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I. ACCESSING CAREMAP

Downloading Caremap

Go to the 'App Store' on your iOS device and search for Caremap (below). If you have already previously installed the app on your device, select 'update' to get the most updated version. If you are downloading it for the first time, it will say 'get' instead of update.
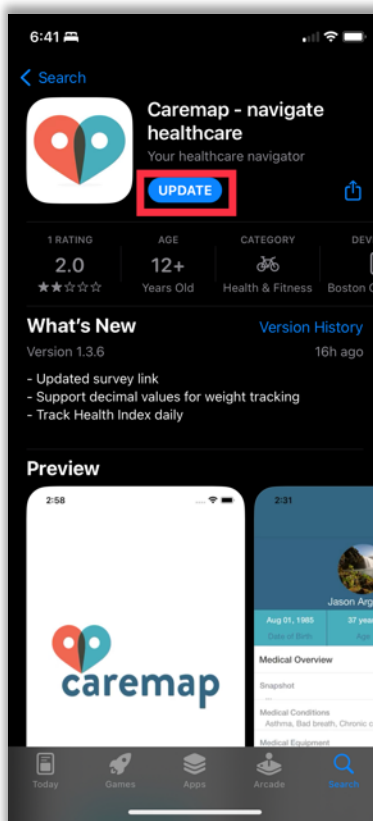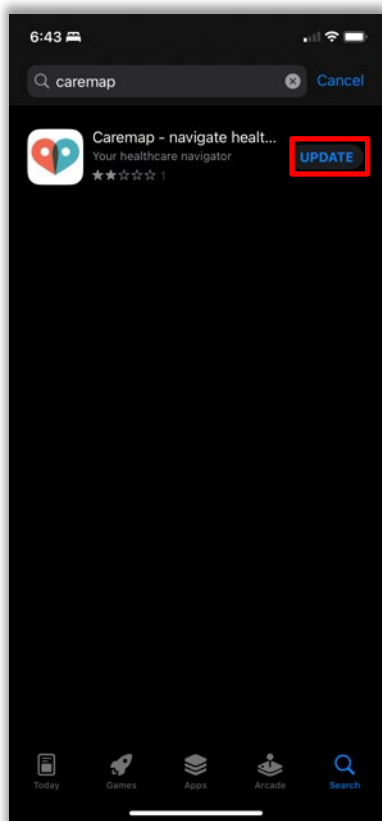
Updating Caremap

We recommend that you always keep the app updated so that you can have the most current features available for your use (refer to 'Section III: Summary of Caremap Updates' for a list of changes made to the app based on user feedback). You will receive a notification when future, new app versions are released (below). As the app does not currently update automatically, you will need to go to the 'App Store' to download the latest version.
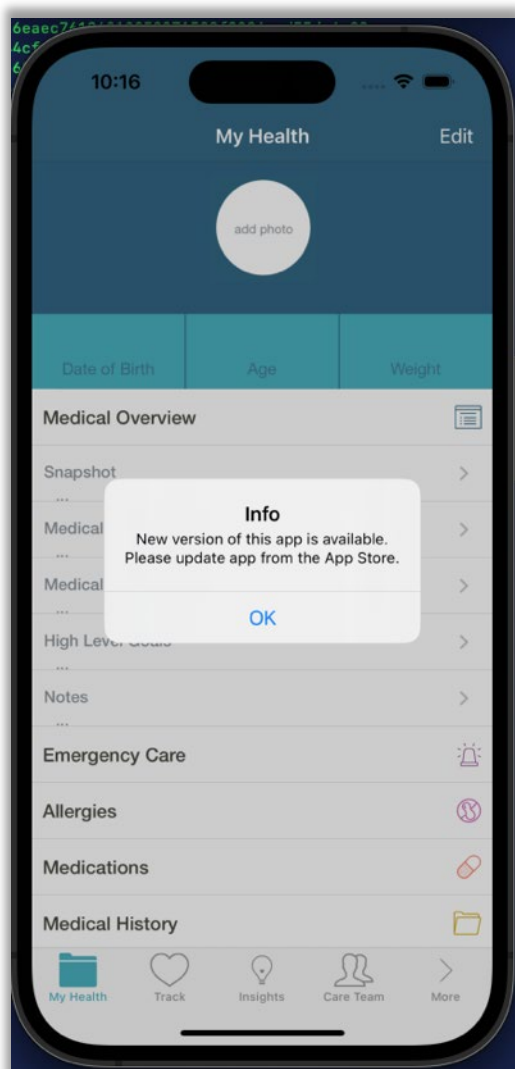
Caremap Setup for New Participants

Step 1: Introduction Screens
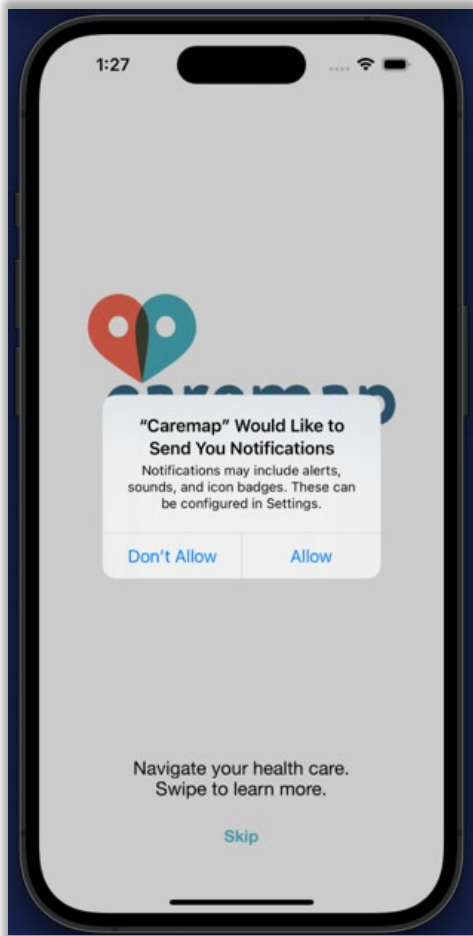
When you first download the app, the screen above will be displayed. You will have the option to swipe the screen to the left for a brief overview (see screens below, page 5). Or you can press "skip" at the bottom of the screen to go directly to the next step in the setup process. After you have finished reviewing the overview screens or skipped ahead, on the last screen (below, bottom right), you can press "Get Started" to proceed to the next step in the setup process.

App overview/introduction screenshots
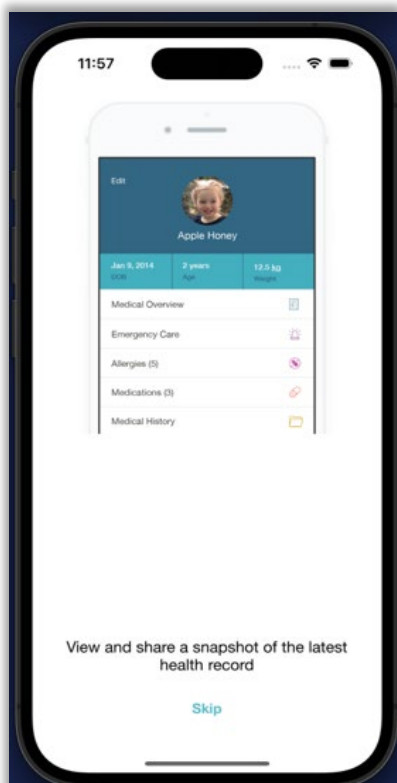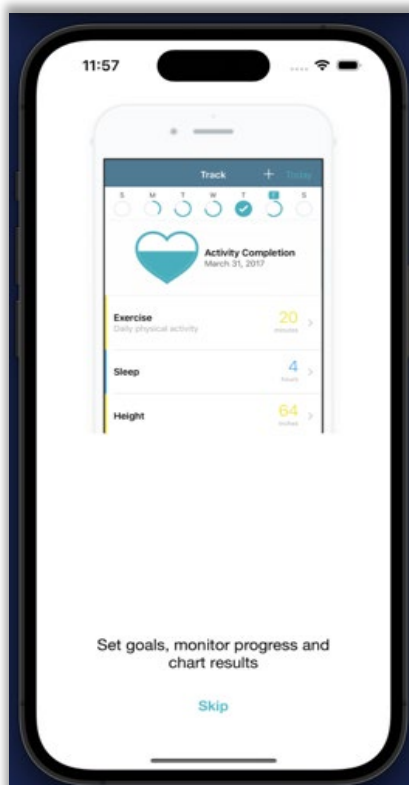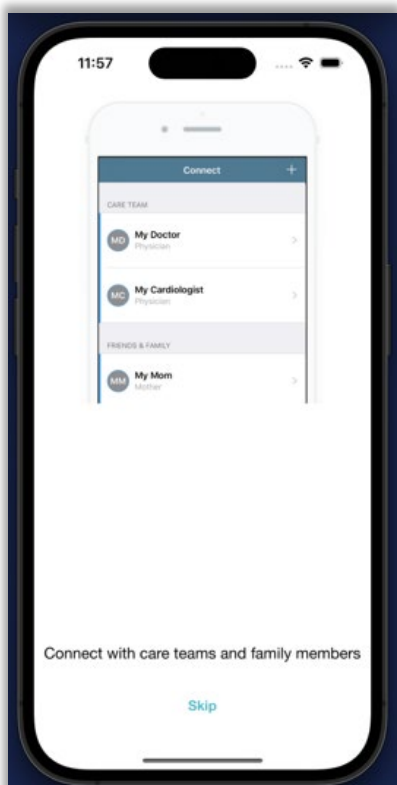
Connect with care teams and family members

Set goals, monitor progress and chart results

View and share a snapshot of the latest health record

Step 2: Eligibility Screening
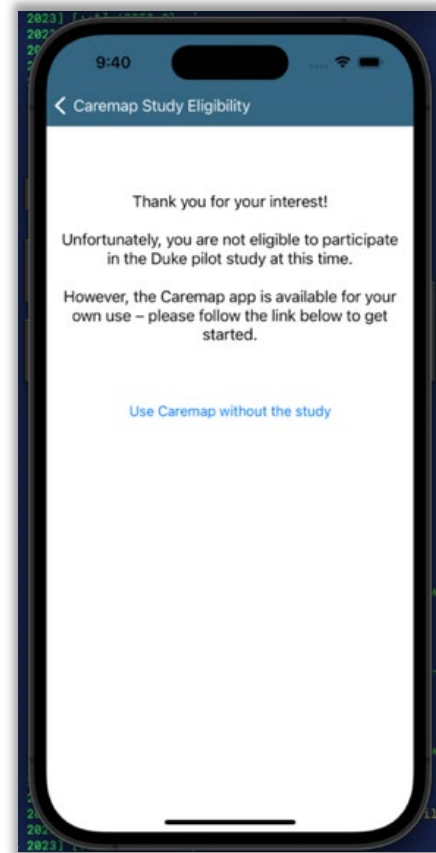
Research screening questions   **Screenshot if ineligible for research studies**

After you complete step 1 (introduction screens, above), you will be directed to the eligibility screening page (above, left). Please answer the two questions to determine whether you are eligible to participate in Caremap research studies. You can select these options by pressing "Yes" or "No" under each question. After selecting an option for each question, you can press "next" at the top right corner of the screen to proceed to the next screen, or press "cancel" at the top left to return to the introduction screen.

Answering "No" to either of the 2 questions will result in the screen above on the right explaining that you are not eligible for the Caremap study at this time. However, you can use Caremap outside of the research study by selecting "Use Caremap without the study" (above right). You will be prompted to set up a user profile and then can use the core features of the app – skip ahead to step 4 (Page 10, "Creating a Caremap User Profile") for general instructions for how to use the app.

Answering "Yes" to both research screening questions will allow you to proceed ahead to the study consent process. Next, you will see the screens below. First, you will answer whether you are consenting for yourself or for your child by selecting either "I will participate in the study myself as a patient user" or "I will participate in the study as a parent/caregiver for my child". Next, you will be asked to select a Duke Health clinic – please select the one clinic whose doctor/provider told you about this study.

If you are unsure which Duke Health clinic to select, please contact the Caremap research team at caremap@duke.edu or 919-668-1226 for assistance.
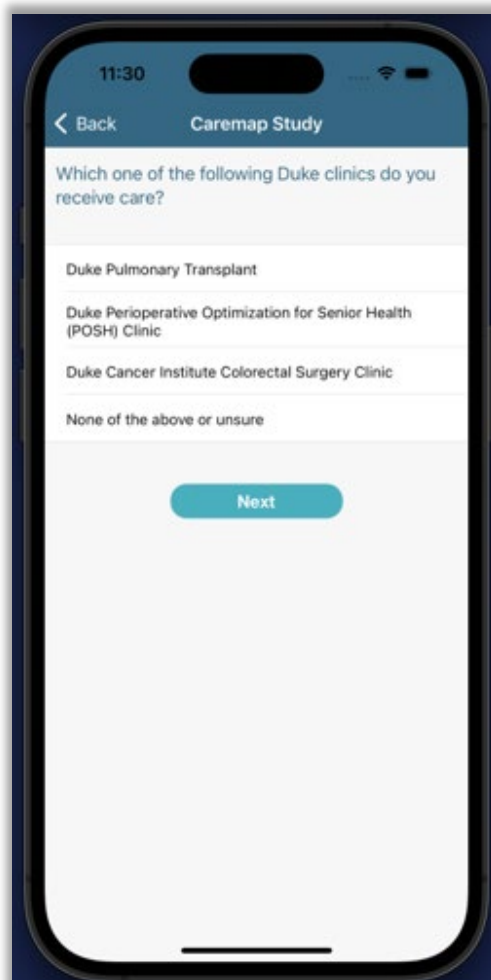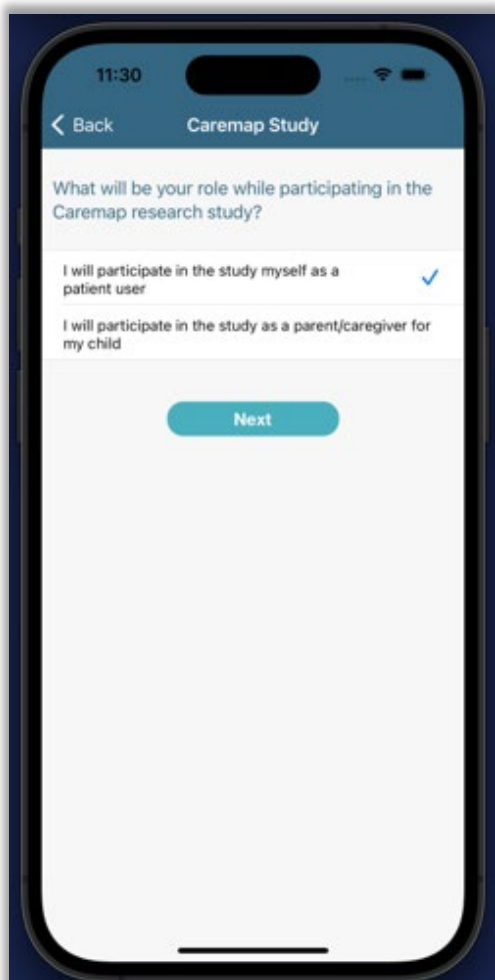
Screenshots of research eligibility questions and screening process

Step 3: Informed Consent for Research Study Participation
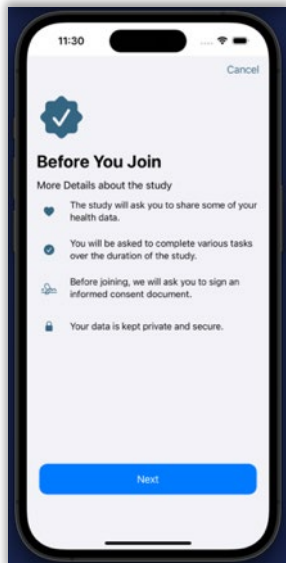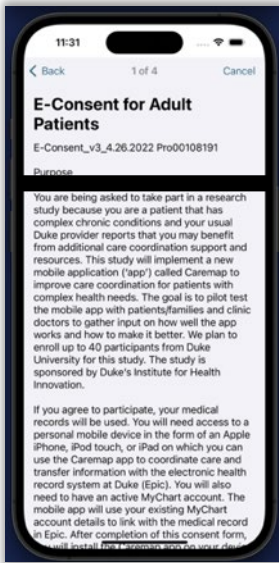
| **Study purpose** | **Overview: adult patients** | **Overview: parents/caregivers of children** |
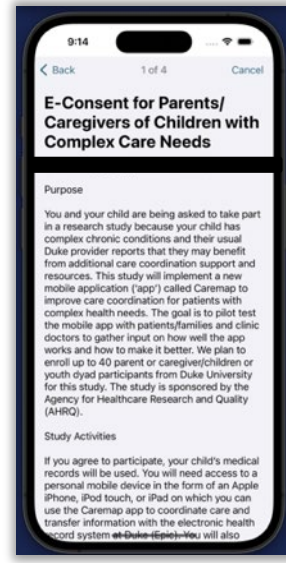
After completing the screening questions and stating who you are registering for (i.e., yourself or your child), you will be taken to the screen describing the purpose of the study (first screen, above left). Next, you will be able to review the full informed consent document (above middle and above right).

Please review all sections of the consent in full. As you review the consent form and consider whether you would like to participate, if you have any questions or would like to speak to a study team member, please contact the Caremap research team at caremap@duke.edu or 919-668-1226.

After that, you will see the following screens to continue through the informed consent process of app setup. The screens below provide details on risks, benefits, withdrawal process, and confidentiality as a study participant.
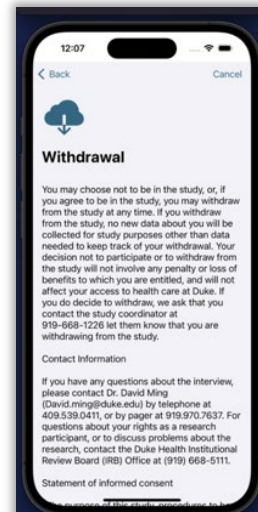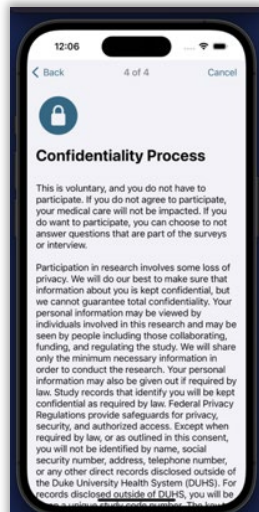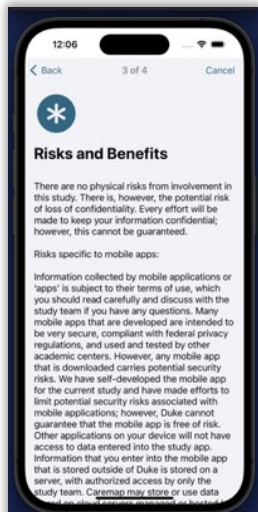
Once you have reviewed the above screens, you can select the
"Done" tab at the bottom of the screen to proceed to the final
signature section of the informed consent process (right).
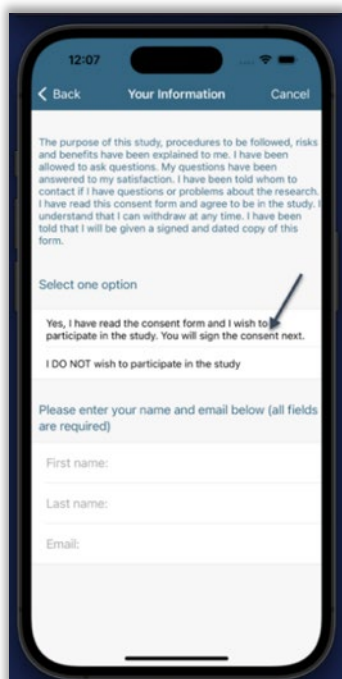
On the next screen (left) please select 'Yes' or 'I do not wish to participate'
and enter your name and email to confirm your final decision about
participating in the study as shown to the left. Entering your email is
necessary so that you can receive an electronic copy of your signed study
consent form.

Entering your name is required in order to display the "**Next**" option at the
bottom of the screen, which when pressed will take you to the signature
screen (above, middle). Entering your signature by using your finger or
screen-compatible stylus is the final
step in the informed consent process
and you'll see the "Next" option show
up at the bottom of the screen.

After you finish signing the consent form, you'll be taken to the
"Enrollment Complete" page (right) – by pressing "Done"
here you will be able to move on to the user profile creation section.
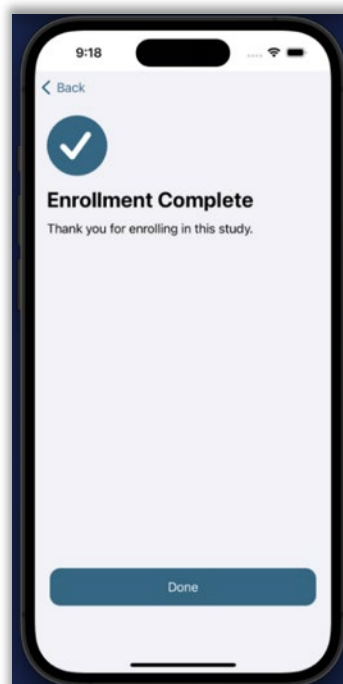
Step 4: Creating a Caremap User Profile
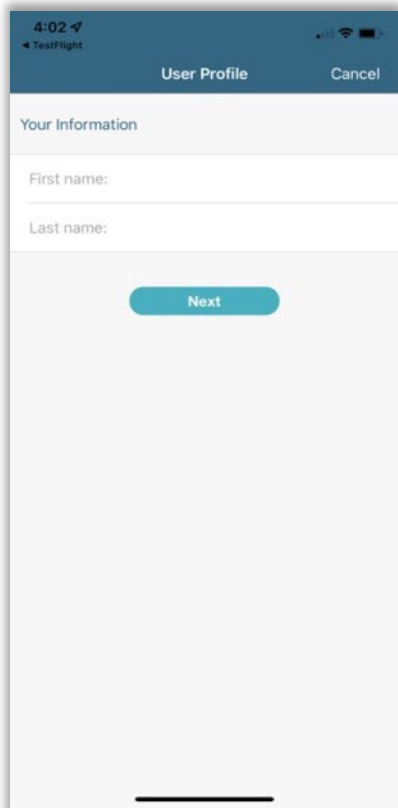
To **create a profile**, your will be prompted to enter your or your child's first and last name (left). You can press "**Next**" to proceed to the next section.
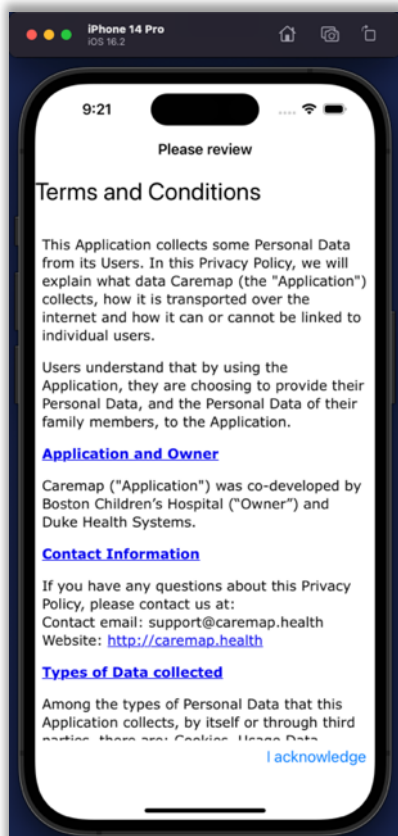
When you are **completing your user profile** for the first time, a one-time review of additional terms and conditions of the Caremap mobile application will be required. You can swipe up or down with your fingers to scroll through the document. You can continue to the next step by pressing "**I acknowledge**" at the bottom right of the screen.

Step 5: Creating a Health Profile
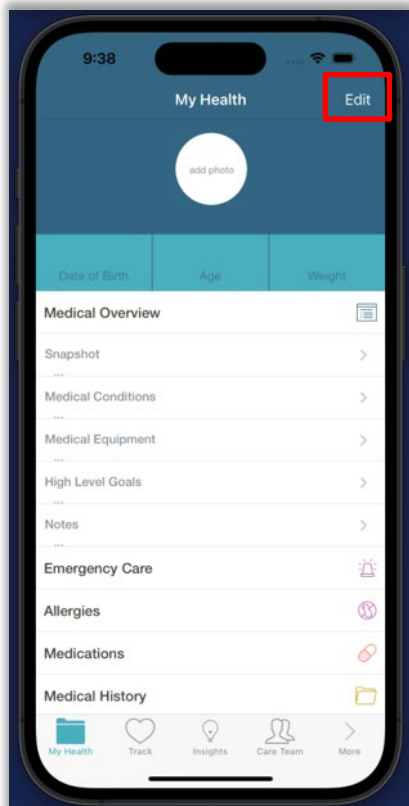
The first screen that will be displayed will be the "My Health" tab (left). Fields will be empty as the account has yet to be linked to an electronic health record (see Step 6 "Linking My Health Records" on page 13).

To create a health profile, press "Edit" at the top right which will take you to edit your patient details (next page).
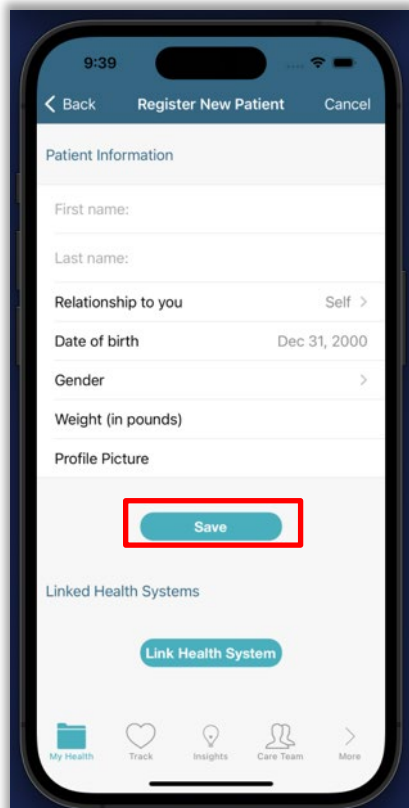
If you press on any of the sections before creating a profile, you will be prompted to first complete your patient details (left). Complete the prompted sections on the screen and Press "**save**."
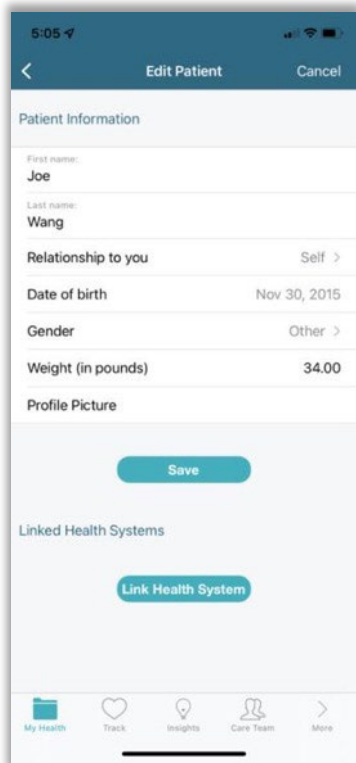
On the "Edit Patient Details" screen (left), you will be asked to fill out basic details regarding the patient (yourself or your child), including first and last name, relationship to the mobile app user, date of birth, gender preference, weight, and a profile picture. Each field can be edited by clicking on the section. Fields can be edited at any time while using the Caremap app. Completion of all fields allows the system to function best.
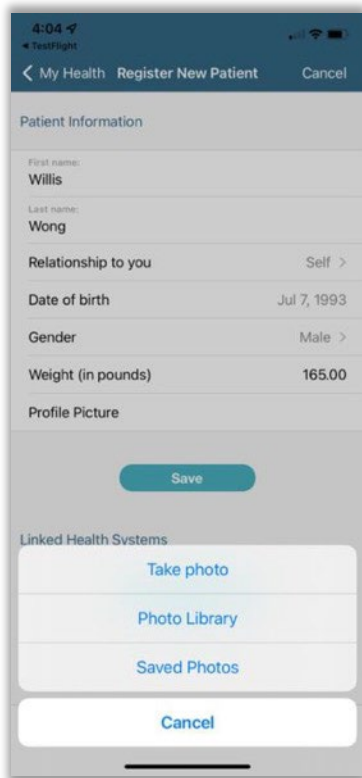
When inputting a profile photo (left), you can either take one using your camera (you may be prompted to allow the Caremap mobile app to access your camera), or use an existing photo in your photo library.

Click "Save" in the middle of the screen (above, left) to ensure that information is saved to the mobile app profile.

Step 6: Linking Caremap with my Health System Electronic Records
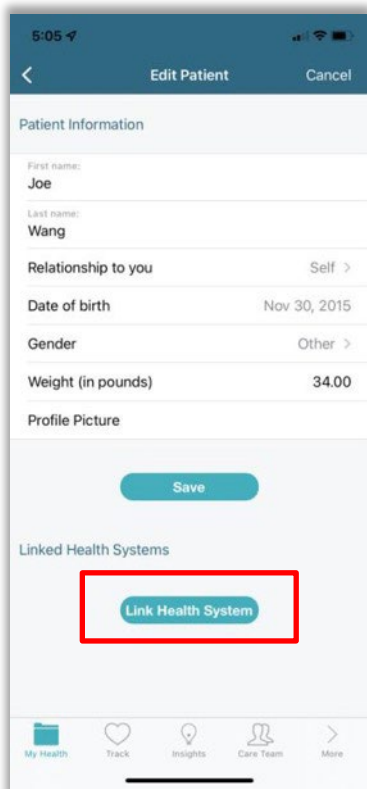
To link your Caremap mobile app profile to an existing health system electronic health record (EHR), navigate to the "My Health" tab (not shown) and press the "Edit" button at the top right. This will take you to the "Edit Patient" screen (above, left).

On the "Edit Patient" screen, press "Link Health System" at the bottom of the screen.
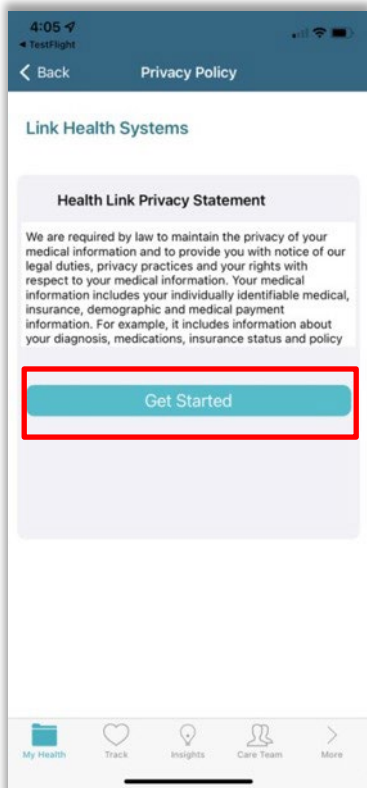
This will lead you to a privacy statement (left). Press "Get Started" to continue.

On the next page, you will be able to search for your provider system. Linking to your Duke Health electronic health record (EHR) is required for Duke research study participation and to maximize the app's features; you have the option of connecting to other available health systems as well.
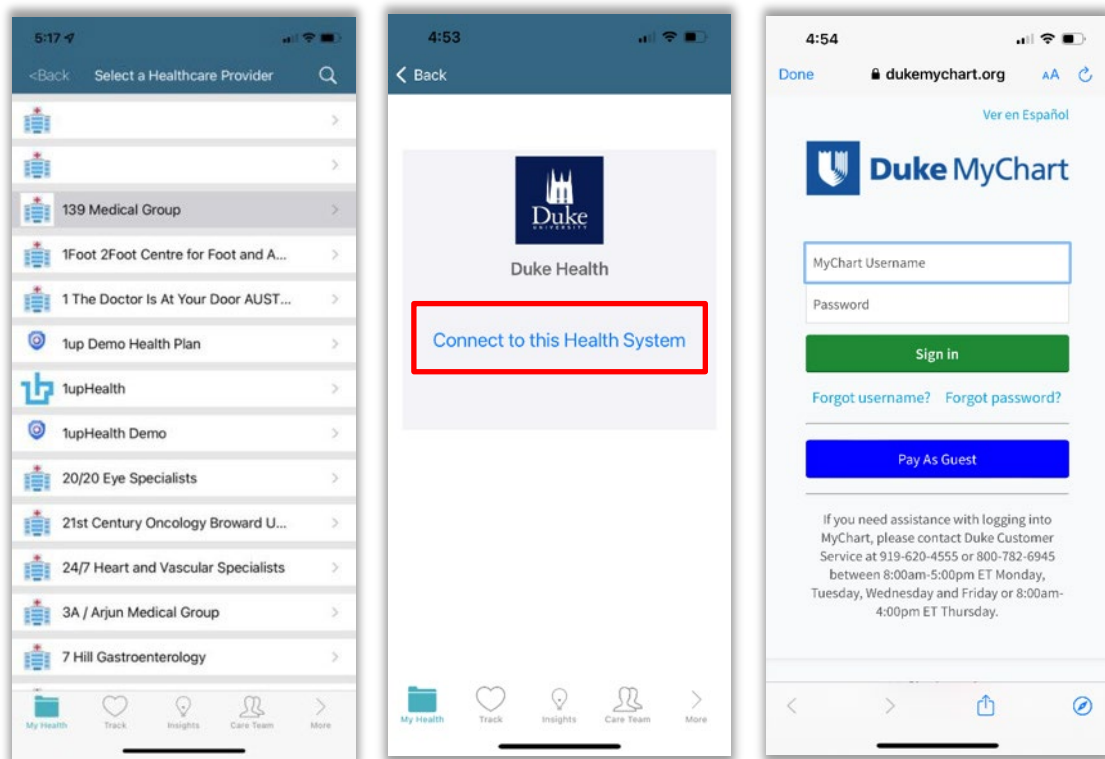
Linking Caremap to Duke Health's EHR is shown above as an example. First, select "Duke Health " from the menu on screen (above, left). To search, use the magnifying glass button at the top right and type in "Duke Health".

Once you've selected "Duke Health", connect to the electronic health record by clicking "Connect to this Health System" (above, middle).

You will then be prompted to log in to through your Duke MyChart portal to complete the linking process (above, right).

To confirm that the connection to the Duke Health system was successful, select the "My Health" tab and confirm that information like "medications" and "allergies" have been added. You may repeat these steps to connect additional health care systems, if available.

Please contact the study team at caremap@duke.edu or 919-668-1226 if you have any questions.

Once you have reached this step, your Caremap account is fully activated and ready to use.

Logging into Caremap

First-Time Log-In: Research Study Participant Only

If you are eligible for Duke Health research studies involving Caremap, you will first see the home screen (below, left) and should select "Get Started." From there you will review the introduction screens (see above, page 4, "Step 1: Introduction Screens"), followed by the research study eligibility questions (see above, page 6, "Step 2: Eligibility Screening"). From there, you'll be able to set up your username, password, and 4-digit passcode (below middle; below, right).
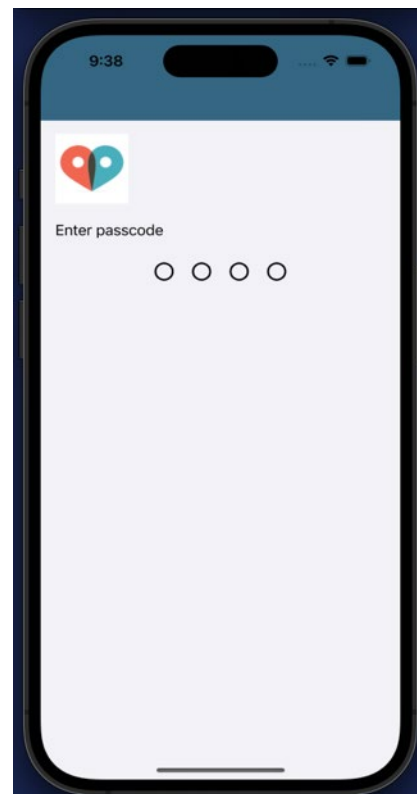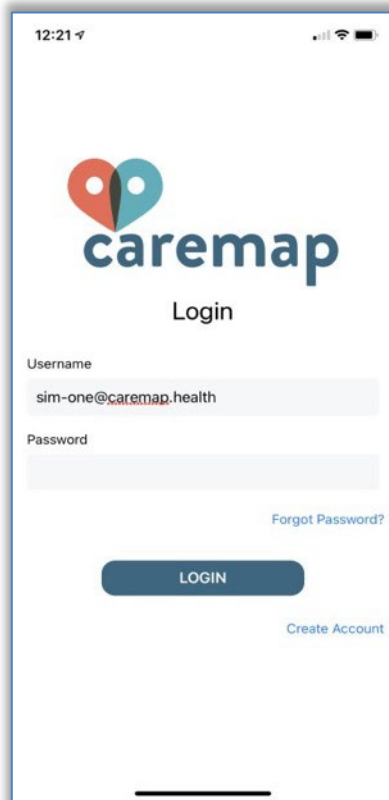
First-Time Log-In: User NOT participating Duke Health research studies

If you are not eligible for Duke Health research studies involving Caremap (e.g., you/your child are not receiving care at a participating Duke Health clinic and have not been invited to consider the study by a participating Duke Health provider), you will see the same first screen (below, far left) and should also select "Get Started." From there you will also review the introduction screens (see above, page 4, "Step 1: Introductory Screens") followed by the research study eligibility questions (see above, page 6, "Step 2: Eligibility Screening"). If you answer 'no' to the two eligibility questions (page 6, "Step 2: Eligibility Screening") and are determined to be ineligible for the research studies, you will be able to set up your username, password, and 4-digit passcode (below; second, third, and fourth screenshots).

Returning users – research participants and users not participating in research

Whether you're participating in a research study or not, the steps for logging back into the app are the same. First, on the home screen select "Sign In" under "Already signed up?" (below, far left). Next, enter your username and password (below, second from left) followed by your passcode (below, second from right). Last, if you have not yet set up your user profile, you be taken to the User Profile page (below, far right) and then into the app's My Health tab. *Note: if you have recently logged into Caremap, there will be fewer steps for logging back in. After you select 'Already signed up,' you'll go straight to your passcode and then to the My Health tab within the app.
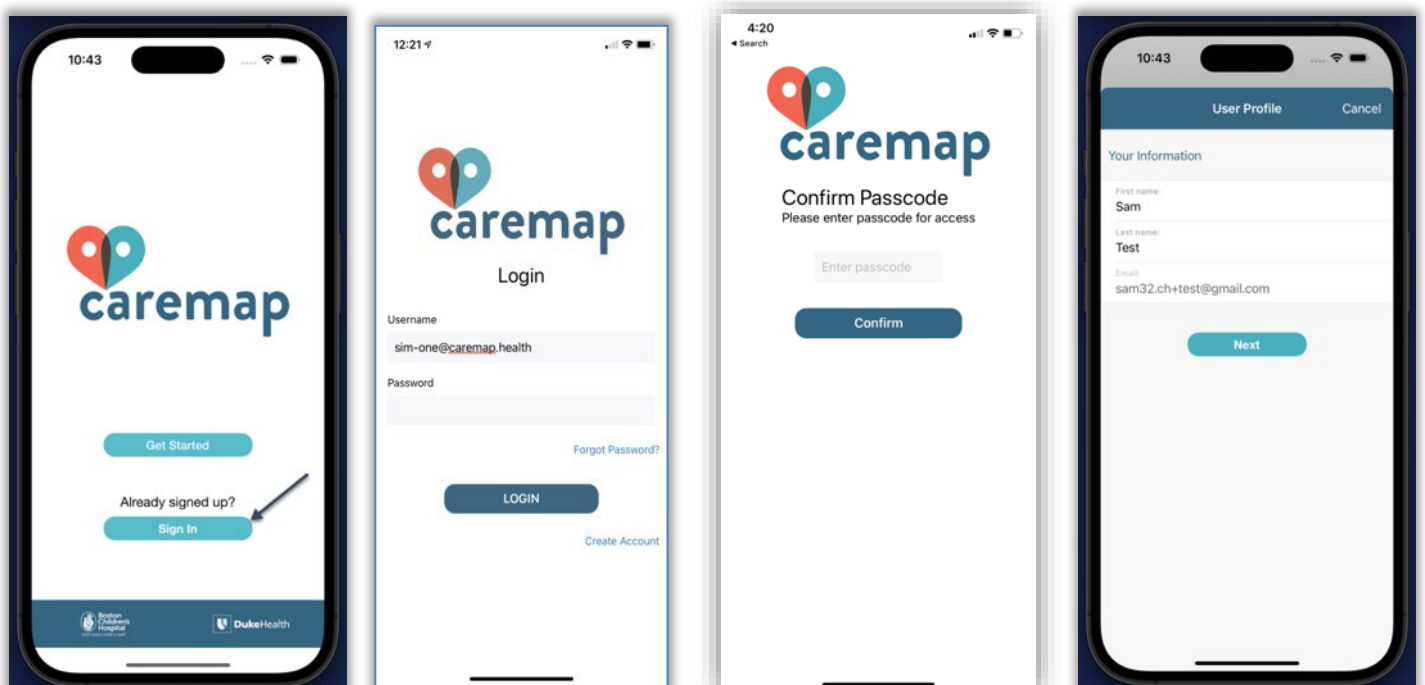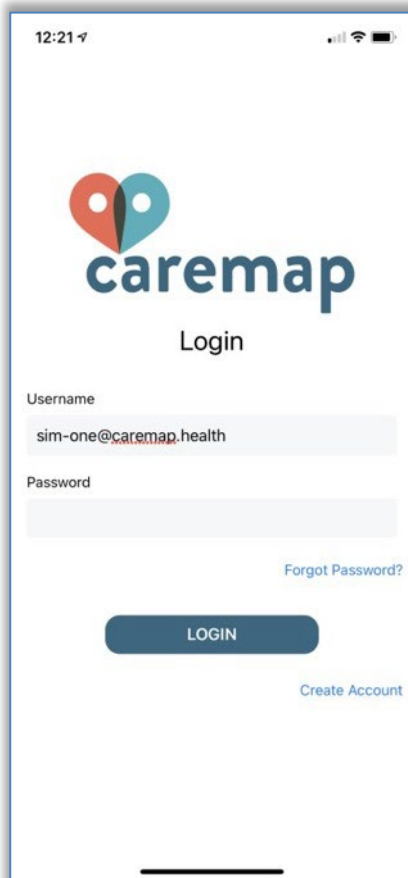
Log-in Errors

If your login is **unsuccessful**, you will see the screen on the left, which means that you have entered an incorrect password and username combination. If you can't remember your password, select 'Forgot Password' and you will be prompted to create a new one. If you continue to see this message, please contact the study team at caremap@duke.edu or 919-668-1226.
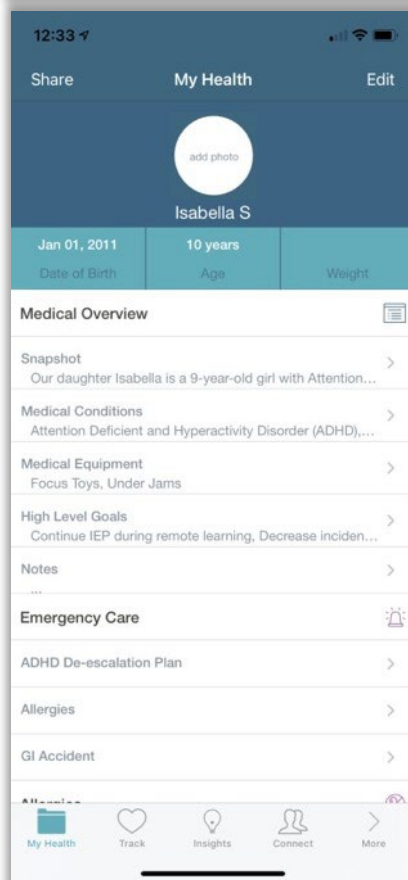
Log-in Success

If your login is **successful**, you will enter the app and see the screen on the left. The My Health tab will be auto- loaded, with all sections expanded.

II. USING CAREMAP

Using the "My Health" Tab
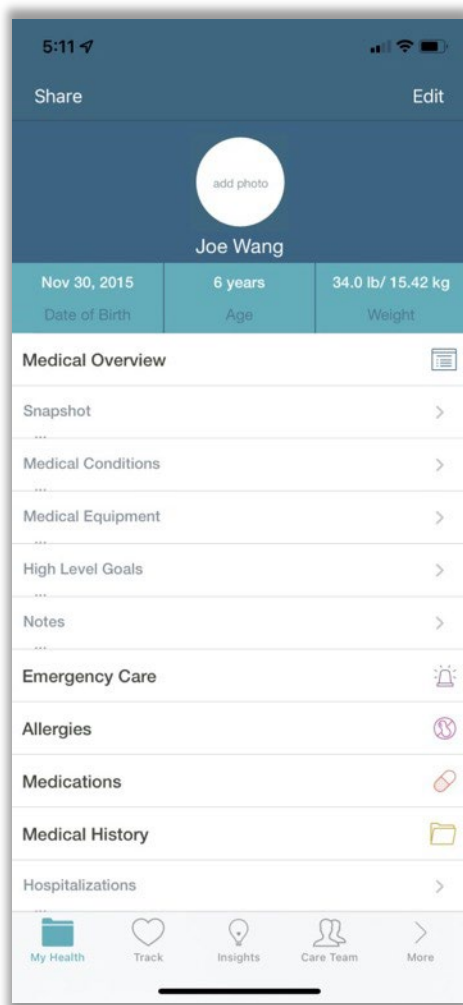
The "My Health" tab is where you will find your medical information that is entered by you, and information linked to your or your child's electronic health records. This section is broken up into 5 main sections:

1. Medical overview
2. Emergency Care
3. Allergies
4. Medications
5. Medical History

 All of these sections contain editable sections for you, as well as data that is imported from your health systems' electric health records. See below for more details more basic operations, and specifics on each section.

Adding, Saving, and Deleting Information from My Health Sections
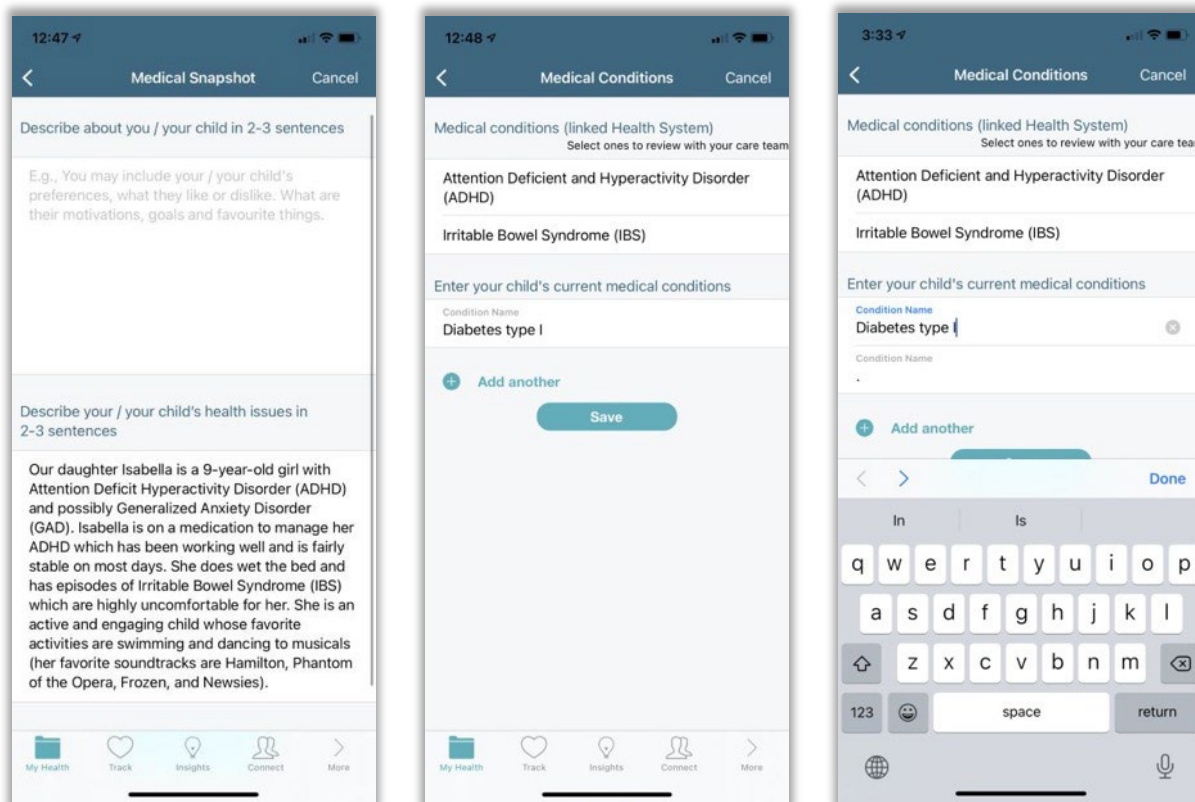
Generally, you can enter information by tapping on the empty text box to type such as in the "Medical Snapshot" section (above, left) or by tapping on "add another" such as in the "Medical Conditions" section (middle screen). Pressing add another will bring up a blank fillable section (above, right) which one can type into. One can press the "x" to the right to delete an input. Inputs will be recorded when one presses save. One can press the "<" button at the top left to return to the home screen at any time.

In order to ensure that your changes are saved, make sure you press the "save" button (above, middle) when available after inputting changes.

Medical Overview Section

The "**Medical Overview**" section is displayed by clicking the "My Health" tab at the bottom of the screen. This section can be expanded by pressing on the "Medical Overview" line (expanded view shown above in yellow) and collapsed by the same action. This section contains several sub-sections:

"**Snapshot**" which is a space for you to write and edit a narrative about you or your child's health that is viewable to your providers.

"**Medical Conditions**" which allows you to view and edit you or your child's existing medical conditions of concern.

"**Medical Equipment**" which allows you to view and edit you or your child's existing medical equipment currently in use.

"**High Level Goals**" which allows you to view and edit you or your child's current health goals viewable by your health providers.

"**Notes**" which allows you to view and edit notes that you can take prior to, during, or after appointments with your provider that are private to you as the Caremap mobile app user.

Snapshot

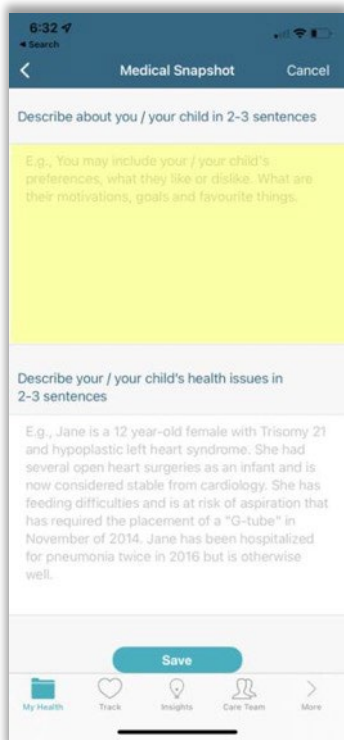The "Snapshot" section (left) is a space for you to write and edit a self-written narrative about you or your child's health that is viewable to your providers. You can edit this section by clicking on the section highlighted in yellow. Press "Save" at the bottom of the screen to save your entry. The input shown in the white text box serves as an example story for your reference.

Medical Conditions
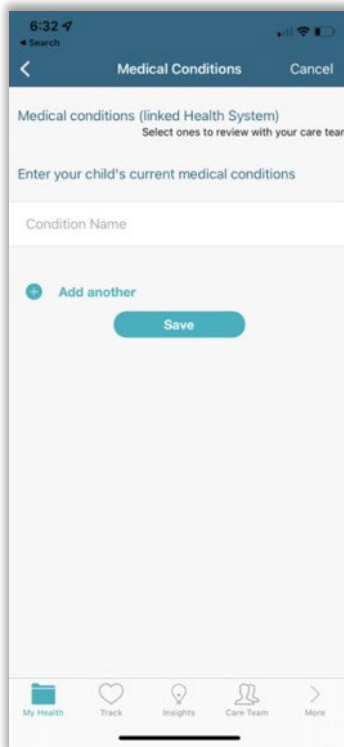
The "Medical Conditions" section (left) allows you to view and edit you or your child's existing medical conditions of concern. These will be viewable by your health providers. If you have linked your Caremap account to an existing electronic health record (see "Linking a Health System" instructions on page 13), medical conditions from the electronic health record will automatically display in this section.

You can flag existing medical conditions to review with your provider by…

You can add medical conditions not listed by clicking on "Add Another" to display the white box named "Condition Name" (shown on the left). Click on this to enter a medical condition. You can click on the "x" to delete an entry. Click "Save" to save your changes.

Medical Equipment
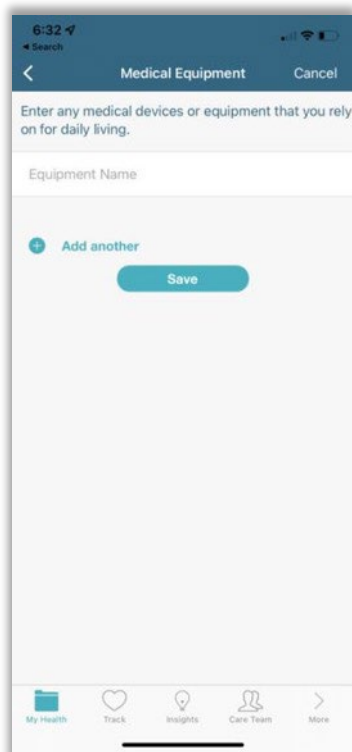
The "Medical Equipment" section (left) allows to view and edit you or your child's existing medical equipment currently in use. These will be viewable by your health providers. If you have linked your Caremap account to an existing electronic health record (see "Linking a Health System" instructions on page 13), medical equipment from the electronic health record will automatically display in this section.

You can add medical equipment not listed by clicking on "Add Another" to display the white box named "Equipment Name" (shown on the left). Click on this to enter a new medical equipment. You can click on the "x" to delete an entry. Click "Save" to save your changes.

High Level Goals

The "High Level Goals" section (left) allows to view and edit you or your child's current health goals. These will be viewable by your health providers.

You can add a new goal by clicking on "Add Another" to display the white box named "Goal" (shown on the left). Click on this to enter a new goal. You can click on the "x" to delete an entry. Click "Save" to save your changes.
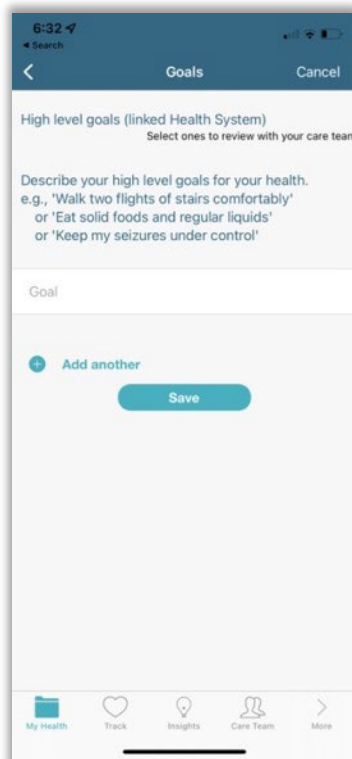
Notes
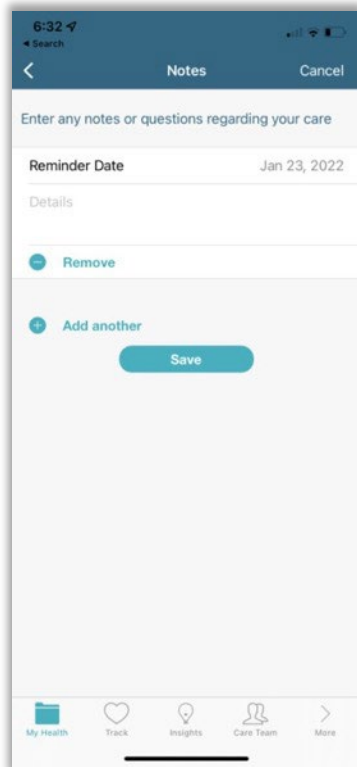
The "Notes" section allows you to view and edit notes that you can take prior to, during, or after appointments with your health providers. These notes are private to you as the Caremap mobile app user and will not be shared with your health providers.

You can add a new note by clicking on "Add Another" to display the white box (shown on the left). Here, you have the option to set a reminder for yourself such as during a future appointment with your health provider by pressing "Reminder Date". Press on the "Details" section to begin typing a new note. You can click on "Remove" to delete an entry. Click "Save" to save your changes.

Emergency Care Section
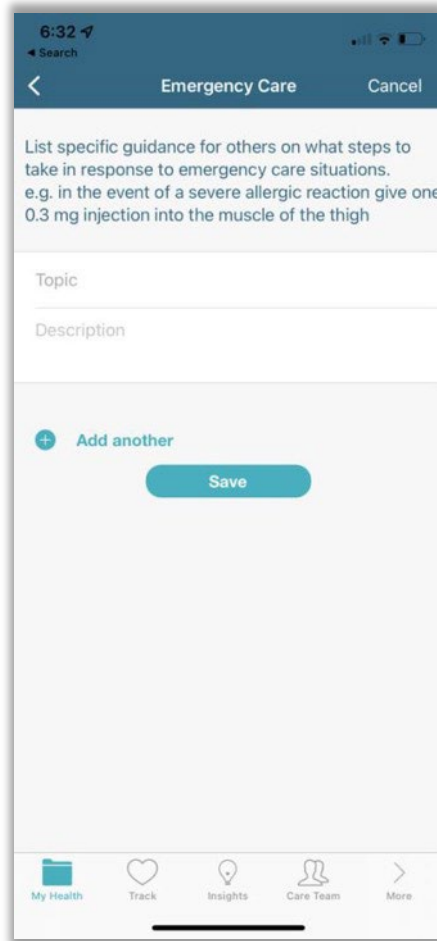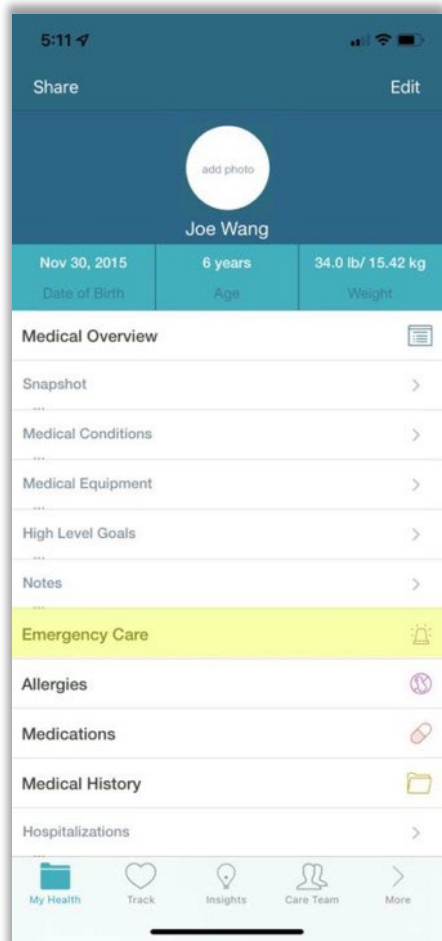
The "Emergency Care" section can be found under the "My Health Tab" (above, left highlighted in yellow). Press on the "Emergency Care" section to open up the next screen (above, right).

In this section, you have the option to add guidance for step that you can take in the case of a medical emergency for you or your child. You can add a new guidance plan by clicking on "Add Another" to display the white box (shown above, right). You can add a scenario title by clicking on "Topic" (for example, "severe allergic reaction"). Press on the "Description" section to begin typing your plan for the stated scenario. You can click on "x" to delete an entry (not shown). Click "Save" to save your changes.

Allergies Section
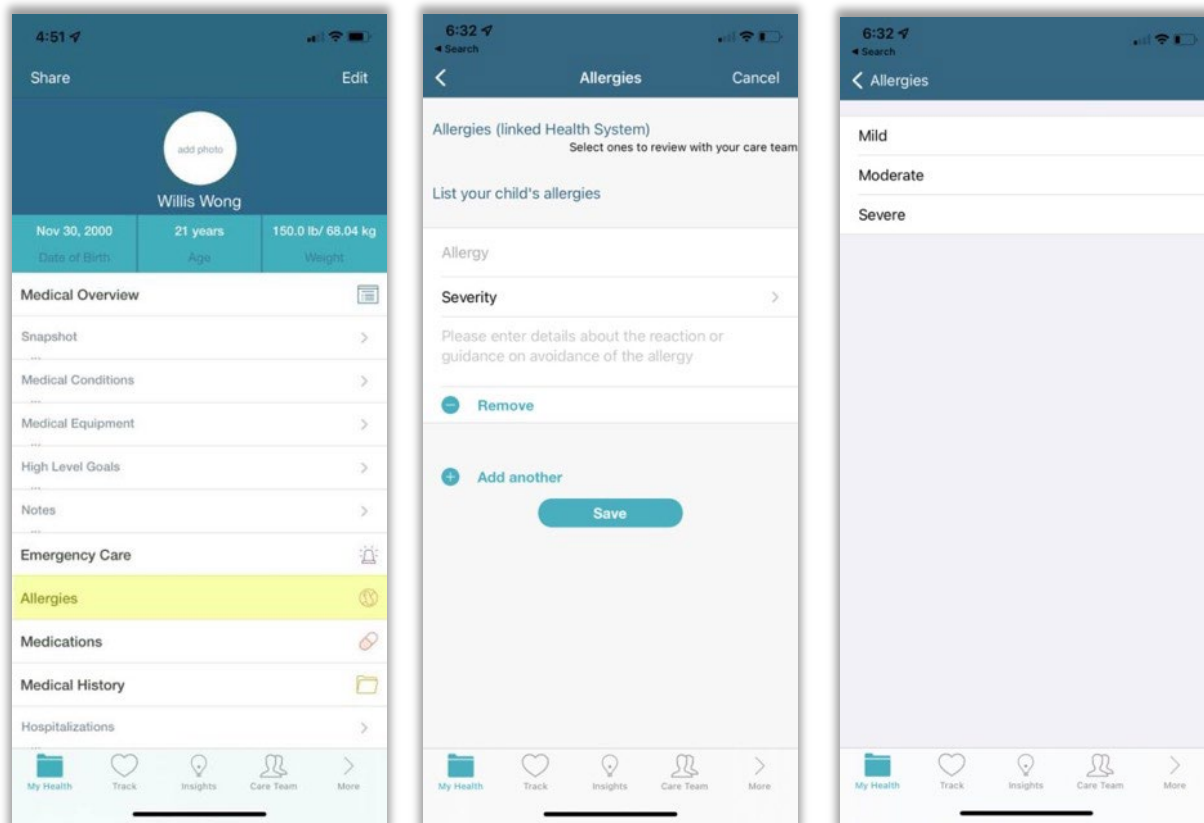
The "Allergies" section can be found under the "My Health Tab" (above, left highlighted in yellow). Press on the "Allergies" section to open up the next screen (above, middle).

In this section, allows to view and edit you or your child's existing allergies, their severity, a description of the allergic reaction as well as guidance on treatment and avoidance. These will be viewable by your health providers. If you have linked your Caremap account to an existing electronic health record (see "Linking a Health System" instructions on page 13), allergies from the electronic health record will automatically display in this section.

You can add a new allergy not listed by clicking on "Add Another" to display the white box (shown above, middle). You can list the allergen by clicking on "Allergy" (for example, "Peanuts"). Press on the "Severity" section to indicate a severity level: mild, moderate or severe (shown above, right). Click on the section "Please enter details…" to input more details around the reaction, avoidance strategies, and treatment plans. You can click on "Remove" to delete an entry. Click "Save" to save your changes.
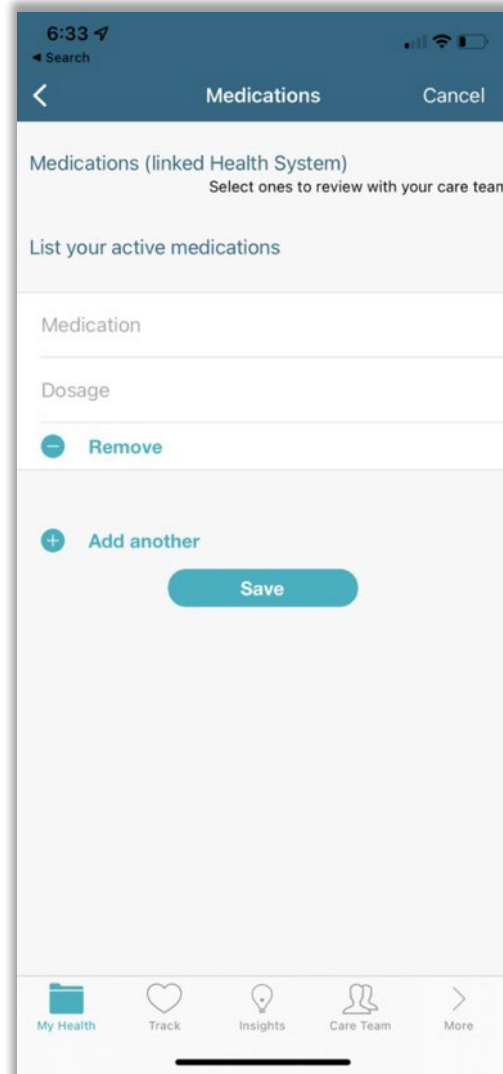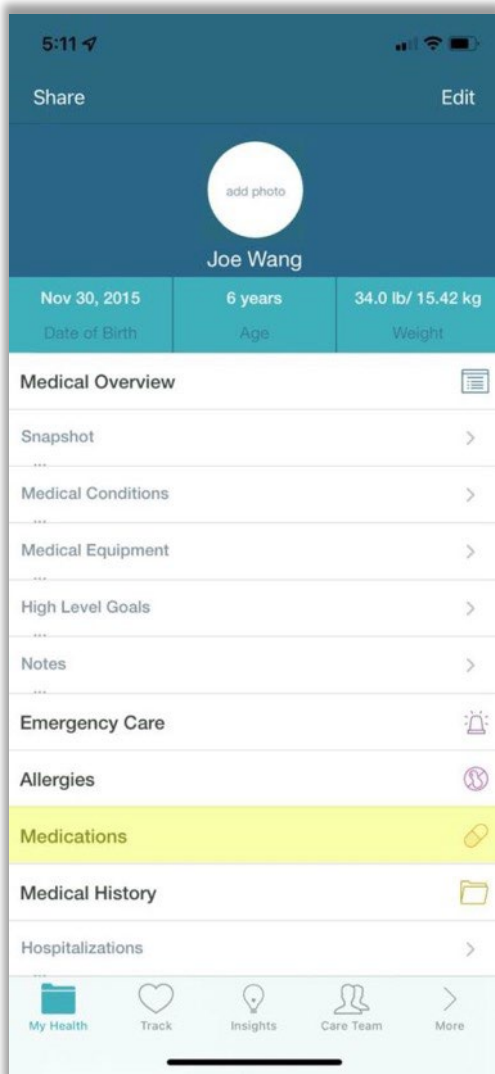
Medications Section

The "Medications" section can be found under the "My Health Tab" (above, left highlighted in yellow). Press on the "Medications" section to open up the next screen (above, right).

In this section, allows to view and edit you or your child's existing medications and their dosages. These will be viewable by your health providers. If you have linked your Caremap account to an existing electronic health record (see "Linking a Health System" instructions on page 13), allergies from the electronic health
record will automatically display in this section.

You can add a new medication not listed by clicking on "Add Another" to display the white box (shown above, right). You can list the new medication by clicking on "Medication". Click on the section "Dosage" to input a dosage regimen. You can click on "Remove" to delete an entry. Click "Save" to save your changes.

Medical History Section

The "**Medical History**" section is displayed by clicking the "My Health" tab at the bottom of the screen. This section can be expanded by pressing on the "Medical History" line (expanded view shown above in yellow) and collapsed by the same action. This section contains several sub-sections:

"**Hospitalizations**" which allows you to view and edit a list of all your past hospitalizations, date of admission, date of discharge, and a description of your hospitalization.

"**Surgeries and Procedures**" which allows you to view and edit a list of all of your recent surgeries or procedures, the date of the surgery/procedure, and any details associated with the surgery/procedure.

"**Post Discharge Instructions**" which allows you to view and edit a list of any post-discharge instructions you've received after a hospitalization or surgery/procedure.

If you have linked your Caremap account to an existing electronic health record (see "Linking a Health System" instructions on page 13), data from the electronic health record will automatically display in all of the sub- sections listed above.

Hospitalizations

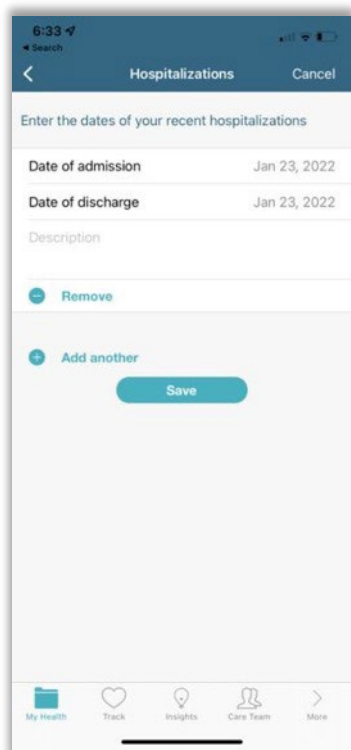The Hospitalizations section (left) allows you to view and edit a list of all you or your child's past hospitalizations, date of admission, date of discharge, and a description of your hospitalization.

You can add a new hospitalization not listed by clicking on "Add Another" to display the white box (left). You can edit the date of admission and discharge by pressing "Date of Admission" and "Date of Discharge" respectively. Click on the "Description" section to input any pertinent details regarding that admission (e.g. admissions diagnosis, admitted facility, treatment received, inpatient provider name). You can click on "Remove" to delete an entry. Click "Save" to save your changes.

Surgeries and Procedures
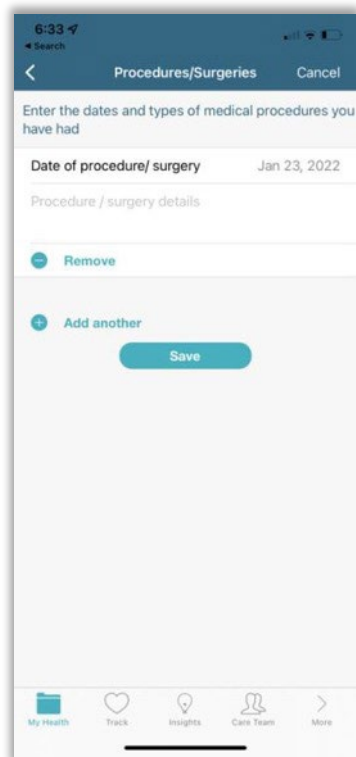
The "Surgeries and Procedures" section (left) allows you to view and edit a list of all your or your child's past surgeries/procedures, date of your surgery/procedure, and any details regarding your surgery/procedure.

You can add a new entry by clicking on "Add Another" to display the white box (left). You can edit the date of your procedure/surgery by pressing "Date of procedure/surgery". Click on the "Procedure/Surgery details" section to input any pertinent details regarding that surgery/procedure (e.g. procedure name, facility, complications, surgeon's name). You can click on "Remove" to delete an entry. Click "Save" to save your changes.

Post Discharge Instructions
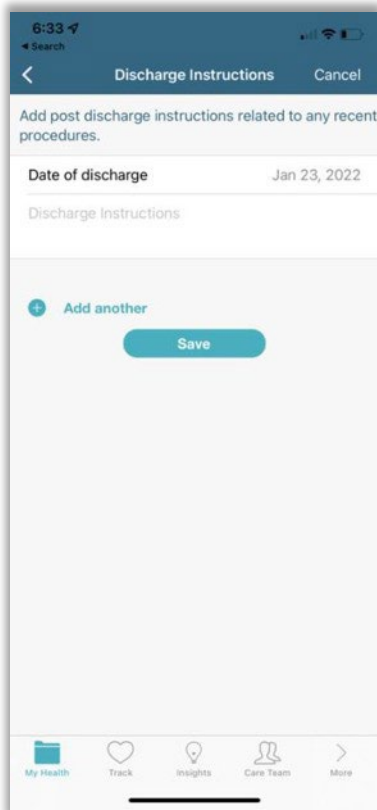
The "Post Discharge Instructions" section (left) allows you to view and edit a list of all your or your child's discharge instructions after a hospitalization or surgery/procedure.

You can add a new entry by clicking on "Add Another" to display the white box (left). You can edit the date of your discharge by pressing "Date of discharge". Click on the "Discharge Instructions" section to input any discharge instructions provided to you. You can click on "Remove" to delete an entry. Click "Save" to save your changes.

Using the "Track" Tab
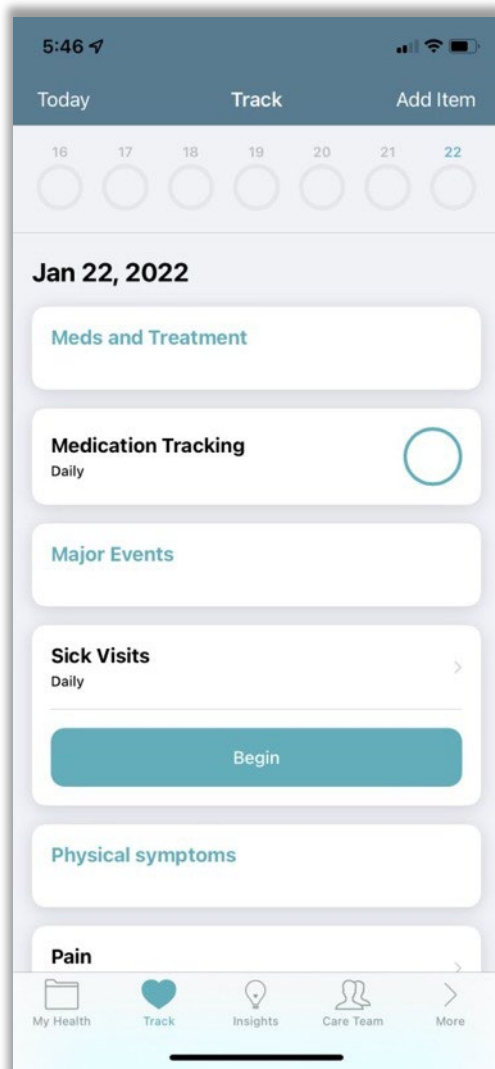
The second tab in the app, the "Track" tab, can be accessed by click on the "Track" tab at the bottom of the screen (above). This tab allows you to view, select and/or de-select health-related factors important to you for tracking over time. The main screen will display a daily dashboard summarizing the variables being tracked (medications, sick visits, and pain are shown above). Details on editing this dashboard follows.

Track Tab Calendar
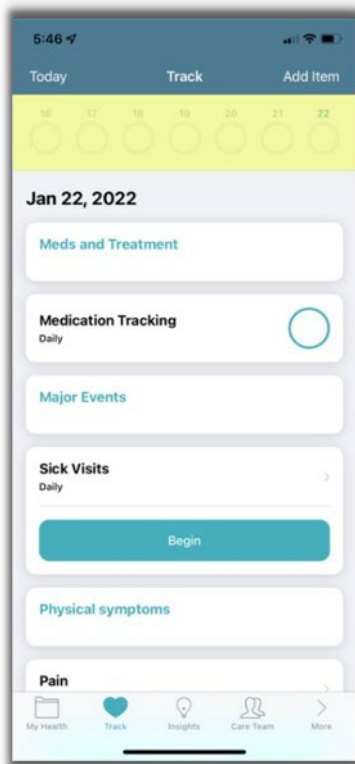
On the "Track" tab, a running calendar show days of the month at the top (January 16th to 22nd shown in example above highlighted in yellow). Each circle represents a day of the week, with the circle being progressively filled in by an aqua color as you enter tracking information (degree of circle filled is proportional to completion of tracking tasks for the day, i.e. a fully aqua circle indicates that you have completed all tracking measures for the day).

You can view more days on this calendar by swiping left or right in the calendar region.

Adding Care Items to Track
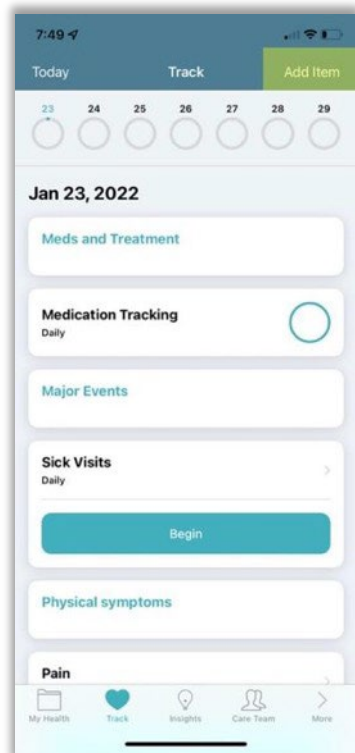
To add care items to track, in the "Track" tab view you can press the "Add Item" button at the top right of the screen (shown left highlighted in yellow) to bring up a menu of trackable variables.
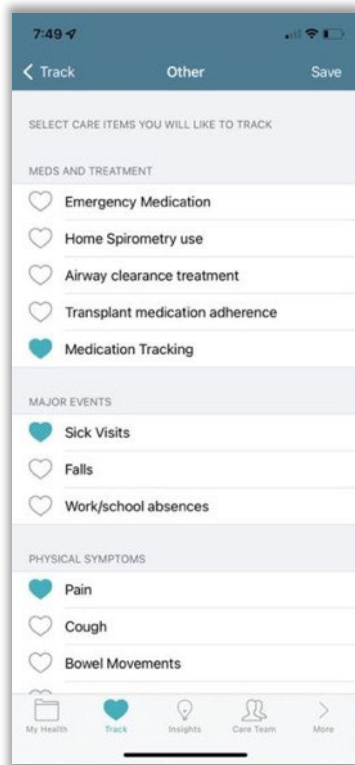
On the care items menu screen (left), selection/deselection of care items for tracking is made by pressing the heart-shaped icon at the left of each variable (Medication Tracking, Sick Visits, and Pain are selected in the example shown on the left).

Save your selection by pressing save button at the top right. Once selections are made, they will be summarized in the "Track" tab daily dashboard.

Daily Care Items Tracking Entries
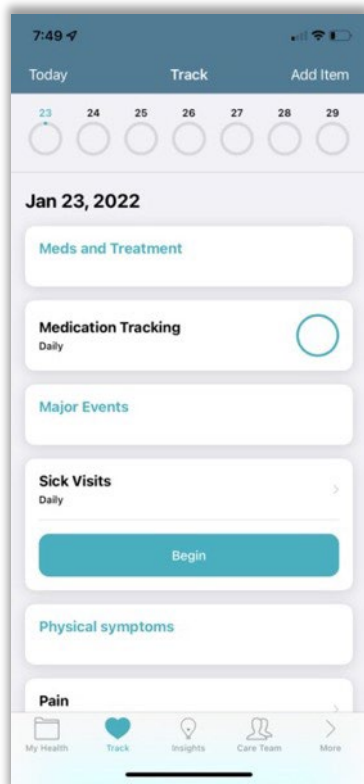
Once variables for tracking have been selected, users can enter data each day by pressing "Begin" under each variable, which will navigate the screen to the corresponding input screen.

Using the "Insights" Tab
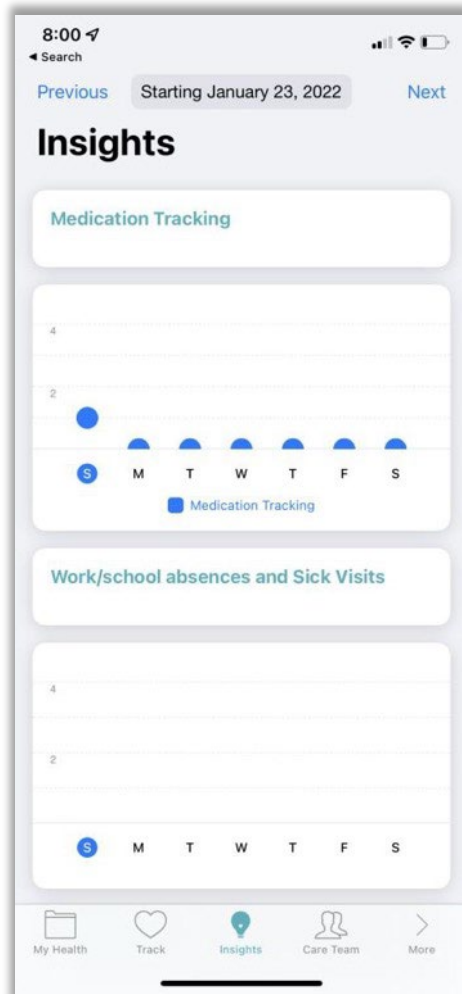
The third tab of the app, the "Insights tab", can be accessed by click on the "Insights" tab at the bottom of the screen. This tab is where your daily entries in the "Track" tab over time will be displayed in graphical form (Medication and work/school absences and sick visits shown above) over the last week.

Change the start date of the graphs by pressing on the date displayed at the top of the screen ("Starting January 23rd, 2022" shown in the example above).

Using the "Care Team" Tab
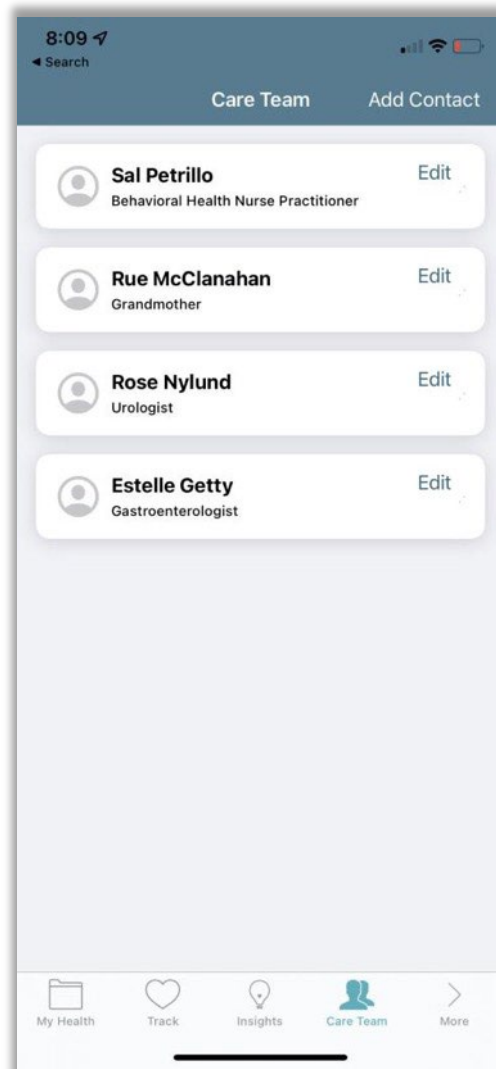
The forth tab in the app, the "Care Team" tab, can be accessed by clicking on the "Care Team" tab at the bottom of the screen (above). In this section, you can add in the contact information for members of your or your child's care team. These individuals could be clinicians (e.g., primary care, specialist, therapists, etc.), home-based providers, community service providers, or non-clinical providers (e.g., teachers, neighbors, family members) who each play a key role as part of the team providing long-term care.

From this screen, you can press "Add Contact" at the top right to add a new contact, or press "Edit" next to existing contact names to edit their contact information.

Contact Cards
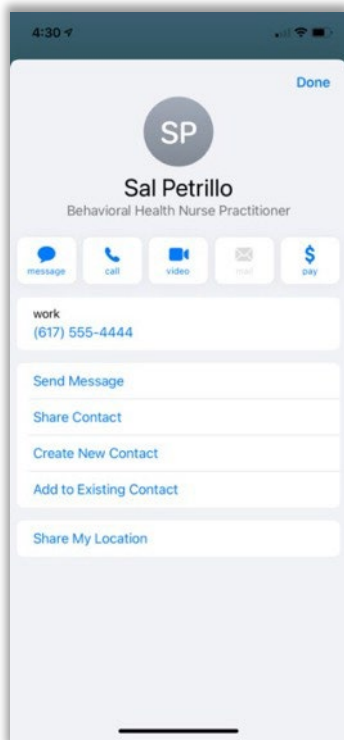
Clicking on a contact in the "Care Team" view will pull up an iOS contact card view (left). From here, you can directly call, send messages, and share the contact with others.

You can also add this contact card to your iOS contact list by pressing "Create New Contact" or "Add to Existing Contact".

Adding a Contact
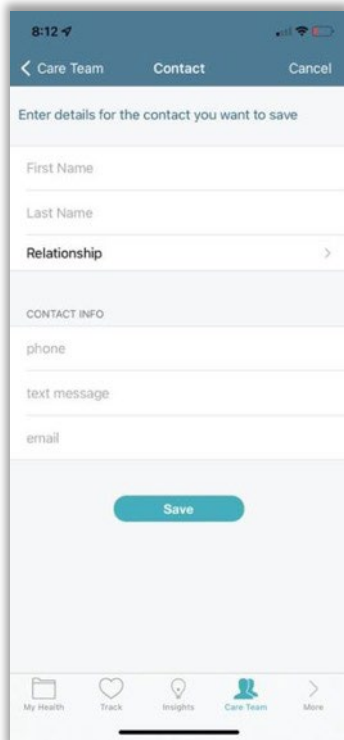
To add a contact, press the "Add Contact" button at the top right of the screen on the "Care Team" tab, which will pull in a blank contact card (left).

You can edit and input the details of the contact by clicking on the respective sections, including first/last name, their relationship to you or your child, and their contact information. Press "Save" at the bottom of the screen to save your changes.

Using the "More" Tab

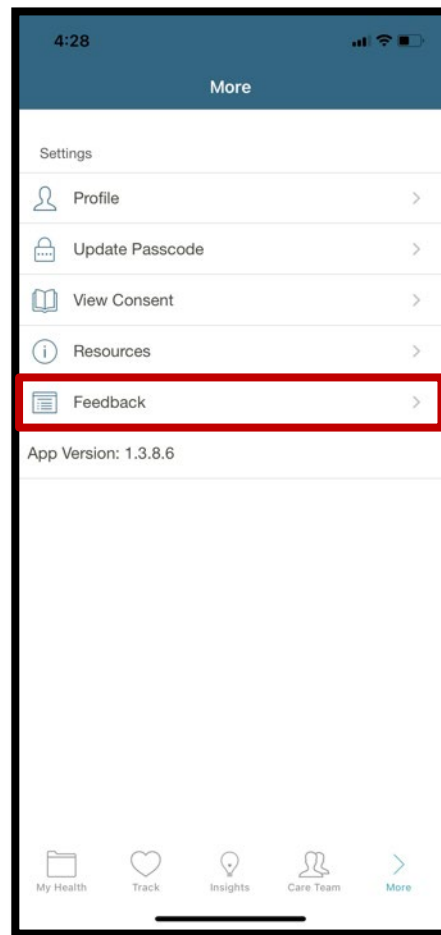The 5th and last tab of Caremap, the "More" tab, can be accessed by pressing on the "More" tab at the bottom of the screen in the app (above). This tab displays more options regarding your account settings ("Profile", "Update Passcode") and more information regarding Caremap (Introduction, Patient Resources, and Frequently Asked Questions) which will take you to external websites. Importantly, if you have any feedback or suggestions for improvement for the Caremap app, select 'Feedback' and you will be taken to an external website (Duke Qualtrics) where you can submit anonymous comments. Note that the version listed here is the most current app version that you are currently running on your device.

Editing Your Profile Name
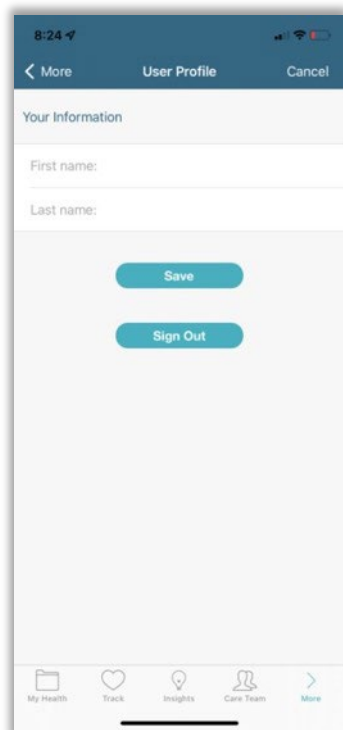
To edit the name of the Caremap profile or to sign out of your account, press the "More" tab at the bottom of the screen and on "Profile" under Settings. This will lead you to your user profile screen (left).

Change the first and last names associated with the Caremap account by pressing on the respective fields. Press "Save" to save your changes.

You can also log out of your account from here by pressing "Sign Out".

Setting a Passcode
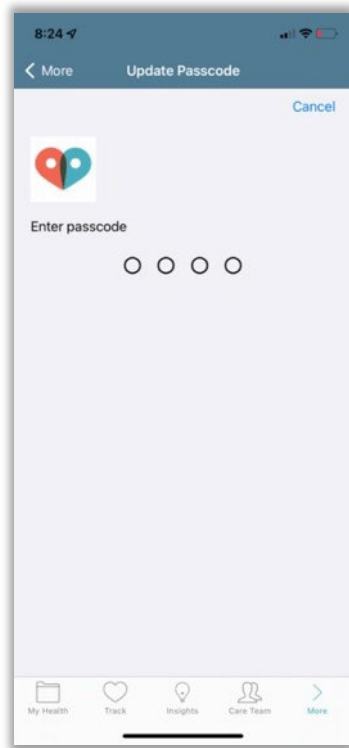
To set or reset your Caremap App passcode, press on the "More" tab at the bottom of the screen and on "Passcode" under Settings. This will lead you to your update passcode screen (left).

Add a passcode by typing in a 4 digit-code. Retype the same code to confirm.

Edit your passcode by typing in your original passcode first. Then, type in a new 4-digit passcode, and retype it to confirm.

III. SUMMARY OF CAREMAP APP UPDATES

Version 1.3.9: released July 11, 2023 (major update)
- Fixed issue with app EHR data sync when patient profile details exist before the EHR connection is linked

Version 1.3.8: released June 7, 2023 (major update)
- Added ability to track customized care goals
- Fixed issues with electronic health record (EHR) connectivity for new users
- Improved process for logging in/accessing the app by streamlining passcode and username/password entry when returning to use the app
    - If it has been less than 30 days since you last logged in to use the app, you can re-enter by typing in the passcode only.
    - If it has been more than 30 days since you last logged into the app, you will have to enter your passcoded followed by your username/email address + password followed by your passcode (second entry)

Version 1.3.7: released April 18, 2023 (major update)
- Made improvements to the app log-in process
- Fixed glitches and crashes occurring during log-in and enrollment processes
- Added 'eye' icon so that user can choose to see characters displayed on screen while entering password

Version 1.3.6: released February 2023 (major update)
- Improvements to care goal tracking
    - Ability to add or edit tracking of care Items in the past
    - Global Health Index available for daily tracking
    - Weight tracking supports decimal values
- Added ability to automatically notify users when a new app update is available

Version 1.3.5: released January 2023 (major update)
- Improvements to Insight graphs
    - show monthly insights for items tracked weekly
    - improved display of yes / no type care items
    - added some missing care item values being tracked
- Ability to login directly if participant already signed up

Version 1.3.4: released December 2022 (minor update)
- Updated research study information
- Bug fixes to address app functionality during log-in process

Version 1.3.3: released December 2022 (minor update)
- Minor app improvements and bug fixes

Version 1.3.2: released November 2022 (minor update)
- Updated research study informed consent documents

Version 1.3: released October 2022 (major update)
- Upgraded to latest Apple CareKit and ResearchKit versions
- Activated ability to link with electronic health records (EHR) using FHIR
- Enhanced care goal tracking and visualization