



***mobilizing the participant voice***

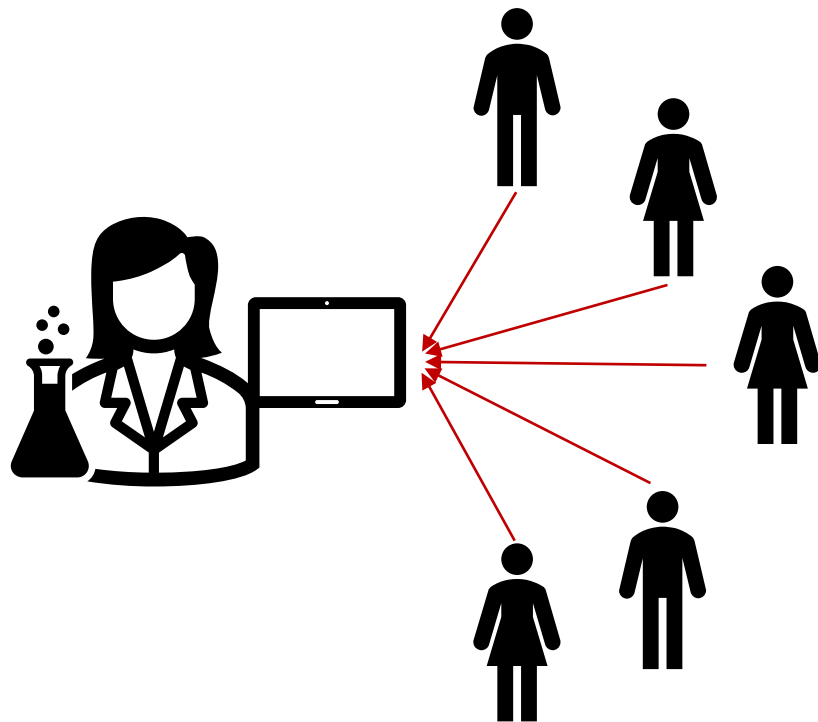
**Dionne Grant and Jess Eidenmuller**

Vanderbilt Institute for Clinical and Translational Research (VICTR)

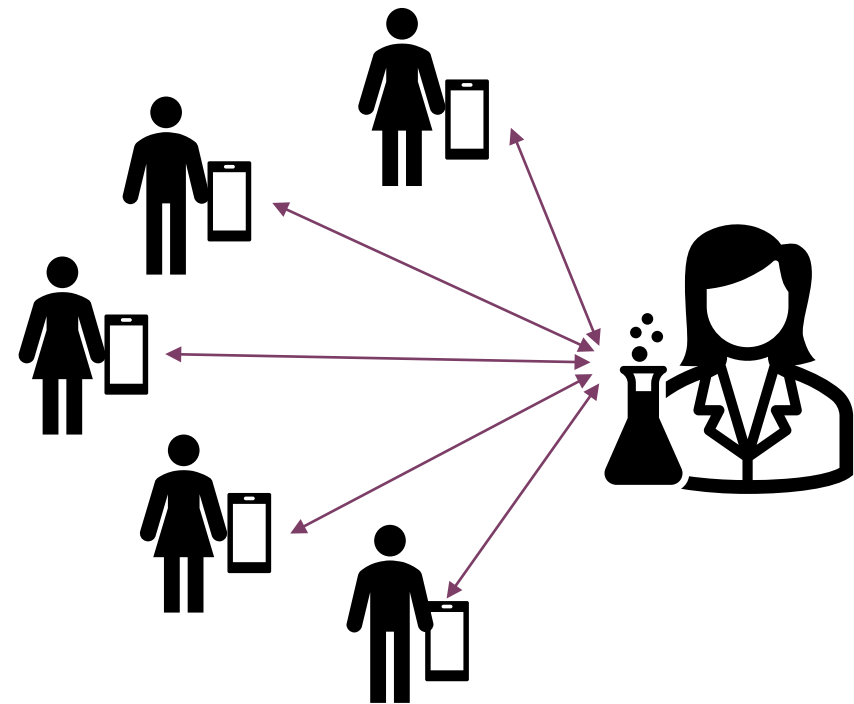
<https://projectmycap.org>  
[mycap@vumc.org](mailto:mycap@vumc.org)

# REDCap Mobile Solutions – *REDCap Mobile App & MyCap*

The REDCap Mobile App and MyCap are two mobile applications that help extend REDCap’s functionality to capture patient-reported outcomes.



REDCap Mobile App is used by **data collectors**  
(REDCap users)



MyCap is an app used by **study participants**  
(Family members)



# The Basics: What is MyCap?

**A tool for researchers** – a customizable participant-facing mobile application freely available to capture patient reported outcomes based a REDCap project.

**A tool for participants** – a centralized study ‘home’ for information and actions that facilitates continuous participant engagement and participant retention.



# The Participant's “Research Home” away from clinic

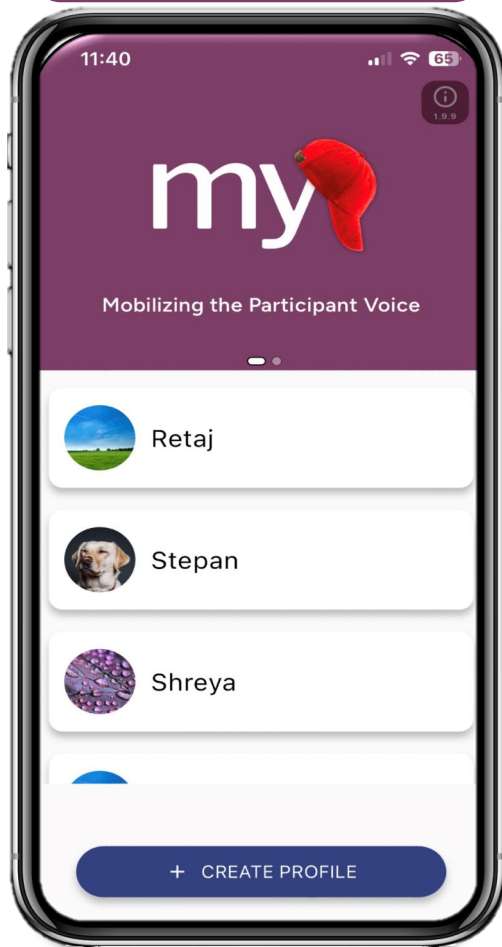
## Participants can:

- Submit data and complete research activities
- Send / receive messages (e.g., ask study questions; receive reminders for upcoming events, appointments, visits)
- Locate study & contact information
- Access links to web-based information and resources

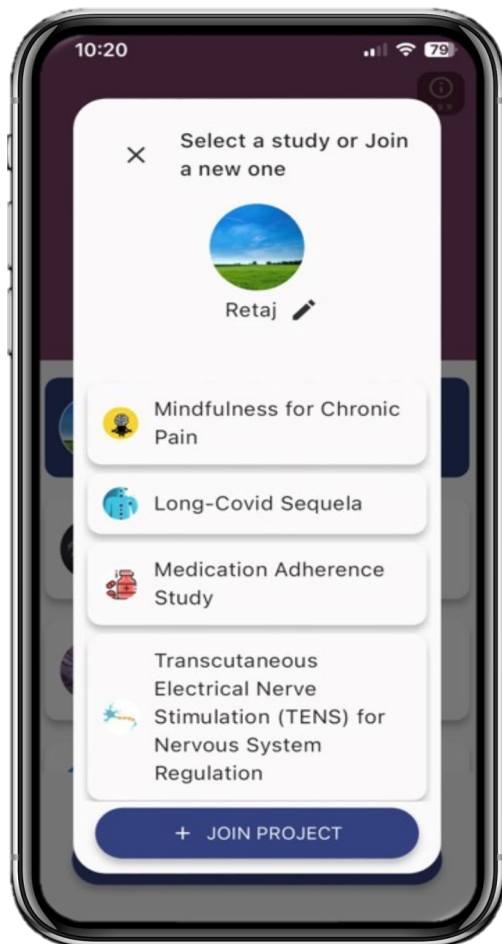


# Key MyCap Features

## Multiple Participants per Device



## Multiple Studies per Participant



## Customized Daily Task Reminder



## Customized Task Scheduling

**Set the Task Schedule:**

Schedule it how many times?

- One Time
- Infinite
- Repeating
  - Repeats:
  - Fixed
  - On Day(s):

Number of days to delay:

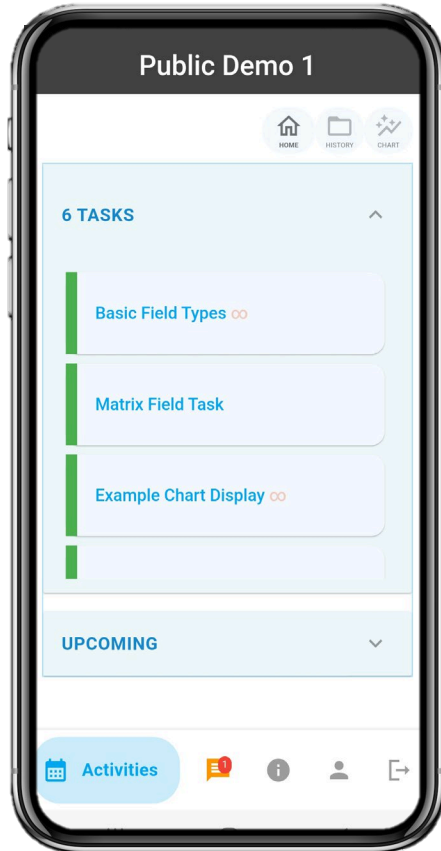
End this Repeating task

- Never
- When any of the below conditions are TRUE:
  - After it has been completed  times
  - After  days have elapsed
  - At exact date:  M/D/Y

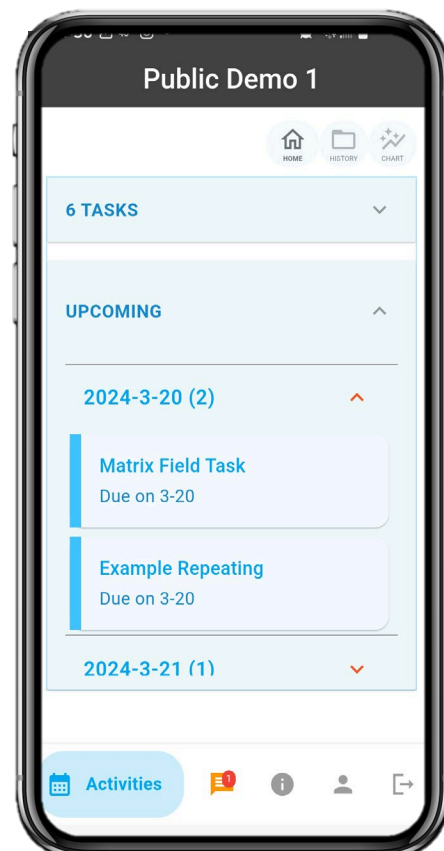


# Task Completion & Anticipation

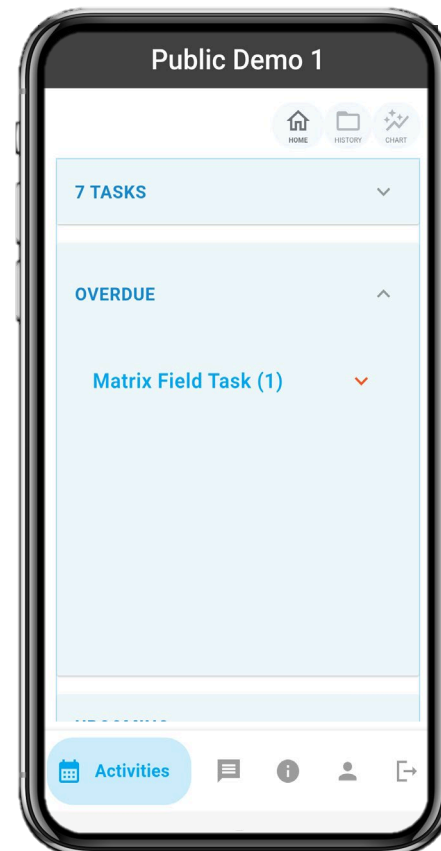
## Today's Tasks



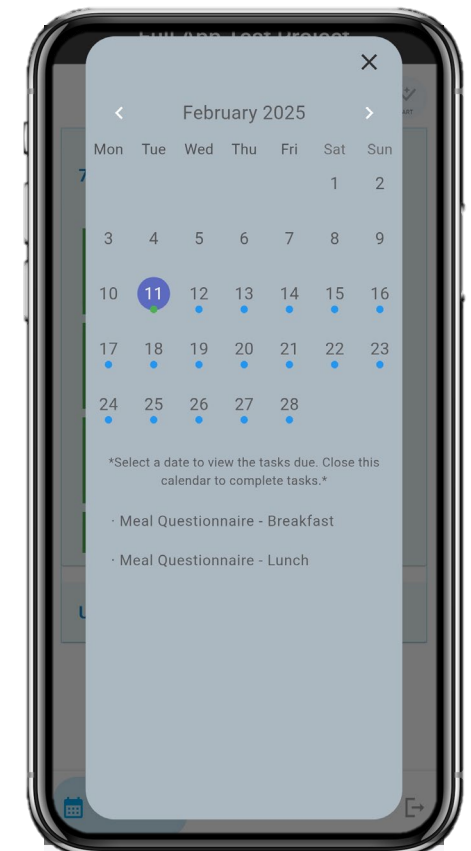
## Upcoming Tasks



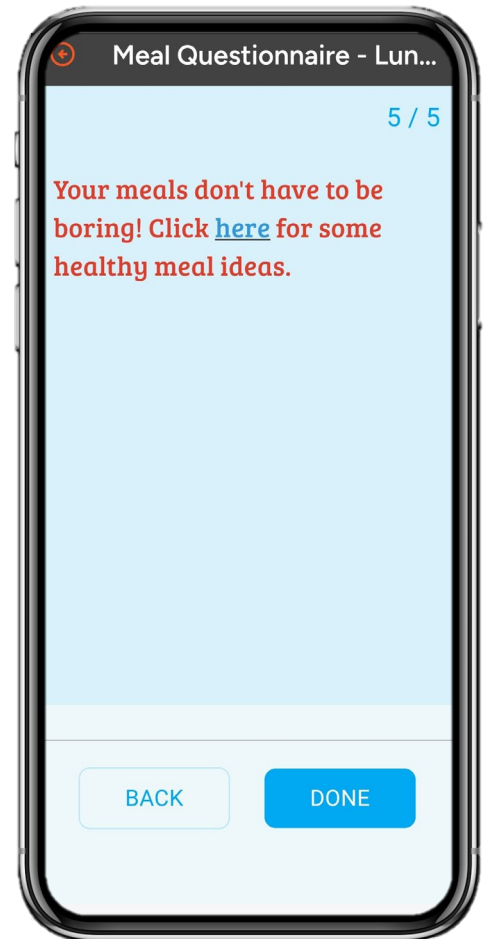
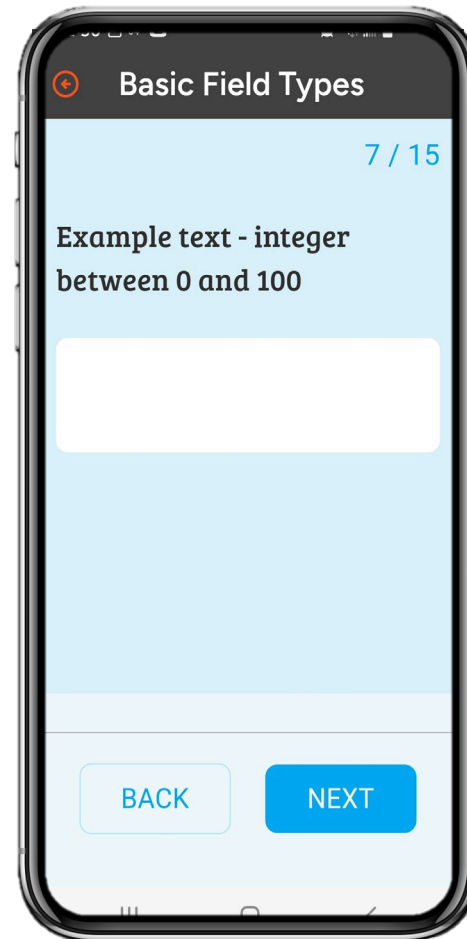
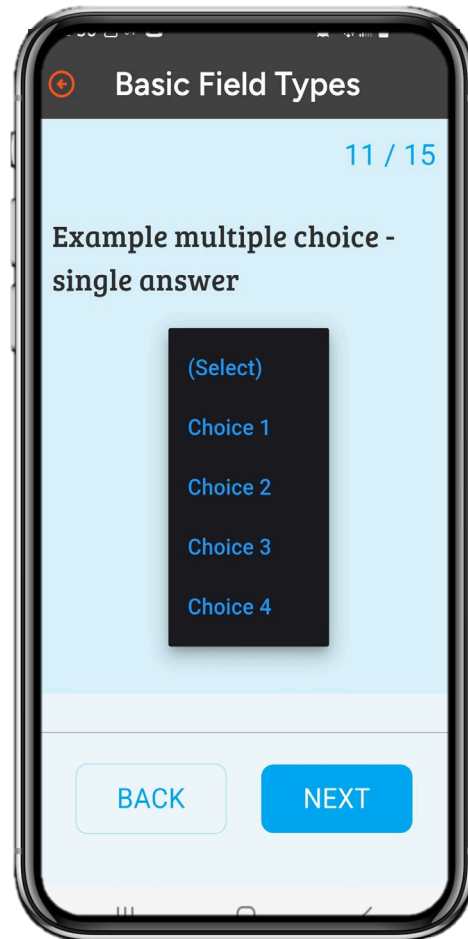
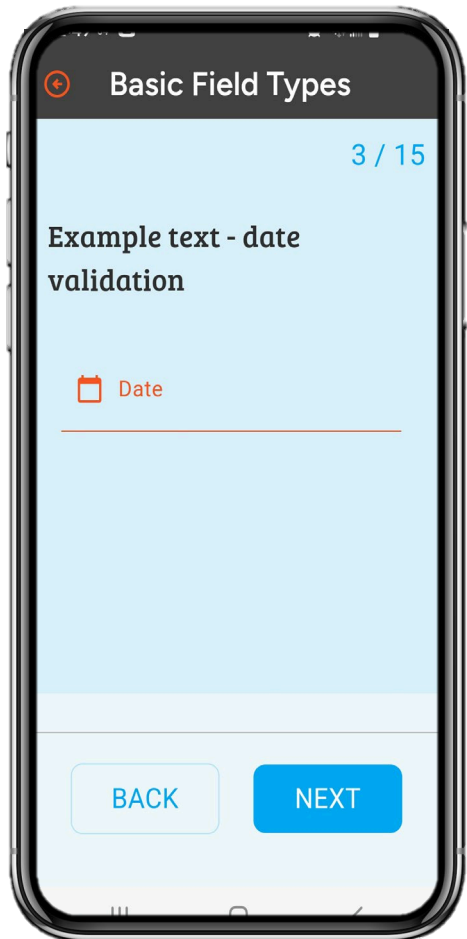
## Overdue Tasks



## Calendar View

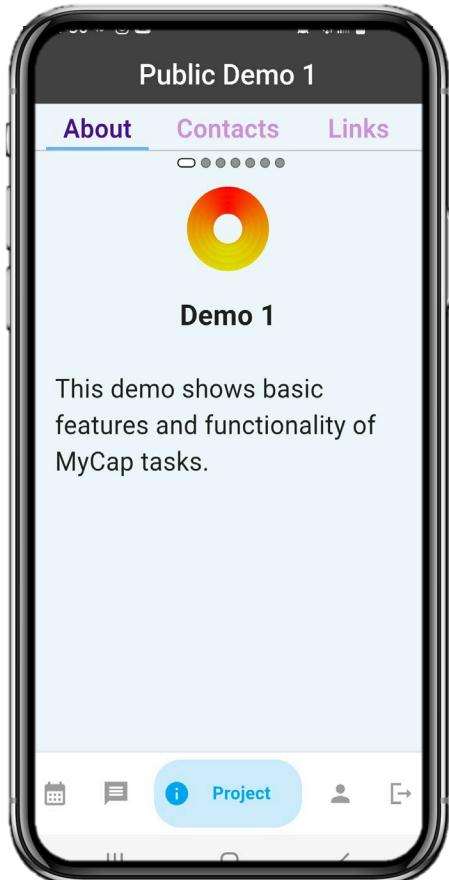


# Participant Surveys

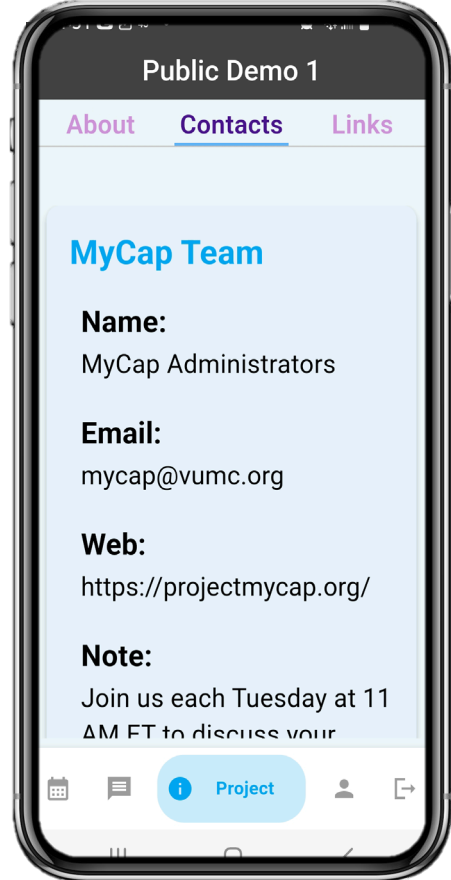


# Additional Features

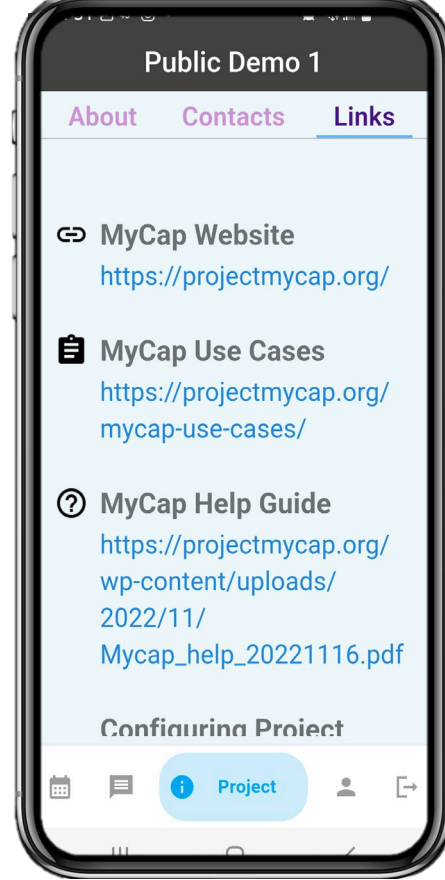
## About Pages



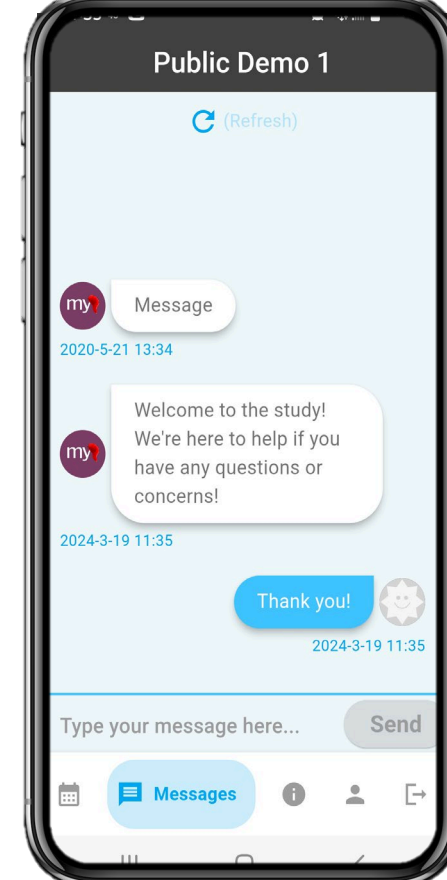
## Contacts Page



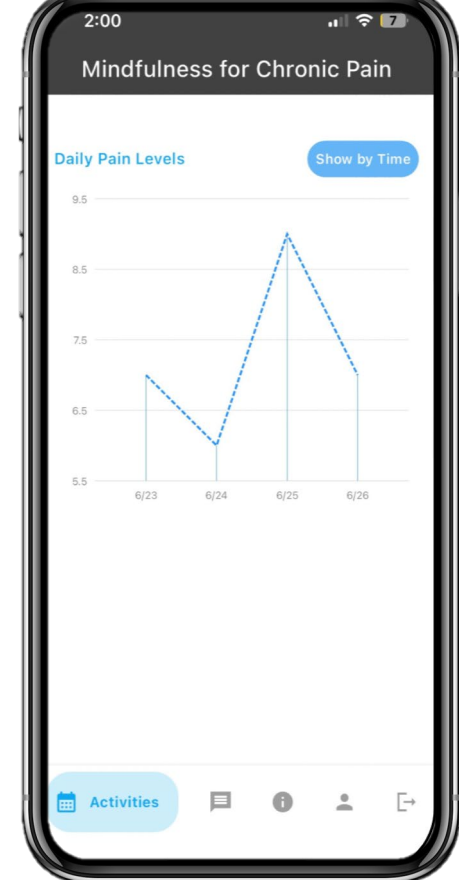
## Hyperlinks to Web-Based Resources



## Bi-directional Messaging



## Customize Timing of 1x Daily Task Reminder

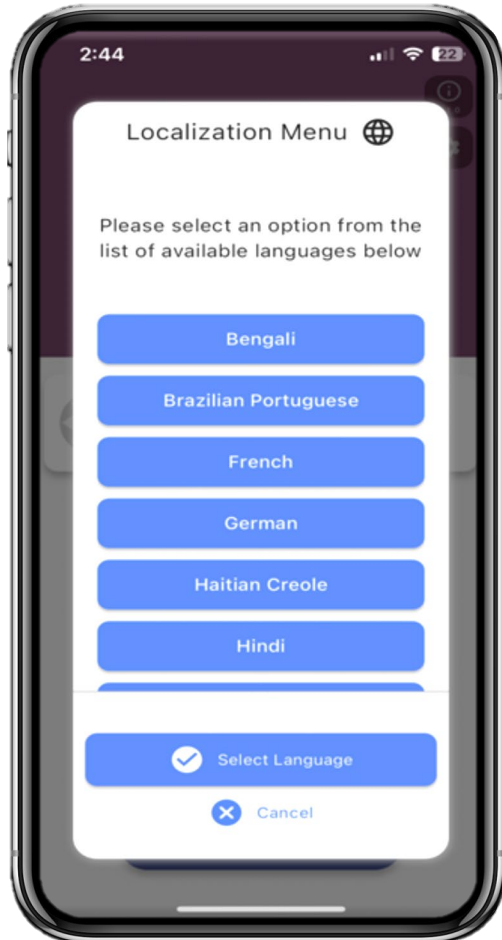




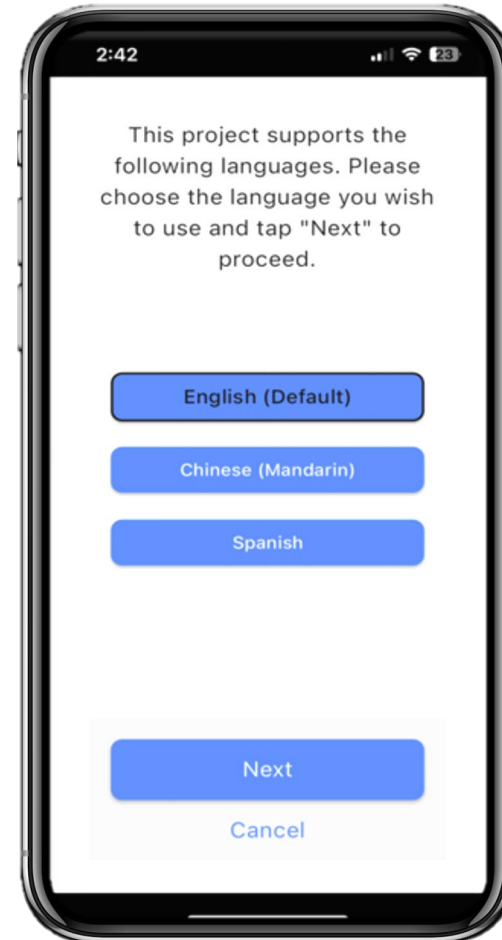
# Multiple Languages

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**MyCap Available in  
17 Languages**



**REDCap's Multi-  
Language Management**



# MyCap “Active Tasks”

**Data Collection Instruments**

[+ Create](#) a new instrument from scratch  
[Import](#) a new instrument from the official [REDCap Instrument Library](#)  
[Upload](#) instrument ZIP file from another project/user or [external libraries](#)  
[+ Import Active Task](#) for MyCap from a library of Active Tasks

Form options: [Form Display Logic](#)

MyCap Options: [App Settings](#), [e-Consent and PDF Signatures](#)

Instrument name	Fields	View PDF	Enabled as survey	Enabled MyCap task
<b>Hearing</b>				
<a href="#">Environment SPL</a> <small>[Not implemented]</small>				N/A
<a href="#">Tone Audiometry</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">dBHL Tone Audiometry</a> <small>[Not implemented]</small>				N/A
<b>Hand Dexterity</b>				
<a href="#">9-Hole Peg Test</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<b>Vision</b>				
<a href="#">Amsler Grid</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<b>Selfie Capture</b> <small>[Capture a selfie using the front facing camera with facial detection]</small>	🤖	🤖🍏	<a href="#">+ Add</a>	
<b>Motor Activities</b>				
<a href="#">Range of Motion</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Gait and Balance (Short Walk)</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Tapping Speed</a>	🤖🍏	🤖🍏	<a href="#">+ Add</a>	
<b>Fitness</b>				
<a href="#">Fitness</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Timed Walk</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<b>Cognition</b>				
<a href="#">Spatial Memory</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Stroop</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Trail Making Test</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Paced Serial Addition Test (PSAT)</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Tower of Hanoi</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Reaction Time</a> <small>[Partially implemented. Results are not sent to REDCap.]</small>				N/A
<b>Speech</b>				
<b>Audio Recording</b> <small>[Record spoken phrases using the microphone.]</small>	🤖	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Sustained Phonation</a>	🍏	🤖🍏	<a href="#">+ Add</a>	
<a href="#">Speech Recognition</a> <small>[Partially implemented. Speech recognition image is not supported.]</small>				N/A
<a href="#">Speech in Noise</a> <small>[Not implemented]</small>				N/A

# MyCap Supports NIH's Mobile Toolbox (MTB)
























- MTB is a research platform of cognitive and other tests, administered remotely on a smartphone.
- Smartphone versions of assessments from the NIH Toolbox, the International Cognitive Ability Resource, and the Patient Reported Outcomes Measurement Information System.

<https://mobiletoolbox.org/>

ResearchKit   Mobile Toolbox

The Mobile Toolbox (MTB) is a research platform that includes a library of cognitive and other tests that can be administered remotely on a smartphone. The MTB's measures include smartphone versions of assessments from the NIH Toolbox, the International Cognitive Ability Resource, and the Patient Reported Outcomes Measurement Information System. The MTB also includes short versions of cognitive tests for research that uses burst design. The items listed below are the MTB tasks that are available for use in the MyCap mobile app. **Note:** Participants using an iOS device will need to be on iOS version 13+.

See [Mobile Toolbox](#).

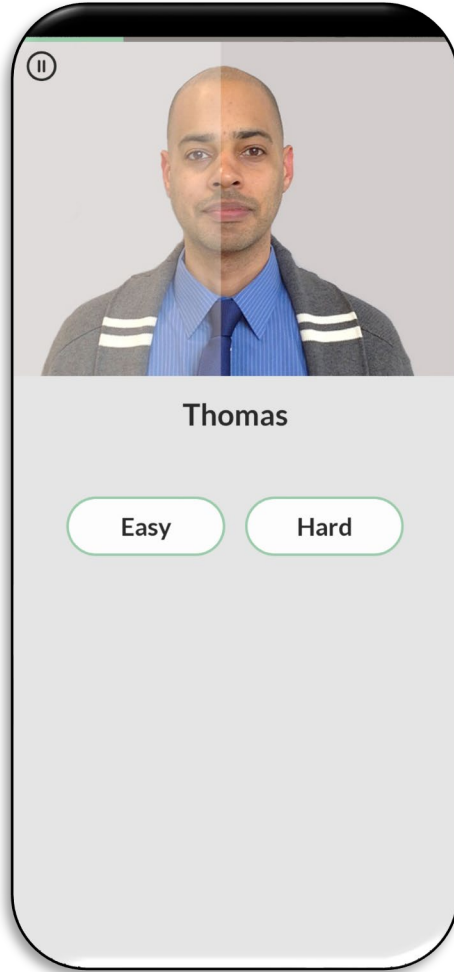
Mobile Toolbox Tasks	 (MyCap)	Action
Arranging Pictures	 	<a href="#">+ Add</a>
Arrows	 	<a href="#">+ Add</a>
Faces and Names 1A	 	<a href="#">+ Add</a>
Faces and Names 1B	 	<a href="#">+ Add</a>
Number Match	 	<a href="#">+ Add</a>
Sequences	 	<a href="#">+ Add</a>
Shape-Color Sorting	 	<a href="#">+ Add</a>
Shape Color Sorting (Deprecated)	 	<a href="#">+ Add</a>
Spelling	 	<a href="#">+ Add</a>
Word Meaning Form 1	 	<a href="#">+ Add</a>
Word Meaning Form 2	 	<a href="#">+ Add</a>

# Mobile Toolbox

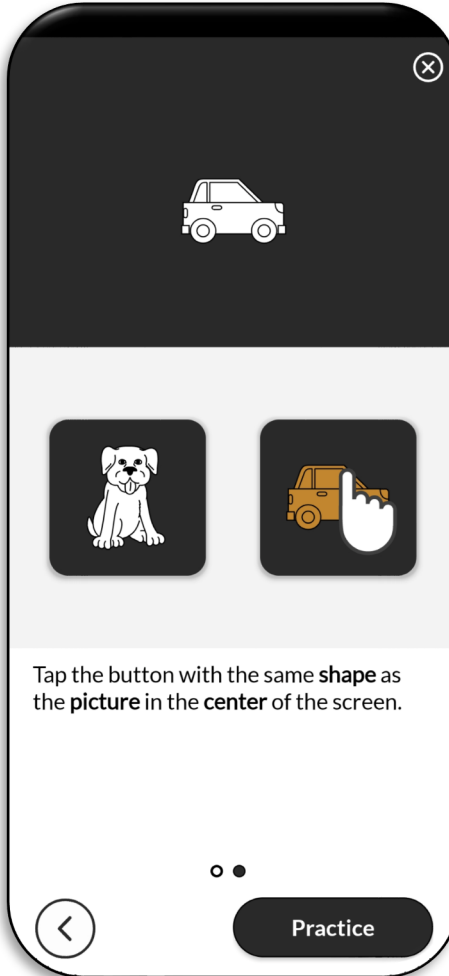
## Word Meaning



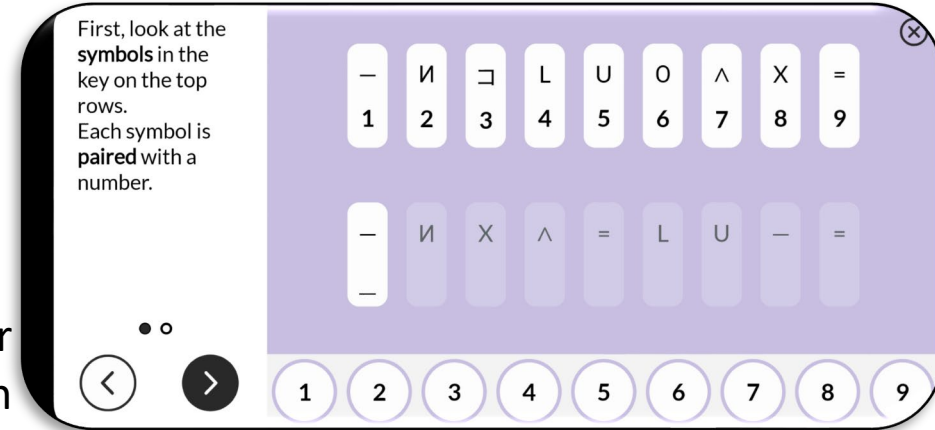
## Faces & Names



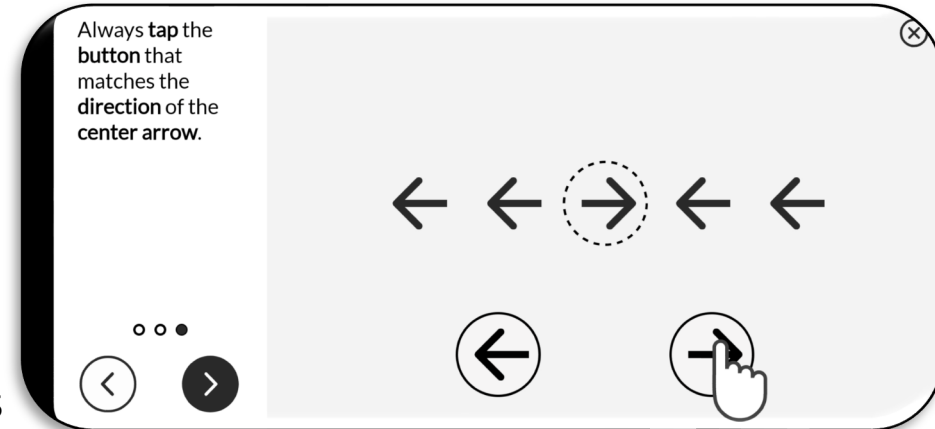
## Shape Color Sorting



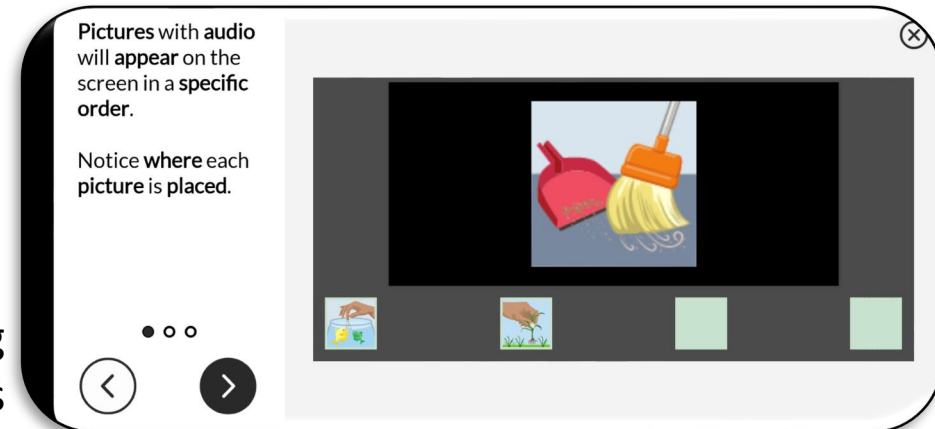
## Number Match



## Arrows



## Arranging Pictures



# Planned Enhancements

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## ***Coming in 2025:***

- Support for REDCap's Form Display Logic
  - Trigger tasks
  - Discontinue tasks
- Task-specific notifications (multiple notifications per day)



# When is MyCap a Good Fit for a Study?

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Multiple methods of participant engagement



Remote participation (vs. in clinic)



Frequent or recurring data collection



Active Task / Mobile Sensing Activities



Bi-directional messaging



Participants may have intermittent internet connection

As of February, 2025...

\* Monthly Increase

21,729

+1400\*

Participants

5,579

+654\*

Projects

877

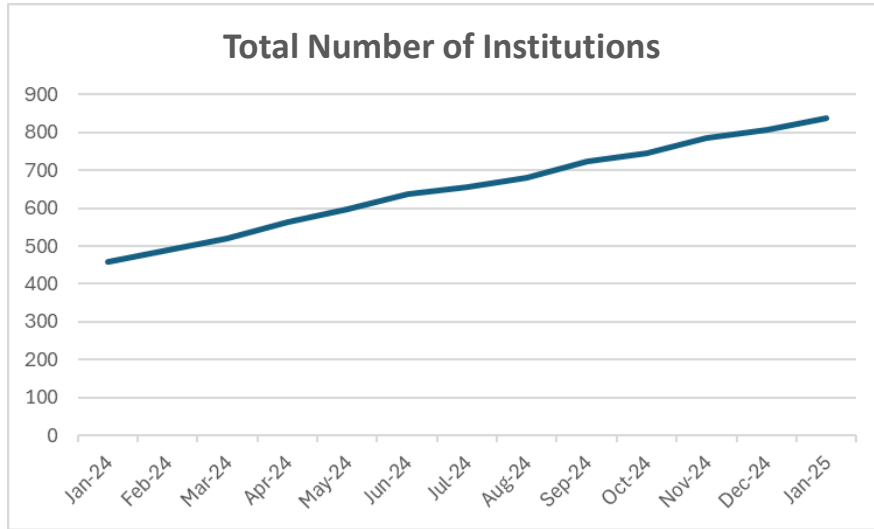
+39\*

Institutions

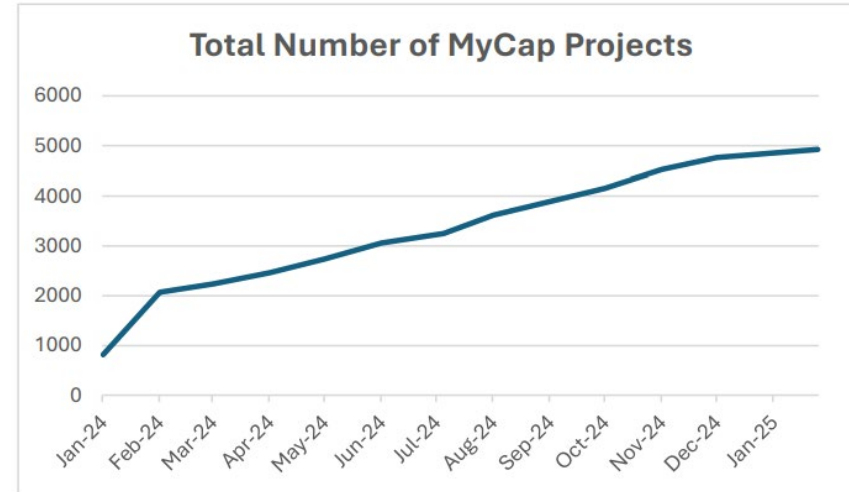
77

Countries

# MyCap Utilization



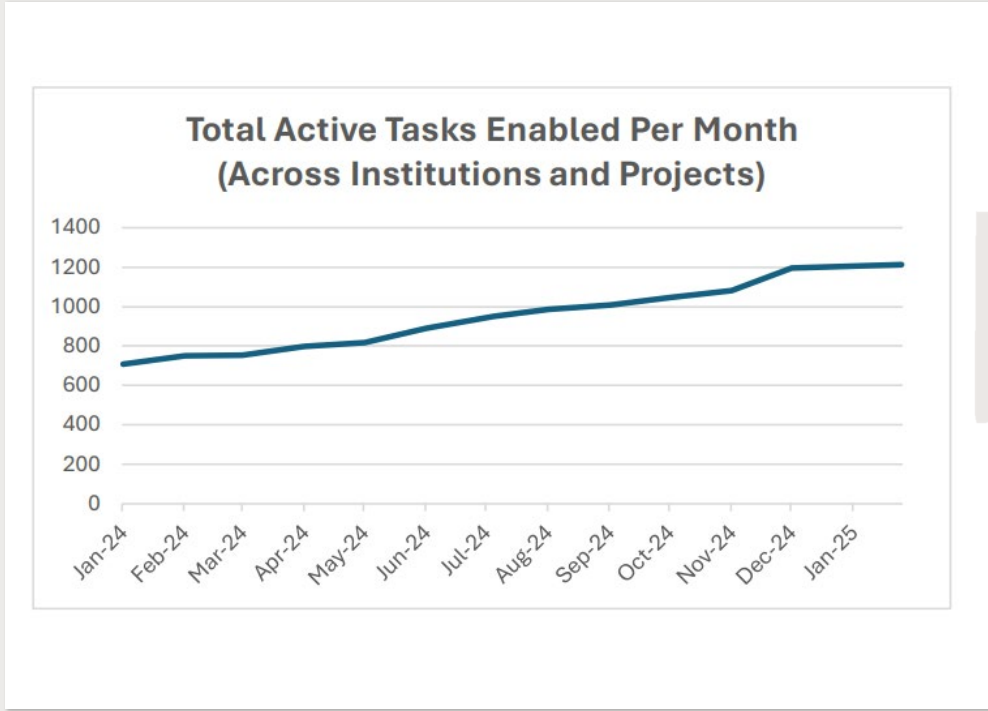
**+ 155%, (+12.4k) YoY \***



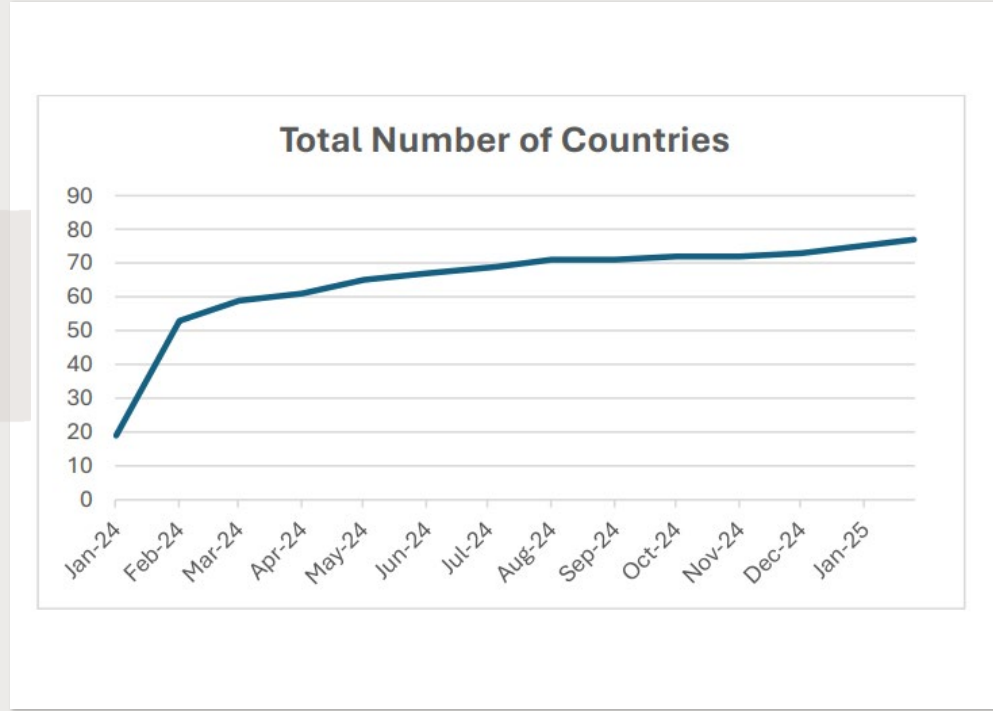
**+ 505%, (+4.1k) YoY \***

## MyCap Growth: January 2024-January 2025

\* January 2025 metrics compared to January 2024



**+ 83%, (+381) YoY \***



**+ 305%, (+58) YoY \***

# MyCap Growth: January 2024-January 2025

\* January 2025 metrics compared to January 2024

# Use Cases

<https://projectmycap.org/mycap-use-cases/>

- Evaluation of MyCap to capture PROs from **women in early stages of labor**
- Parkinson's **Disease Identification using finger tapping task**
- **Remote patient monitoring/surveillance**
- Assessment of **Anxiety in Pediatric Patients** with Multiple Sclerosis
- **Medication Adherence** (with adults) and **post-intervention symptom monitoring** (w/ child caregivers)
- Post-surgery Home Exercise Intervention (**activity reporting**)
- **Program delivery:** Behavioral Intervention Tracking
- Disparities in autism spectrum disorder diagnosis **with caregivers and children on the same device:** Evaluation of diagnostic accuracy, psychometric properties, and **family engagement**

## MYCAP USE CASES

Below are select MyCap use cases gathered through bibliometric searches. If you have a published or written up use case, please submit it [here](#).

Study Information	MyCap Utility	Audience	References
<b>Evaluation of Women in Active Labor.</b> A collaboration of five academic centers across the United States utilized MyCap to collect real-time information about individual's experiences from the onset of spontaneous labor through hospital admission for birth.	Patients track contraction frequency and duration in MyCap when symptoms of labor begin. They also record symptoms and coping methods when the latent phase of labor progresses.	Pregnant women	Click <a href="#">here</a> to read more.
<b>Assessment of Anxiety in Pediatric Patients with Multiple Sclerosis</b> – The NYU Langone Multiple Sclerosis (MS) Center utilized MyCap to monitor anxiety levels of patients with MS while enrolled in an intervention that assessed the use of Attention Bias Modification Training for anxiety reduction.	Participants completed questionnaires related to their depression, anxiety, and affect on MyCap pre-intervention, weekly during the 1-month intervention, and post-intervention.	Pediatric patients	Click <a href="#">here</a> to read more.
<b>Remote Patient Monitoring (RPM)</b> – The Mt. Sinai Health System utilized MyCap to monitor patients who recently suffered a stroke or were at risk for stroke to assess their need for triage and care.	Patients assessed their BP and heart rate daily and entered values into MyCap.	Adults	Click <a href="#">here</a> to read more.
<b>Remote Patient Monitoring (RPM)</b> - The Mt. Sinai Health System launched the COVID-19 Precision Recovery Program in 2020, using MyCap for remote patient monitoring.	Patients logged daily symptoms and physiologic data in MyCap, which were monitored by clinical staff to identify when triage or in-person care was needed.	Adults	Click <a href="#">here</a> to read more.
<b>Medication Adherence.</b> The University of Washington and Sammamish TruMedicines conducted a pilot study assessing efficacy of mobile apps in measuring or encouraging medication adherence.	Participants photographed a pill before daily consumption and answered accompanying health-related questions.	Adults	Click <a href="#">here</a> to read more.
<b>Covid-19 Surveillance.</b> Vanderbilt University Medical Center conducted a COVID-19 surveillance study at a local high school and used MyCap to connect participant samples with test results.	Participants collected weekly saliva samples and completed symptom questionnaires. MyCap's barcode scanning feature linked participant sample test tubes to test results, which were pushed to participants' MyCap app.	Highschool students & teachers	Click <a href="#">here</a> to read more.
<b>Parkinson's Disease Identification.</b> Weill Cornell used MyCap to identify Parkinson's Disease patients from Healthy Controls by utilizing the Tapping active task.	Participants completed the active tapping task 2x about 1 hour apart, 3 days per week, for 5 weeks on MyCap.	Adults	Click <a href="#">here</a> to read more.

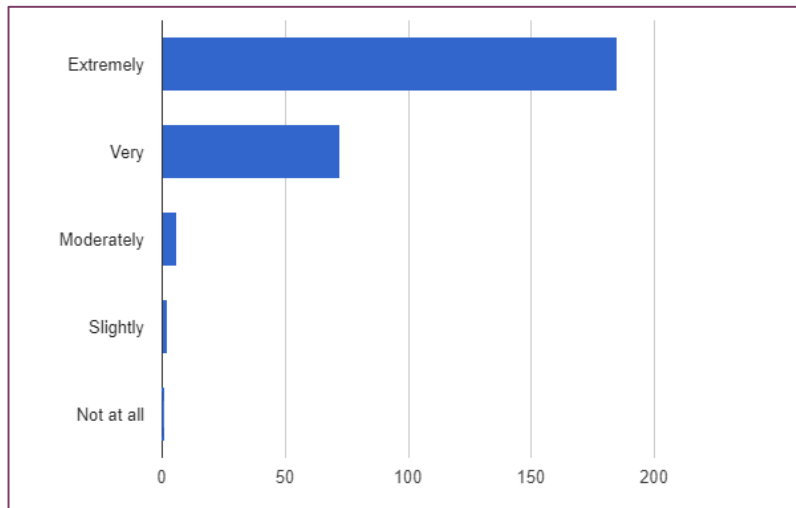


# Participant Feedback:

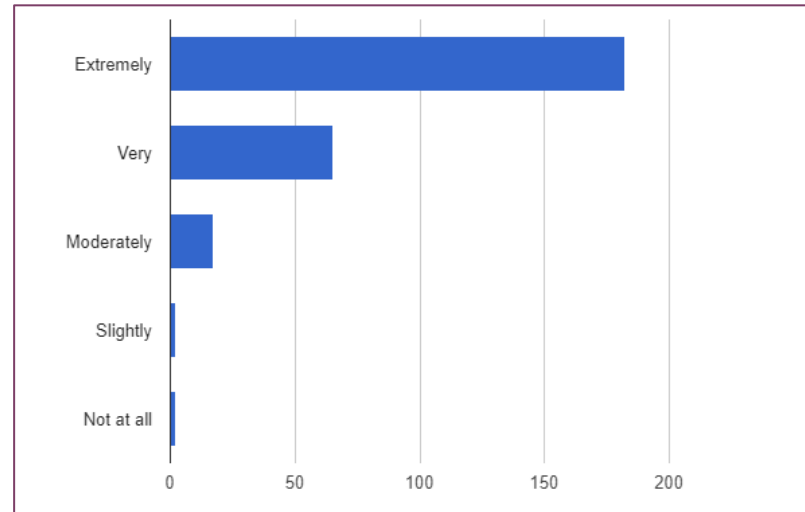
*Evaluating Use of MyCap within a financial incentives study (n=268)*

- On what type of **device** did you use MyCap? **Android (50.4%) | iOS (49.6%)**
- Did you have any **problems** using MyCap? **Yes (4.5%) | No (95.5%)**
- Did you have any **concerns about the confidentiality** of the data provided in MyCap? **Yes (2.2%) | No (97.8%)**

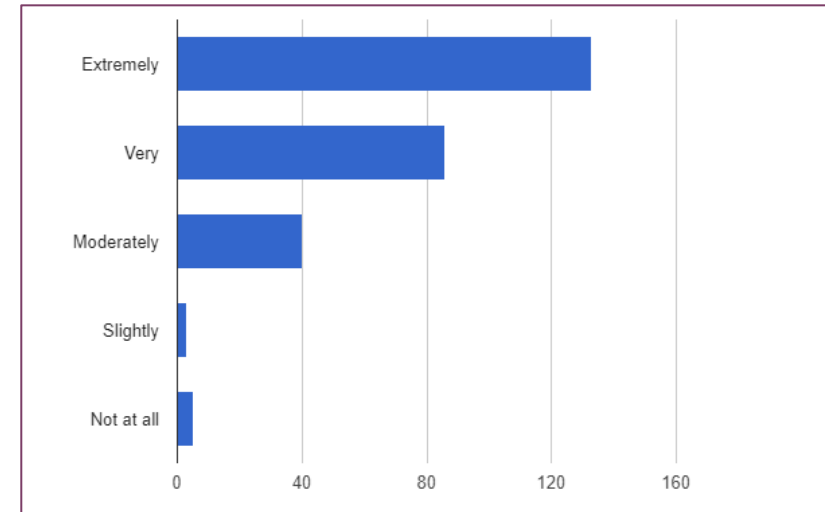
**Easy to Join**



**Easy to Complete Tasks (surveys)**



**Easy to Complete Active Task (tapping task)**



# Participant Demographics

Characteristic	Responded to invitation	Said yes + downloaded MyCap	Declined participation
	<i>n</i> = 492	<i>n</i> = 286	<i>n</i> = 50
<b>Age</b>	<i>N</i> (%)	<i>N</i> (%)	<i>N</i> (%)
<b>18–29</b>	118 (23.9)	<b>71 (25)</b>	6 (12)
<b>30–49</b>	186 (37.8)	<b>127 (44.7)</b>	13 (26)
<b>50–64</b>	104 (21.1)	<b>52 (18.3)</b>	13 (26)
<b>65–74</b>	56 (11.3)	<b>25 (8.8)</b>	10 (20)
<b>75 and older</b>	21 (4.2)	<b>8 (2.8)</b>	8 (16)
Prefer not to answer	1 (<1)	<b>1 (&lt;1)</b>	0 (0)



## Race/Ethnicity

- American Indian/Alaska Native **n=6**
- Asian or Asian American **n=26**
- Black, African American, African **n=67**
- Hispanic, Latino, Spanish **n=63**
- Middle Eastern, North Africa **n=3**
- Native Hawaiian, other Pacific Islander **n=0**
- White, Caucasian **n=153**

# Additional Feedback:

## Ease of Use:

Participants, including the older adult cohort (55+) described MyCap as, “very user friendly and accessible”. - Dr. Branche: [Covid-19 vaccine trial](#)

Users told the study team that they found the app to be “very easy to use”. – Elise McGlashan: Assessment of Anti-depressants on Circadian Clock- Turner Institute for Brain and Mental Health)

## Reduced Staff Burden:

"It (MyCap) saved countless man hours which would have been spent making weekly phone calls to subjects to document ILI symptoms. It also allowed us to have more accurate detection of ILI symptoms so that we could bring participants in for illness visits to screen for influenza infection and understand mechanisms of immune escape from vaccination.” – Dr. Branche: [Covid-19 vaccine trial](#)

## Effective Remote Coordination:

“MyCap was crucial in allowing us to conduct that work in a fully remote environment, which allowed us to include participants from all across the U.S.” – Dr. Meier: [FACCT Study](#)

“We are all over the country and MyCap allowed us to work together really well.” – Dr. Phillippi: [Collecting Real-Time Patient Reported Outcomes During Latent Labor](#)

## Data Completeness:

“We haven't had a single day of a missed sleep diary, the patients find it super easy, and the flexibility in scheduling some items to occur every day relative to install, while having another schedule for weekly or fortnightly items relative to their lab assessments is great.” –Elise McGlashan: Assessment of Anti-depressants on Circadian Clock (Turner Institute for Brain and Mental Health)

# Key Considerations

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## **Pre-requisites:**

- Will participants have or be given a mobile device (phone, tablet)?
- Will participants have internet access?
- What version of REDCap is used by the institution? (>13.10.0 is recommended)

## **Considerations:**

- How frequently are participants being asked to complete data?
- What types of data are you hoping to capture remotely?
- Will you need to support non-English-speaking participants? If so, what languages?
- Do you have web-based materials (participant brochures) or websites related to the trial or disease being studied to share with participants?

# MyCap Resources

## 1. MyCap Promo Video:

<https://www.youtube.com/watch?v=HTddoQlp8nk&t=47s>

## 2. Email us: [MyCap@vumc.org](mailto:MyCap@vumc.org)

## 3. From our website: <https://projectmycap.org/>

1. Check out our use cases
2. Read the FAQs
3. Browse our end-user resources
4. Find Demos

## 3. [Sign up for our newsletter](#)

## 4. Read the MyCap Marker Paper: [MyCap Marker Paper](#)

## 5. Demo a MyCap project by scanning the QR code below:



Scan Me!

>> Submit the survey >> Click the MyCap link >> Demo MyCap

Project Home | Project Setup | Other Functionality | Project Revision History | Edit project settings

Project status:  Production Completed steps 4 of 7

### Main project settings

Disable  Use surveys in this project? [?](#) [VIDEO: How to create and manage a survey](#)

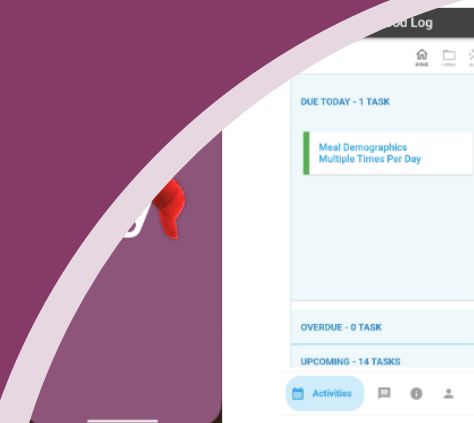
Enable  Use longitudinal data collection with defined events? [?](#)

Enable  Use the MyCap participant-facing mobile app? [Learn more about MyCap](#)

Modify project title, purpose, etc.

### Design your data collection instruments & enable your surveys

... fields on your data collection instruments (survey and forms). This may be done... (online method) or by uploading a Data Dictionary (offline method). ... as surveys in the Online Designer. Quick links: [Download](#) ... [Data Dictionary](#).



my Watch some short videos on how to use MyCap in a project:

- [Configure MyCap Tasks](#)
- [App Design](#)
- [MyCap Participant Management](#)

Take a test drive: View the MyCap app through the eyes of a participant.

[Join a demo project using the MyCap mobile app](#)

**MyCap is a participant-facing mobile app (Android)** used for data collection and the management of active tasks (activities performed by participants using device sensors under semi-controlled conditions). All data in the MyCap app are automatically sent back to the REDCap as soon as internet connection is available (i.e., it can also be used for offline participant data collection).

MyCap is a no-code solution for research teams conducting longitudinally-designed projects or projects with frequent participant contact. MyCap also facilitates participant engagement and retention by providing quick access to project staff and two-way communications (e.g., messaging and announcements) within the app. MyCap is available on any iOS device (iOS v11.0+) and any Android device (Android v8.0+).

For more information about MyCap, check out the [MyCap website](#), [publication](#), [resources](#), and a list of [MyCap use cases](#).

Prefer a detailed guide of instructions? Read the [MyCap Help document](#)

Participants can join your project on the MyCap mobile app using a QR code or hyperlink that is unique to their record in your REDCap project. A participant's record must already exist in the REDCap project in order for them to get a QR code or hyperlink.

The methods below will provide you with template language and directions for onboarding participants to your project. To obtain an individual participant's QR code or hyperlink after their record has been created in the project, see the MyCap Participant Management > MyCap Participant List. [This project has been converted to the new MyCap app.](#)