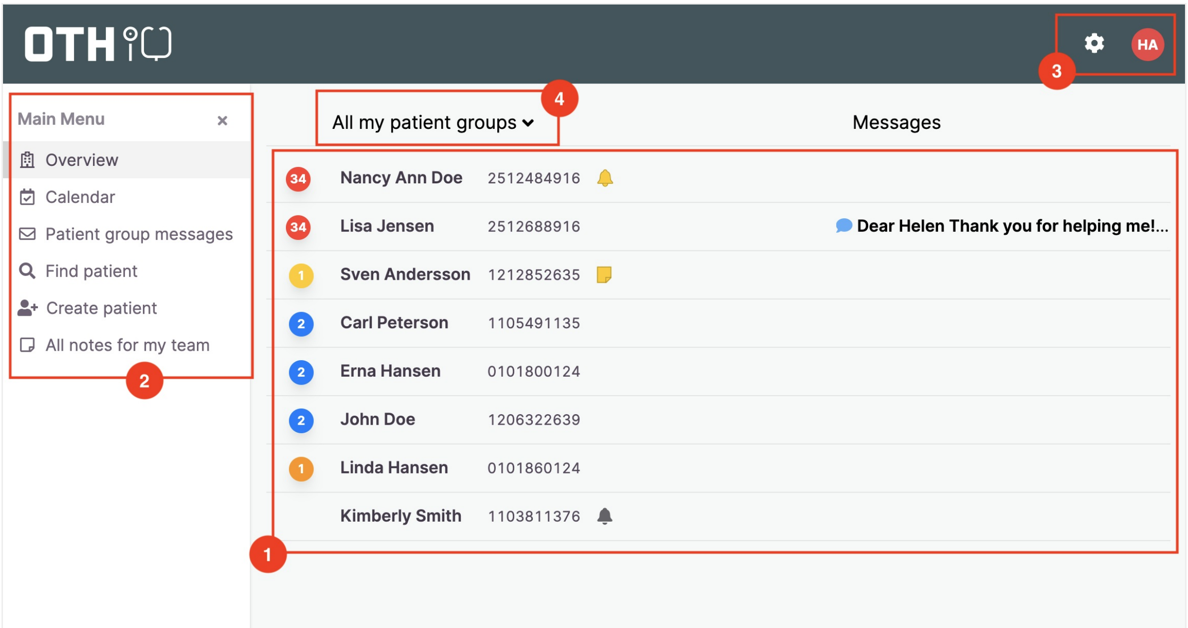


Menus and page layout

Upon login, the Overview page displays patients assigned to you that have pending alerts/alarms.

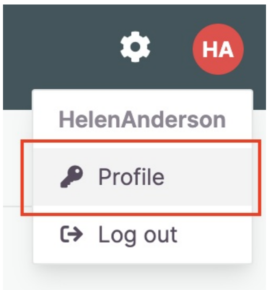
Menu and general navigation features are described below:

1. Overview page; this is the default page that is displayed upon login. It shows the patients with pending alarms for your organization.
2. Main Menu panel allows access to the submenus: Overview, Calendar (optional), Patient group messages (optional), Find Patient, Create Patient and All Notes for My Team pages.
3. Top menu bar displaying the username you are logged in with; Administrator Menu button to access the Administrator Menu; Profile to change your login password and; Logout button to logout of system when desired.
4. In the drop down it is possible to choose a patient group and then press the button “Filter”.

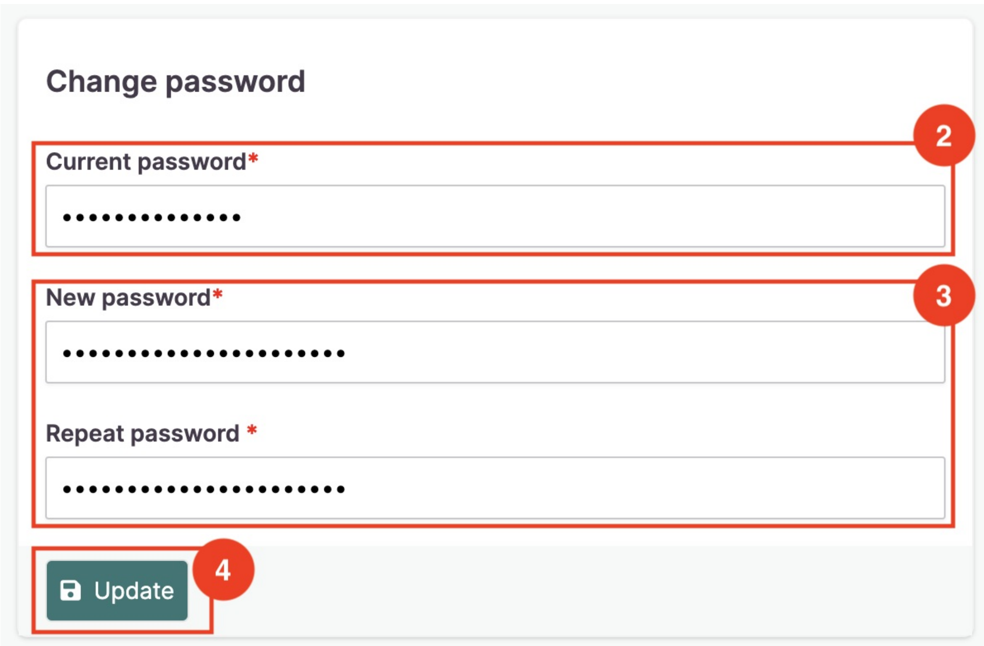


Changing my password

1. **Click** the round button in the top right corner and select "Profile".



2. **Type** in current password.
3. **Type** in your new password and repeat the password. Passwords must be at least 8 alphanumeric characters in length and must contain 1 number.
4. **Click** Update



5. The following message will display when your password is successfully changed.

Logging out

1. When ready to log out of the system **click** on “Log out” at the top right dropdown menu.

Patient Enrollment

Evaluate patient suitability

Before enrolling a patient in OTH, the patient's suitability must be evaluated.

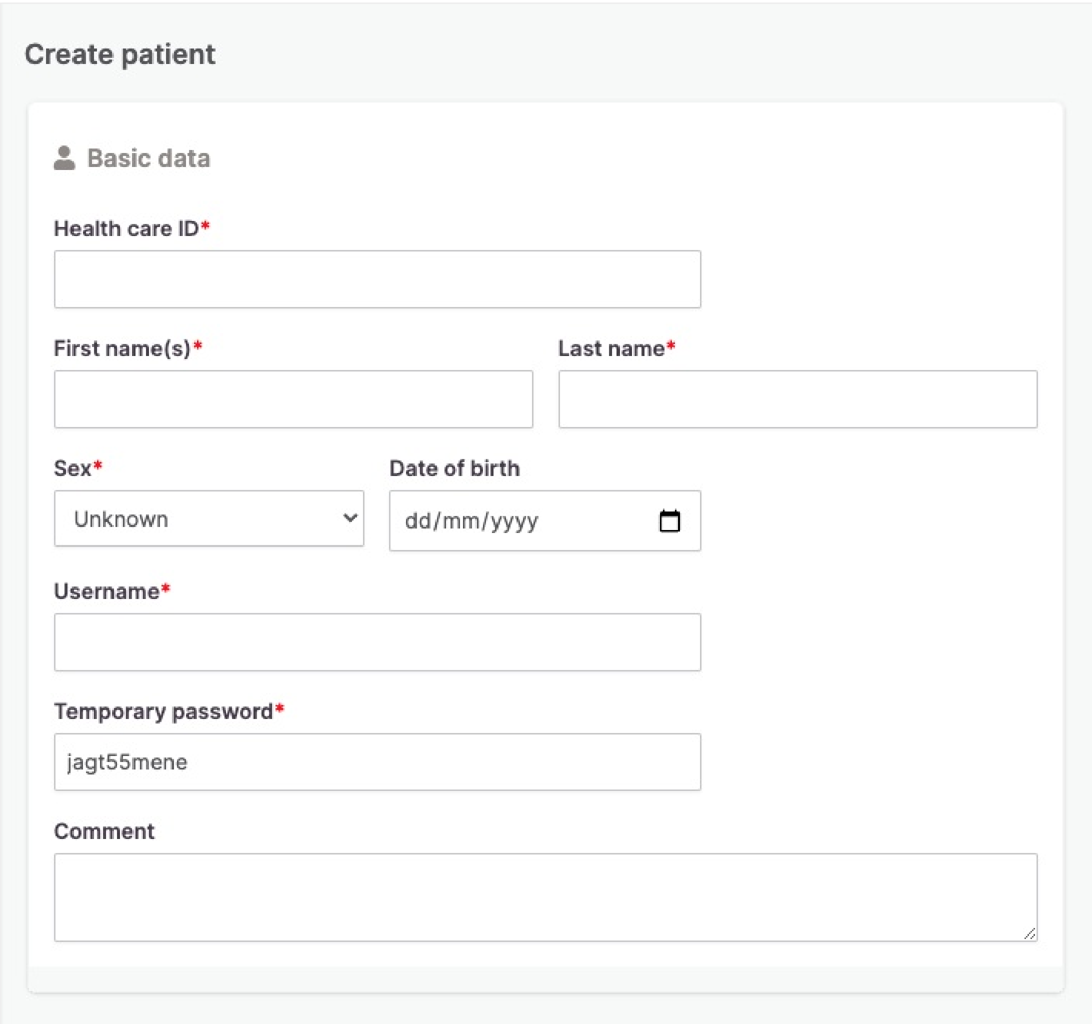
A patient should:

- Have a diagnosis for one or more chronic diseases, **non-acute condition**.
- Or have a **non-acute** clinical condition/state of temporary character (i.e. pregnancy, post-op etc.)
- Or be unencumbered by any known condition of disease.
- Be able to read.
- Have the cognitive abilities required to operate a simple app and the required medical devices.

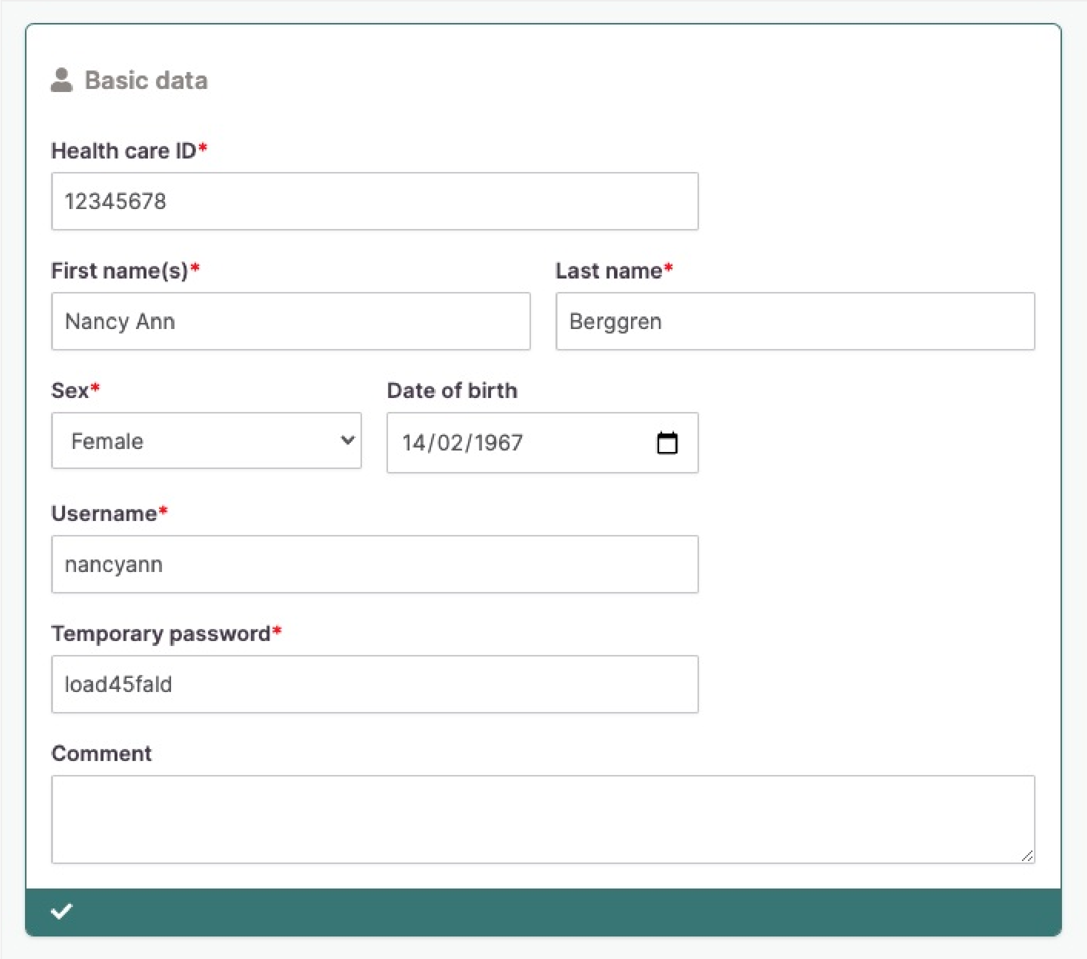
Creating a new patient

1. **Click** on the Create patient button in the main menu.
2. **Enter** the new patient information in the *Basic data* form.

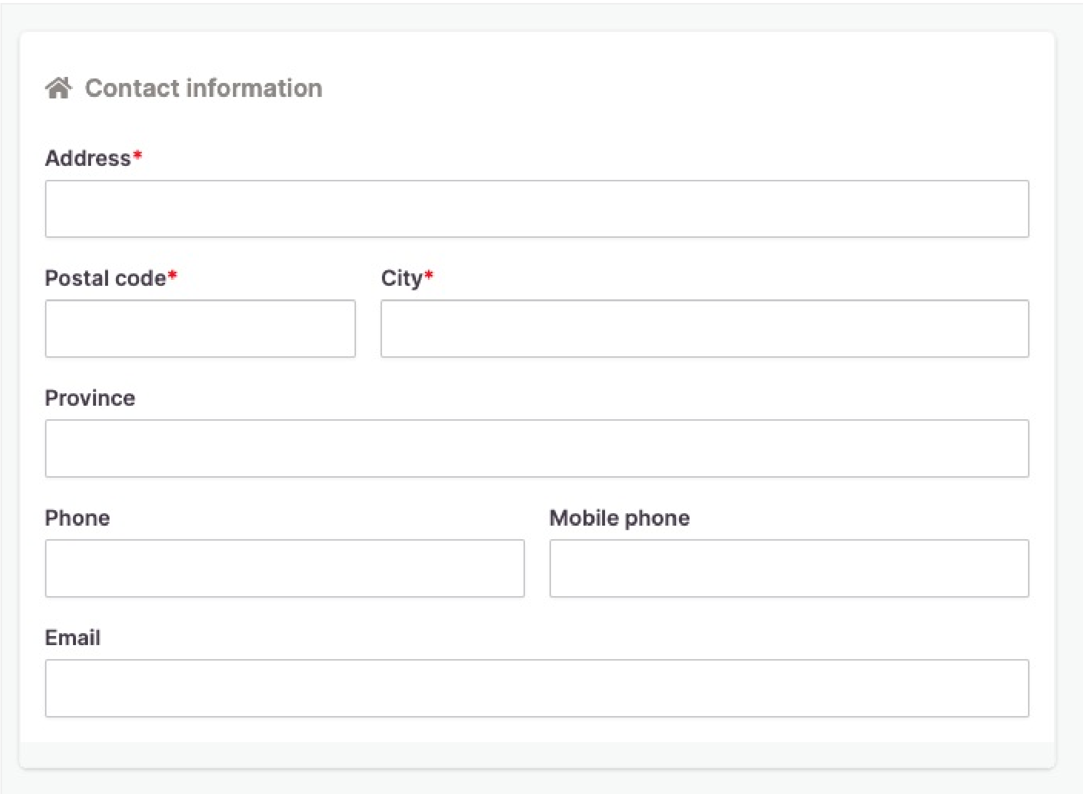
> A red asterisk* indicates that a field is mandatory and must be filled out. The patient *Health care ID* is the unique patient identifier. Likewise, the *Username* must also be unique. You can either use the automatically generated temporary password or enter one manually; passwords must be at least eight characters in length and contain at least one number.



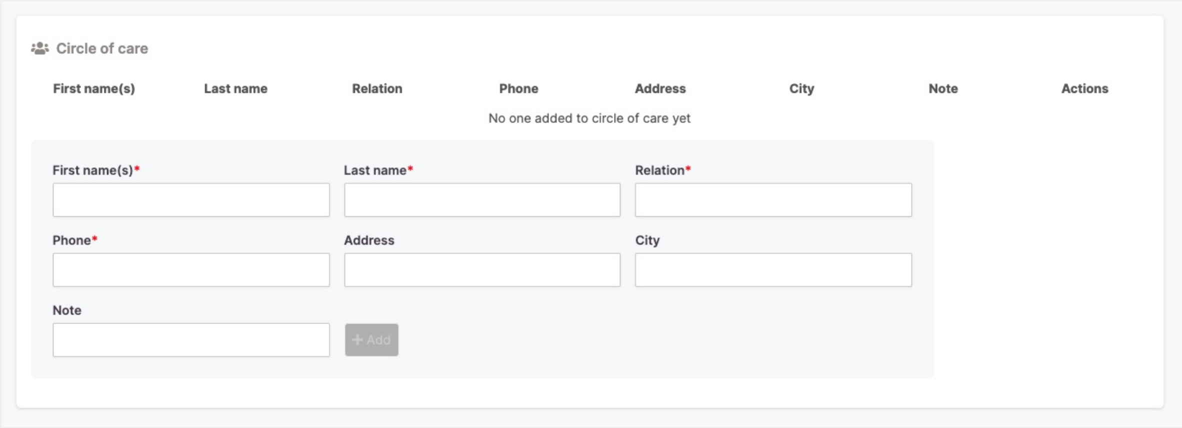
3. Once all fields have been filled out, the form will indicate whether the data is valid by either coloring the border teal as, seen below, or red if some data is missing or invalid.



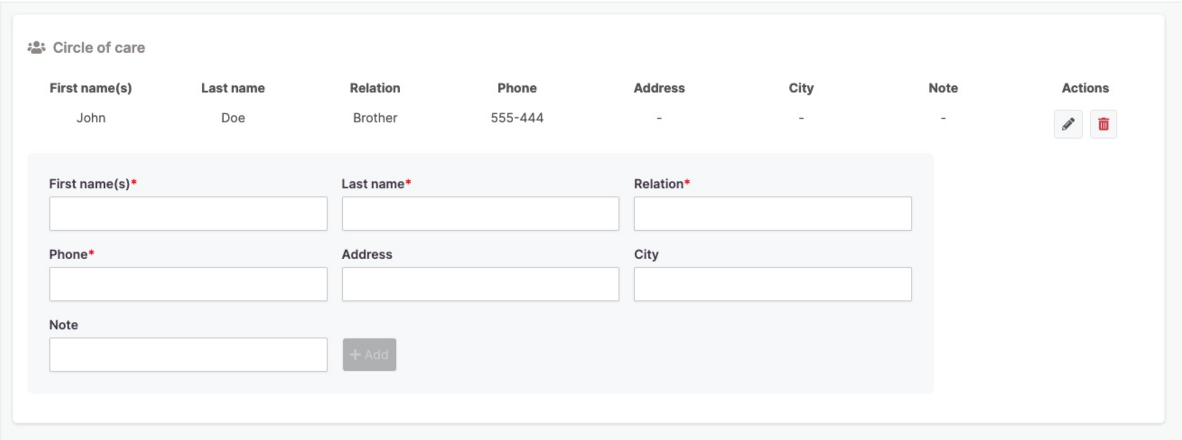
5. Once the *Basic data* form has been filled out, continue by **filling out** the *Contact information* form in a similar fashion.



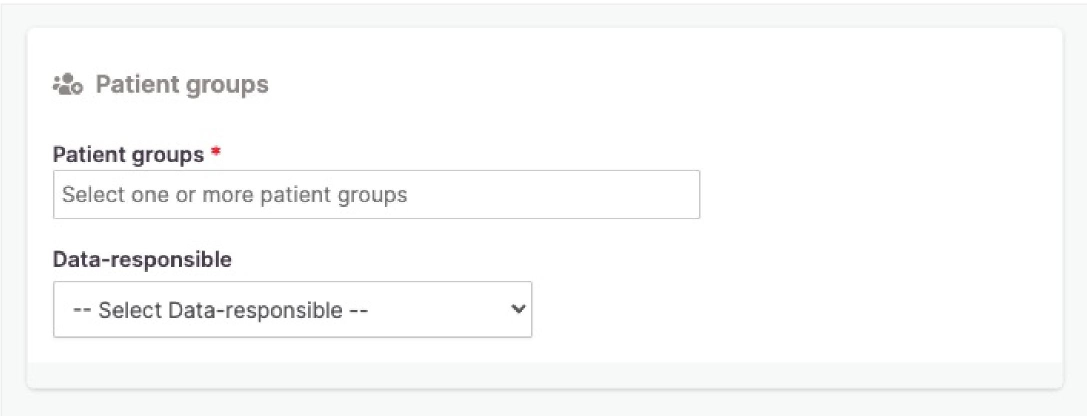
6. Next, **add** any relatives or contact persons to the patient's *Circle of care* by filling out the form below and **click** the + Add.



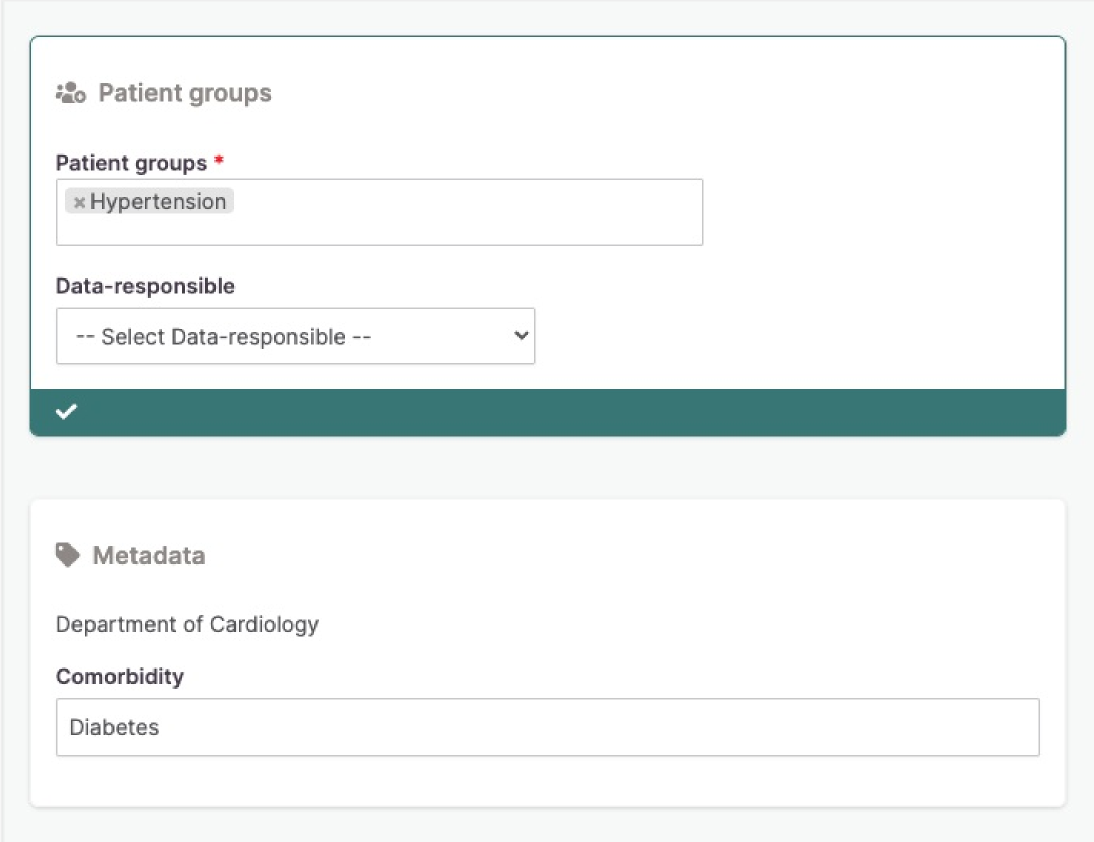
7. **Verify** that all relevant persons have been added to the *Circle of care*.



8. Next, **choose** the desired patient group(s) the patient should be assigned. Optionally **select** which of the chosen patient groups should be marked as *data-responsible*.



10. After choosing the relevant patient groups, **fill out** any relevant patient metadata that may be associated with the organizations the patient will be enrolled within. Note that all metadata is optional by nature.

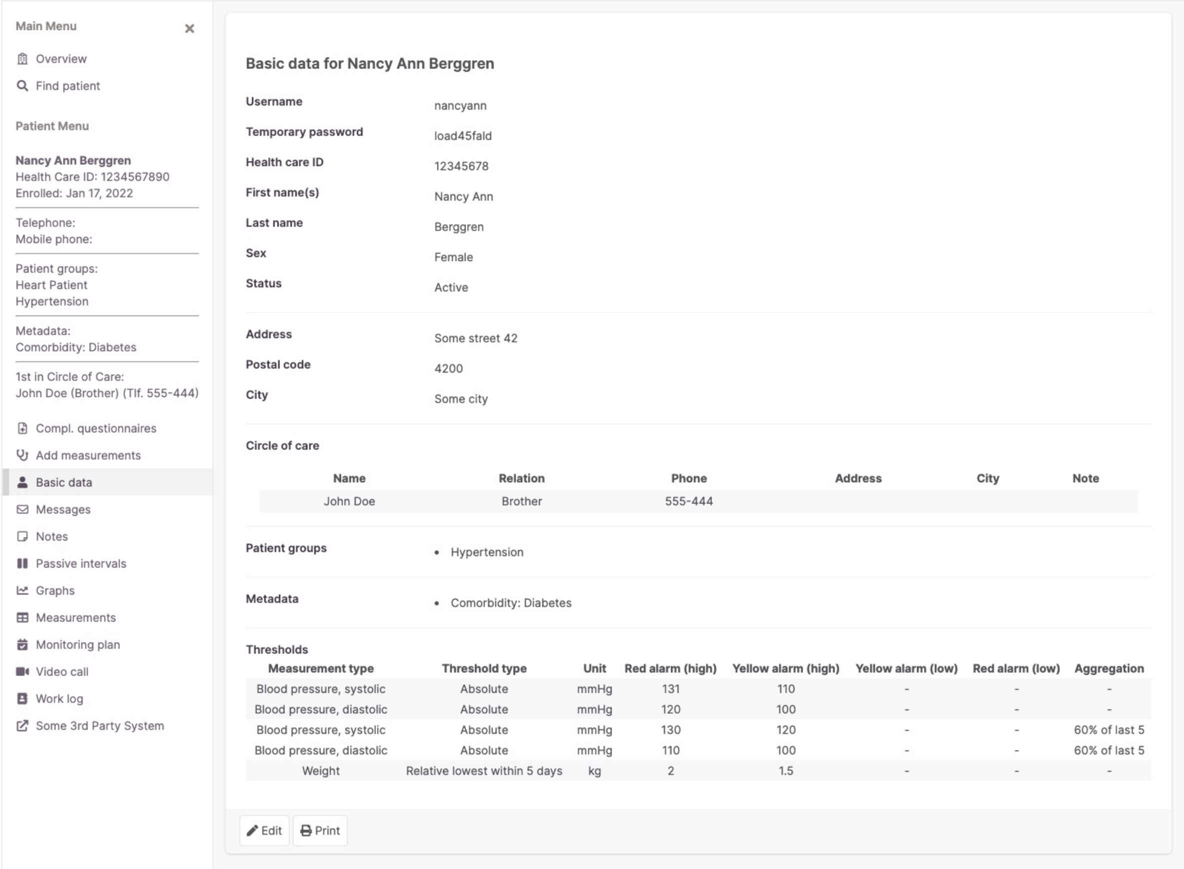


11. Finally, **adjust** any loaded thresholds associated with the chosen patient groups values.

Thresholds

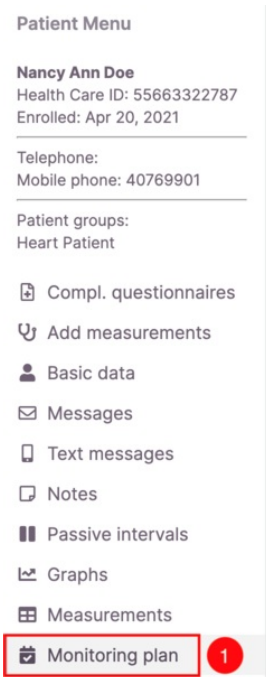
Measurement type	Threshold type	Unit	Red alarm (high)	Yellow alarm (high)	Yellow alarm (low)	Red alarm (low)	Aggregation
Blood pressure, systolic	Absolute	mmHg	130	120			60% of last 5
Blood pressure, diastolic	Absolute	mmHg	110	100			60% of last 5
Blood pressure, systolic	Absolute	mmHg	131	110			-
Blood pressure, diastolic	Absolute	mmHg	120	100			-
Weight	Relative lowest within 5 days	kg	2	1,5			-

9. **Click** Save.
10. After saving, you will be redirected to the patient's *Basic data* page and the main menu will change to a *patient context*. When in a patient context, the patient menu will display the patient's information at a quick glance (e.g. patient name, health care ID, date of first enrollment, comments, contact information and their relative's contact information).

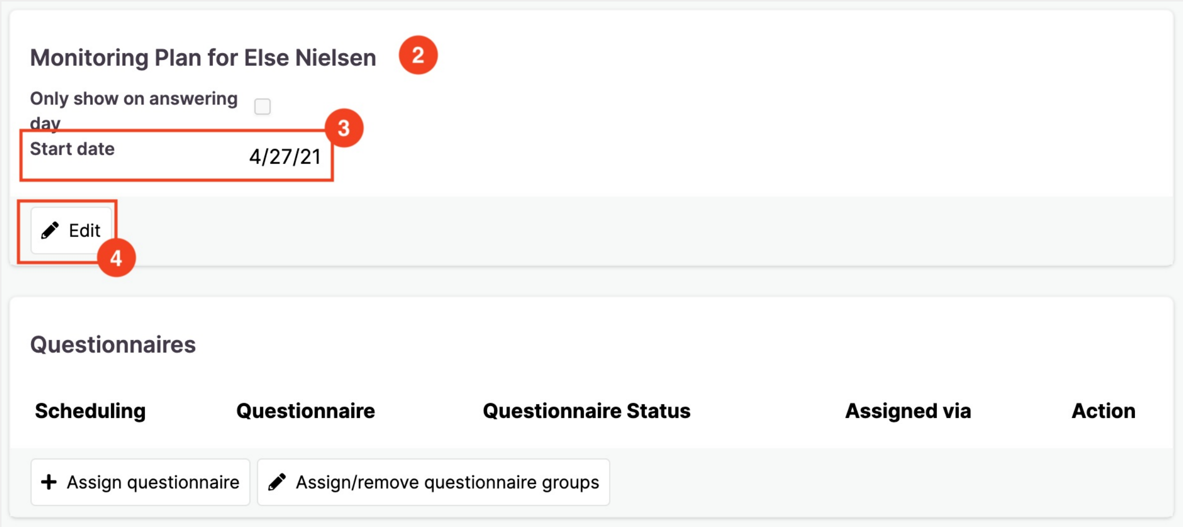


Setting a patient’s monitoring plan and schedule

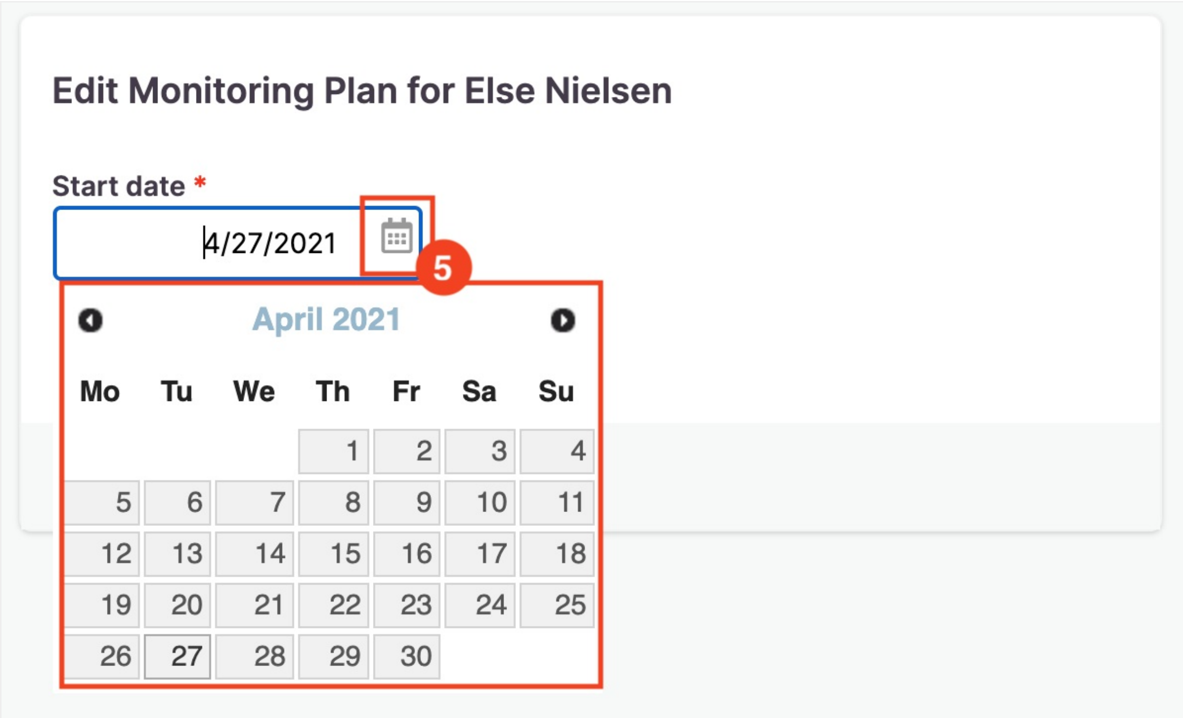
1. **Click** “Monitoring plan” on the left patient menu.



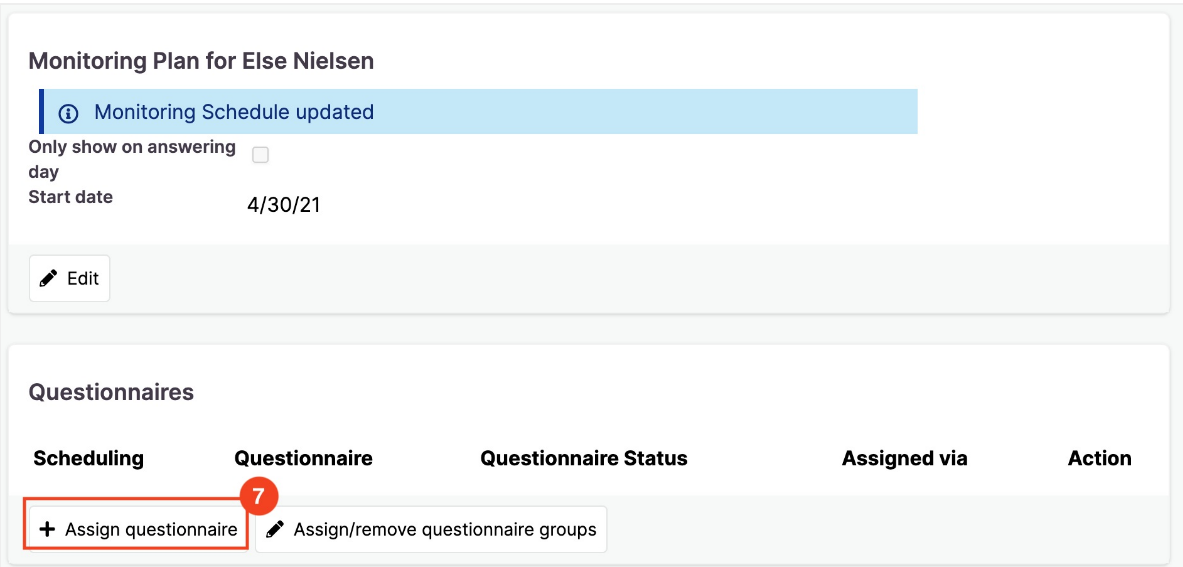
2. The monitoring plan page for the patient will display.
3. Start date will default to the date the patient profile was created.
4. **Click** “Edit” to change the date as required.



5. **Click** the calendar icon. The calendar will pop up. **Select** the date you would like the plan to begin.
6. **Click** "Update".

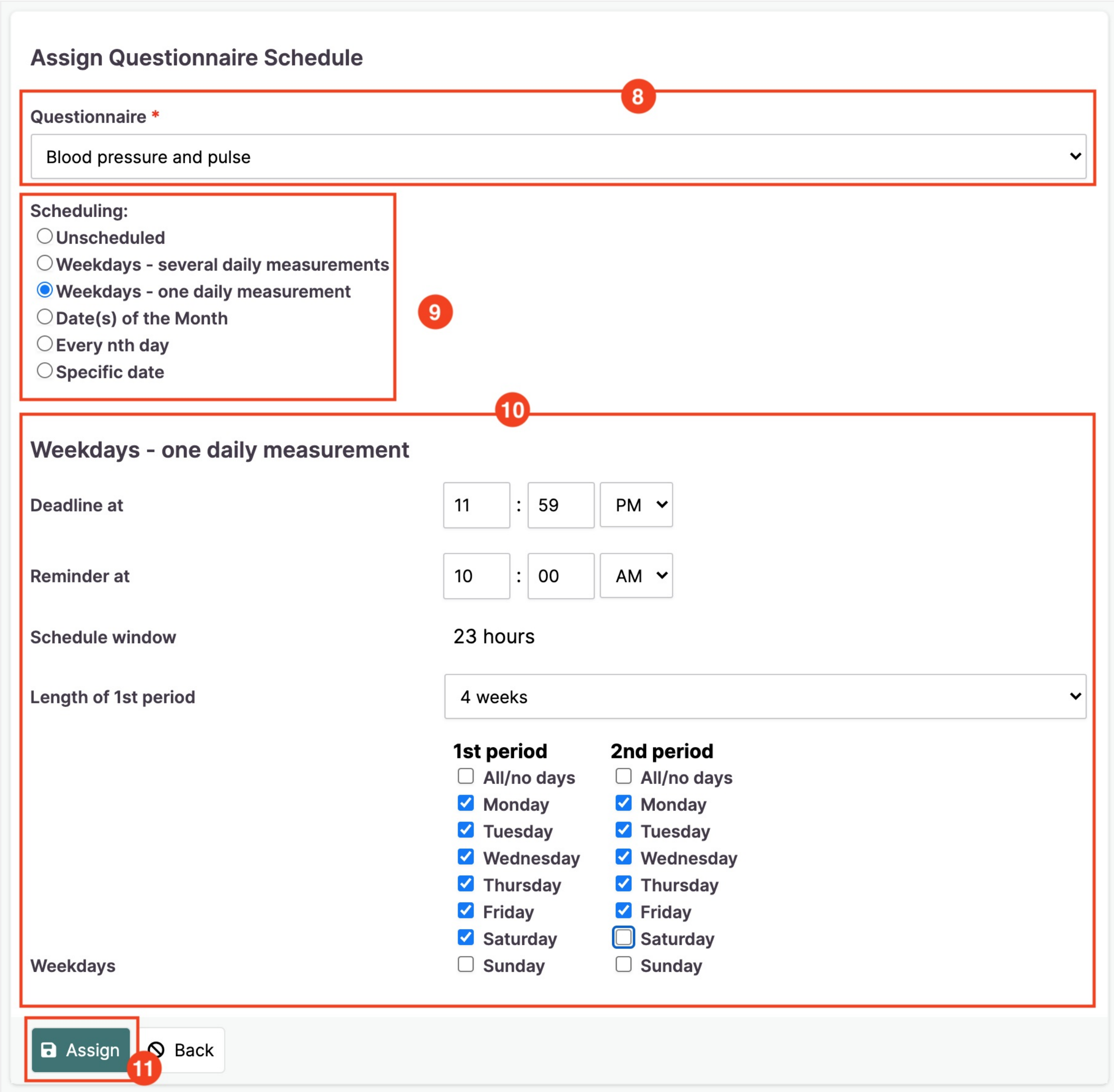


7. **Click** "Assign Questionnaire".



8. **Select** the questionnaire for the patient by **clicking** on the drop down menu.
9. **Select/Click** the frequency/schedule for completing the questionnaire. See more information about schedule setup chapter "Edit monitoring plan/schedule".

10. Once frequency is selected, additional options will appear on the screen below. See more information about schedule setup chapter “Edit monitoring plan/schedule”. **Complete** the information in the field as shown.
11. **Click** “Assign”.



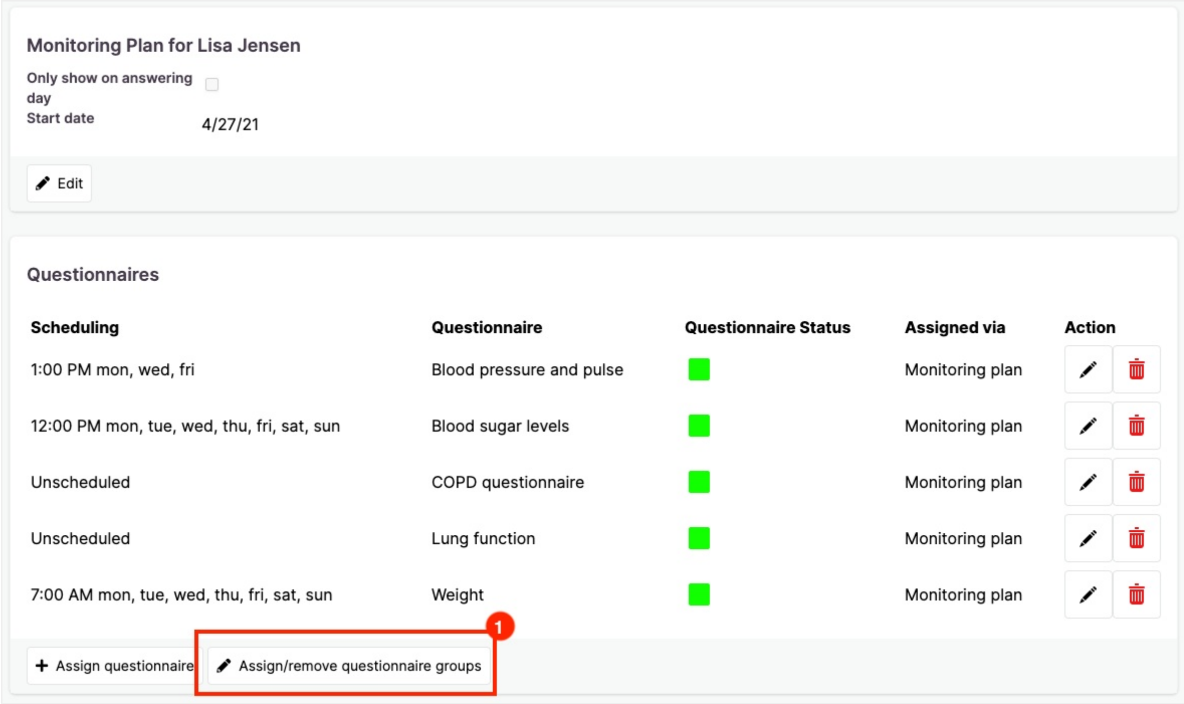
12. The monitoring plan page will display with the inputted monitoring plan and schedule.

Assigning questionnaire groups

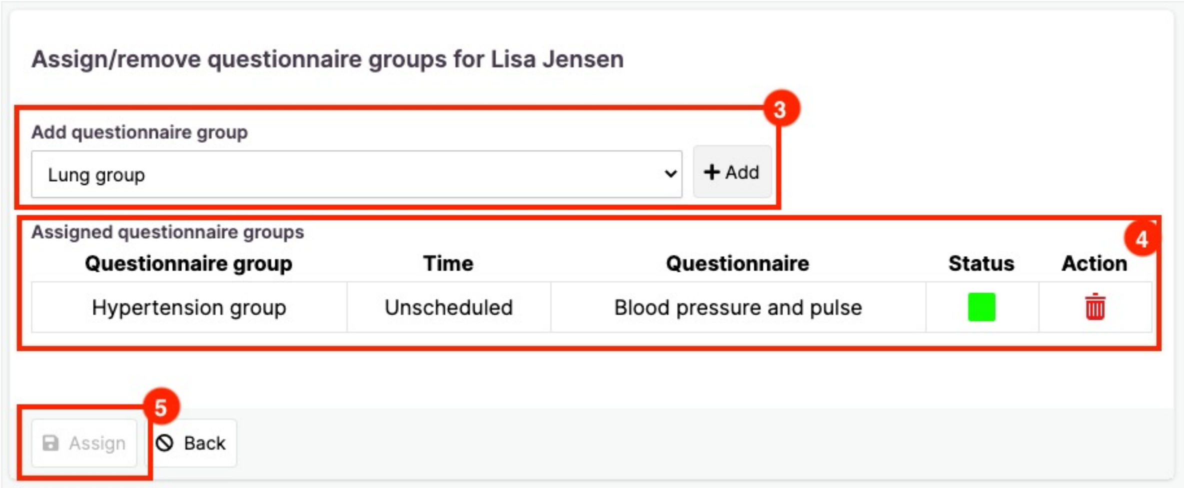
It is also possible to link a questionnaire group to the patient. Thus automatically assigning each questionnaire, using the questionnaire’s standard schedule, in that questionnaire group to the patient.

Any changes made to the list of questionnaires in the questionnaire group is then reflected in the patient’s monitoring plan.

1. **Click** Assign/remove questionnaire groups from the Monitoring plan page.



2. The ‘Assign/remove questionnaire groups’ page will display showing the questionnaire groups the patient is already assigned.



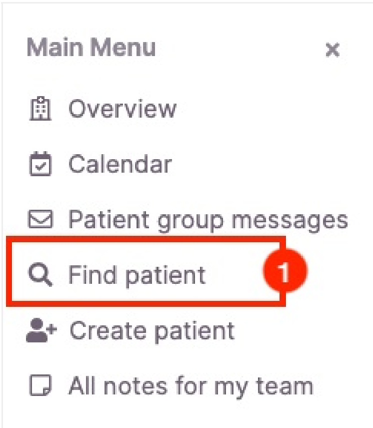
3. **Select** a “Questionnaire group” in the drop down menu, which will shown the questionnaires of the group in the table below. **Click** the + Add button to add the questionnaire group to the monitoring plan.
4. Added questionnaire groups are shown here along with the names of the questionnaires in each group.
5. **Click** “Update”.
6. The Monitoring plan will be updated with the new list of assigned questionnaire groups.

Ongoing Patient Care

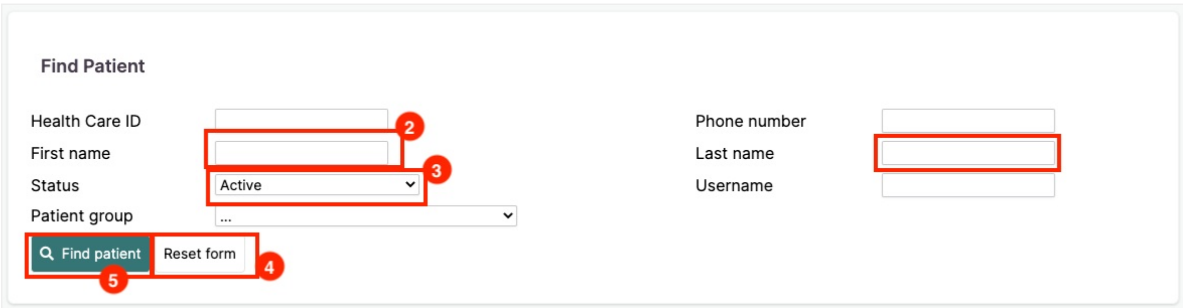
Finding a patient

Searching by patient name

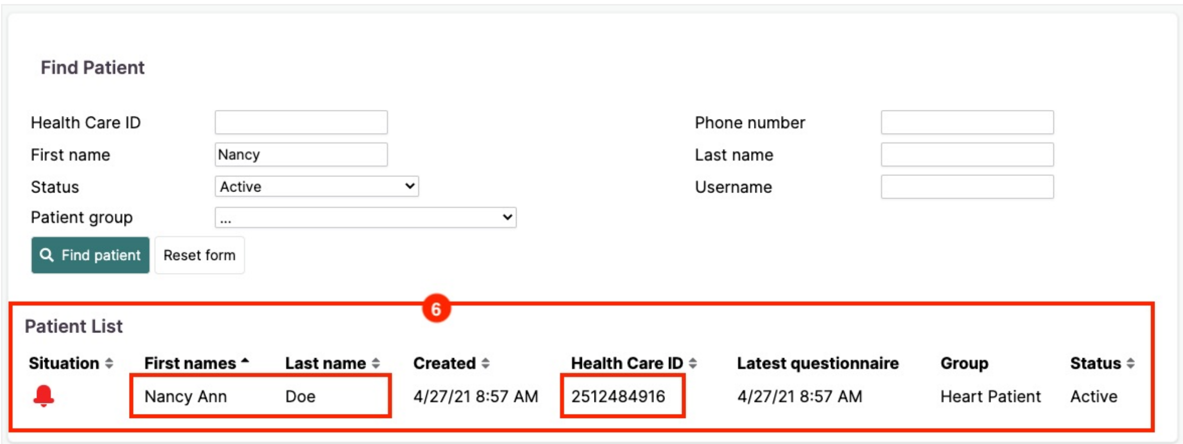
1. **Click** “Find Patient” from the main menu panel.



2. **Type** in patient’s first name and last name.
3. **Ensure** status is set to “Active” in the drop down menu.
4. If you want to blank out the form: Click “Reset form” and type new information as required.
5. **Click** “Find Patient”.



6. Patient search results will display. **Click** on the patient's name to pull up the patient chart.

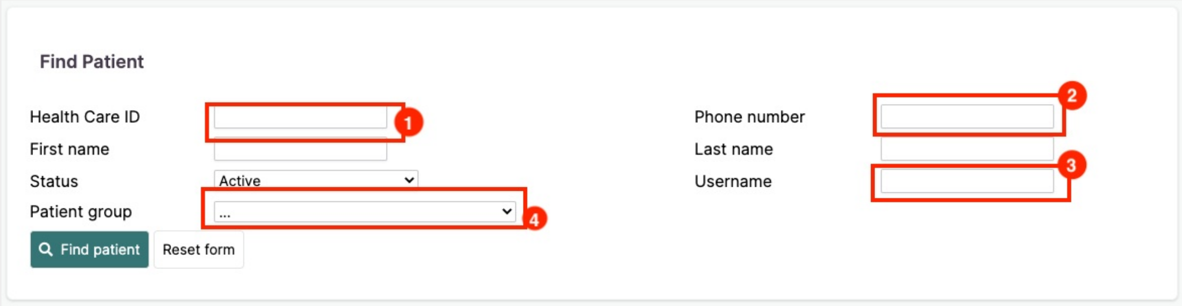


Other search options

You can also search for a patient by:

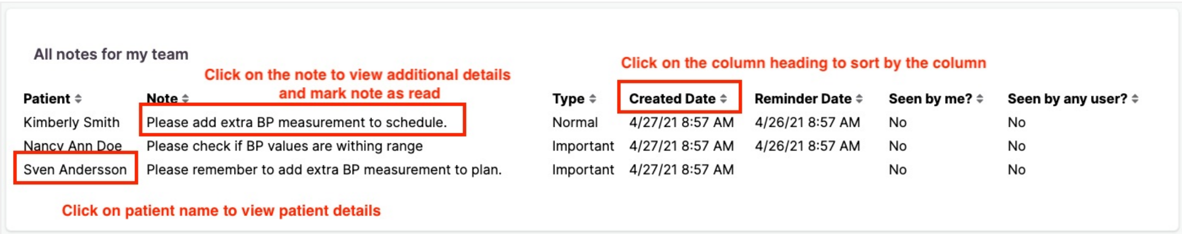
1. Health Care ID
2. Phone number
3. Username and/or
4. Patient group

Simply click on the field on the find patient page, type in the information and click “Find Patient”. Patient search results will display.



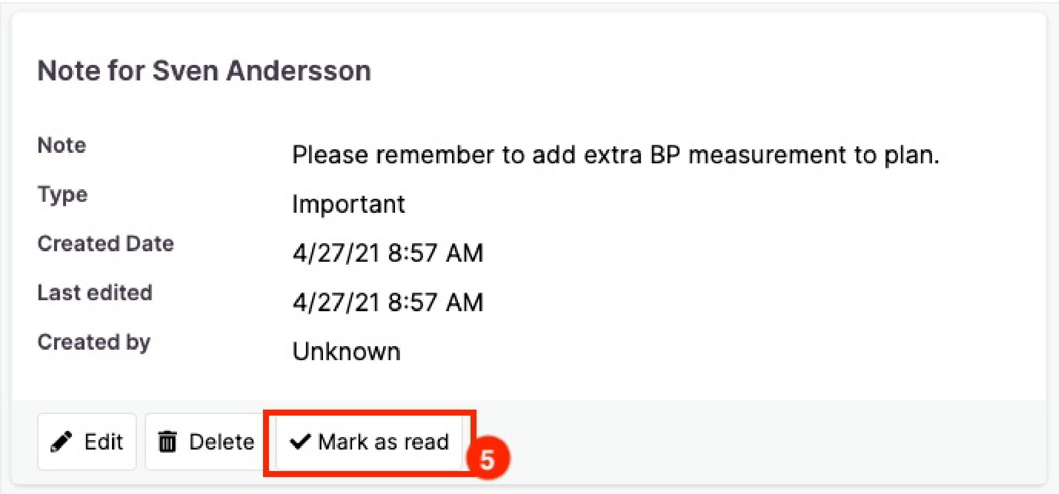
Reviewing all notes for my team

1. **Click** “All notes for my team” from the main menu panel.
2. All notes for your team/patients will display. Each row displays the patient name, note documented, type (e.g. normal or important), reminder date, whether it’s been seen by you and whether it’s been seen by another member of the team. Notes can be sorted by each column simply by clicking on the title (e.g. image below is sorted by patient name A-Z, by clicking reminder date, notes will be sorted by date). You can move up and down the list by clicking on the up and down arrows.
3. **Click** on the patient’s name to view the patient chart.
4. **Click** directly on the note to view additional details of the note.

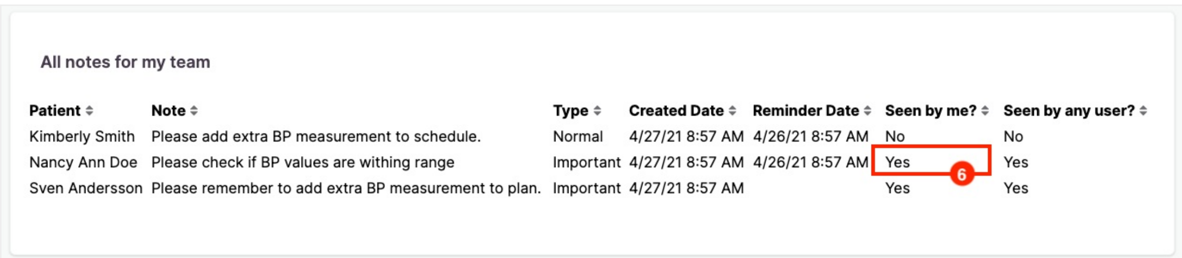


Details of the note will display.

5. **Click** ✔ Mark As Read to indicate you have read the message. Once the note has been acknowledged by a user it cannot be edited.

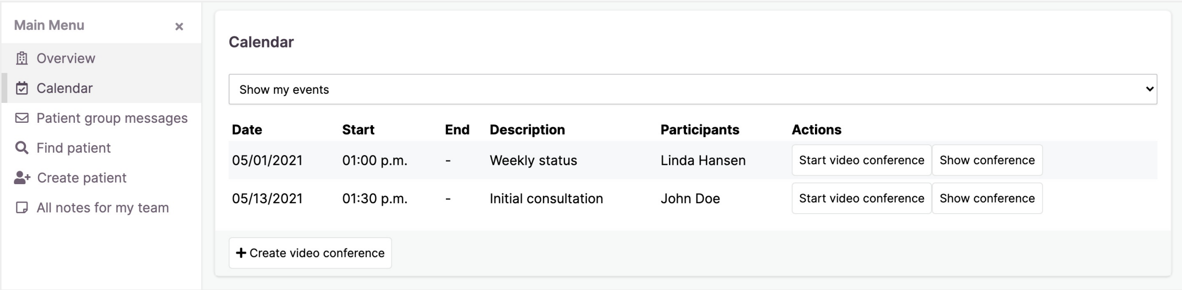


6. Return to the note page, you will now see that the note has been seen by you.



See and schedule upcoming video conferences with patients

The **Calendar** menu gives you an overview of any upcoming video conferences.



The drop-down menu at the top of the screen provides the option to filter these meeting based on patient groups.

- **Click** the “Create video conference” button to schedule a video conference,
- **Click** the “Start video conference” button to start an already scheduled video conference (see Conducting a video conference), or
- **Click** the “Show conference” to edit an existing scheduled video conference.

Overview screen

The overview screen is the default page displayed when the user logs into the system. This screen shows patients who have either:

1. Responded to the questionnaire,
2. has not carried out the questionnaire on time,
3. have an unread message, or
4. have a reminder note.

This is not the complete list of all your patients.

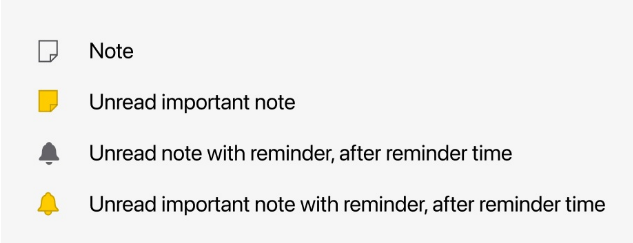
Patients’ are listed by severity of the alarm color. Red alarms are shown at the top, then yellow, blue, orange, green and gray. The alarm descriptions are shown based on data retrieved from the questionnaire and the colours signal the following:

1. **Red:** alarm exceeded by one or more values (which fall outside of the normal range).
2. **Yellow:** one or more values to be observed (which fall outside of the normal range).
3. **Blue:** data not received before expected deadline.
4. **Orange:** clinical attention to review data within questionnaire.
5. **Green:** no alarm limits are exceeded (however, important to note that a patient’s condition may gradually worsen before an alarm is triggered).
6. **Gray:** No new measurements, but an unread message either to or from patient.

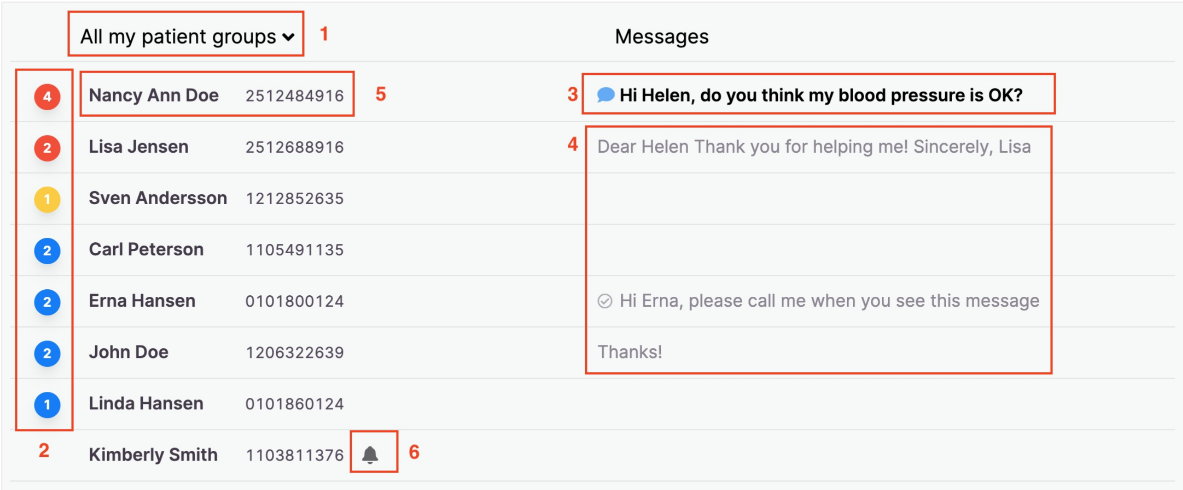
You can view the overview screen by patient groups by using the filter feature. Additional actions include acknowledging alarms and responding to the various icons and alerts mentioned below:

1. **Filter screen view**
   - **Click** on the drop down menu and select the patient group you would like to view. Depending on your access you may have one or more patient groups.
2. **Alarm icon** shows the alarm triggered based on measured values and/or responses to the patient’s questionnaire. Alarms may appear in red, yellow, blue, orange, green or gray.
   - Hover over the icon to see which questionnaire may have triggered the alarm.
3. **Unread messages from patient** will be previewed in bold next to a 💬 icon.
   - Hover over the message to see the number of unread messages and the date/time of the last unread message.

4. **Unread messages to patient** will be previewed in grey text next to a ✓ icon. Read messages will be previewed in grey text without any icon
5. **Patient name and ID**. Click on the patient's name or health care ID to view patient chart and profile. You will be brought to the completed questionnaire page for the patient.
6. **Notes and Reminders**. A note or bell icon indicates whether there are any notes with or without reminders for the patient:

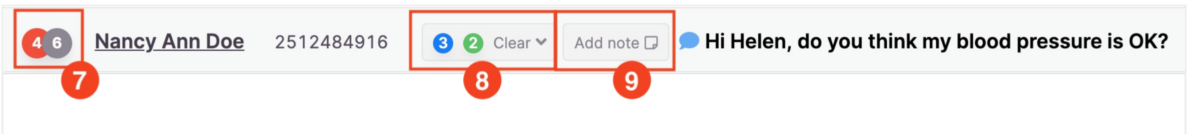


- Hover over the icon to see the status on unread notes and/or reminders.
- Click the icon to view unread notes/reminders and respond to them accordingly.

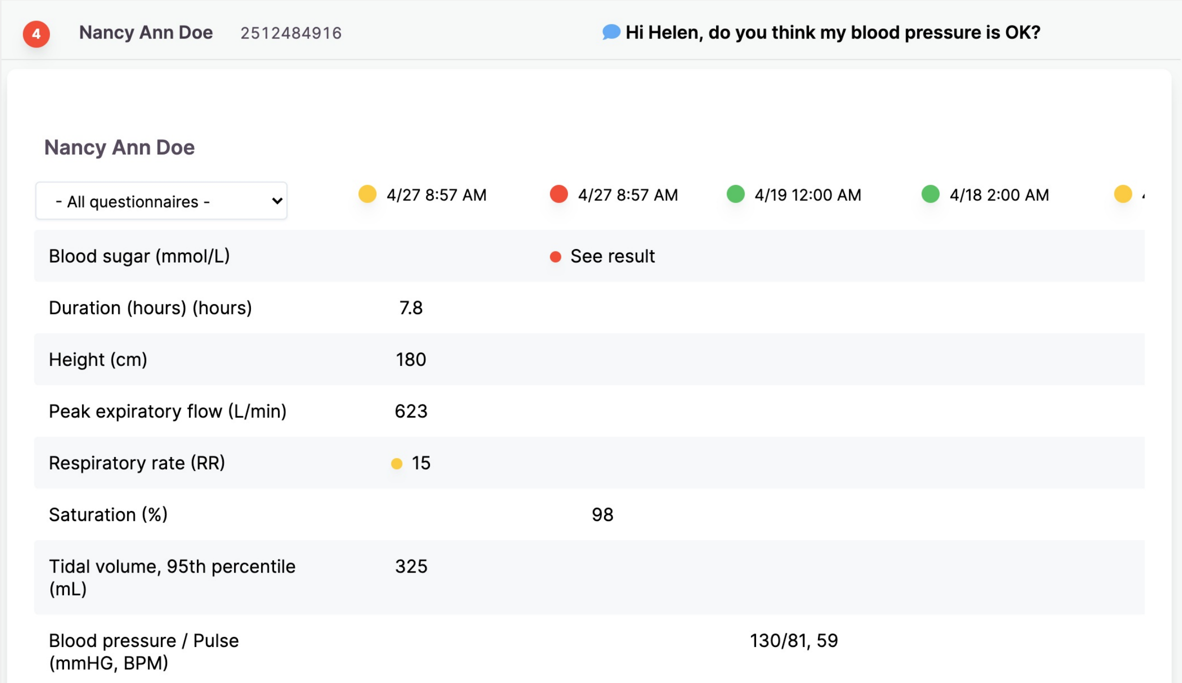


When hovering the mouse cursor over a specific patient, more information and actions are available.

7. **Unacknowledged questionnaires**. Next to the alarm counter, the total number of unacknowledged questionnaire replies is displayed.
8. **Clear alarms**. A dropdown menu for acknowledging all green (or blue) alarms for the patient.
9. **Add note**. Click to add a new note for the patient



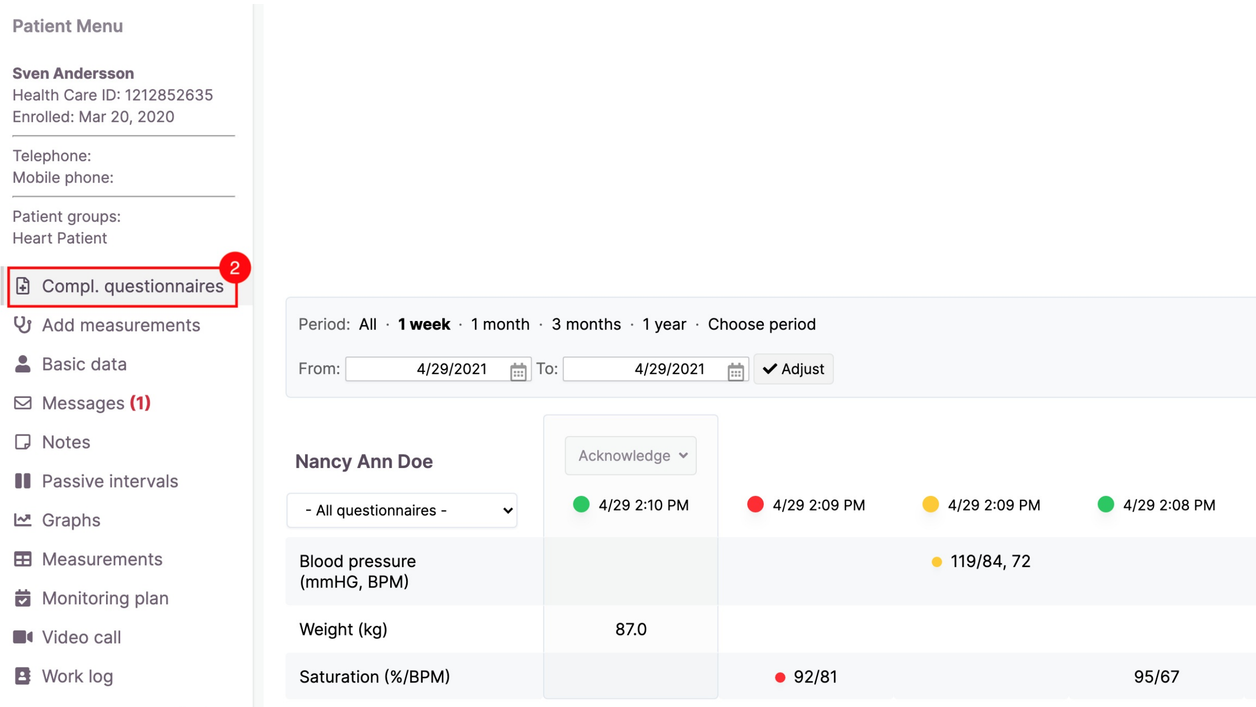
When clicking anywhere else on the patient row, an overview of any unacknowledged questionnaire replies is shown. See "Reviewing completed questionnaires" below for more information.



Navigating the patient menu

Reviewing completed questionnaires

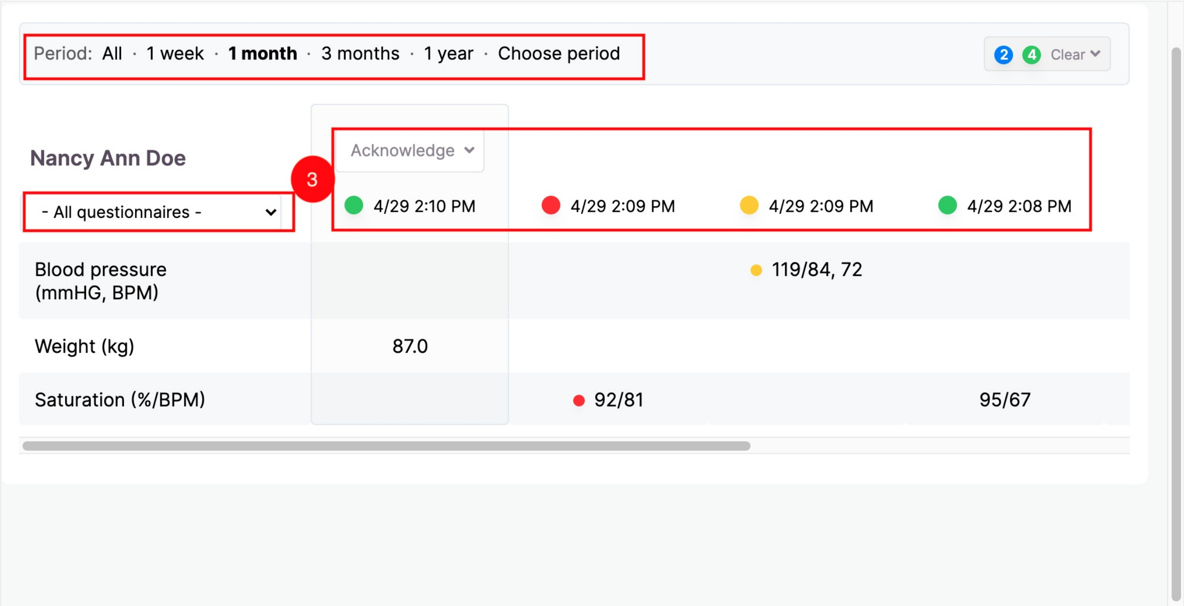
1. **Click** on a patient name in the overview.
2. The “Completed questionnaires” page displays. This page is the default page when navigating to the patient menu context. Alternatively, **click** “Completed questionnaires” from the patient menu to access the page.



3. You will notice the following on the completed questionnaire page (see sections below for additional details):

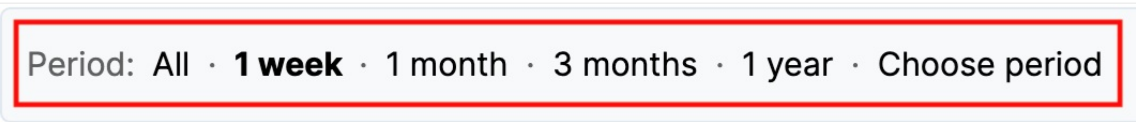
   a. **Period selection** to display the timeframe of completed questionnaires preferred.
   b. **Drop down labeled ‘All questionnaires’** to select a measurement/question to view at the top row.
   c. **Column header** indicating the date and time the questionnaire was completed. When hovering a column various options to respond to results are shown in a drop down box above the column. Each column displays the patient’s responses to each question (one question per row) within the questionnaire.

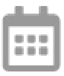
4. Review patient questionnaire responses by using the scroll bar to the right. You will notice responses are flagged yellow or red based on thresholds set per question. Respond to questionnaire accordingly.

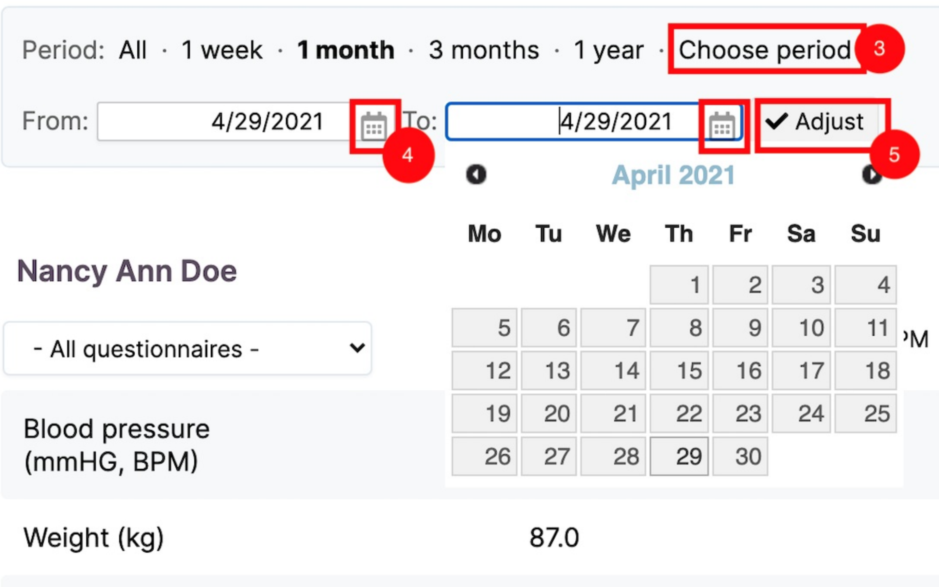


Period selection

1. **Click** on the period/timeframe of choice to view completed questionnaires from the top menu.



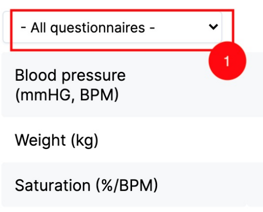
2. The completed questionnaire results will display.
3. **Click** "Choose period" to specify the period you would like to see.
4. **Click**  icon and select the preferred from and to date on the calendar.



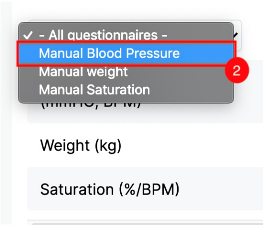
5. **Click** "Adjust".
6. The questionnaires will display for your specified timeframe.

Drop-down labeled 'All questionnaires'

1. **Click** on the drop down menu.

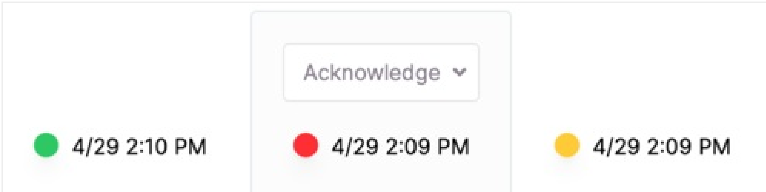


2. **Select** the questionnaire you would to see results from.



3. The table will now hide all completed questionnaire results that are not from that questionnaire.
4. Selecting the **‘All questionnaires’** option from the drop-down will show all completed questionnaires as before.

Column header

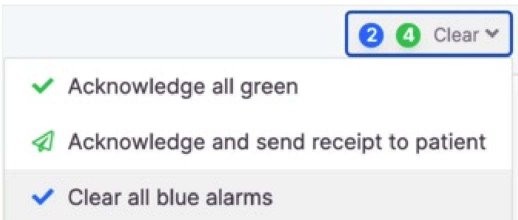


Each column displays the patient’s responses to each question within the questionnaire. The column header displays the date and time the patient completed the questionnaire along with the:

1. **Alarm** icon displaying the color triggered. Hovering over the icon reveals a summary of what threshold(s) has triggered the alarm(s) in the questionnaire.
2. 4/29 2:09 PM Hover the date and click link to **View questionnaire result**.
3. Acknowledge **Acknowledge** icon. When hovering the column header for a questionnaire reply, click the ‘**Acknowledge**’ drop-down and select this icon to acknowledge the questionnaire.
4. Acknowledge and send receipt to patient **Acknowledge and send receipt to patient** icon. When hovering the column header for a questionnaire reply, click the ‘**Acknowledge**’ drop-down and select this icon to acknowledge the questionnaire and send receipt to the patient.

Blue alarms

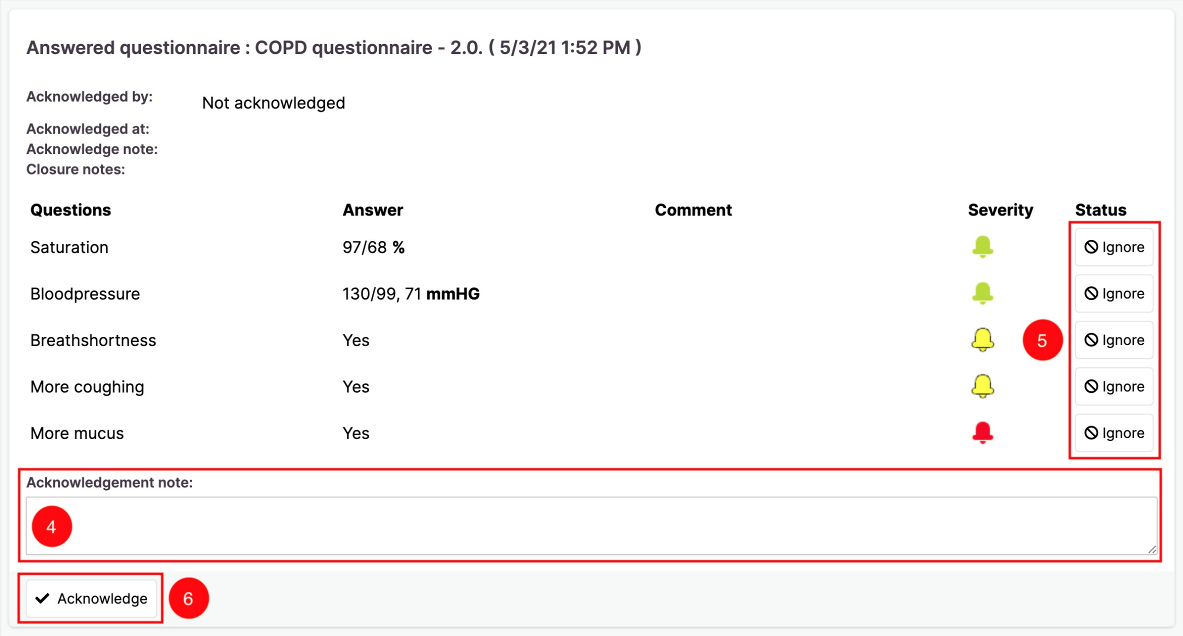
If you want to remove all blue for the actual patient, hover the ‘**Clear**’ button in the top right corner and select the option: **Clear all Blue Alarms**



.

View questionnaire result

1. **Click** the date link 4/29 2:09 PM to view questionnaire/ignore questionnaire/add comment.
2. The patient’s questionnaire will display.
3. **Review** the questionnaire and **add** acknowledgement note as needed.
4. **Type** Acknowledgement note
5. **Click** “Ignore” if you would like to skip the measurement and exclude it from graphs/tables.
6. **Click** “Acknowledge” to acknowledge the questionnaire.

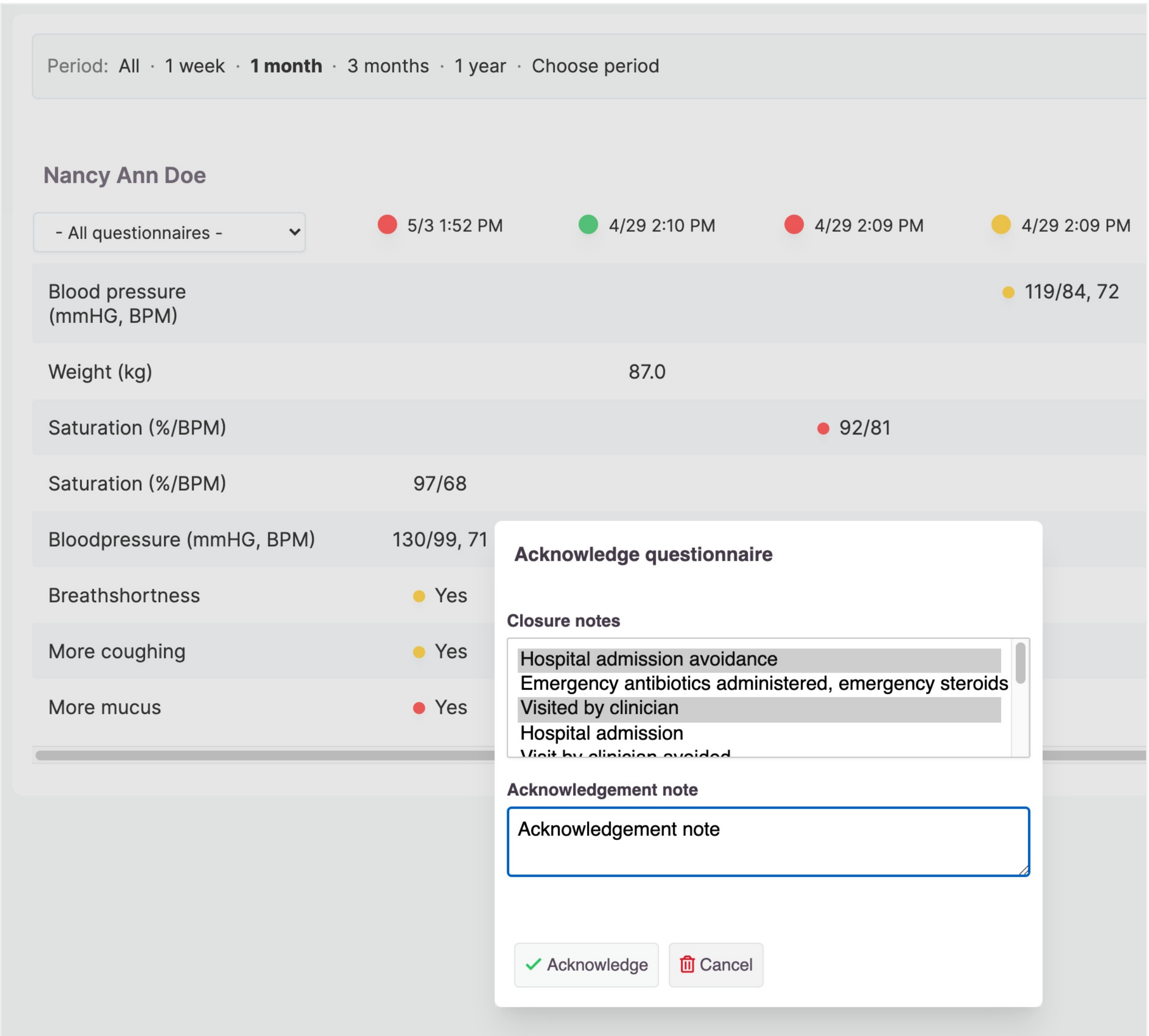


Acknowledging questionnaires with closure notes

Please note: The closure notes functionality is an optional add-on to the OTH system. If you cannot find the functionality on your OTH installation, and believe it should be present, please contact your local administrator or tech-support@opentelehealth.com.

Acknowledge a completed questionnaire in the completed questionnaires overview

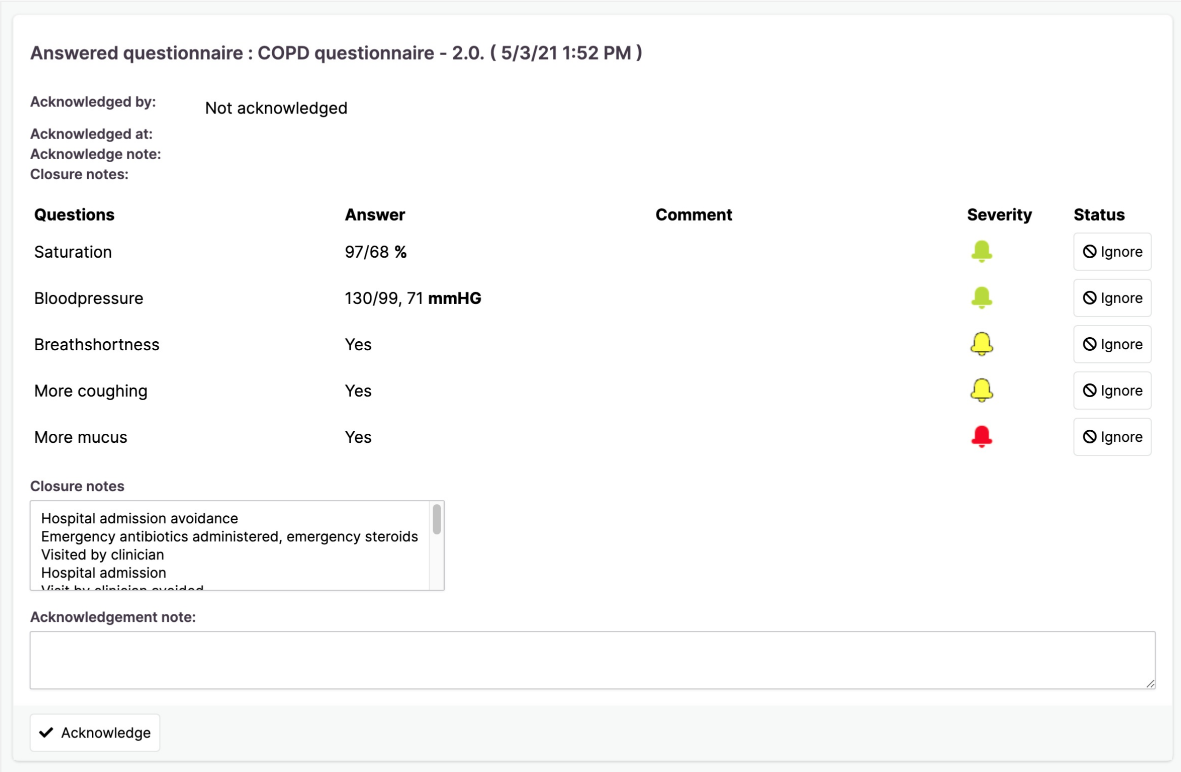
When closure notes are enabled and you click the  **Acknowledge** icon, as described in the previous section, you are now met with a popup asking you to select any relevant closure notes and write an acknowledgement note for the completed questionnaire to be acknowledged:



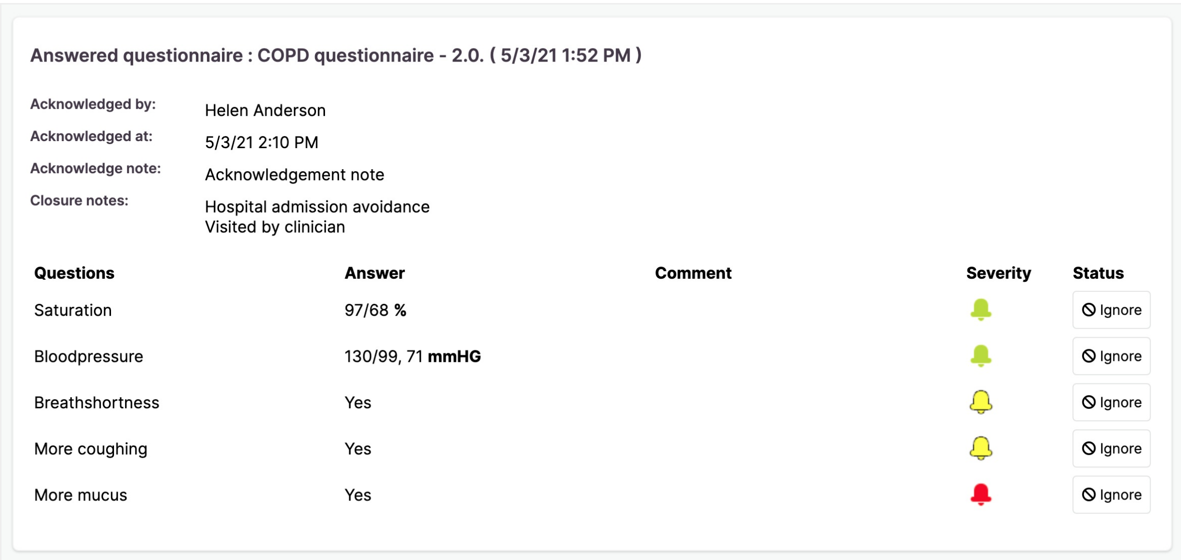
As before, the questionnaire is acknowledged when clicking on the ‘Acknowledge’ button.

Acknowledge a completed questionnaire when reviewing a single completed questionnaire

When closure notes are enabled and you are reviewing a single completed questionnaire then the ‘view completed questionnaire’ menu contains an extra ‘closure notes’ menu, where you have to select any relevant closure notes for the completed questionnaire to be acknowledged:



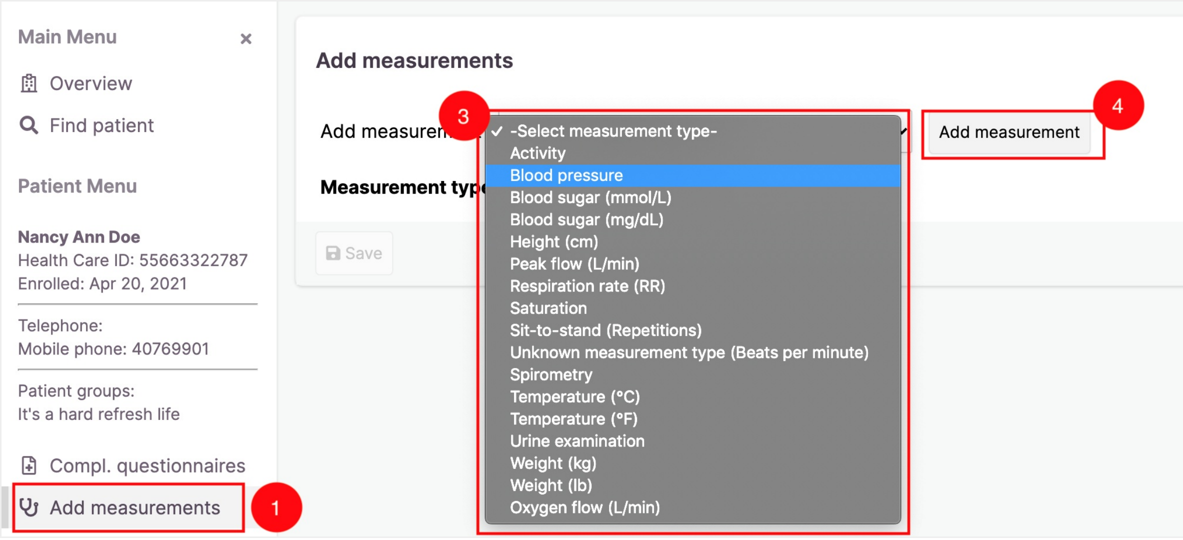
When clicking the ‘acknowledge’ button, the completed questionnaire is then acknowledged and the ‘acknowledge note’ and ‘closure notes’ values have been filled out in the ‘view completed questionnaire’ menu.



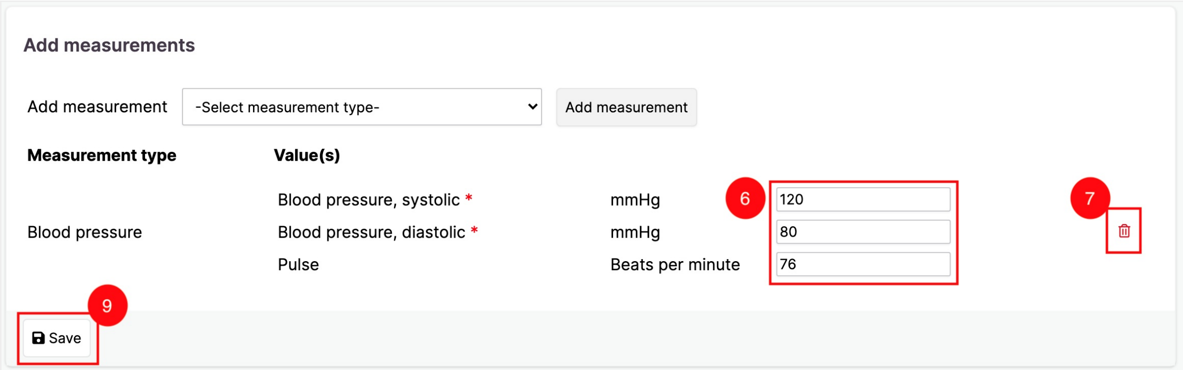
Adding measurements

Adding measurements is used when the hospital staff are adding measurements for the patient, e.g. in a video conference or a personal meeting in the hospital.

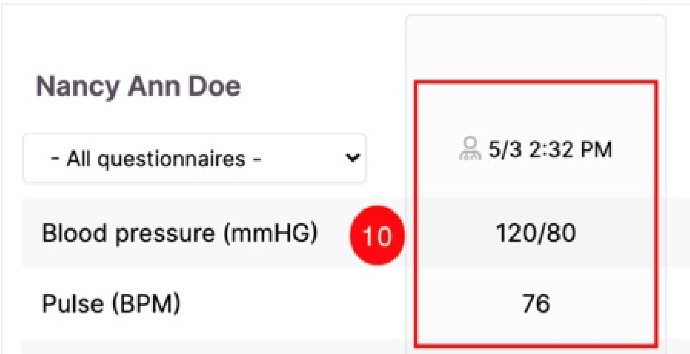
1. **Click** “Add measurements” from the patient menu.
2. The “Add measurement” page will be displayed.
3. **Select** the measurement you would like to add from the drop down menu.
4. **Click** “Add measurement”.



5. The measurement field will be displayed.
6. **Type** the values manually based on information provided to you from the patient.
7. **Click** to delete the measurement if required.
8. **Repeat** steps 2-6 to add a measurement as needed.
9. **Click** “Save” when complete.

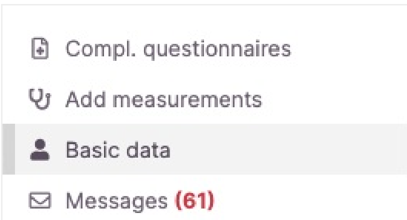


10. The measurement will now appear in the completed questionnaires section. **Click** on “Completed questionnaires” to view the added measurement(s).



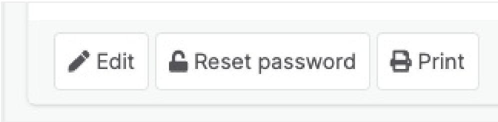
Viewing and changing patient basic data

1. **Click** Basic data in the patient menu.

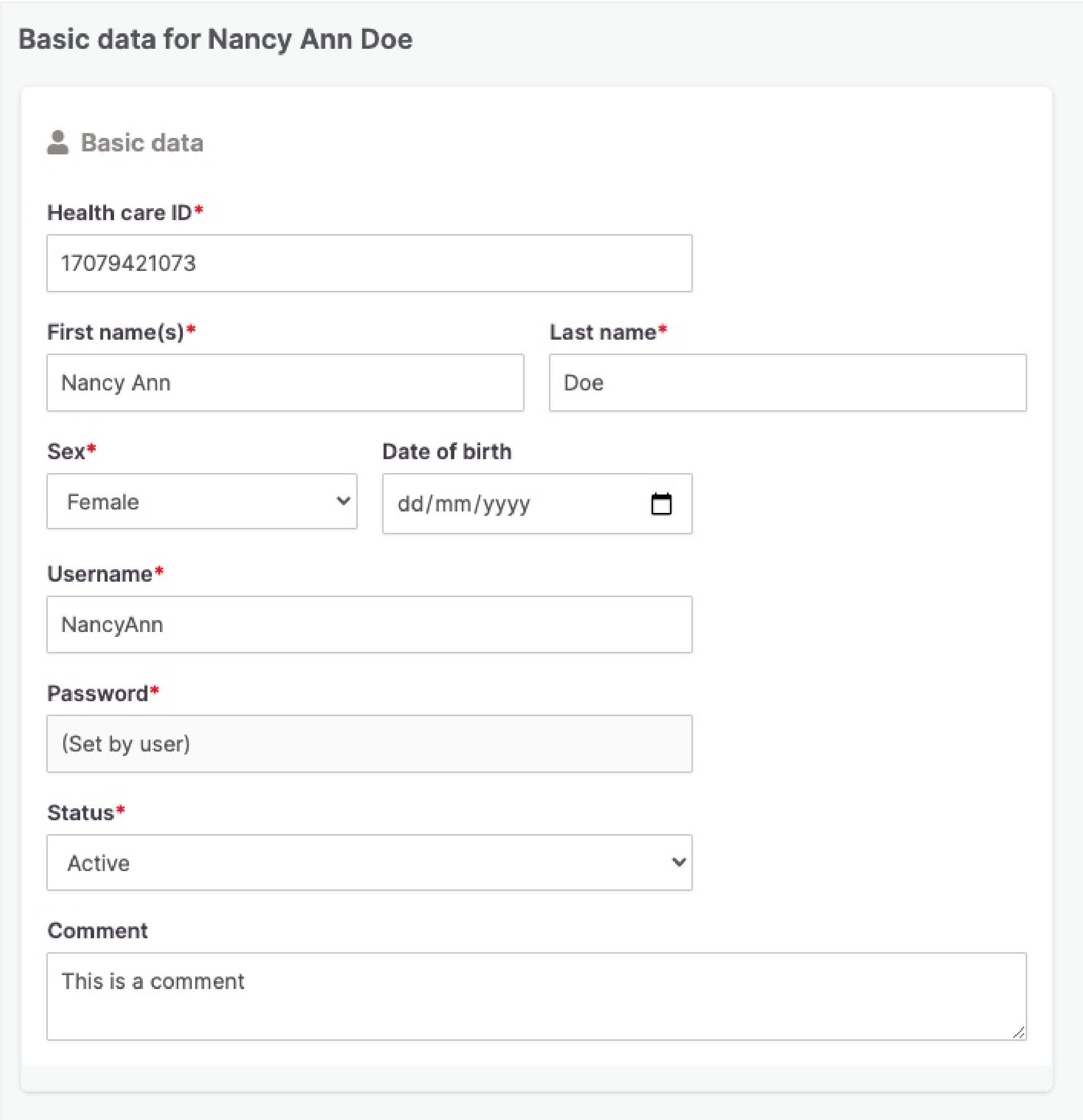


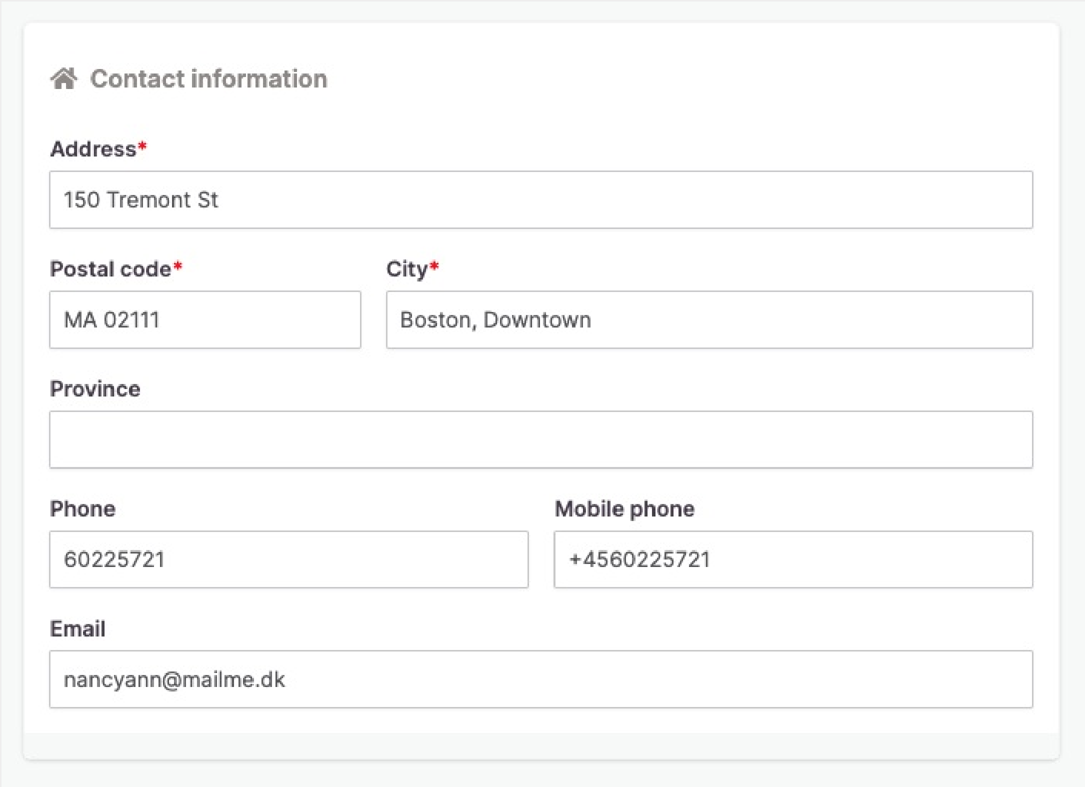
2. The patient information will be display.
3. Scroll to the bottom of the page.

4. **Click** “Edit”.

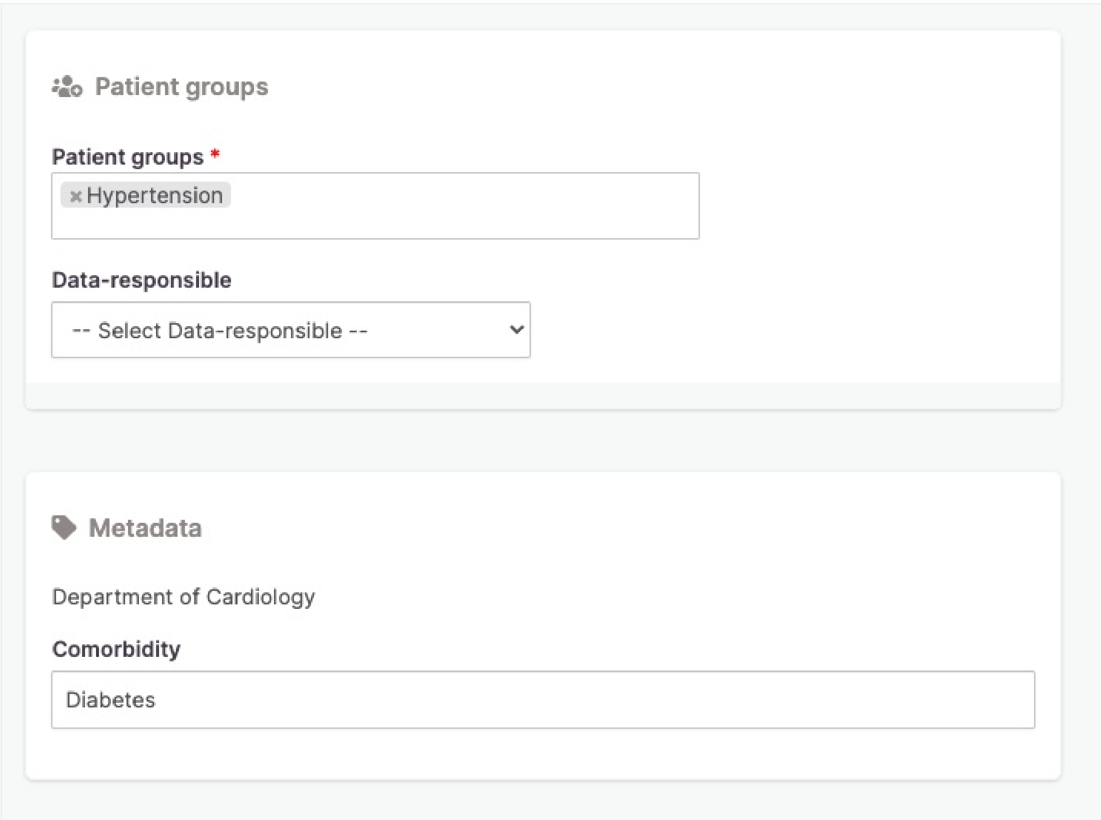


5. **Enter** any new patient information as needed.

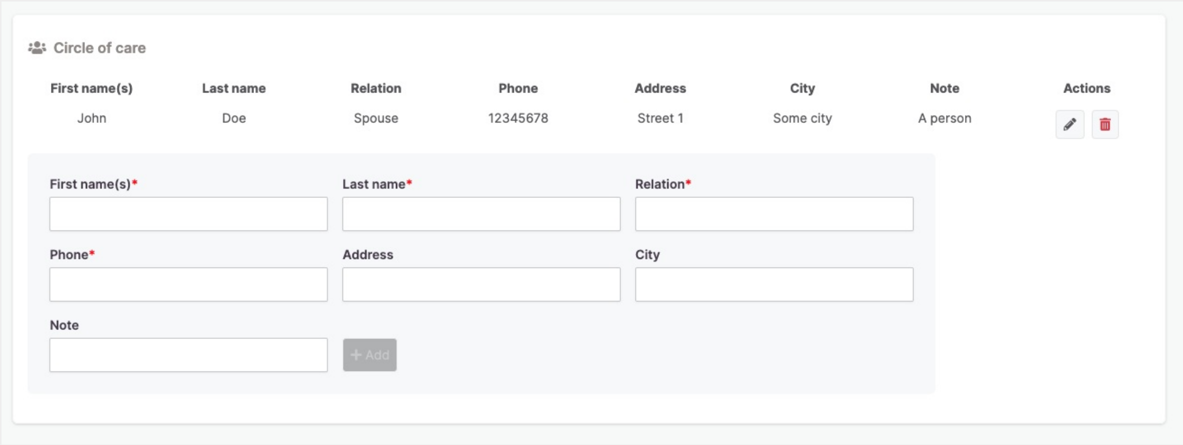




6. **Choose** the patient group(s) you would like to add.
7. **Enter** any relevant patient metadata.



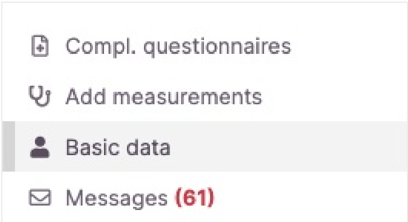
8. **Update** any of the assigned contact persons in the *Circle of care* by adding new ones or changing existing ones.



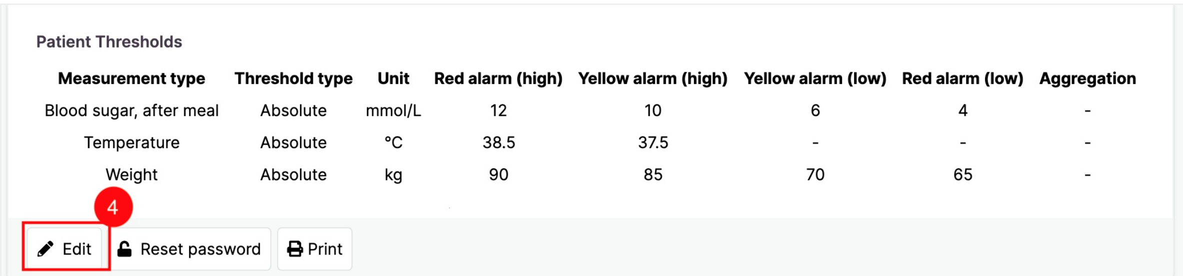
9. **Click** Save. The patient information will be update and you will be brought back to the basic data page.

Edit/add patient thresholds

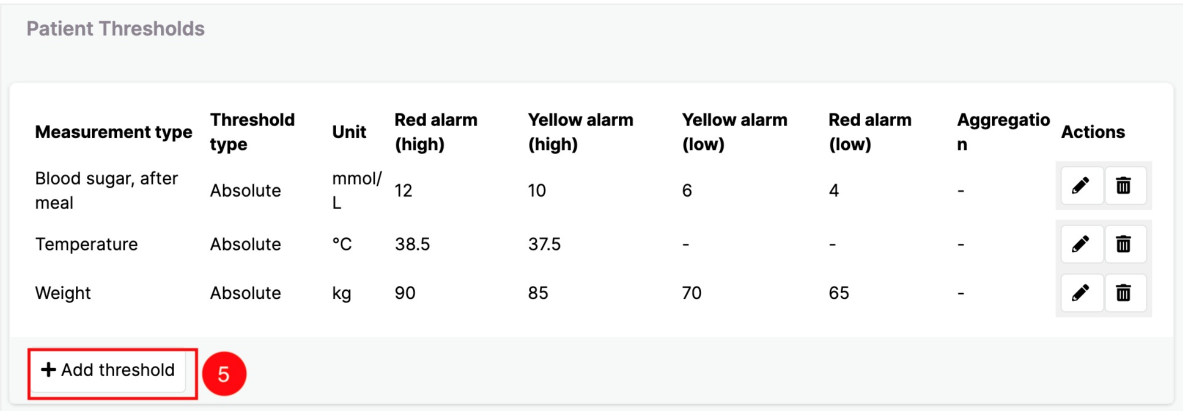
1. **Click** “Basic data” from the patient menu.



2. The patient information will be displayed.
3. **Scroll** to the bottom of the page.
4. **Click** “Edit”.

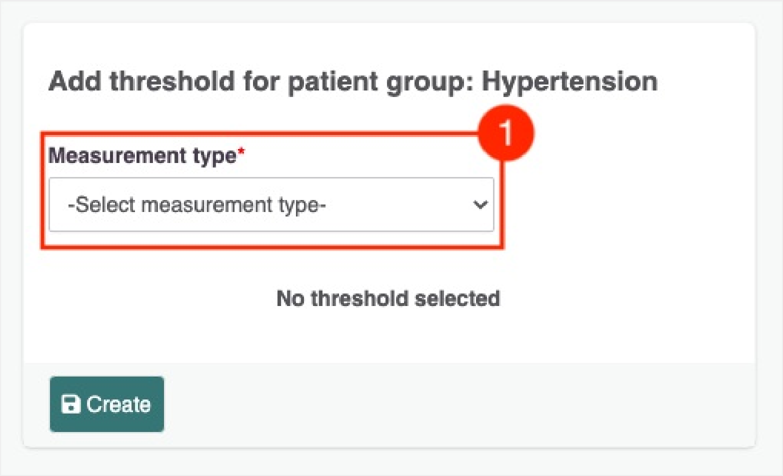


5. **Scroll** to the bottom of the page and **click** “Add threshold” to create/add a threshold measurement.



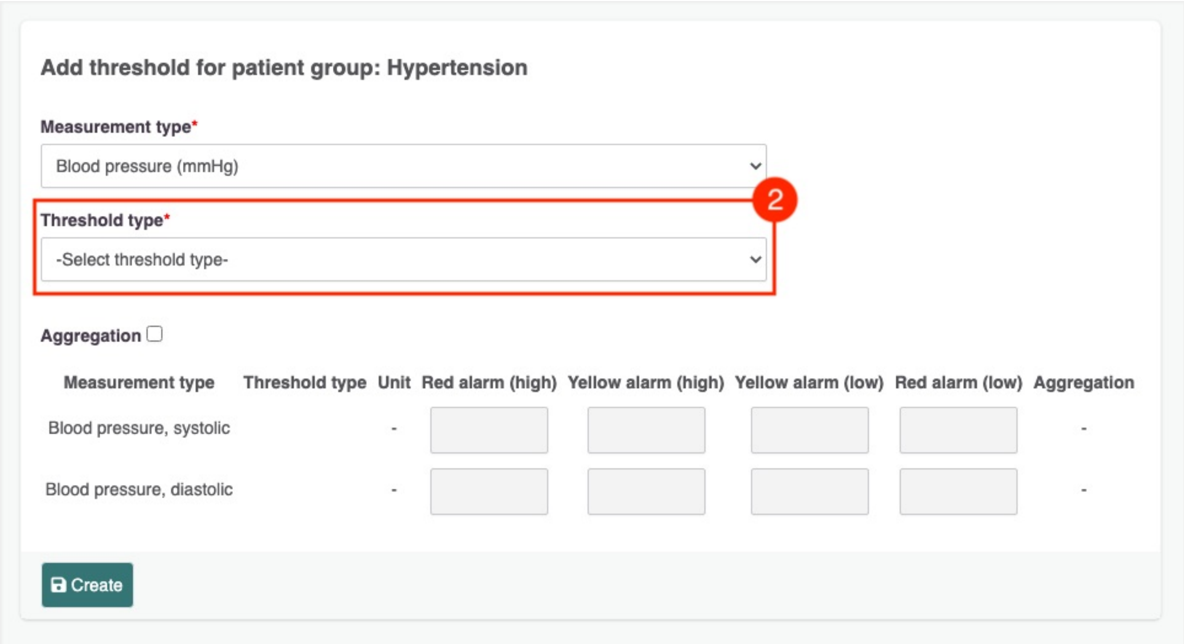
Add threshold

1. **Select** the “Measurement type” for the new threshold.



2. **Select** the “Threshold type” for the new threshold. Depending on the selected measurement type there are up to four possibilities:
   - Absolute
   - Relative latest
   - Relative period
   - Lag

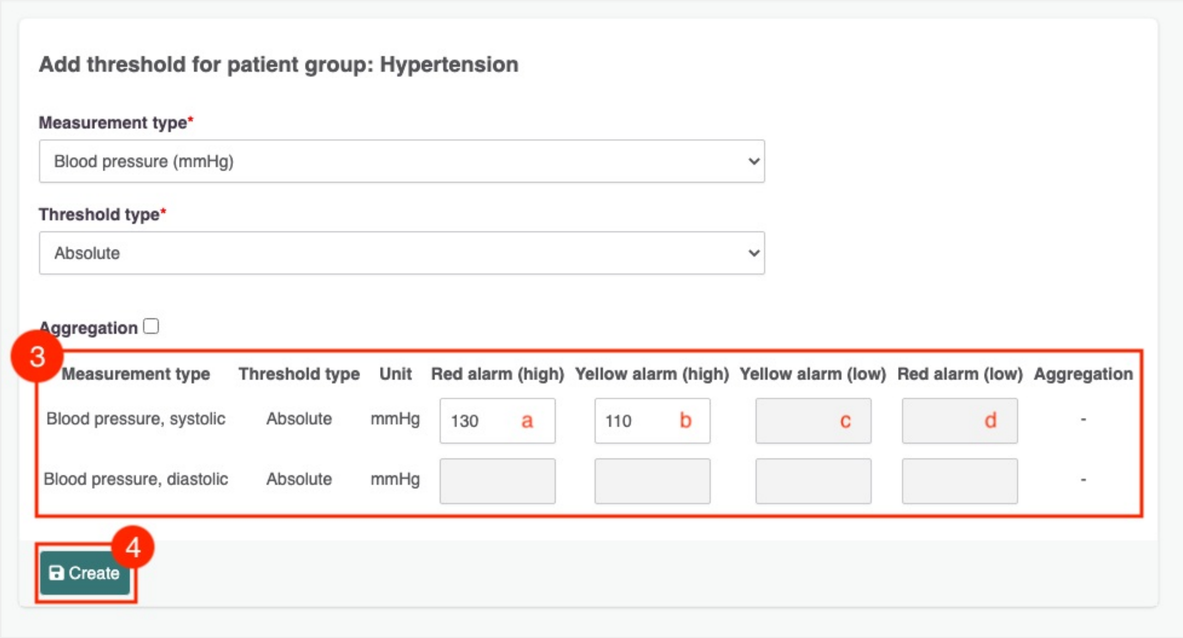
   each of these will be described below.



Absolute thresholds

An **absolute** threshold compares a new measurement value with a fixed set of value limits when determining its severity.

3. **Enter** the relevant limits of the thresholds:
   a. Red alarm (high): values greater than this trigger a red alarm.
   b. Yellow alarm (high): values greater than this trigger a yellow alarm.
   c. Yellow alarm (low): values lower than this trigger a yellow alarm.
   d. Red alarm (low): values lower than this trigger a red alarm.



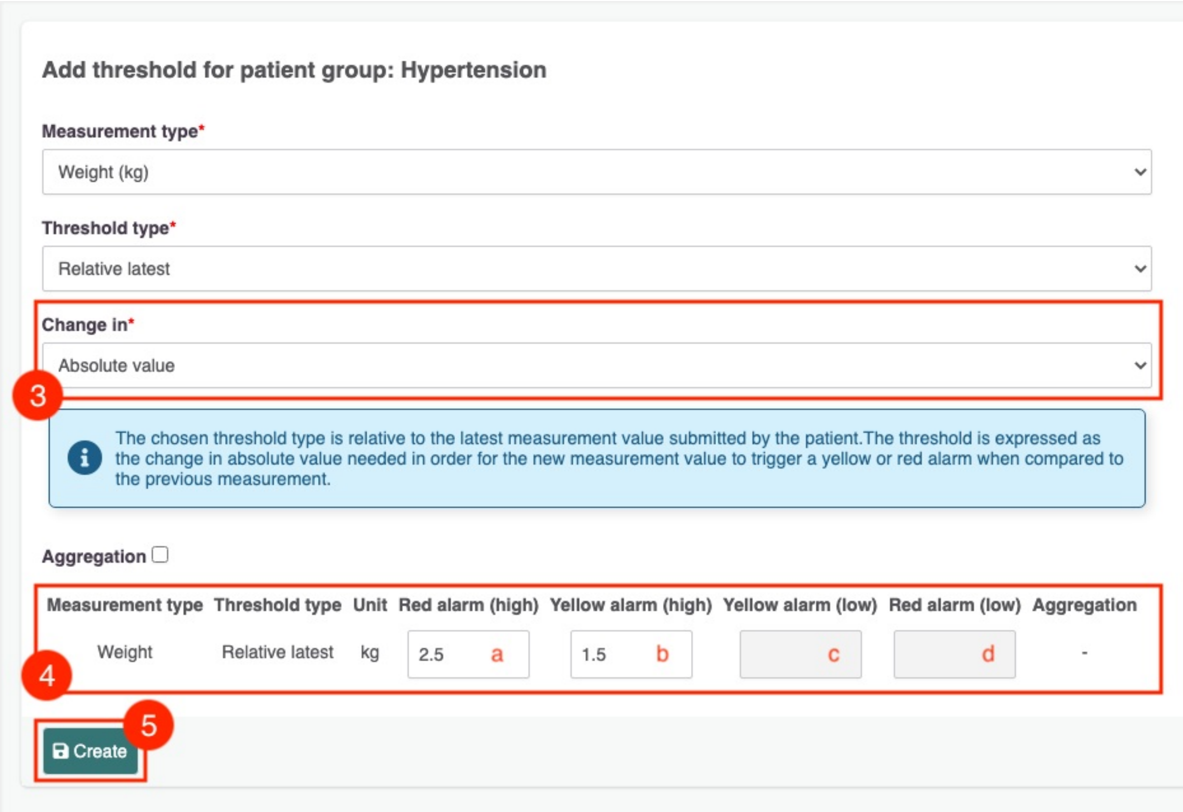
In the above example, the threshold should be read as: if a patient submits a blood pressure measurement where the systolic value greater than 130 mmHg then trigger a red alarm, if it is less than 130 mmHg but greater than 110 mmHg then trigger a yellow alarm, and finally if it is lower than 110 mmHg then don't trigger any alarm.

4. **Press** "Create" to create the threshold for the patient.

Relative latest threshold

A **relative latest** threshold compares a new measurement with the latest measurement received by looking at the change in value between the two measurements when determining its severity.

3. **Select** whether to define the threshold limits for the measurement value change as a percentage or an absolute value.
4. **Enter** the relevant limits of the threshold.
5. **Press** "Create" to create the threshold for the patient.



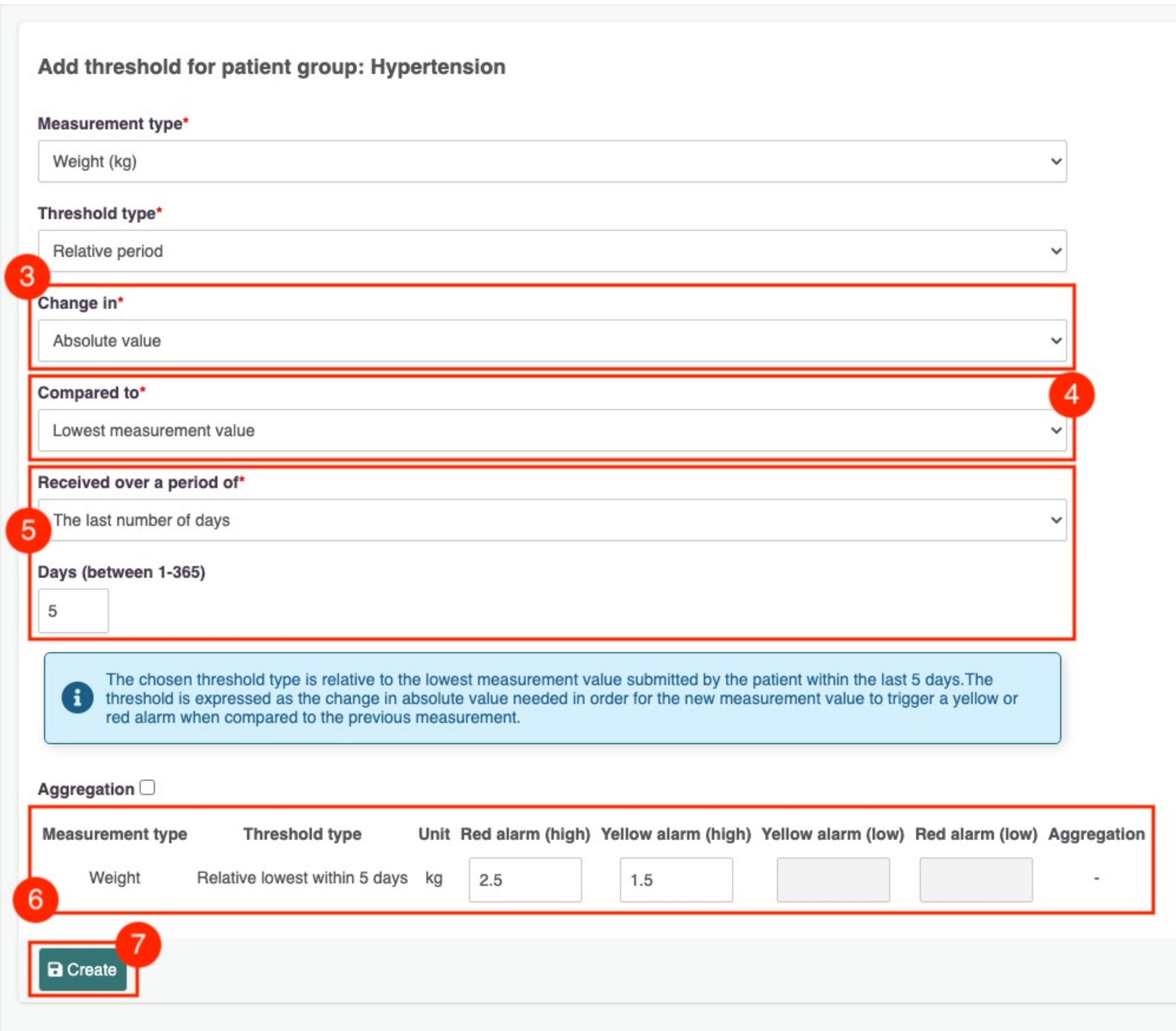
In the above example, the threshold should be read as: if a patient submits a weight measurement where the change in value compared to the previous measurement is greater than 2.5 kg then trigger a red alarm, if it is less than 2.5 kg but greater than 1.5 kg then trigger a yellow alarm, and finally if it is lower than 1.5 kg don’t trigger any alarm.

Note: Because the relative latest threshold calculates the severity based on a previously submitted measurement, the very first measurement submitted by the patient will always trigger an orange alarm, because the patient will have no prior measurements to compare it to. If an orange alarm is shown, the clinician will need to assess the patient measurement manually.

Relative period thresholds

A **relative period** threshold compares a new measurement to the measurement received previously within a given time period that has the highest or lowest value, and then looks at the change in value between the two measurements when determining its severity.

3. **Select** whether to define the threshold limits for the measurement value change as a percentage or an absolute value.
4. **Select** whether to compare the measurement with the highest or lowest value received within the time period.
5. **Select** whether the time period should be the whole time the patient has been enrolled or a period of the last number of days. If the latter, then **enter** the number of days to look back in time.
6. **Enter** the relevant limits of the threshold.
7. **Press** “Create” to create the threshold for the patient.



In the above example, the threshold should be read as: if a patient submits a weight measurement where the change in value compared to the lowest measurement received within the last 5 days is greater than 2.5 kg then trigger a red alarm, if it is less than 2.5 kg but greater than 1.5 kg then trigger a yellow alarm, and finally if it is lower than 1.5kg don’t trigger any alarm.

Note: Because the relative period threshold calculates the severity based on a previously submitted measurement, the very first measurement submitted by the patient will always trigger an orange alarm, because the patient will have no prior measurements to compare it to. If an orange alarm is shown, the clinician will need to assess the patient measurement manually.

Aggregate thresholds

When adding a new patient threshold, of one of the above types, it is possible to make it *aggregate*. This means that a measurement value has to exceed the threshold for at least a certain percentage of the latest received measurements. For example, if an aggregate threshold is set to 40% of the last 5 measurements, it means that at least 2 of the latest 5 measurements, including the latest one, must exceed the threshold (be it absolute or relative).

If there are not enough previous measurements to evaluate an aggregate measurement, the measurement will trigger an orange alarm.

Example

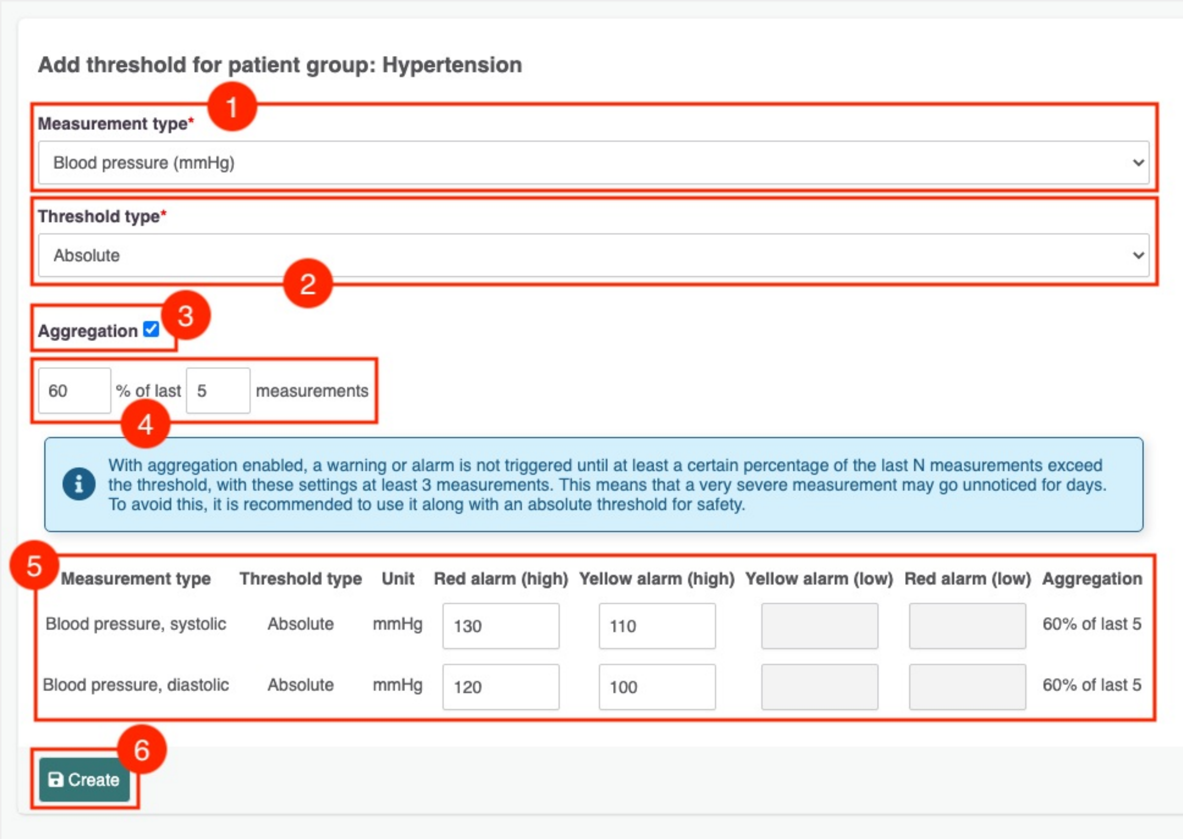
If we have an **absolute** weight threshold with a **Red alarm (high)** set to 100 kg with aggregation set to 40% of the latest 5 measurements we get the following set of severities:

Measurement sequence (kg)					Severity
95	95	98	99	101	OK
95	98	99	101	99	OK
98	99	101	99	102	RED ALARM
99	101	99	102	98	OK

Adding aggregate thresholds

On the **Add threshold** page:

1. **Select** the “Measurement type” for the new threshold.
2. **Select** the “Threshold type” for the new threshold.
3. **Check** the “Aggregation” checkbox to enable aggregation.
4. **Enter** the percentage of the looked at measurements that need to exceed a limit, and the **enter** the number of measurements to look at.
5. **Enter** the relevant limits of the threshold.
6. **Press** “Create” to create the threshold for the patient.

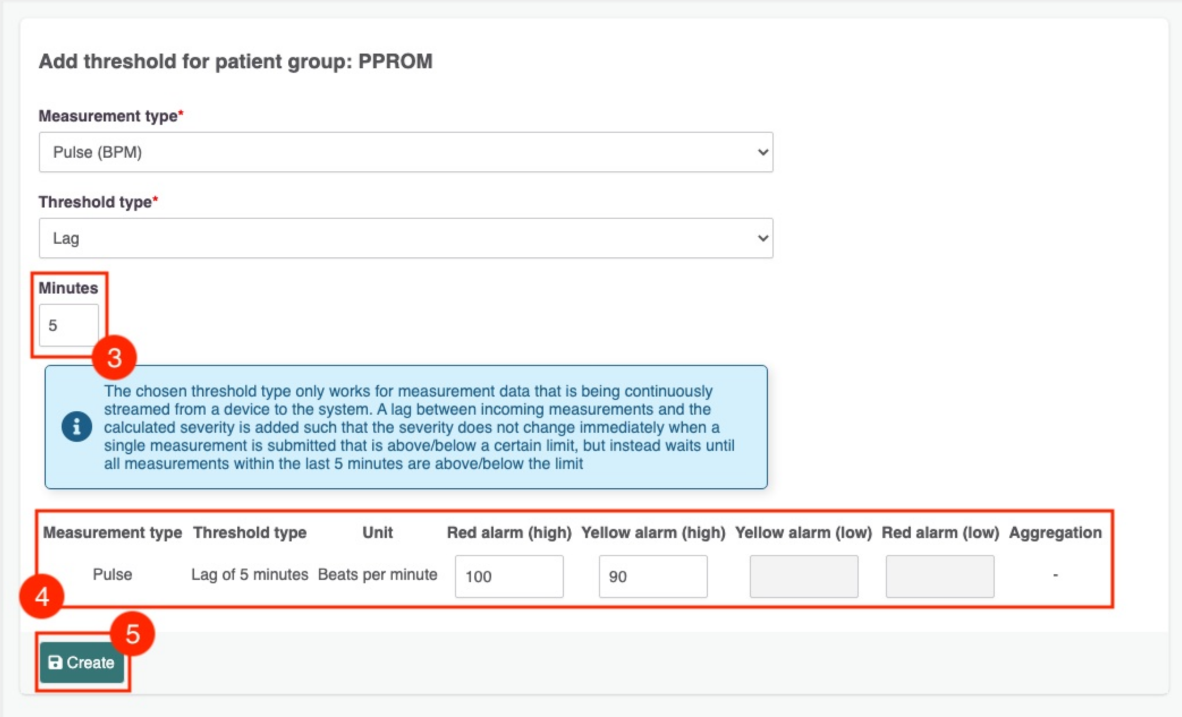


In the above example, the threshold should be read as a normal absolute threshold except that it now requires 3 (60%) of the 5 latest received measurements to exceed a limit before the measurement triggers a yellow or red alarm.

Lag

In contrast to the previous threshold types that are used for calculating the severity of a measurement attached to a questionnaire or an external measurement. The **lag** threshold is used for calculating the severity of a stream of measurements being continuously submitted by a patient, e.g. in a *virtual ward* scenario where a patient has a measurement device attached to them that continuously monitor and submits their vitals. The **lag** threshold works by looking at all measurements received within the last number of minutes and then calculates whether the trend of the patient's severity is changing, thus minimizing any false alarms in the case where a patient has a very brief spike.

3. **Enter** the number of minutes back in time the threshold should compare measurements.
4. **Enter** the relevant limits of the thresholds:
    a. Red alarm (high): values greater than this trigger a red alarm.
    b. Yellow alarm (high): values greater than this trigger a yellow alarm.
    c. Yellow alarm (low): values lower than this trigger a yellow alarm.
    d. Red alarm (low): values lower than this trigger a red alarm.

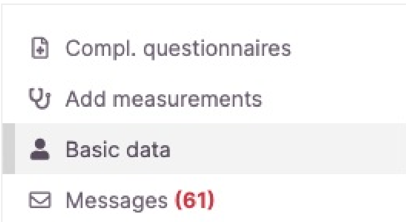


In the above example, the threshold should be read as: if all pulse measurements submitted by the patient within the last 5 minutes have a value greater than 100 BPM then trigger a red alarm, if all pulse measurements submitted by the patient within the last 5 minutes have a value greater than 90 BPM then trigger a yellow alarm, etc.

5. **Press** “Create” to create the threshold for the patient.

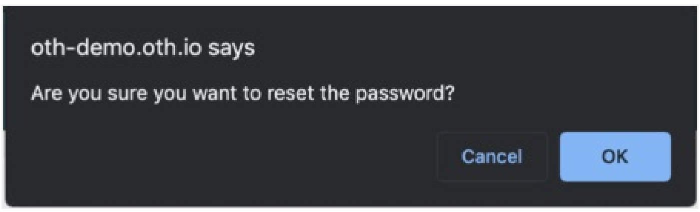
Resetting a patient’s password

1. **Click** “Basic data” from the patient menu.



2. **Scroll** to the bottom of the page.
3. **Click** “Reset Code”.

4. “Are you sure you want to reset the password” pop-up message will display.
5. **Click** “OK”.

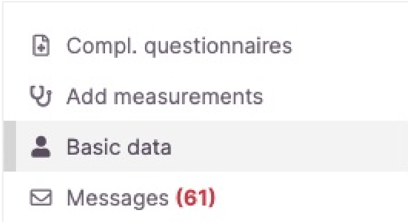


6. A new temporary password will be assigned to the patient and will display on the basic data window.

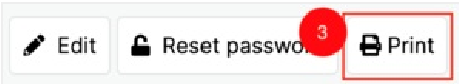
7. **Communicate** new temporary password to the patient.

Printing patient basic information

1. **Click** “Basic data” from the patient menu.



2. **Scroll** to the bottom of the page.
3. **Click** “Print”.

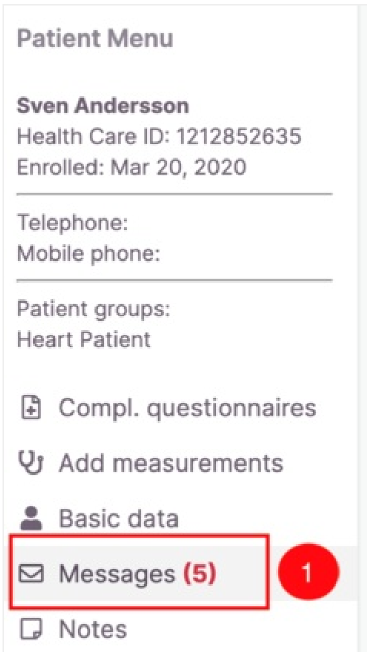


4. **Click** “OK” when the printer pop-up displays.

Patient messages

To access patient messages, **click** “Messages” from the patient menu. If there are any unread messages *from* the patient, the number of unread messages will be shown in the menu item.

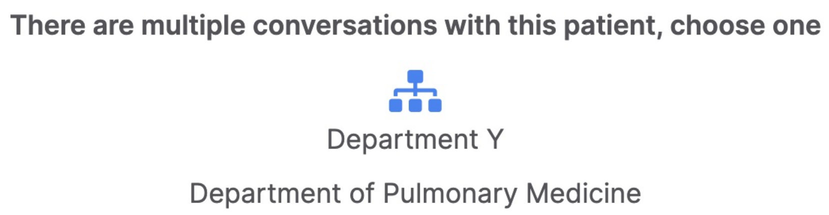
Alternatively, the messages feature can be accessed by clicking a message from the patient overview.



Choosing an organization

Patient messages are grouped into conversations by organizations. If the selected patient and the current clinician are both in a multiple patient groups, belonging to two or more organizations, you have to choose which organization to talk to the patient on behalf of.

This is done either by choosing one when accessing the messaging page:



or by using the organization drop down at the top right corner of the messaging interface:

The messages interface

The messages page for your patient contains:

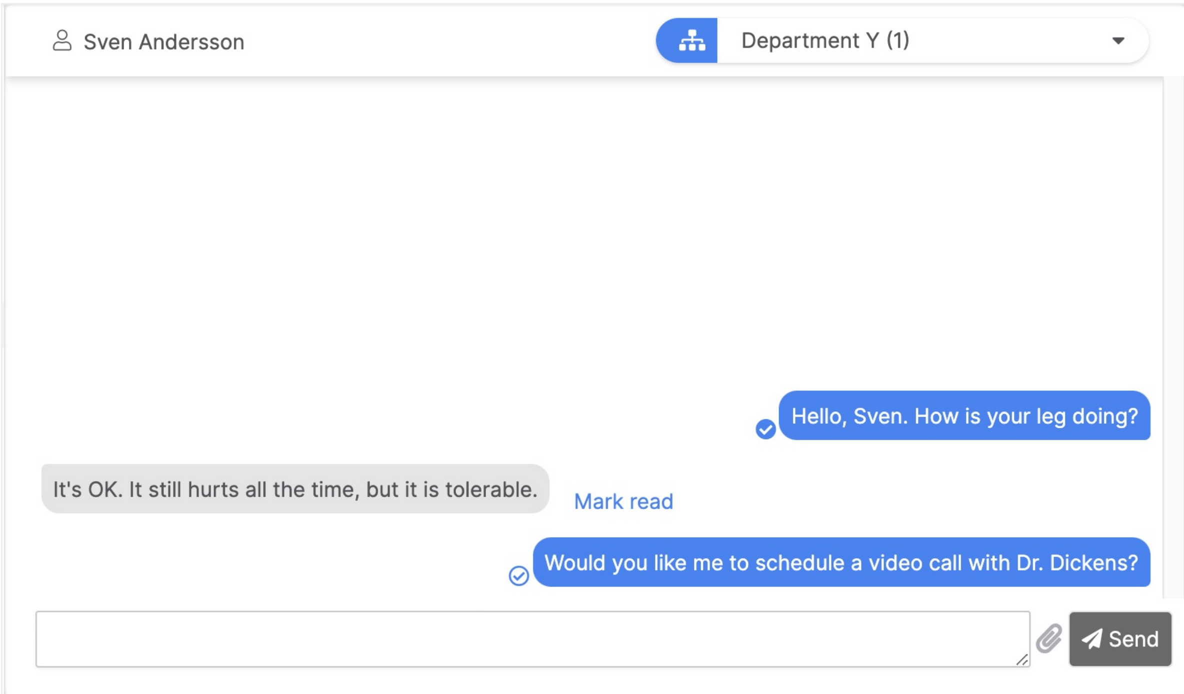
a. Most recent messages are displayed at the bottom of the page. **Scroll** up to view previous messages/history.

b. Clinician messages are displayed on the right. Patient messages on the left.

c. When hovering over a message bubble, the date/time and sender of the message will be shown.

d. Unread messages from patients will have a "mark read" button next to them. **Click** "Mark read" to mark them as read.

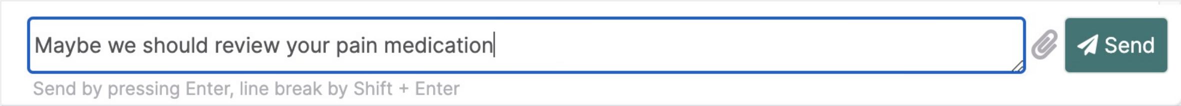
e. The small check mark icon next to sent messages indicates whether they have been seen by the patient. A thin, circled check mark indicates an unread mesage. A solid check mark indicates a read message.



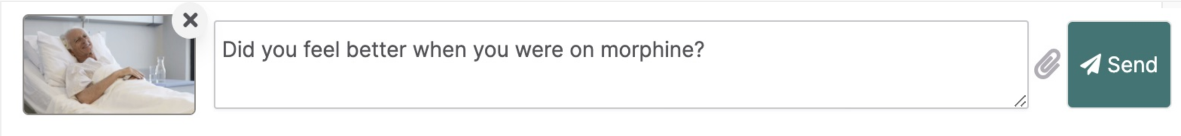
Creating/sending a new message

Use the text field at the bottom of the screen to type a new message. Press **Enter** or click Send to send the message.

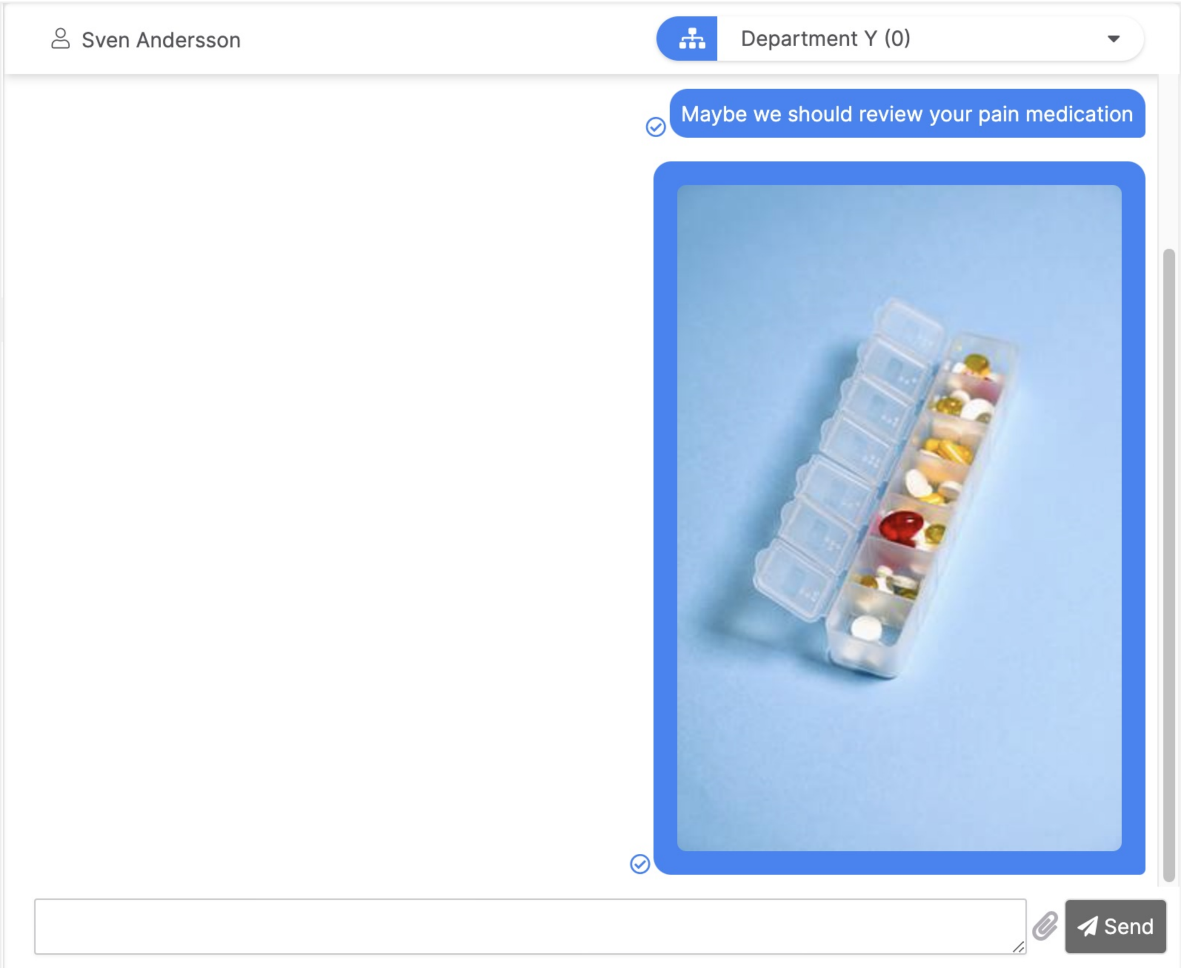
To enter a line break, press **Shift + Enter**.



By clicking the paper clip icon, it is possible to attach images to a message. A preview of the image will be shown. Note that the image file will be attached as-is, so make sure that the resolution and/or file size is appropriate. The maximum file size is 8 MB.

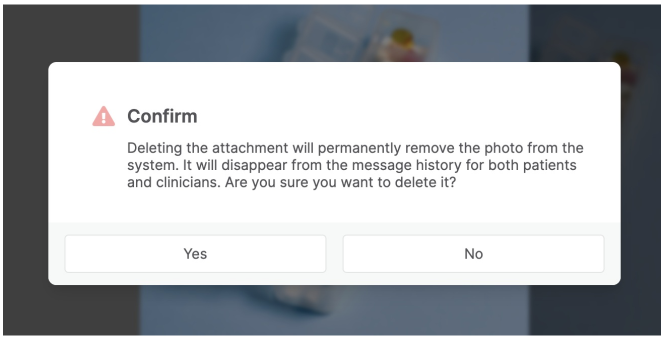


Images in sent messages will be shown as thumbnails in the conversation. Click to enlarge.



When enlarged, an option to delete the attachment appears.

Click “Yes” to confirm the deletion of the attachment. This will cause the image to be deleted entirely from the server.

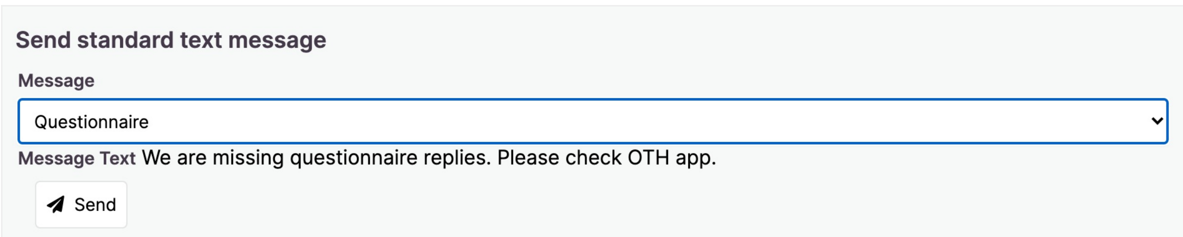


Patients can delete their own attachments. Clinicians can delete attachments belonging to both patients and clinicians.

Using the standard SMS message functionality

It is possible to define a set of standard SMS messages under the Administration menu: “Standard Text Messages”.

The predefined messages can then be sent to individual patients using the patient menu: “Text messages” and “Patient group messages”.

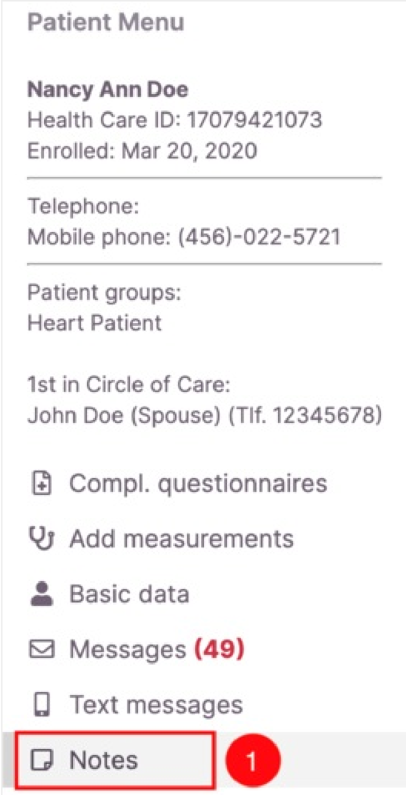


Notice: There is no guarantee that SMS text messages will be received by the patient and the confidentiality of SMS messages is also not to be guaranteed. Therefore critical or sensitive information must not be sent via the SMS message functionality.

Viewing, creating and marking notes as read

General notes

1. **Click** “Notes” from the patient menu.



2. The notes for your patient will display. Each row displays:

    a. **Patient Note.** This displays the note documented for patient.

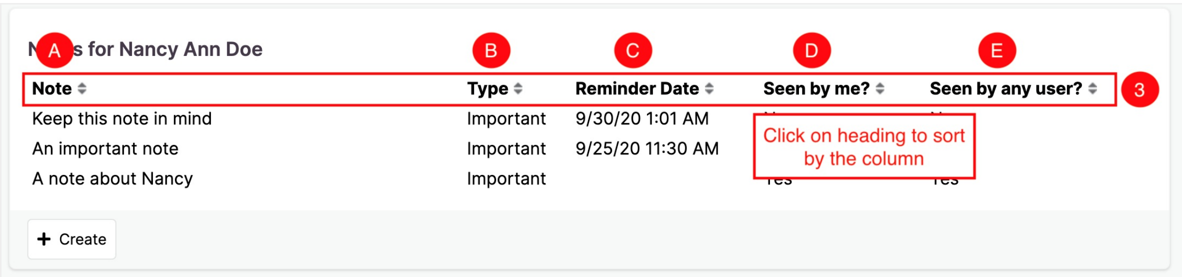
    b. **Type.** This will be displayed as normal or important.

    c. **Reminder date.** A date will display if a reminder has been set to perform an item requested in the note.

    d. **Seen by me?** This will be displayed as yes or no.

    e. **Seen by another user?** This will be displayed as yes or no.

3. The notes in your display view can be sorted by each column title based on your preference. Simply click the title you would like to sort by. Text fields will be sorted by A-Z, dates by most recent. You can also sort/move rows by clicking the arrows up/down.

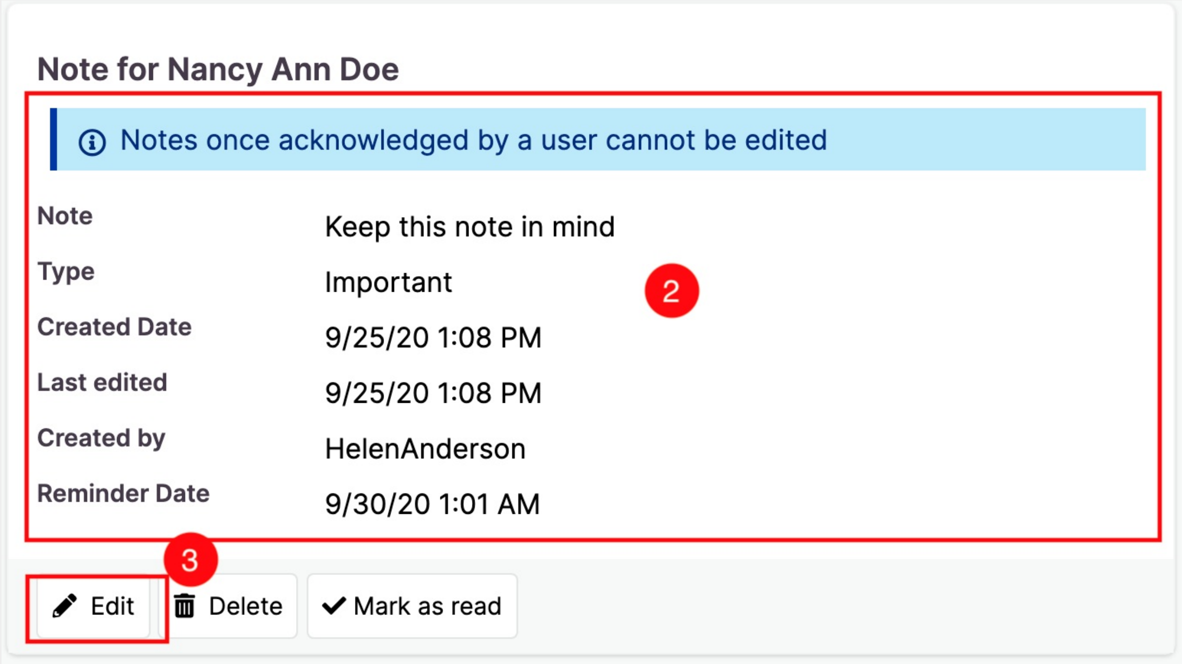


Viewing notes and marking notes as read

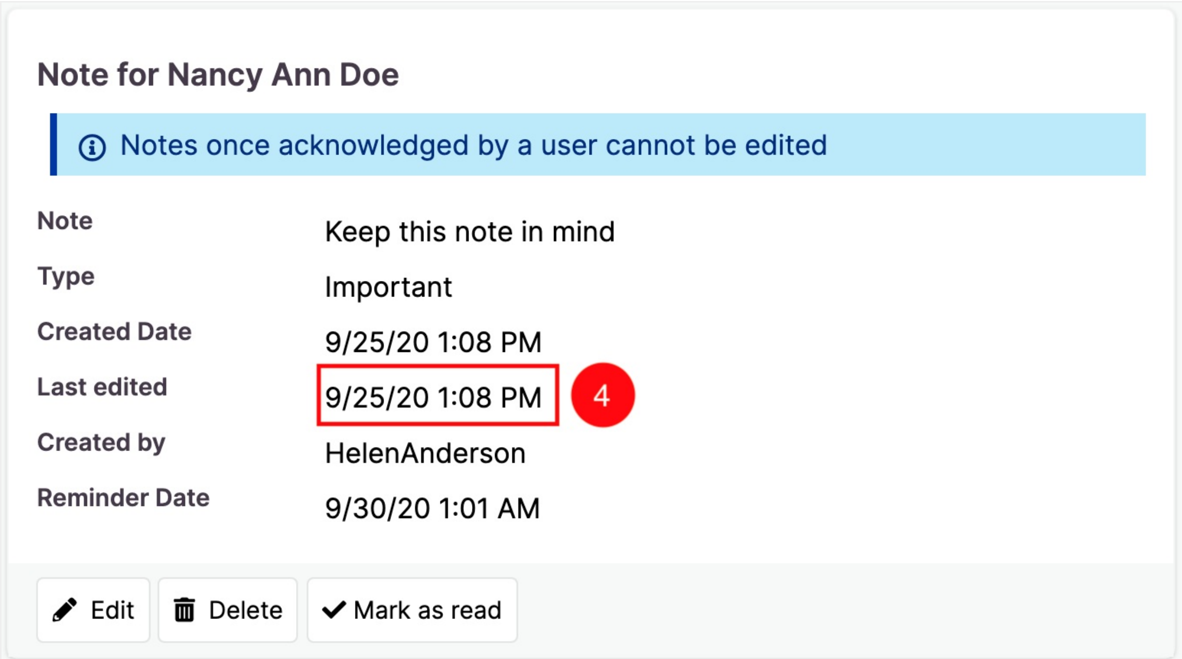
1. **Click** the note you would like to view from the notes page.

2. The note will display along with type, the date of when the note was created, last edited and who it was created by. Notes cannot be edited once they have been acknowledged by a user.

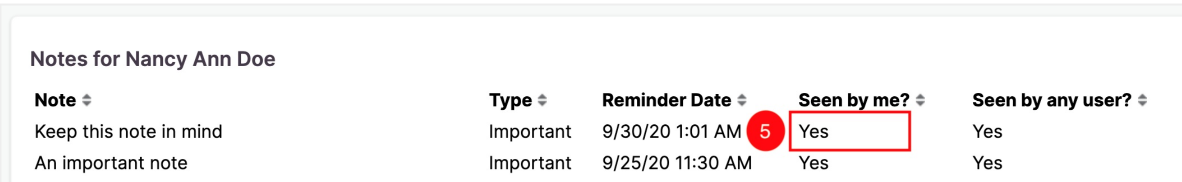
3. **Click** “Mark As Read” to mark the note read.



4. The last edited time will be updated to the date/time “Mark As Read” was clicked.

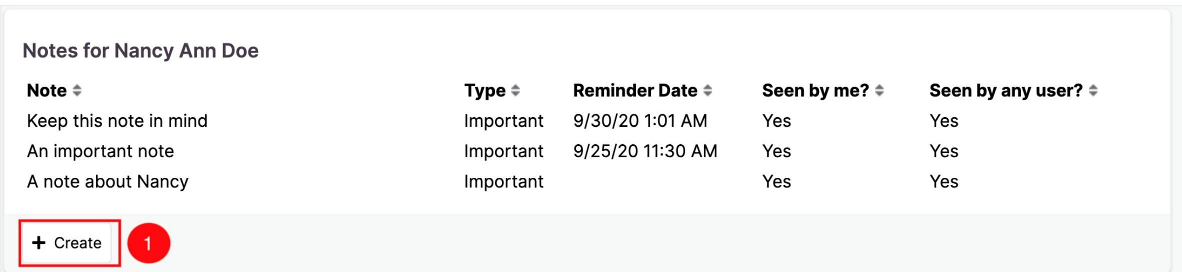


5. Click on Notes from the patient menu to return to the notes page. You will notice “Seen by me?” now displays “yes”.

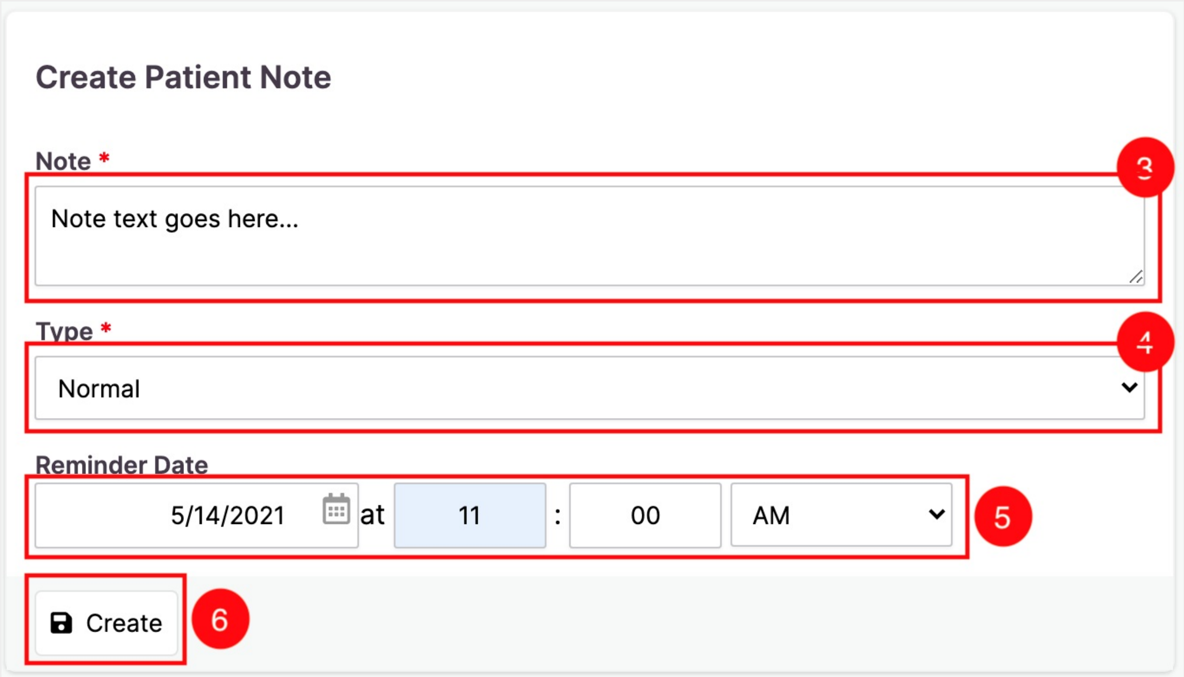


Creating a new note

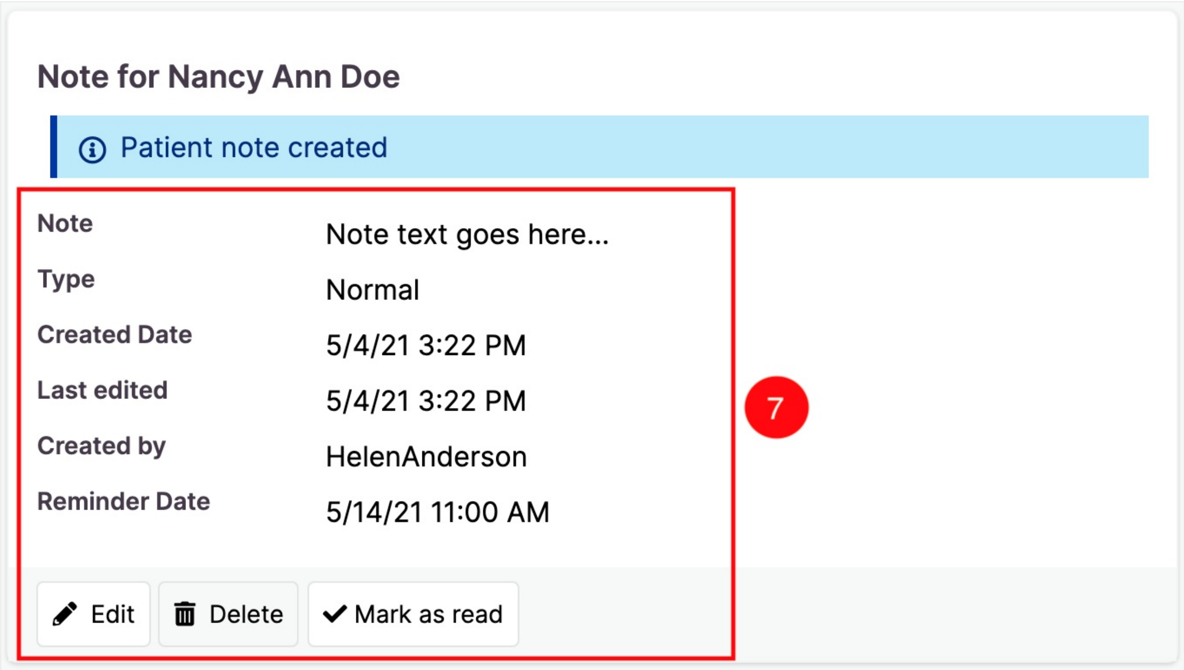
1. **Click** “Create” from the notes page.



2. The “Create Patient Note” page will display.
3. **Enter** your patient note.
4. **Select** the type (normal or important) from the drop down menu.
5. **Set** the reminder date and time as needed.
6. **Click** “Create”.



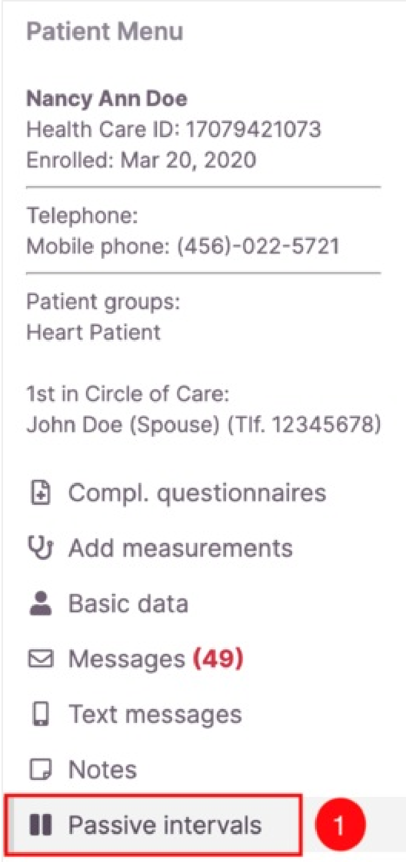
7. The new patient note will display. Click “Edit” to edit note, “Delete” to delete note, and/or “Mark As Read” to mark your note as read.



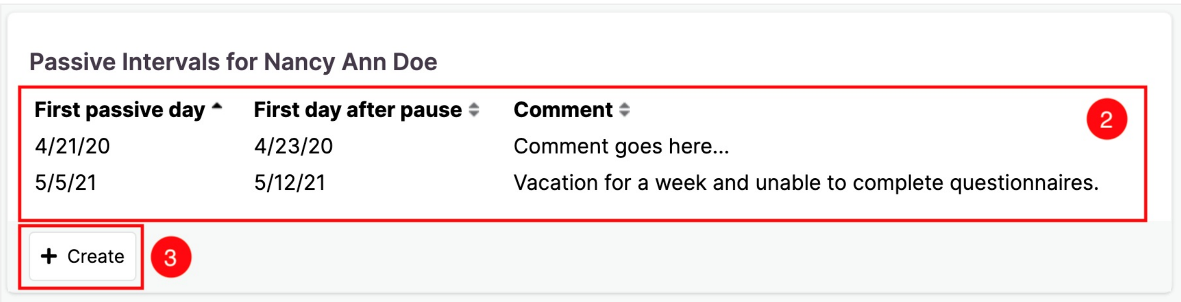
Documenting patient vacations/placing a hold on their monitoring schedule

To mark patient vacations or when a patient is away, use the passive interval page in the patient menu. Though patient is marked on vacation in the system, they can still perform scheduled questionnaires as needed. The nurse will advise on the patient monitoring plan which questionnaire to perform on vacation.

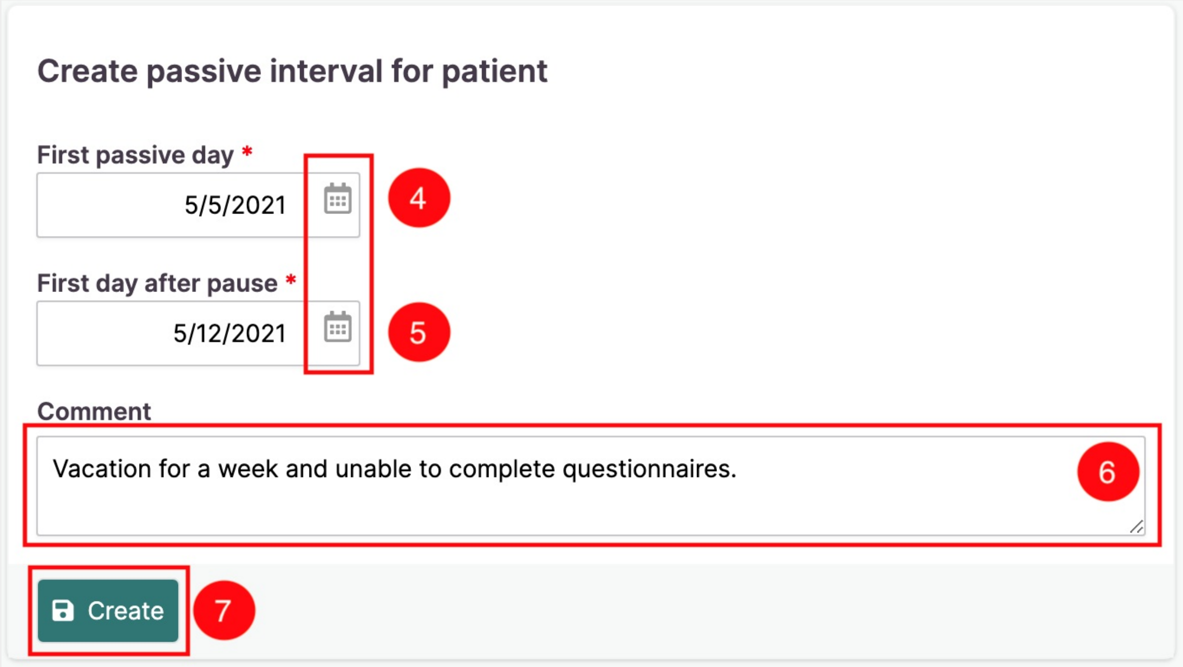
1. **Click** “Passive intervals” from the patient menu.



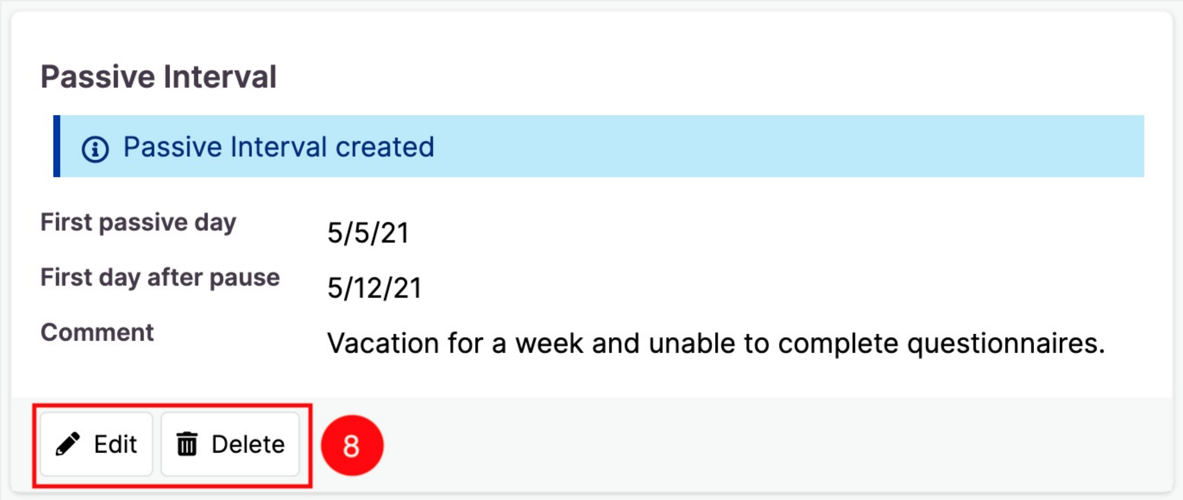
2. The Passive intervals pages will display with all past vacations and/or absence periods documented.
3. **Click** “Create”.



4. **Click** icon and select the “First passive date” from the calendar. The “First passive date” is the date the patient will be away on vacation and/or unable to complete the questionnaire.
5. **Click** icon and select the “First day after pause” from the calendar. The “First day after pause” is the date the patient will be able available to complete the questionnaire again.
6. **Enter** comment as required.
7. **Click** “Create”.

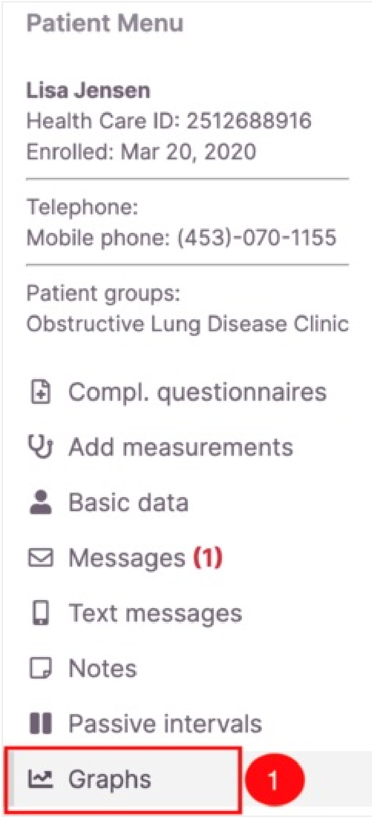


8. The following page will display. **Click** “Edit” if you need to edit the interval or **Click** “Delete” to delete.

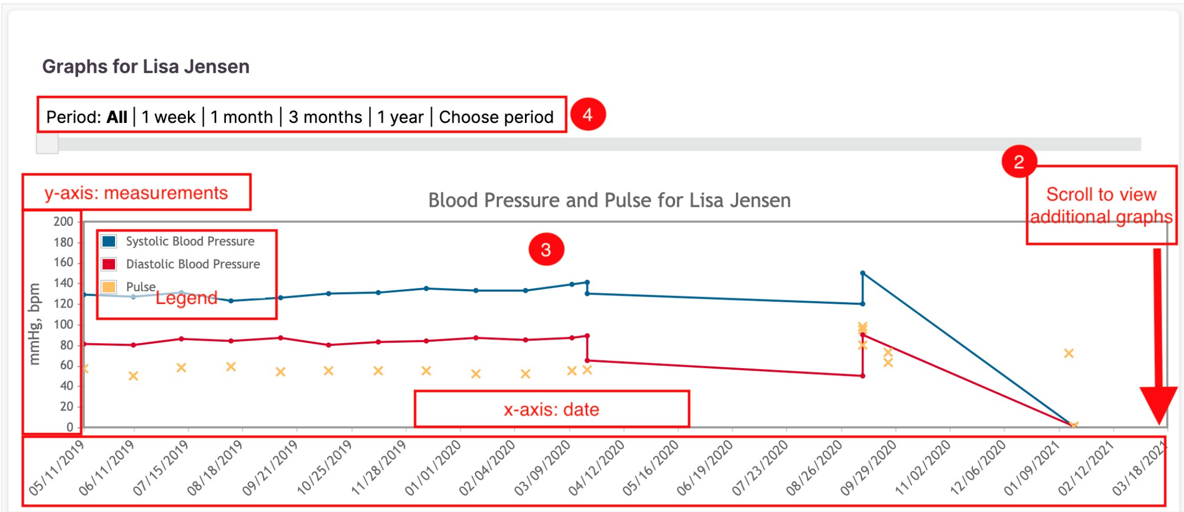


Viewing graphs

1. **Click** “Graphs” from the patient menu.

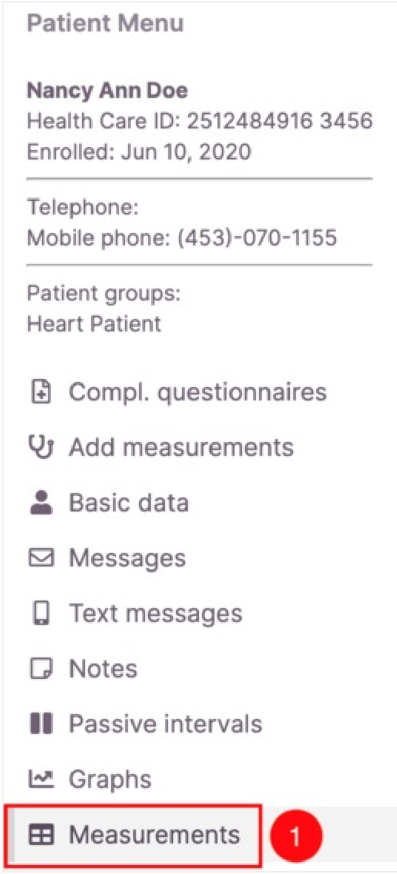


2. The graphs for each patient measurement will display. **Scroll** to view each graph.
3. Each graph will display the date on the x-axis, the measurement on the y-axis, graph title, legend and data.
4. To change the date selection and amount of data on the graph, **Click** the preferred period you would like to view on the top navigation menu or **Click** “Choose period” to select your own.

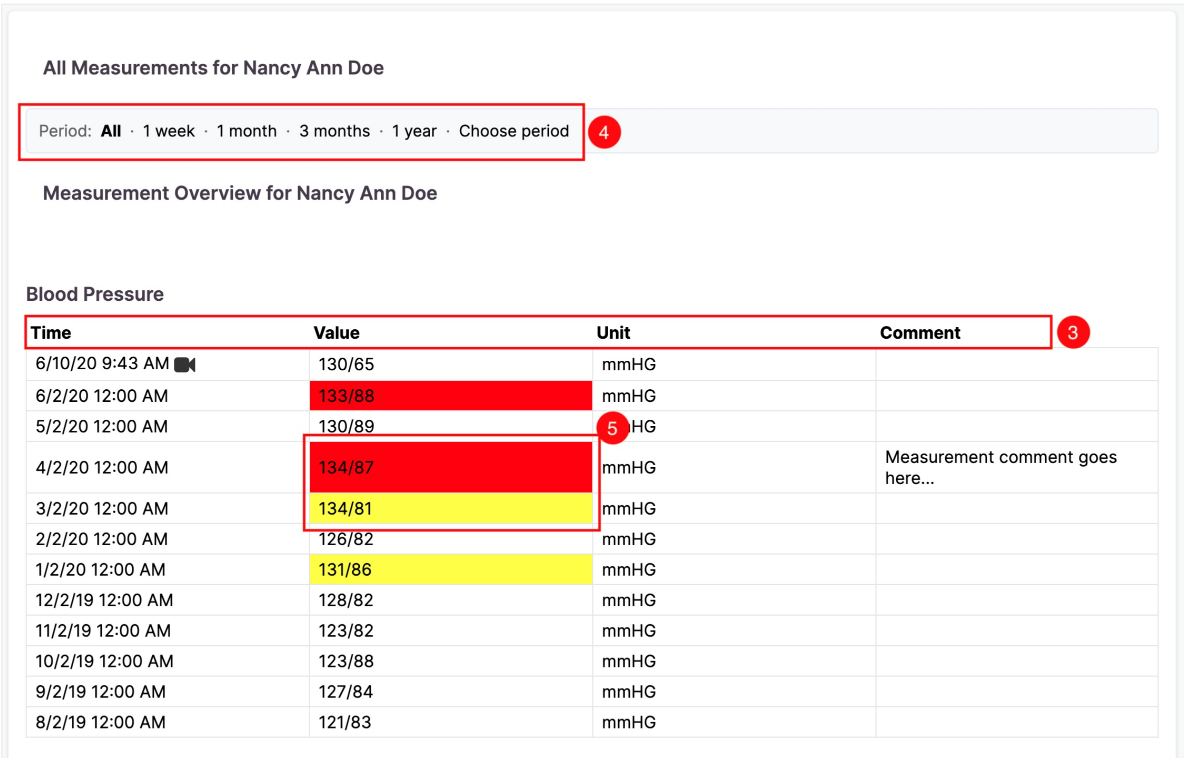


Viewing patient results

1. **Click** “Measurements” from the patient menu.



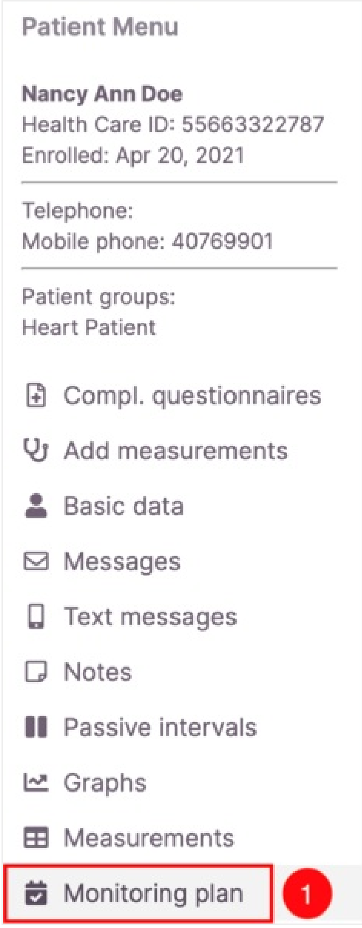
2. The patient measurements will display. **Scroll** down to view all measurements.
3. Each row will indicate the date/time the measurement was taken, the value, and unit of measure. You will notice the values will also be flagged yellow or red based on the set of thresholds for the measurement type.
4. To change the date selection and amount of measurement data displayed, **Click** the preferred period you would like to view on the top navigation menu or **Click** “Choose period” to select your own.
5. Thresholds colors will be displayed if measurement values have exceeded their thresholds.



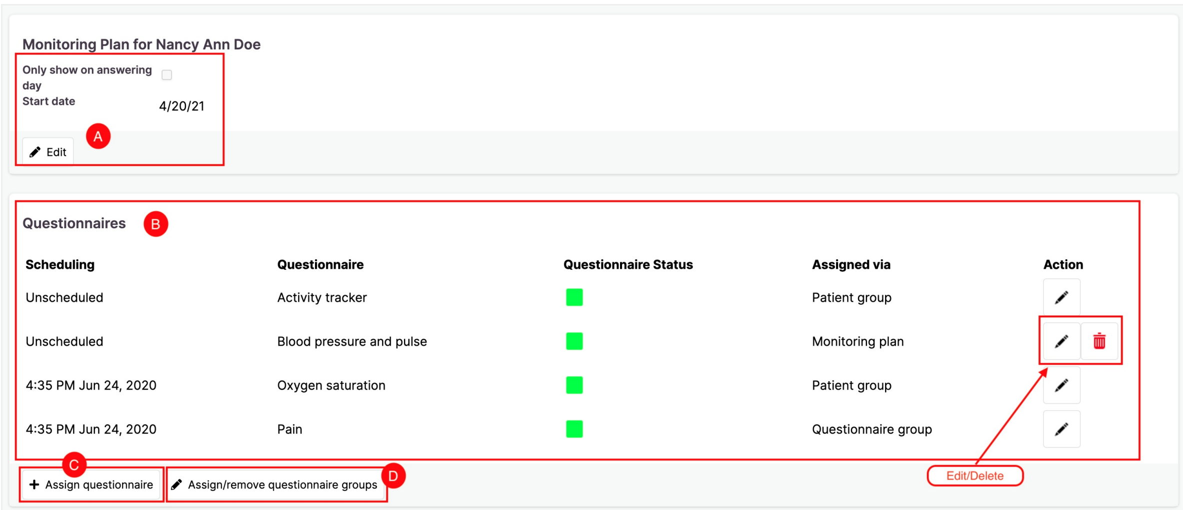
Time	Value	Unit	Comment
6/10/20 9:43 AM	130/65	mmHG	
6/2/20 12:00 AM	133/88	mmHG	
5/2/20 12:00 AM	130/89	mmHG	
4/2/20 12:00 AM	134/87	mmHG	Measurement comment goes here...
3/2/20 12:00 AM	134/81	mmHG	
2/2/20 12:00 AM	126/82	mmHG	
1/2/20 12:00 AM	131/86	mmHG	
12/2/19 12:00 AM	128/82	mmHG	
11/2/19 12:00 AM	123/82	mmHG	
10/2/19 12:00 AM	123/88	mmHG	
9/2/19 12:00 AM	127/84	mmHG	
8/2/19 12:00 AM	121/83	mmHG	

Editing a patient’s monitoring plan and adding/removing a questionnaire

1. **Click** “Monitoring plan” from the patient menu.

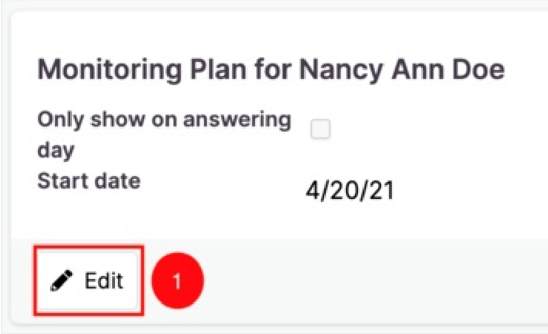


2. The monitoring plan for your patient will display.
3. From the page you can complete the following (see instructions by referring the highlighted sections found below):
    a. **Edit the start date for the patient to complete questionnaires.**
    b. **View, edit, and delete assigned questionnaires.**
    c. **Assign questionnaire.**
    d. **Edit assigned questionnaire groups.**

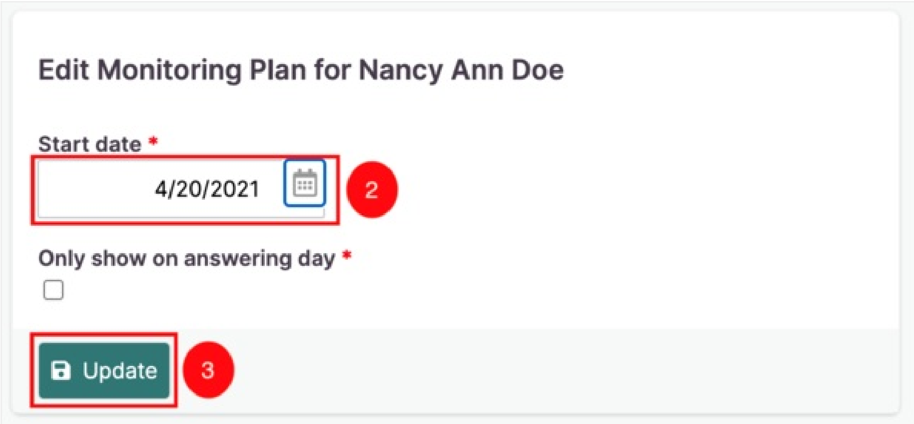


Edit start date for patient to complete questionnaires

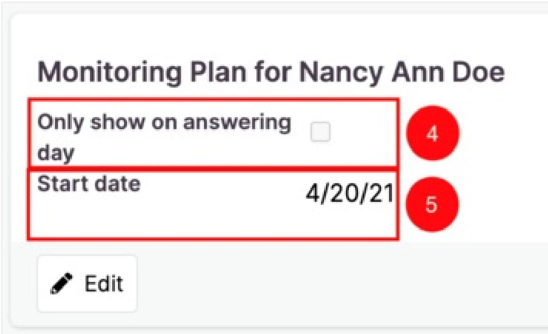
1. **Click** “Edit” from the Monitoring plan page.



2. **Click** and **select** the new date from the calendar.
3. **Click** “Update”.

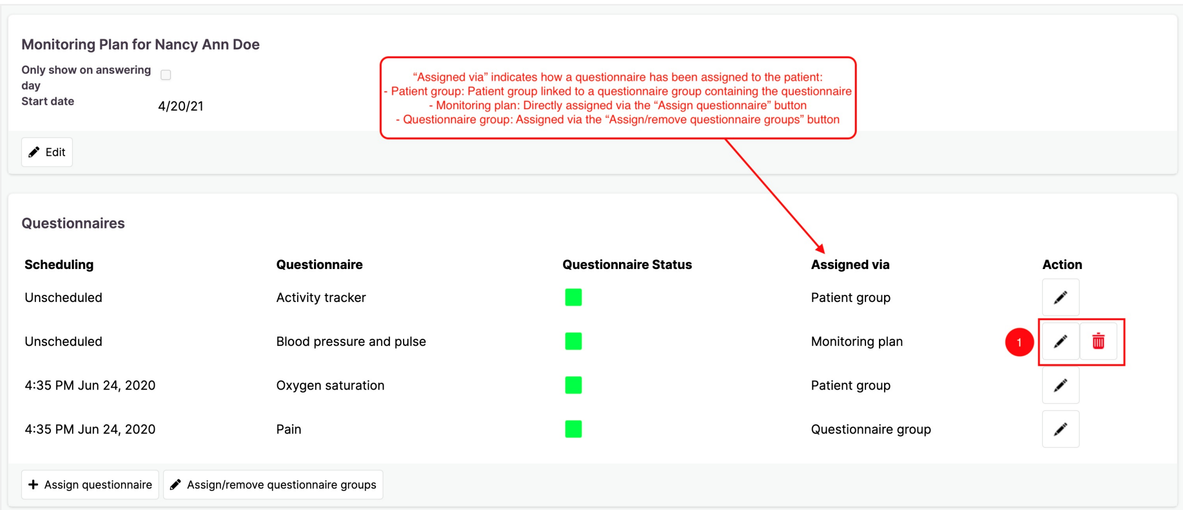


4. If you want the patient to only be able to answer this questionnaire on the day of the scheduled deadline, mark this field.
5. You will be brought back to the monitoring plan page. Notice the monitoring plan start date has been updated.



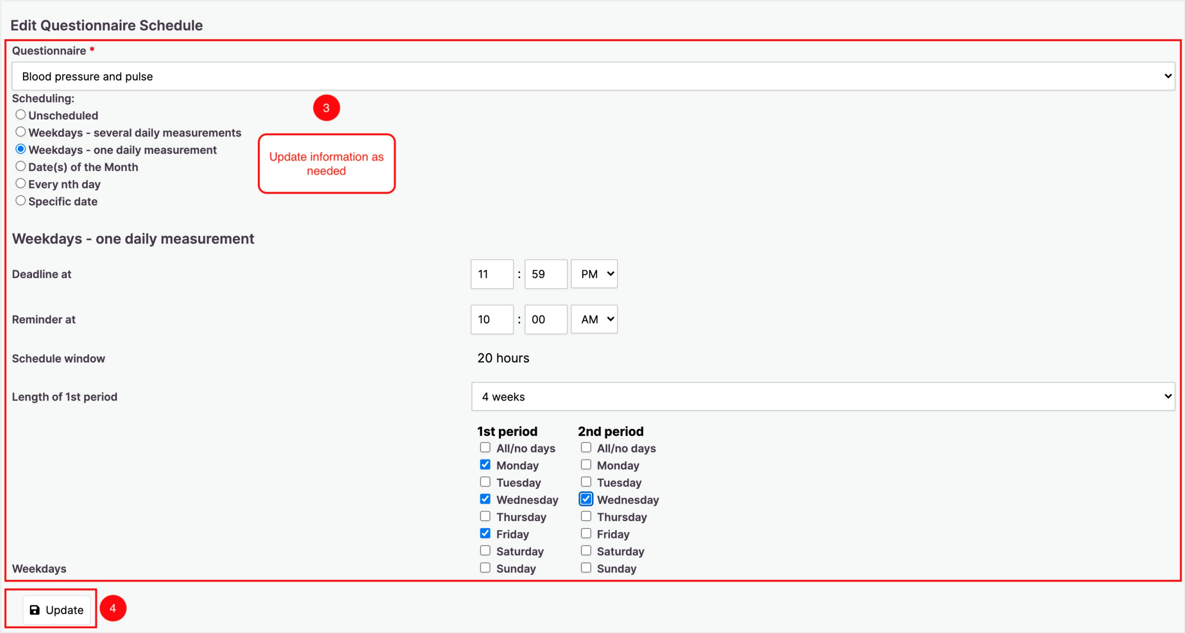
Edit monitoring plan/schedule

1. **Click** .



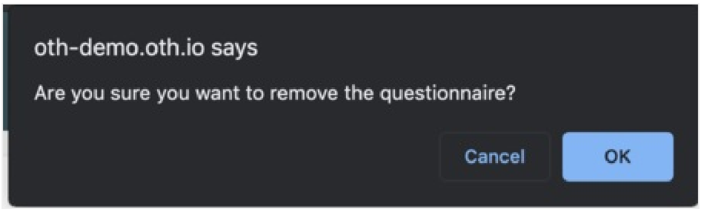
2. The patient’s monitoring plan/schedule will display.

3. **Update** the information you would like to update on the monitoring plan.
4. **Click** “Update”.
5. You will be brought back to the Monitoring plan page and the information will be updated.



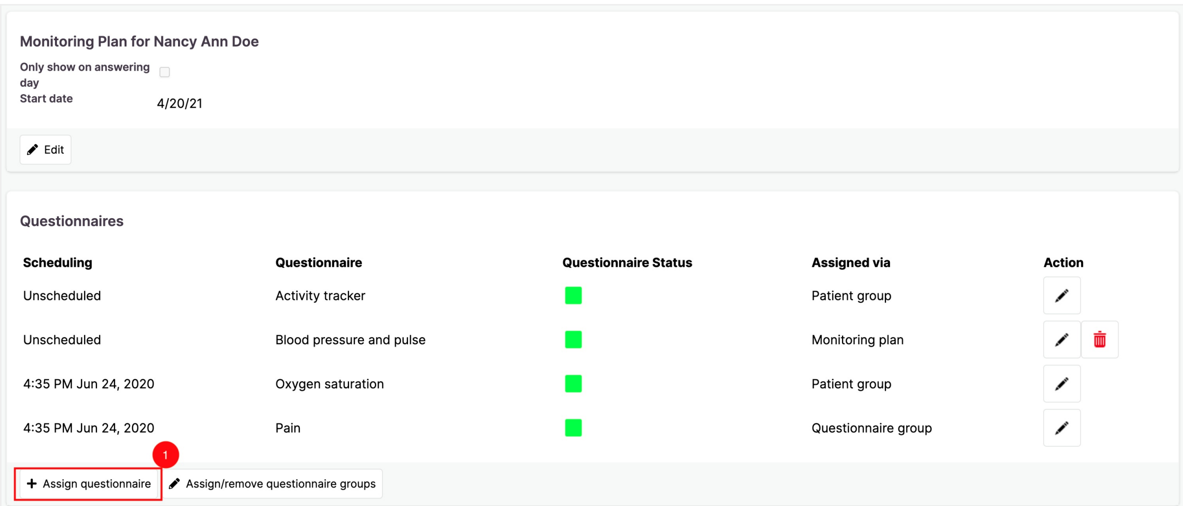
Delete monitoring plan/schedule

1. **Click**  to delete the monitoring plan.
2. The following pop-up will display.
3. **Click** “OK” to delete.
4. **Click** “Cancel” to exit the page if you have decided not to delete the monitoring plan.



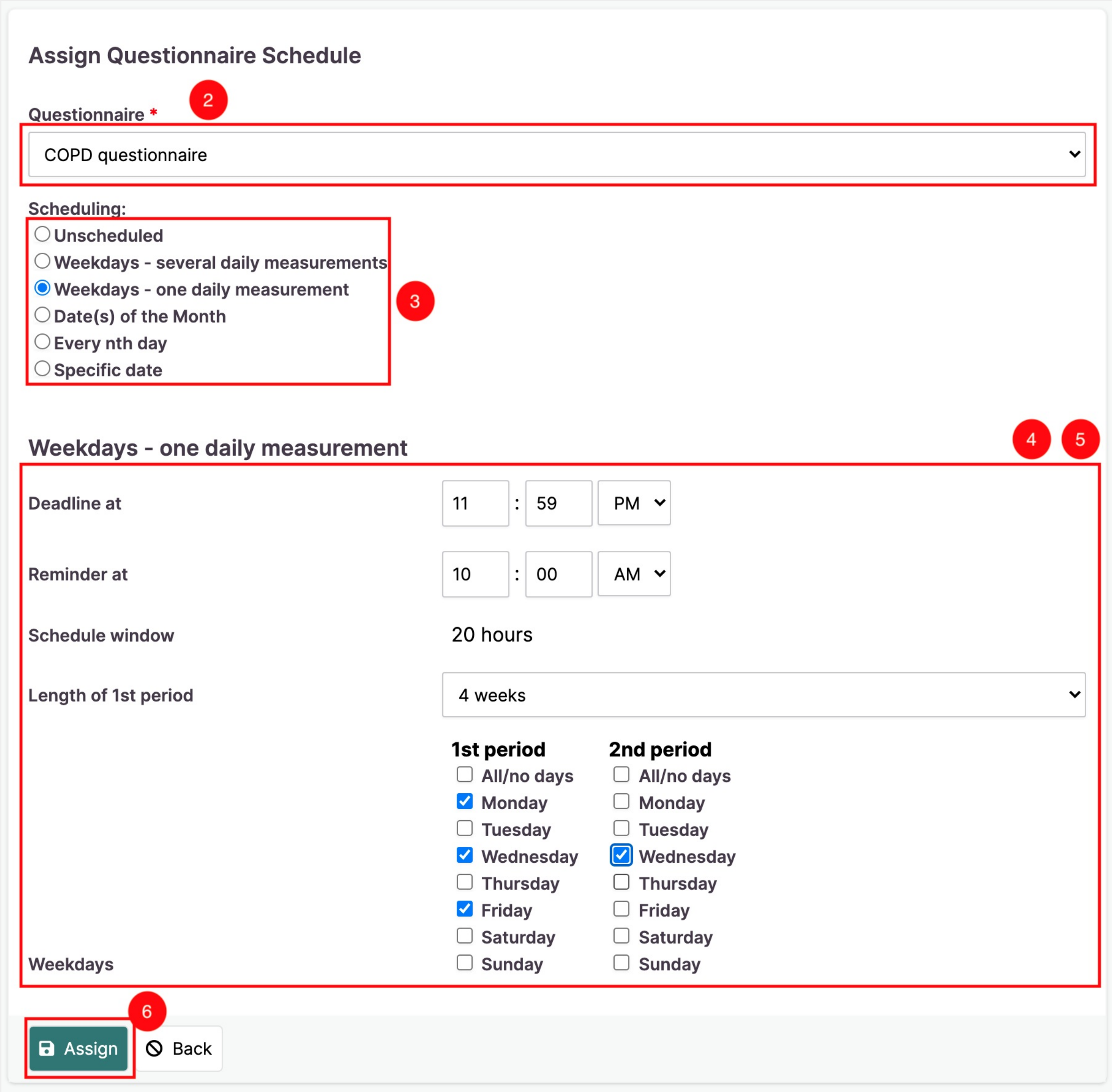
Assigning questionnaire

1. **Click** “Assign Questionnaire” from the Monitoring plan page.



2. **Select** the questionnaire for the patient by **clicking** on the drop down menu.
3. **Select** the frequency/schedule for completing the questionnaire.
4. Once frequency is selected, additional options will appear on the screen below.
5. **Complete** the information in the field as shown.

6. **Click** “Assign”



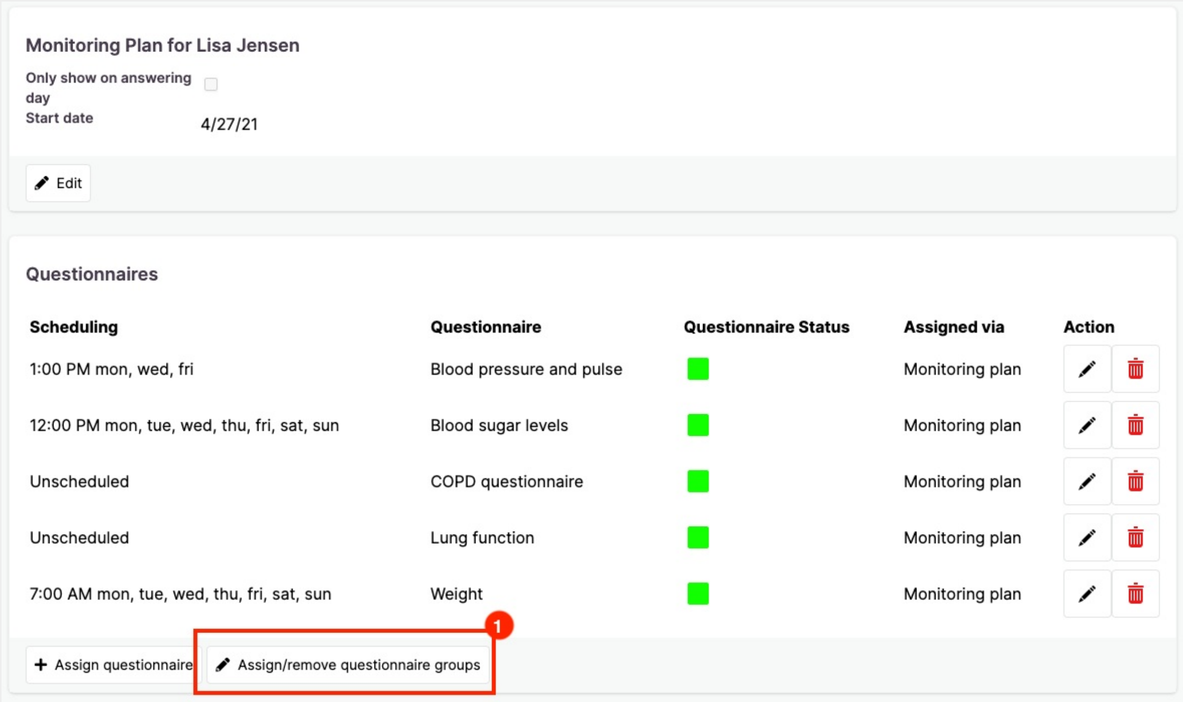
Explanation of the different schedule above:

- **Unscheduled:** The questionnaire can be completed at any time and as many times as you wish.
- **Weekdays - several daily measurements:** The questionnaire can be completed on specific days of the week and it is possible to make several measurements per day.
- **Weekdays - one daily measurement**: The questionnaire can be completed on specific days of the week with a single measurement per day.
- **Date(s) of the Mouth:** The questionnaire can be completed on specific dates of the month, e.g. the 1st and 15th of the month.
- **Every nth day:** The questionnaire can be completed on every nth day, e.g. a measurement every 3 days.
- **Specific date:** The questionnaire can be completed on a specific date.
- **Deadline at:** Questionnaire should be completed at the specified time of day. If a measurement frequency is selected with several measurements per day, multiple measurement times can be specified by clicking on the ‘+’ button.
- **Reminder at:** Reminder sent a specified number of minutes before the deadline for the questionnaire.
- **Schedule window:** Used to indicate how long before a deadline a sent in questionnaire result is registered as being the result of a questionnaire. This is used to indicate a period in which a delayed questionnaire result is not counted as an in-time result for the next questionnaire deadline.
- **Weekdays:** First, select which weeks the first measurement frequency should be, e.g. 2 weeks. Next, choose which days of the week the patient should answer the questionnaire in the first period e.g. Monday, Wednesday and Friday. Then, which weekdays in the second period, e.g. Monday and

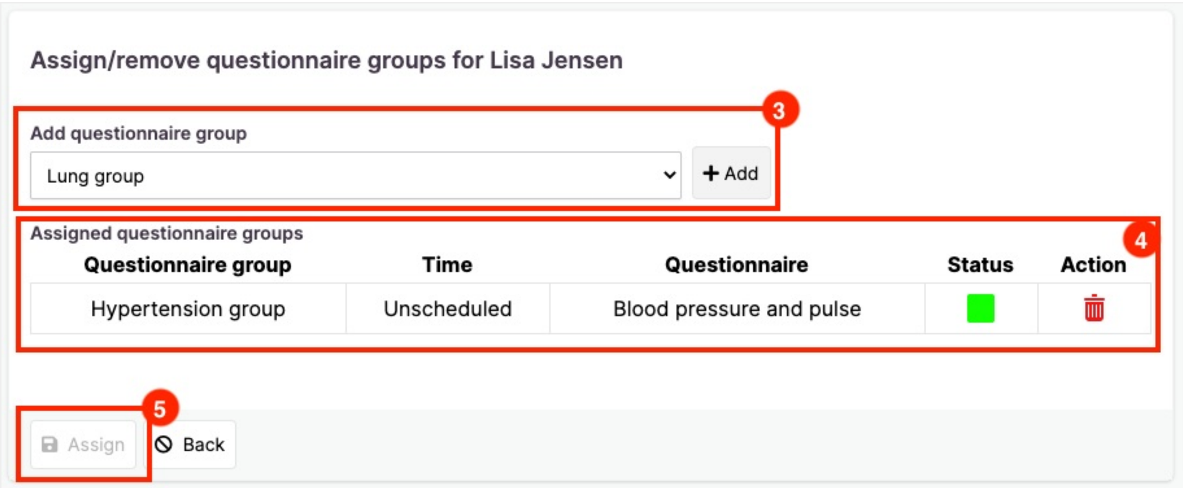
Friday, for which the patient should answer the questionnaire. The second measurement period is valid as long as this questionnaire is valid for this patient.

Edit assigned questionnaire groups

1. **Click** “Edit Questionnaire Groups” from the Monitoring plan page.



2. The ‘Assign/remove questionnaire groups’ page will display showing the questionnaire groups the patient is already assigned.



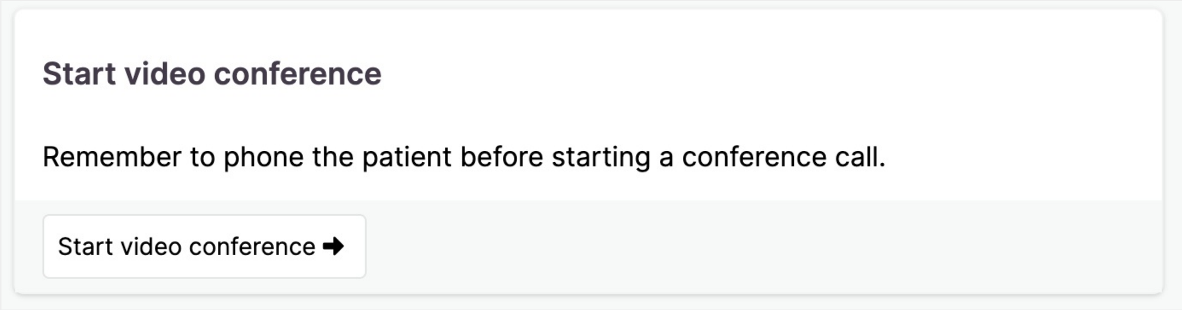
3. **Select** a “Questionnaire group” in the drop down menu, which will shown the questionnaires of the group in the table below. **Click** the “+ Add” button to add the questionnaire group to the monitoring plan.
4. Added questionnaire groups are shown here along with the names of the questionnaires in each group.
5. **Click** “Update”.
6. The Monitoring plan will be updated with the new list of assigned questionnaire groups.

Conducting a video conference

In order to conduct a video conference:

1. **Click** on the Video call button in the patient menu.
2. **Click** on the **Start Video Conference** button to start a video conference with the patient. **Note:** when starting the video conference, the browser will open the VidyoConnector desktop app on your

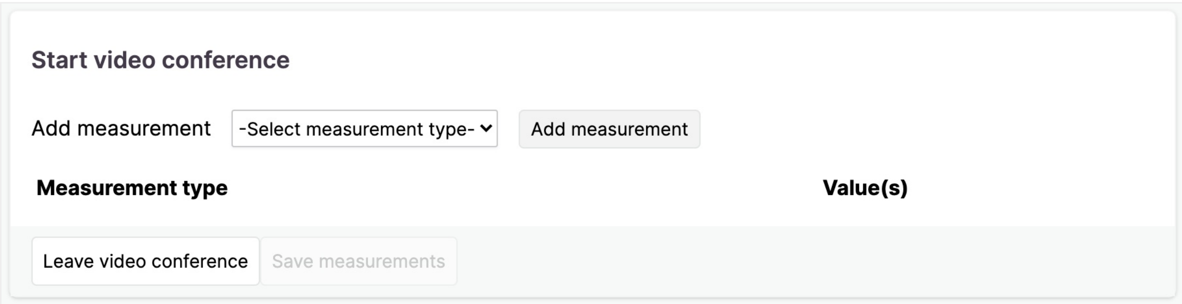
computer and pop up an incoming call on the patient's mobile or tablet.



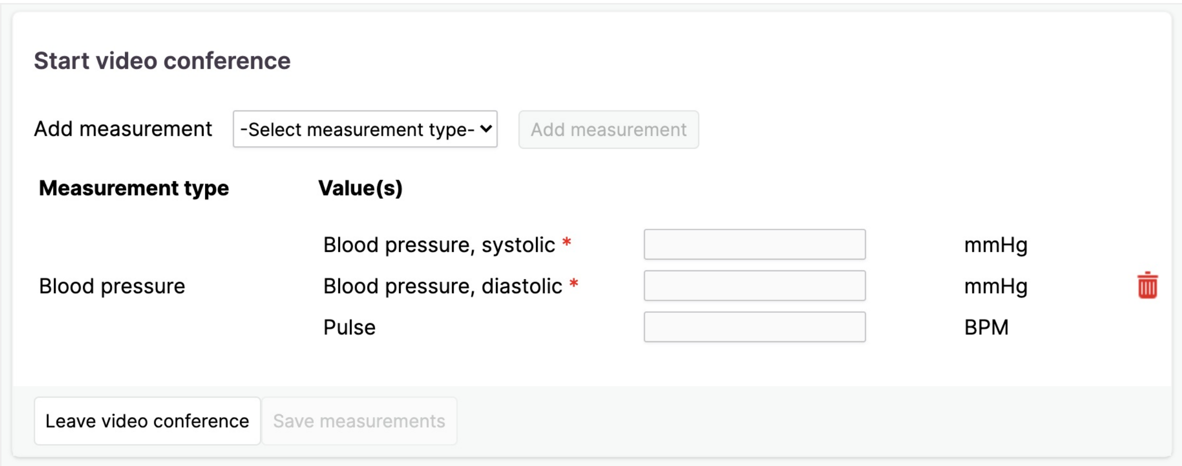
3. Once the conference is started, it is possible to submit measurements as part of the conference by either:

   a. Manually entering one or more measurements: **Select** a measurement type from the drop down marked as **(manual)**, e.g. **Blood pressure (manual)**, and click **Add Measurement**, then ask the patient to perform a measurement and enter the values given by the patient,

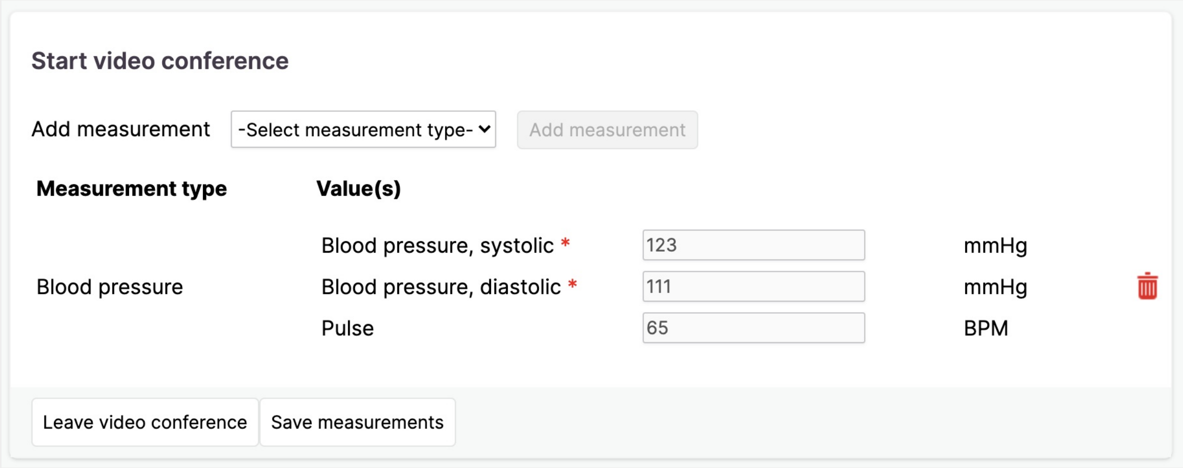
   b. Request one or more automatic measurements: **Select** a measurement type from the drop down marked as **(automatic)**, e.g. **Blood pressure (automatic)**, and click **Add Measurement**, then after a few seconds a form will show up on the patient's phone/tablet instructing them to perform a measurement – similar to how automatic measurements work in a questionnaire. Once the phone/tablet has received the measurement from the medical device it will send the measurements to the clinician portal and be shown in the form in the clinician video conference interface.



No measurement type selected



Measurement type selected / automatic measurement requested

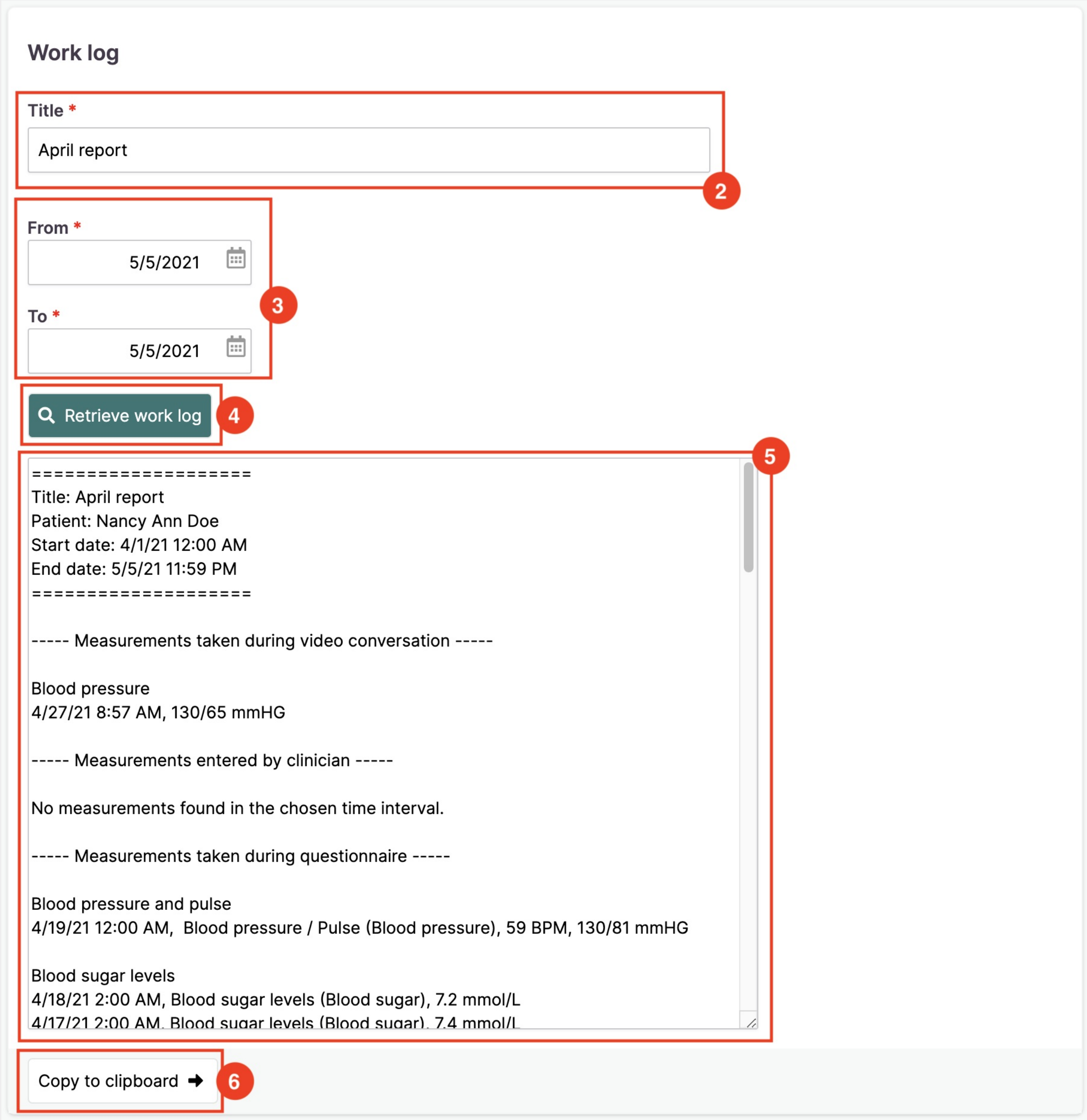


Automatic measurement received

4. Once the video conference is over you can click the **Save measurements** button to save any measurements taken during the conference, after which they will appear in the patient's **Completed questionnaires** menu. Otherwise, click the **Leave video conference** to close the video conference on the patient's phone/tablet. **Note:** remember to also close the video conference in the VidyoConnector desktop app after clicking **Leave video conference**.

Downloading summary of recent patient data

1. **Click** on the Work log patient menu item
2. **Enter** a title of the work log summary
3. **Select** the date range from which to fetch measurements and messages
4. **Click** "Retrieve Work Log"
5. The text area now contains summary data of the most recent measurements and messages for the patient
6. **Click** "Select text" to copy the content of the text area to your clipboard so it can be entered into another system.


Work log
Title *
April report
2
From *
5/5/2021
3
To *
5/5/2021
Retrieve work log
4
5
====================
Title: April report
Patient: Nancy Ann Doe
Start date: 4/1/21 12:00 AM
End date: 5/5/21 11:59 PM
====================
----- Measurements taken during video conversation -----
Blood pressure
4/27/21 8:57 AM, 130/65 mmHG
----- Measurements entered by clinician -----
No measurements found in the chosen time interval.
----- Measurements taken during questionnaire -----
Blood pressure and pulse
4/19/21 12:00 AM, Blood pressure / Pulse (Blood pressure), 59 BPM, 130/81 mmHG
Blood sugar levels
4/18/21 2:00 AM, Blood sugar levels (Blood sugar), 7.2 mmol/L
4/17/21 2:00 AM, Blood sugar levels (Blood sugar), 7.4 mmol/L
Copy to clipboard
6

Virtual Ward dashboard

The Virtual Ward dashboard provides a live overview of patient vitals, such as pulse, saturation, respiratory rate, blood pressure and temperature. For these measurement types, it is possible to submit measurements either continuously or as discrete measurements with relevant intervals (daily, hourly etc.), and the dashboard automatically updates with the newest value.

Measurement streams also supports having alarms generated based on thresholds, which show up and can be acknowledged in the Virtual Ward dashboard.

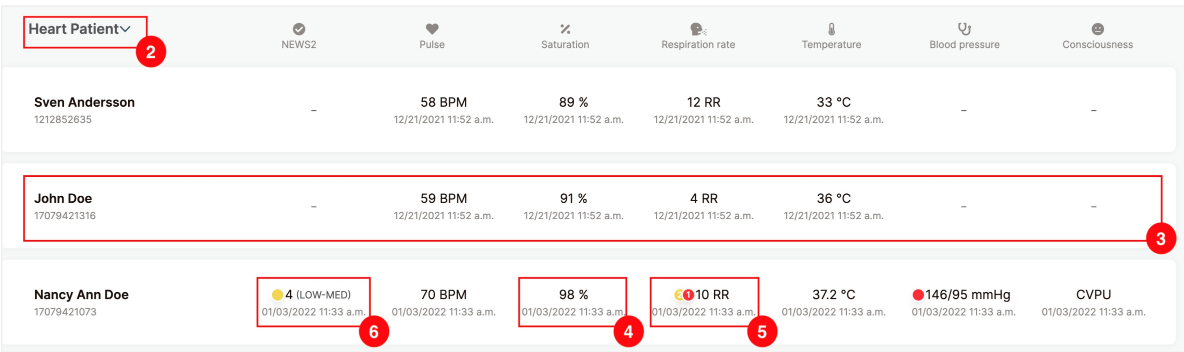
For continuously submitted measurements, the “lag” threshold type can be used to generate alarms from these measurements.

For discrete measurements, all normal threshold types for that measurement type can be used to generate alarms (absolute, relative etc.).

> ⚠ **Warning**
>
> This feature is not intended for use with critical illnesses. It shall not be used in situations where system availability and responsiveness may limit timely intervention, putting the patients in danger.

Viewing patient vitals in the Virtual Ward Dashboard

1. **Click** on the Virtual Ward patient menu item
2. **Click** on the patient group name to change patient group.
3. Each patient row contains the patient’s name and healthcare ID, as well as a number of readings
4. Each reading contains the latest value and unit and the time it was submitted
5. If there are any alarms for the given measurement type, circular badges are shown next to the value indicating the severity and number of alarms
6. The calculated NEWS2 value, if enabled. See below for a description on how NEWS2 is calculated.



Calculating NEWS2

An updated NEWS2 is calculated based on the following criteria:

1. Within the last 15 minutes a new measurement value for all of the following types must have been received:
   - Respiratory rate
   - Saturation
   - Pulse
   - Blood pressure
   - Temperature
   - Consciousness indication

2. If both continous and discrete measurements of a certain type are received within the last 15 minutes, the newest received discrete measurement will be used for that type, else the newest received measurement will be used
3. In the patient basic data for all patients, where NEWS2 should be calculated, the following custom basic data must be configured and set:
    - Oxygen (`checkbox` - does the patient receive supplementary oxygen)
    - SpO2 Scale 2 (`checkbox` - does the patient suffer from hypercapnic respiratory failure, usually due to COPD)

Until the above criteria are met, the current NEWS2 value, if present, will remain the newest one.

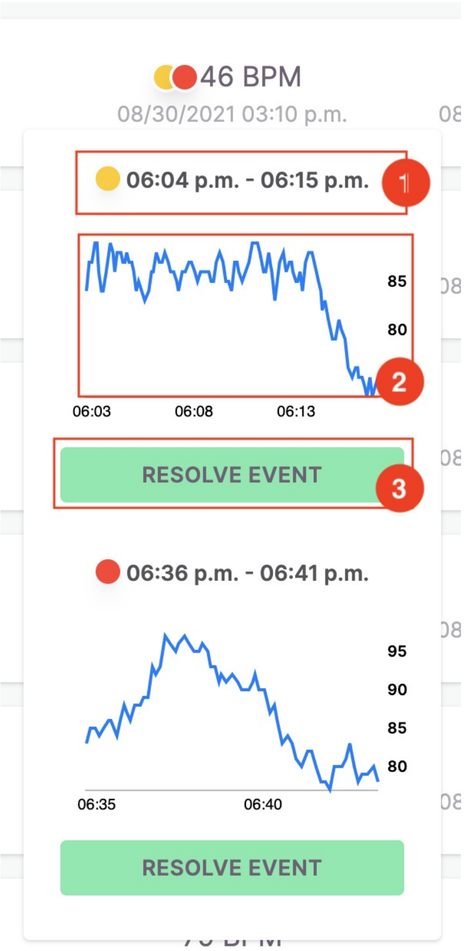
The NEWS2 value is calculated according to the specification found here:

[NEWS2 - The National Early Warning Score]

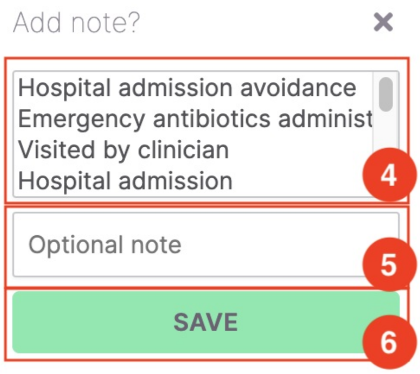
Reviewing and acknowledging incidents

When hovering over a reading with alerts, a list of incidents is shown.

1. For each incident, the start and possibly end time is indicated, as well as the severity
2. A small graph is displayed, indicating the measurement value in the corresponding time span. Clicking the mini graph will navigate to the details page for that patient.
3. Clicking the “Resolve event button” will show the acknowledgement form.



4. In the acknowledgement form, one or more predefined closure notes can be added (Ctrl-click or Cmd-click to select more)
5. An optional acknowledgement note can be added
6. The incident is acknowledged by clicking the “save” button.

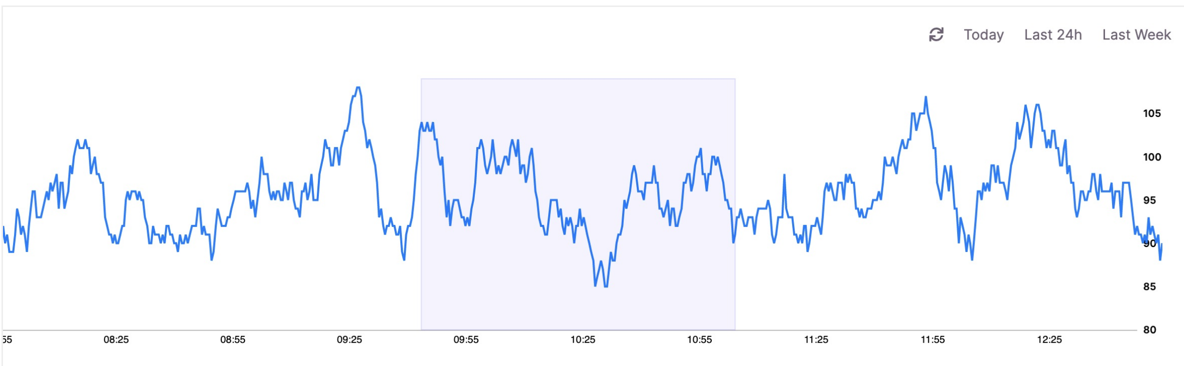


Patient details

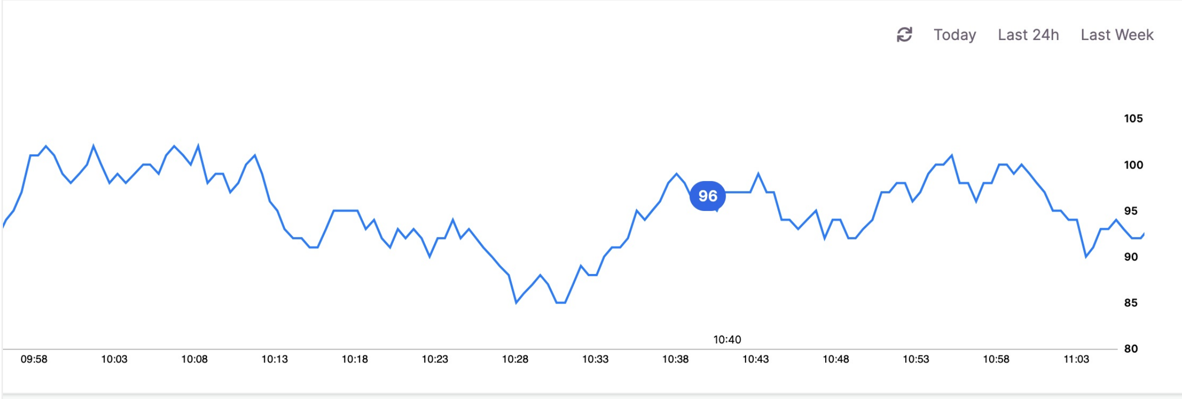
In the Virtual Ward details view for a patient, graphs are shown for each measurement type.

1. The header row contains the same information as on the dashboard (updated live)
2. For each measurement type, a graph of the latest values is shown
   - Discrete measurement series are shown as ‘x’ points (e.g. the blood pressure series in the screenshot)
   - Continuous measurement series are shown as a polyline (e.g. the temperature series in the screenshot)
3. When hovering over a graph, a row of buttons is shown. The button refreshes the graph with the newest data.
4. The time filter buttons choose which data to plot. By default, today’s data are shown (from midnight to midnight). Other options include “Last 24 hours” and “Last week”.

5. By clicking and dragging in the graph area, it is possible to zoom in (affects all graphs so they stay aligned).



6. When hovering in the graph area, the corresponding measurement value and timestamp is shown.


Today
Last 24h
Last Week
105
100
95
90
85
80
96
10:40
09:58
10:03
10:08
10:13
10:18
10:23
10:28
10:33
10:38
10:43
10:48
10:53
10:58
11:03

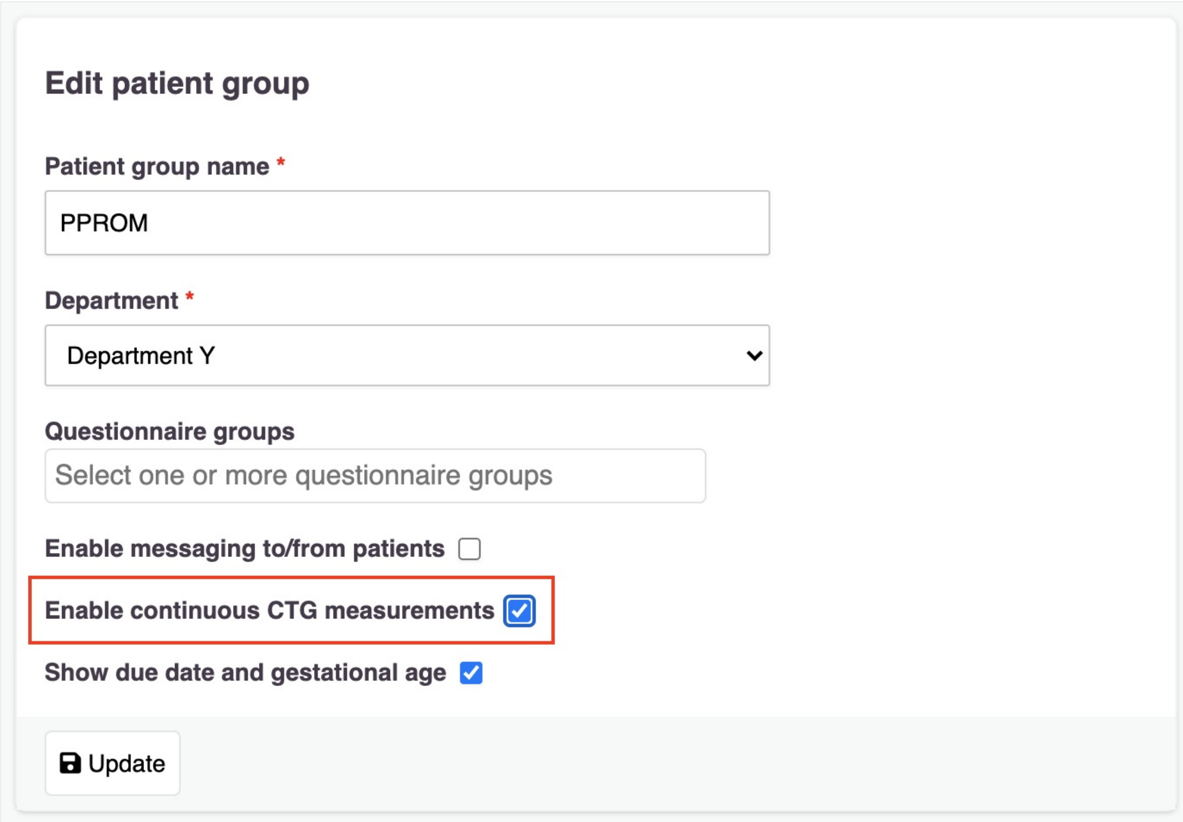
CTG measurements

Please note: The CTG functionality is an optional add-on to the OTH system. If you cannot find the functionality on your OTH installation please contact your local administrator or tech-support@opentelehealth.com. Also be aware that OTH does not contain functionality for visualising CTG measurements but relies on an external system for that functionality.

CTG measurements can be captured in two ways: As continuous CTGs or as questionnaire-based CTGs. Continuous CTG works as a stream, the patient starts recording and the CTG data is shown in the external viewer after a slight delay. The measurement will keep going until the patient stops the measurement. Questionnaire based CTGs are discrete measurements. They are captured as part of a questionnaire result. The patient starts her questionnaire and records a CTG as she would any other measurement.

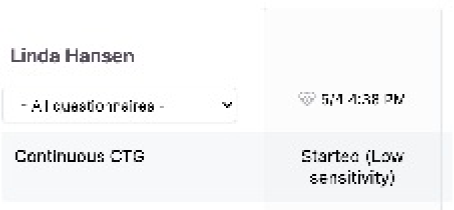
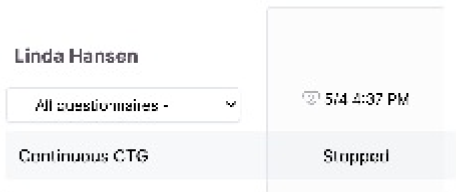
Continuous CTG measurements

The option to record continuous CTGs is presented to the patient as a separate menu. That menu will only show up for patients that are in a patient group that has Continuous CTGs enabled.



For continuous CTGs the patient chooses which uterine activity sensitivity setting to use on the Monica AN24 device (please refer to the user documentation for the AN24 device for the proper setting to use).

Once recording has been started by the patient, a “Continuous CTG” column will appear under the “Completed questionnaires” view under that patient. The “Continuous CTG” cell will show which sensitivity setting the patient has chosen.

Transfer in progress	Transfer stopped
	

Normally the measurement will continue to run until the patient stops it, but circumstances may arise where OTH actively stops the measurement.

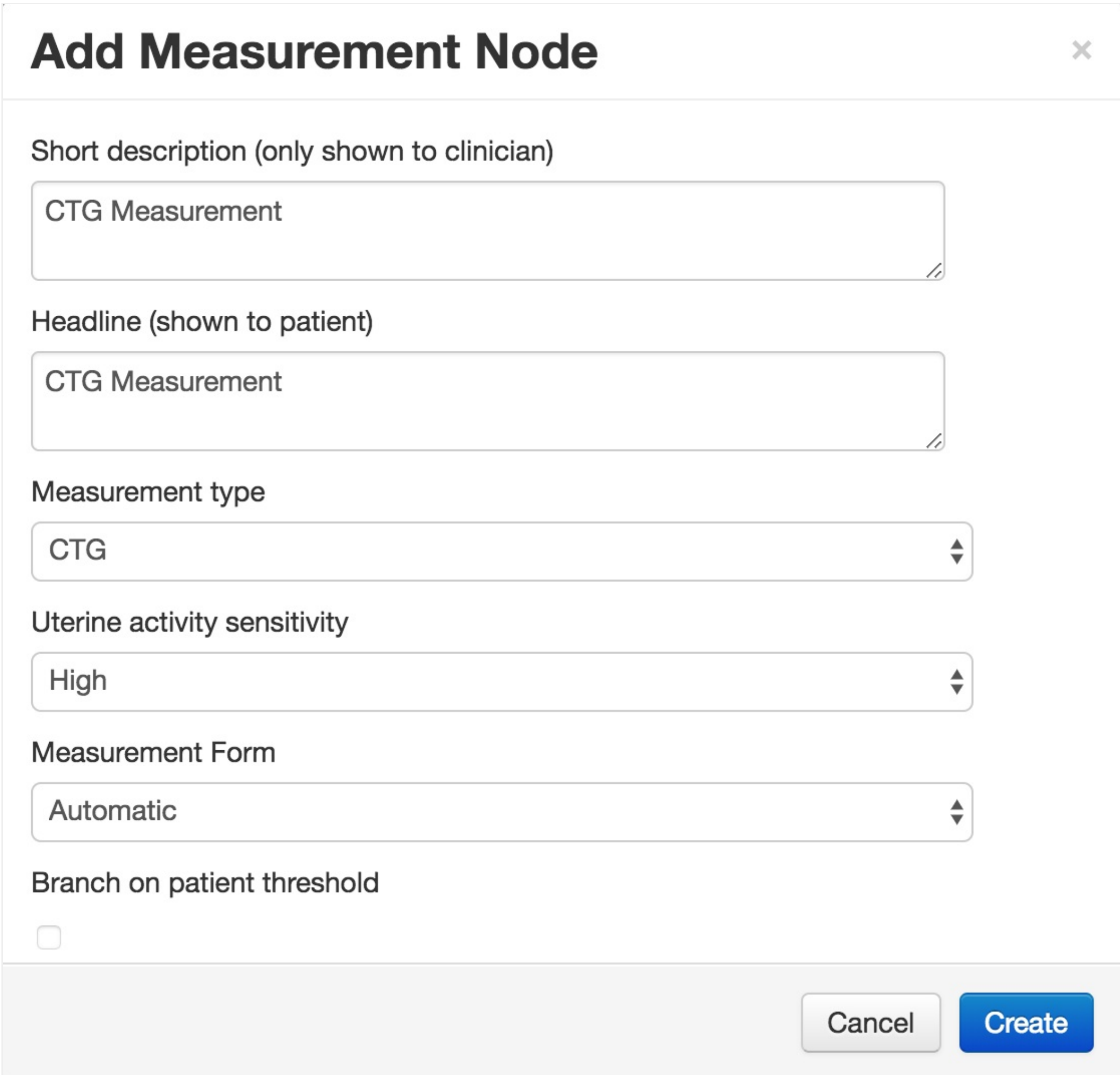
This can occur in two circumstances:

1. Slow network connection (or no connection) between the patient tablet and the OTH server means that data delivery cannot keep up with measurement data.
2. Slow network connection (or no connection) between the OTH server and the external CTG viewer means that data delivery cannot keep up with measurement data.

In both circumstances there is some leeway to prevent intermittent network issues from preventing a measurement from being performed. In both instances the patient will be informed that the measurement has been stopped due to network issues.

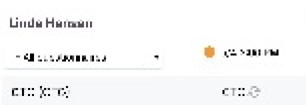
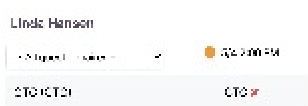
Questionnaire based CTG

Questionnaire based CTGs are collected in the same manner as all other measurements. A measurement node of the type CTG is added to a questionnaire and that questionnaire is assigned to the patient. The patient will then be instructed to perform a CTG measurement as part of that questionnaire.



Once the patient has performed the questionnaire it will become visible in the “Completed questionnaires” view. The measurement will be transferred to an external viewer.

You can see the possible statuses of the transfer below:

Transfer in progress	Transferred to external viewer	Transfer failed
		

List of supported medical devices

The patient app can connect to bluetooth devices in order to collect physical measurements. The integrated devices are shown below. Devices not on this list will not work.

Measurement type	Manufacturer	Model name	Sample picture
Activity tracker	Beurer	AS97	
Activity tracker	Beurer	AS98	
Blood pressure monitor	A&D	UA767PBT-Ci	
Blood pressure monitor	A&D	UA-651BLE	
Blood pressure monitor	Beurer	BM77	
Blood pressure monitor	Beurer	SR BM1	

CTG	Monica	AN24	
ECG	Bittium	Faros-180	
ECG	Savvy	Savvy	
Glucometer	Contour	Next One	
Oximeter	Nonin	Onyx 9560BT	
Oximeter	Nonin	Onyx 3230	
Spirometer	Vitalograph	4000	

Thermometer	FORA	IR-21b	
Thermometer	A&D	UT-201BLE-A	
Weight scale	A&D	UC-351PBT-CI	
Weight scale	A&D	UC-352BLE	
Weight scale	Marsden	M430	

Addendum

Precautions

The information in this document are subject to change without notice.

Legal Notices

OpenTeleHealth declares that OpenTele version 2 software application is placed on the market in compliance with Council directive 93/42/EEC concerning Medical Devices.

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Manufacturer responsibility

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