The electronic Patient Reported Outcome (ePRO) Project: User Guide for the ePRO Patient Web-based Tool & Mobile App
Introduction

The *electronic Patient Reported Outcome (ePRO) Tool* has been designed to assist patients with complex care needs and their primary care providers develop and monitor patient SMART (Specific, Measurable, Achievable, Relevant, Time-bound) goals and patient outcomes. The solution has been developed in collaboration with patients with complex care needs, their caregivers and primary care providers. As such, the tool’s design has considered patient, caregiver and provider workflows, abilities, and preferences.

The *ePRO Tool* consists of:

1. *ePROs Patient Web-based Tool*
2. *ePROs Provider Web-based Tool*
3. *ePRO Patient Mobile Application (App)*

In this manual, we will be using the term *ePRO Tool* to refer to all three tools collectively; however this manual is focused on how to use the *ePRO Patient Web-based Tool* and the *ePRO Patient Mobile Application*.

About this User Guide

This user manual has been prepared as a short instructional guide for you. The contents of each section of the *ePRO Patient Web-based Tool* and the *ePRO Patient Mobile Application* are outlined and briefly discussed. Information on how to use the solution, along with screen shots (images of what is seen on a computer or smartphone screen) is provided to aid you in navigating the tool.

This manual was prepared in September 2015 by Sue Bhella, Project Manager, *QoC Health Inc*. Review of the manual was conducted by Carolyn Steele Gray, Post-doctoral fellow and Parminder Hans, Research Coordinator, *Bridgepoint Collaboratory for Research and Innovation*, *part of the Lunenfeld-Tanenbaum Research Institute in Sinai Health System*.

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Overview of the ePRO Tool

The ePRO Tools have been developed by Drs. Carolyn Steele Gray and Cheryl Cott and their research team at the Bridgepoint Collaboratory for Research and Innovation, Complexity Lab in the Lunenfeld-Tanenbaum Research Institute, Sinai Health Systems in partnership with the technology company QoC (Quality of Care) Health Inc. The research was funded through the Health System Performance Research Network (HSPRN) at the University of Toronto through the Health System Research Fund from the Ontario Ministry of Health and Long-term Care.

The ePRO Tool has been in development since September 2013 and has undergone several phases to refine and improve the solution. Patients, caregivers, and primary care providers involved in this exploratory trial (study) will all have access to the ePRO Tool. In addition, patients and their caregivers will have access to the mobile application.

The ePRO Tool features allow patients to:

- Set up SMART goals in collaboration with their primary care provider
- Engage in goal monitoring at home to track their progress against SMART goals using the mobile application and the portal system
- Respond to validated Outcome Measures (health questionnaires)
- Provide their primary care provider with goal tracking data and results from health questionnaires that can help to guide clinical and collaborative decision-making about patient care

All patient participants will be provided with a Samsung smartphone by QoC Health and data network coverage from Rogers Communications free of charge for the duration of the study. Please note, patients will not be held responsible to pay for the loss or damage to the device.

During an in-person visit, patients will set up a SMART goal(s) with their primary care provider that they will be able to track progress on at home. Patients can choose to track the goal by answering a few questions either using the ePROs Patient Web-based Tool or the ePRO Patient Mobile Application. Patients may also wish to have their caregivers help them track their goals and/or respond to health questionnaires on the mobile app or the web-based tool.

Having access to their patient’s monitoring information will keep providers up to date on their patient’s progress on their SMART goals and track important patient outcome data. This information can help aid in delivering person-centered care.
The *ePRO Patient Mobile Application* works seamlessly with both the *ePROs Provider Web-based Tool* and the *ePROs Patient Web-based Tool*. Information that is entered in the *ePRO Web-based Tool* (either patient or provider version) and the *ePRO Patient Mobile Application* is sent to a secure cloud connect server that ensures the information is automatically updated in each system.

**Privacy and Security**

Patient security and privacy is engineered into the system from the ground up, meeting the *Health Insurance Portability and Accountability Act* of 1996 (HIPAA) and the *Personal Health Information Protection Act*, 2004 (PHIPA) security standards.

All information in transit and at rest is encrypted to ensure security and privacy of information. Each patient is assigned their own unique encryption key, which cannot be used to decrypt any other data. Patients must successfully authenticate to retrieve the encryption key from the *QoC Health Cloud* servers. Additionally, in the case of a misplaced mobile handheld, the device can be disabled and wiped remotely.
Trouble Shooting

For General Support Regarding the ePRO Tools
If you have any questions, please contact the Research Team at Bridgepoint Collaboratory for Research and Innovation at:

Phone: 416-461-8252 x 2884
Email: Parminder.Hans@sinahealthsystem.ca

The ePRO Research Team:

Dr. Carolyn Steele Gray       Co-Principal Investigator
Dr. Cheryl Cott             Co-Principal Investigator
Dr. Kerry Kuluski           Co-Investigator
Dr. Arlene Bierman          Co-Investigator
Dr. Ian McKillop            Co-Investigator
Dr. Renee Lyons             Co-Investigator
Parminder Hans              Research Coordinator
Sarah Sharpe                 QoC Health Inc. Co-founder and Research trainee (PhD student)
Sue Bhella                   QoC Health Inc. Project Manager

For Technical Support Regarding the ePRO Tools
If you are experiencing technical difficulties with the ePROs Tools, please contact the Research Coordinator, Parminder Hans via:

Phone: 416-461-8252 x 2884
Email: Parminder.Hans@sinahealthsystem.ca

When emailing please specify what technical issue you are experiencing. If you are emailing on behalf of a patient who is experiencing technical issues with the ePRO Patient Mobile Application, please provide the patient’s username, and their device number.
1.0 The ePROs Patient Web-based Tool

The Basics

As mentioned in the previous section, patients and their caregivers will have access to:

- the ePROs Patient Web-based Tool
- the ePROs Patient Mobile App

The section below provides basic information regarding the ePROs Patient Web-based Tool.

Accessing the ePROs Patient Web-based Tool

The ePROs Patient Web-based Tool can be accessed online through:

- Internet Explorer
- Firefox
- Safari
- Google Chrome

The web address of the tool is: https://epros.bridgepoint.care

Logging In

Once you arrive on the ePROs Patient Web-based Tool (website) (Figure 1.0), click on the Login to ePROs Portal button.

Figure 1.0 Homepage of the ePROs Patient Web-based Tool

You will be provided with user credentials (a user name and password) by the Research Coordinator. These user credentials are the same for the web-based tool and the mobile app.
Forgotten Passwords
If you forget your passwords, please send an email to the Research Coordinator, Parminder Hans, requesting your password be reset.
Email: Parminder.Hans@sinahealthsystem.ca

Logging Out
To ensure your privacy, please log out when you are not using the ePROs solution. To log out, click on your user name located in the upper right corner (shown by the red arrow) and click on Logout (Figure 1.1).

Figure 1.1: Logging out of the ePROs Patient Web-based Tool
Navigating the Solution: The Dashboard

When you log in, you will land on the Dashboard. The Dashboard, allows you to view:

1. Your current goals that have been set by you and your primary care provider
2. Outcome measures (health questionnaires) that have been selected by your primary care provider
3. Quick results of your responses to goal monitoring and the health questionnaires

Figure 1.2: Getting Familiar with the Dashboard

From the Dashboard, you can fill in your responses to monitor your goals and also respond to the outcome measures (health questionnaires). The next section will guide you through the steps of tracking your goals and responding to the outcome measures.

Monitoring Your Goals

Understanding the Organization of Your Goals

After a goal has been set, the Dashboard will have the goal’s Purpose Statement appear in bolded orange text (as shown in the red box in Figure 1.3). The Purpose Statement is an overarching category the goal falls under.
You may be monitoring a single goal at a time, or multiple goals depending on your care plan. If you are monitoring yourself against multiple goals at the same time, your Dashboard will display all goals.

In the example below (Figure 1.4), the patient has two individual Purpose Statements set up: (1) Lowering BMI and (2) Lowering Stress (as shown by the red arrows). The specific individual goals attached to the Purpose Statements are shown in the red box below.

Figure 1.4: Multiple Individual Goals
There may be times when you have two goals under the same Purpose Statement, though this will be rare. In the example below (Figure 1.5) the Purpose Statement is Lowering BMI (shown in the red box) and the two goals are: (1) To reduce the portion size of meals; and (2) Lose 10 lbs (shown by the red arrows)

![Figure 1.5: One purpose statement and two goals](image)

**Completing Your Feedback to Monitor Your Goal(s)**

During the goal monitoring set-up process, you and your primary care provider will select and/or create a few personalized questions that will help track the progress of your goal. During this time, the frequency for providing feedback will also be set. You may be required to fill in responses daily, a few times a week, or at the beginning or end of each month. The system will automatically organize the questions. Therefore, only those questions required to be answered on a particular day will appear. You may provide your feedback either through the ePROs Patient Web-based Tool or the ePROs Patient Mobile App.

To complete your feedback on the web-based tool, click on the orange box with today’s date (as shown with the red box in Figure 1.6).

![Figure 1.6: Completing Your Feedback using the ePROs Patient Web-based Tool](image)
The questions that you are to answer for the day will appear in a pop-up. The response options may be in multiple-choice format, open-text (allowing you to type an answer), a sliding scale or a photograph. Please note to respond to a question that asks you to take a photograph, you will need to use the ePROs Patient Mobile App.

Under each question you may find instructions on whether you may select more than one response. At the top of the screen, navigations are provided so you are aware of how many questions you have completed. To proceed to the next question click Next (Figure 1.7). If you would like to go to the previous question, click Previous.

Figure 1.7: Responding to Questions Monitoring Goal Progress

Once you have completed all questions in the goal monitoring, you will be asked if you would like to review your answers or finish (Figure 1.8). If you would like to review prior to submitting, click on Review. If you are ready to submit at this time, select Finish.

Figure 1.8: Submitting Your Feedback
Missing a Day of Providing Feedback
If you forget to provide feedback, the system will allow you to enter in your feedback for the previous day.

In the example below (Figure 1.9), the system is showing that feedback for Thursday September 10th has not yet been completed. If you are able to recall the information from the previous day to provide feedback, please enter in your responses. The more comprehensive your goal monitoring is, the more information you and your primary care provider will have to make decisions about your care.

![Figure 1.9: Completing Feedback from a Previous Day](image)

Viewing Your Goal Progress:

Progress at a Quick Glance
To the right of the goal, on the Dashboard, you can quickly review your progress on your goal (shown in the red box in Figure 1.10).

![Figure 1.10: Quick Glance at Your Goal Progress](image)

You will note a number of colourful squares. These seven squares represent the seven most recent responses to the Goal Attainment Scale tied to that particular goal (Figure 1.11). The Goal Attainment Scale captures overall how you’re doing in relation to your goal from a scale of
+2 (doing much better than expected) to -2 (doing much worse than expected). A score of 0 means that you’re doing as well as expected. The score to each of the responses is indicated on the square itself. To determine the date of the response, simply hover your mouse on top of the score of interest. You will note that a blue colour is neutral, green is positive and pink is negative.

Figure 1.11: Summary of the Goal Attainment Scale for the most recent seven responses

To the right of the seven most recent scores on the Goal Attainment Scale is the spark line, which is the Goal Attainment Scale from the time you began goal monitoring (Figure 1.12). Again, by hovering over the spark line, you can see the date and score of the response.

Figure 1.12: Spark line of the Goal Attainment Scale

Complete Report of Goal Progress

To view a complete report of your goal monitoring, click on the report symbol on the far right (Figure 1.13).

Figure 1.13: Viewing a Complete Report

Once you click on the report symbol, you will be taken to the results page, where you may view the responses to questions in a larger graph format. To view any additional information or context to your response, hover over the point of interest (the orange circles) on the graph, and if you provided a response it will appear (Figure 1.14). To go back to the Dashboard, click on the green Close Results button on the right.
Responding to Outcome Measures (Health Questionnaires)

The Outcome Measures (health questionnaires) that have been selected by you and your primary care provider will appear in blue text (as shown by the red arrow in Figure 1.15). The frequency of responding to the Outcome Measures will not be as regular as goal monitoring.

To complete the Outcome Measure, click on the orange box with today’s date (as shown with the red box in Figure 1.15).

The questions that you are to answer for the day will appear in a pop-up. Under each question you may find instructions on whether you may select more than one response. At the top of the screen, navigations are provided so you are aware of how many questions you have completed. To proceed to the next question click Next (Figure 1.16). If you would like to go to the previous question, click Previous.
Once you have completed all questions in the Outcome Measures, you will be asked if you would like to review your answers or finish (Figure 1.17). If you would like to review prior to submitting, click on Review. If you are ready to submit at this time, select Finish.

**Missing a Day of Responding to the Outcome Measure(s)**
If you forget to provide feedback, the system will allow you to enter in your feedback for the previous day or session.
In the example below (Figure 1.18), the system is showing that responses for Thursday September 10th have not yet been completed. If you are able to recall the information from the previous day or session to provide feedback, please enter in your responses.

**Figure 1.18**: Completing Your Responses for a Previous Day

**Viewing Results to Outcome Measures (Health Questionnaires)**

To view your results to the Outcome Measures, on the **Dashboard** click on the **report symbol** on the far right (shown in the red box in Figure 1.19).

**Figure 1.19**: The Report Symbol on Your **Dashboard**

Once you click on the report symbol, you will be taken to the results page, where you may view the responses to questions in a larger graph format (Figure 1.20). To go back to the **Dashboard**, click on the green **Close Results** button on the right.
2.0 The ePROs Patient Mobile Application (App)

Using Your Smartphone

You will be provided with a Samsung GALAXY Core (Figure 2.0) for the duration of the study with data network coverage from Rogers Communications. Please note, patients will not be held responsible to pay for the loss or damage to the device.

This device is an Android smartphone that combines the functions of a smartphone and tablet. It has touch-screen capability, meaning that you touch the screen to use the smartphone.

Please note your device may be black or white in colour.

Figure 2.0: The Samsung GALAXY Core smartphone

Figure 1.20: Viewing Complete Results to the Outcome Measure
Turning Your Smartphone Device On and Off
The power button to turn on and turn off your device is located on the right side of your smartphone (Figure 2.1). Hold down the button for a few seconds to turn on and off the device.

![Figure 2.1: The On and Off Button](image)

When turning off your handheld device, tap on **Power off** (Figure 2.2). Your handheld device will turn off in a few seconds.

![Figure: 2.2: Powering Off the Handheld Device](image)

Turning Your Screen On and Off to Save the Battery
When your smartphone is on and you have not used it for a few minutes, the screen will turn off and appear black. This is done to save the battery. This does not mean the smartphone is turned off, it just means the screen is turned off.

To turn the screen back on, click on the same power button you did to turn on the phone (Figure 2.3). To turn off the screen, click on the same button.
Charging Your Smartphone
You will find an image of a battery on the top right hand corner of your smartphone screen. This provides you an indication of the smartphone’s battery level (Figure 2.4).

In the smartphone’s box, you will find a charger (Figure 2.5). The wire with the smaller end is inserted in the smartphone. The wire with the larger end is inserted into the charger. Your charger and wire may be black or white in colour.
When your battery is low, take the charger and plug it into the phone as shown in Figure 2.6. Plug the charger into the handheld device first and then into the electrical socket. You will notice on the smartphone, the battery icon will have a lightning bolt symbol to indicate it is charging.

**Figure 2.5:** Your charger and charging wire.

Network Connectivity

The network connectivity icon indicates the strength of the network you are connected to. In this case Rogers Communications. You will notice an icon at the top right hand corner on your screen that resembles a triangle with bars (Figure 2.7).

**Figure 2.6:** Charging Your Smartphone
The more bars you have, the higher the strength of the network and the faster you will be able to send and receive information.

If there is only one bar, this means the network is weak. If you are in a place which blocks the network such as your basement or an elevator, you will find the number of bars decrease. This is only temporary. Once you are in an area where the network coverage is stronger, the bars will return.

**Navigating Using the Back Button**

When you are in the application and need to go back to the previous screen, tap on the back button which is located under the screen on the right hand side (Figure 2.8). Please note this button is flat.

The Basics

Once you turn on the smartphone, the device may take a few seconds to start up and load. You will be automatically taken to the ePROs Patient Mobile App (Figure 2.9).
**Logging In**

Once on the login screen, please type in your username first. Next, tap on the password field box to enter in your password (Figure 2.10).

After the first time, you will **not** need to enter in your user name each time you access the ePROs Patient Mobile App, unless you completely log out of the app.

If you are not using the mobile app for a few minutes, the smartphone will automatically lock you out and turn off the screen to save the battery. To turn the screen back on, click on the power button as described in the *Using Your Smartphone* section above. To unlock the mobile app, you will be required to enter in your password.
Logging Out
To completely log out of the mobile app, swipe your finger across the smartphone from the left to the right (as shown in Figure 2.11).

![Figure 2.11: Opening the Side Menu](image)

This will open a side menu on the left (Figure 2.12). Tap on **Logout**, and then **OK** to confirm your log out.

![Figure 2.12: Side Menu](image)

Navigating the Dashboard
Once you have logged in you will be taken to the *Dashboard* screen (Figure 2.13). On this screen, the goals and Outcome Measures that you have set with your primary care provider will appear.
Goal Monitoring Reminders

The goal that requires your feedback will have a reminder in the form of an orange circle with a number in it (shown in the red box in Figure 2.13). A number 1 means that you have one set of questions to answer, and a number 2 means you have two sets of questions to answer (i.e., you missed providing feedback on the previous day). If there is a checkmark beside the goal it means your goal monitoring is up to date.

Figure 2.13: Your Mobile App Dashboard
Monitoring Your Goals

Completing Your Feedback to Monitor Your Goal(s)

Pick the goal you would like to provide feedback for, by tapping on the goal name. A new screen will appear. The Purpose Statement (overarching goal category) will appear at the top of the screen, followed by a menu bar (Figure 2.14).

To provide feedback, ensure you are on the Feedback tab and select the date you would like to provide feedback for.

![Figure 2.14: Selecting the Goal and Date to Provide Feedback](image)

The questions that you are to answer for the day will appear in a pop-up. The response options may be in multiple-choice format, open-text (allowing you to type an answer), a sliding scale or a photograph. To proceed to the next question tap Next (Figure 2.15). If you would like to go to the previous question, tap Previous.

![Figure 2.15: Responding to Questions Monitoring Goal Progress](image)
For questions that require you to type in a response, tap on the text box (shown in the red box in Figure 2.16) and the keyboard will appear at the bottom of on your screen.

![Image of text box with sample text]

**Figure 2.16: Responding to Open Text Questions**

Once you have completed all questions in the goal monitoring assessment, you will be asked if you would like to review your answers or finish. If you would like to review prior to submitting, tap on **Review**. If you are ready to submit at this time, tap on **Finish**.

Once you have finished, on the goals page you will notice a checkmark beside the day you just completed the tracking for (Figure 2.17). This signifies the goal monitoring is complete. To provide feedback for another goal, tap on the **home button** (shown in the red circle in Figure 2.17) to go back to the **Dashboard**. Then from the list, select the goal for which you would like provide feedback for and repeat the steps described above.

![Image of goals page with checkmarks]

**Figure 2.17: Goals Monitoring Completed**
**Missing a Day of Providing Feedback**

If you forget to provide feedback, the system will allow you to enter in your feedback for the previous day.

In the example below (Figure 2.18), the system is showing that feedback for Thursday September 10th has not yet been completed. If you are able to recall the information from the previous day to provide feedback, please enter in your responses. The more comprehensive your goal monitoring is, the more information your primary care provider will have to make clinical decisions about your care.

![Figure 2.18: Completing Feedback from a Previous Day](image)

**Viewing Your Goal Progress:**

From the *Dashboard*, select the goal which you would like to review your progress on. Once on the goals page, tap on the **Results** tab from the menu bar. If you would like to review your photographs, tap on the **Photo** tab.

![Figure 2.19: Selecting the Results Tab to Review Feedback](image)
Once on the Results tab, you will be able to review the responses to questions in a graph format (Figure 2.20). To go back to the Dashboard, tap on the home button (as shown in the red circle).

**Figure 2.20:** Viewing Your Complete Goal Monitoring

**Responding to Outcome Measures (Health Questionnaires)**

The Outcome Measures (health questionnaires) that have been selected by your primary care provider will appear in the Dashboard as mentioned previously. The frequency of responding to the Outcome Measures will not be as frequent as responding to the goal monitoring.

To complete the Outcome Measure:

1. Tap on health assessment you would like to complete from the Dashboard screen.
2. Select the date you would like to provide feedback for.
3. Answer the questions part of the assessment. To proceed to the next question tap on Next. If you would like to go to the previous question, tap on Previous.
4. Once you have answered all the questions, prior to submitting you can review your responses by tapping on Review. If you are ready to submit at this time, tap on Finish to submit.

**Missing a Day of Responding to the Outcome Measure(s)**

If you forget to provide feedback, the system will allow you to enter in your feedback for the previous day or session. If you are able to recall the information from the previous day or session to provide feedback, enter in your responses by following the steps listed above.
Viewing Results to Outcome Measures (Health Questionnaires)

To view your results on the Dashboard tap on the Outcome Measure that you’d like to review. Next tap on the Results tab in the menu bar and you will be able to review your results in a graph format.