

Symptom Tracker

makes your research more efficient and more fun!



If you are planning a research study where the participants regularly have to answer questions or enter specific values about their symptoms or sensations, Symptom Tracker will make your life much easier.

Symptom Tracker is a new smartphone application designed for research studies. However, Symptom Tracker is more than just an app. It comes with everything you need to conduct your research study electronically. With Symptom Tracker, the study participants can enter all data directly into their

smart-phones. Notifications can even be used to remind participants to enter their symptoms.

All the participant's data is sent immediately to the server where it is securely stored in your database. Our secure administration website enables you to safely login and monitor the data in real time. All of your data is available for you to download at any time.

The advantages:

- ▶ Increase participant compliance: The participants will follow your study protocol more reliably thanks to the reminder function.

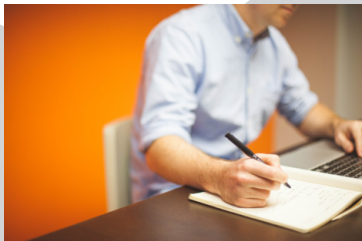
- ▶ Reduce study processing time and costs: Hours of staff time and costs are reduced as there is no need for the tedious work of collecting and scanning paper symptom diaries.
- ▶ Reduce the likelihood of errors in your data: There is no need for potentially error-prone digitalisation or manual data entry. Instead, all your data is ready for download with just one click.

Let us convince you in the following pages, that Symptom Tracker will make your research indeed more efficient and more fun!

How Can You Use Symptom Tracker in Your Study?

Get an idea of how you can incorporate Symptom Tracker in your study with the following three-step process.

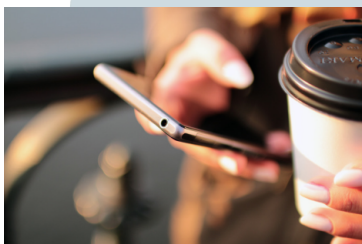
Step 1: Design your Study



How many participants do you intend to include in your study? What symptoms would you like them to record? Are there any additional questions you want them to answer, for instance age, weight and height for screening purposes? How often do you want them to receive a notification on their smart-phone as a reminder?

Quickly implement your study design via the administration website. The Symptom Tracker app automatically adapts to reflect your study design and presents your questions to the participants. We are glad to assist you with ethics approval by providing you with a technical description of Symptom Tracker.

Step 2: Start your Study



Provide each participant with a personal username and password, for instance during the informed consent process. Your participant can instantly download the app, login and start entering symptoms.

All data entered by the participants via smart-phone is sent to the server. At all times you can monitor the progress of the study and have a quick glimpse at the data entered so far. The monitoring feature enables you to recognize if a participant does not conform to the study protocol. This gives you the advantage to intervene as soon as possible.

Step 3: Analyse your Data



At all times, you can download your database as a CSV-File (comma separated values), which allows for an easy import into Microsoft Excel, Matlab, R, SPSS or any other tool for statistical analysis.

This feature enables you to perform a preliminary analysis part way through the study, which will give you an idea of whether to continue recruiting or not.

What Can You Do With Symptom Tracker?

Explore the possibilities of Symptom Tracker and how it can be tailored to suit your exact needs.

Flexible Design

Thanks to our modular and flexible design, Symptom Tracker can be quickly customized to your specific needs. The Symptom Tracker mobile application is available as a free download to your participants in the App Store and the Google Play Store. By specifying your study setup via the Symptom Tracker administration website, you can instantly adjust the appearance and function of the app. You provide your participants with a personal username and password, they download the app and log in to your specific study.

Your Study Setup

As the study coordinator, you are specifying the study setup. The study setup consists of the so called Symptom Groups, the Questions and the Reminder Schedule.

The Symptom Groups

By grouping your questions into several Symptom Groups, you can arrange your questions logically and clearly. For each Symptom Group, you can specify a visible title. Decide

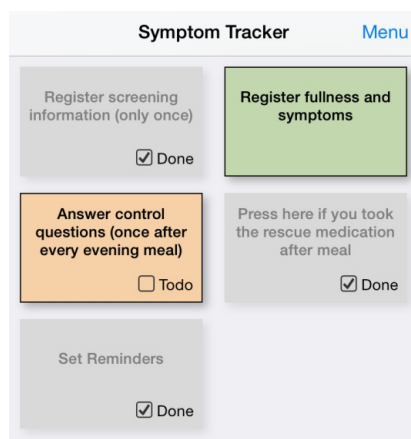


Figure 1: Symptom Groups

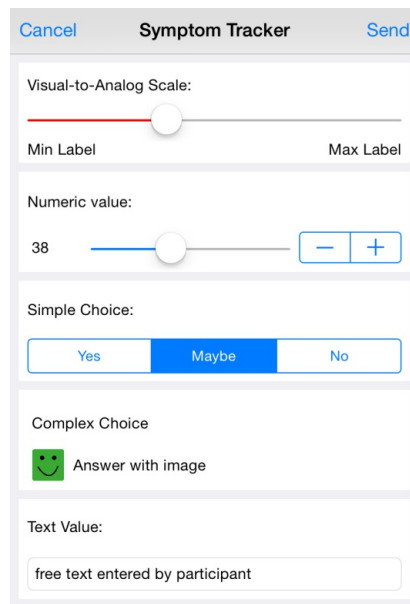


Figure 2: Symptom Types

if the participants have to enter the corresponding questions just once or repeatedly. Symptom Tracker visually illustrates this by marking a Symptom Group as "to do" or "done", respectively (cf. fig. 1). As the participant selects one of the Symptom Groups, the corresponding questions appear.

The Question Types

For each Symptom Group, you can define any number of different questions. Each question can be of one of the following question types:

- ▶ Visual-to-Analog-Scale (a moving slider with a customized minimum and maximum label)
- ▶ Numeric value (a number inside customized limits)
- ▶ Simple Choice (few short answers, e.g. yes, maybe and no)
- ▶ Complex Choice (many long answers, with images, e.g. the 7 choices of the Bristol Stool Scale).
- ▶ Free text input

See figure 2 for examples and try it out for yourself with our demo account.

The Reminder Schedule

Symptom Tracker comes with a notification system, which reminds the participants to register the symptoms according to your study protocol. During the study design, you can define, when the participants should register their symptoms. Just once? Every 3h

▶ continued on page 4

The Ascona Diet Study

In April 2015, Symptom Tracker made its first appearance during a congress held in Ascona, Switzerland.



The congress participants (faculty and visitors) were asked to participate in the study designed by the researchers from University Hospital Zurich, Switzerland.

For 4 days, 80 participants were tracking their fullness and reflux and dyspeptic symptoms during and after each evening meal. With the data gathered in this study, the researchers investigated the impact of the meals' calorie and fat content on these symptoms. Symptom Tracker made it feasible to register symptoms of all participants during their evening meals.

during day-time (but not during the night)? Once a day for a month? Twice a day, once on 08:00 in the morning, once on 17:30 in the evening? Anything is possible. You can define your reminder times as absolute values (e.g. on 2nd February, 2016 at 08:00 CEST) as well as relative values (e.g. 24h after the participant sets the reminders).

The Participants' Logins

You can have as many participants as you like. Just create a new participant by entering an arbitrary username and password, and instantly, these credentials can be used to login to the Symptom Tracker App! For larger studies, you can even upload a list of usernames and thereby create hundreds of accounts within seconds.

The Administration Website

As the study coordinator, you get access to our administration website. Via the administration website, you are in full control of your study setup. Amongst other things, you can:

- ▶ Change the study setup (add, remove and change symptom groups and questions)
- ▶ Change the schedule (add, remove and change notifications)
- ▶ Add and remove the participant's logins (usernames and passwords)
- ▶ View and download the study data tracked by your participants



Is Symptom Tracker secure?

Since patients and healthy subjects enter sensitive personal data into Symptom Tracker, information security is one of our main concerns. Typically, a local ethics committee also demands a certain security standard for any IT system used in a research study. This is why we secure all data transfer between the participant's smart-phone and our server with the Transport Layer Security protocol (TLS) using a certificate issued by the SwissSign AG certification authority. Additionally, we recommend all our clients use anonymized login details, i.e. login details which do not give any indication as to the identity of the participant. A master-key-file or study identification log should be kept somewhere secure in case unblinding or separate identification of participants is necessary.

Are you interested? Please contact us for a free test-run with your specific study setup!

Try out our demo!

- ▶ Download the Symptom Tracker App from the App Store (iPhone) or the Google Play Store (Android Phone). Search for SymTrack.
- ▶ For Windows Phones, open your mobile browser instead and visit symtrack.gastric.ch.



Log in with the demonstration account:

- ▶ Username: demo
- ▶ Password: 1234
- ▶ Study-ID: demo

Contact us at info@gastric.ch. We are glad to provide you with a demo account for our administration website and give you any further details. Please request our current price list.

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