



MYCHART RECRUITMENT SERVICE

ROLE OF OFFICE

MyChart Recruitment Service is an Epic-based recruitment platform that allows Johns Hopkins researchers a new and innovative way to recruit potential research participants. Potential participants are contacted via an invitation message sent to their activated Johns Hopkins MyChart account. Invitations are targeted to patients who meet study eligibility characteristics. Our goal is to empower patients by connecting them with clinical research studies that may be of interest to them.

MyChart Recruitment Service is offered by the Recruitment Innovation Unit of the Institute for Clinical & Translational Research (Deputy Director, Cheryl Dennison Himmelfarb). Cassia Lewis-Land manages the day to day operations of the service with support by Kelly Gleason, RN, PhD, Hailey Miller, RN, and the CCDA team.

PERFORMANCE IN THE PAST YEAR

Over the past year, the service provided support to 16 research teams at Johns Hopkins. MyChart Recruitment has been effectively utilized across disease types and diverse populations including infant, children, adolescent, adult, and older populations.

We have engaged with several patient groups to develop a process that respects patients as research partners. Long-term success depends on balancing research teams' needs with patient acceptance. Previous surveys have indicated that 90% of patients agreed MyChart was an appropriate way to invite patients to join research studies. Patients are informed that they may receive research invitations at the time of registering for MyChart. Thus far, less than 0.1% of patients have opted out of future MyChart research invitations.

To better understand and continually improve our service, we have kept diligent track of the demographic representativeness of MyChart users, patient satisfaction and efficacy rates. In summary, we have found:

- MyChart users are more likely to be female, white, and non-Hispanic
- Response and enrollment rates vary substantially per report

- On average, the enrollment rate at completion is 3.2%
- Reports that include more EMR-criteria to build their reports have higher response rates
- There has been a low number of complaints or opt-outs from patients that have received a MyChart message regarding recruitment

The table below includes 1. Study Characteristics of the teams that have utilized the MyChart Recruitment Service, 2. The messaging characteristics of each report, including report size, messaging batch size, messaging frequency and messaging duration, and 3. Response, eligibility and enrollment rates of each report to summarize the service’s efficacy across populations and clinical cohorts.

Study Characteristics		Messaging Characteristics				Recruitment Efficacy N (%)		
Population Age	Health Concern	Report Size	Message Batch Size	Frequency	Duration (in mos.) *	Response Rate*	Eligibility Rate*	Enrollment Rate*
<i>Completed Recruitment</i>								
70+	Vitamin D and Falling	6896	250-1000	Bimonthly	5	116 (1.7)	49 (0.7)	12 (0.2)
<1	Peanut Allergies	409	Variable	Monthly	3	16 (4.3)	11 (3.0)	10 (2.7)
>18	Atrial Fibrillation	1303	303-1000	Monthly	2	127 (9.7)	127 (9.7)	127 (9.7)
50-90	Type II Diabetes	1382	250	Monthly	6	34 (2.5)	1 (0.07)	0
18-45	Asthma	1599	200	Monthly	7	44 (3.1)	9 (0.6)	9 (0.6)
>18	Diet and Gout	1229	250-500	Bimonthly	3	53 (4.1)	20 (1.6)	9 (0.7)
<i>Suspended Recruitment</i>								
>40	COPD	14336	250-1000	Variable	16	84 (1.5)	2 (0.03)	2 (0.03)
3-13	Brain and Appetite	3719	250-500	Bimonthly	4	48 (1.8)	16 (0.6)	12 (0.4)
18-80	COPD	1171	200	Monthly	5	43 (4.1)	-	0
<i>Active Recruitment</i>								
<1	Peanut Allergies	2083	200	Variable	11	7 (0.3)	4 (0.2)	3 (0.1)
13-22	Weight Loss	9978	150-1000	Monthly	17	135 (0.9)	44 (0.3)	44 (0.3)
>18	Mood Disorders in Pregnancy	1868	350	Monthly	9	116 (5.0)	56 (2.4)	21 (1.0)
4-17	Mood Disorders	15709	250-1000	Bimonthly	10	66 (0.5)	-	0
>18	Anemia	9096	500	Bimonthly	8	166 (2.4)	1 (0.00)	1 (0.00)

To disseminate our work and share our learnings, we have presented and published on our experience implementing this service:

Miller, H., Gleason, K., Lewis-Land, C., Juraschek, S., Appel, L., Ford, D., Dennison-Himmelfarb, C. 2019. Patient portal messaging for research participant recruitment: A valuable tool in the recruitment toolbox. Oral abstract presented at: Sigma Theta Tau International 30th Nursing Research Congress; 2019 Calgary, Canada

Miller, H., Lewis-Land, Cassie, Gleason, K., Gumas, D., Woods, B., Juraschek, S., Appel, L., Ford, D., Dennison-Himmelfarb, C. 2018. Advancing patient portal messaging for research participant recruitment. Poster presented at: CTSA Fall Program Meeting; 2018 Arlington, VA.

Plante, T., Gleason, K., Miller, H., Charleston, J., McArthur, K., Dennison-Himmelfarb, C. Lazo, M., Ford, D. Miller, E., Appel, L., Juraschek, S. 2019. Recruitment of trial participants through

electronic medical record patient portal messaging: A pilot study. *Clinical Trials: Journal of the Society for Clinical Trials*. Accepted.

Additionally, we have another manuscript under review entitled “EMR-based cohort selection and direct-to-patient, targeted recruitment: Early efficacy and lessons learned”.

We work individually with each research team to assess MyChart recruitment as a fit for their recruitment needs. We identify inclusion and exclusion criteria that will allow messages to target eligible MyChart users. Once a study team chooses to utilize MyChart to send research invitations, approval is sought from the MyChart Epic Research Council. An approval letter from the council is submitted by the research team along with the protocol for IRB review and approval. After the IRB approves MyChart as a recruitment strategy, we collaborate with the Center for Data Analytics (CCDA) to create a SQL query, which is used to generate an Epic report of the target population. Invitations can be targeted based on demographics, address, and clinical variables such as diagnoses, lab values and medications. When the report is live in Epic, MyChart team members work with the research team to create a schedule to send small batch invitation messages to eligible MyChart users.

The service allows research teams to reach a large number of patients for a cost less than mass mailings. The percentage of patients who contact the research team after an invitation ranges from 1 to 9% depending on the demands of the study. The research team is responsible for managing patient screening and enrollment following the initial MyChart messaging.

In addition, the service offers:

- Support in developing their MyChart Recruitment strategy and sending recruitment messages,
- Support in creating comprehensive recruitment and retention plans to optimize study recruitment and retention,
- Assistance in developing a plan for tracking MyChart recruitment messaging, response rates, and enrollment yield to evaluate the effectiveness of this tool across diverse populations, and
- Advise on leveraging Epic tools for patient engagement.

CHANGES IN THE PAST YEAR

The MyChart Recruitment Service was refined in the past year by increasing the quality of our reports, strengthening our communication between team members, creating detailed SOP's, and offering a REDCap service to study teams for recruitment tracking. Specifically, this REDCap service provides an avenue for study teams to track their recruitment inquiries and thereafter follow-up. We offer individualized study team links and surveys that are embedded in recruitment messages that trigger an automated email to research coordinators once completed. Simultaneously, the completion of a survey by a patient automatically generates a connected survey for the research coordinator to complete on the respective patient's eligibility and eventual enrollment status. While benefiting the study teams through efficient tracking, it

also will enable our service team to have a deeper understanding of the efficacy of MyChart Recruitment. The MyChart Service team has direct access to all REDCap responses and surveys.

NEW DEVELOPMENTS FOR THE UPCOMING YEAR

Over the course of the next year, we plan to expand the MyChart Recruitment service to meet the needs of additional research teams. We will continue to work closely with the CCDA and the IRB to streamline the process and create a dashboard for improved intrateam workflows. As we continue to evaluate patient response and recruitment yields, we seek to further improve our processes and establish best practices for sending messages to varied populations.

BEST WAY TO WORK WITH PROGRAM

Teams interested in our service are encouraged to contact us at: Research_Recruitment@jhu.edu, or visit our webpage on the ICTR website. Team should be aware the service cost ranges from \$1,000- \$3,000 depending on the complexity of the query created and other factors of work effort. The CCDA provides free consults and can provide researchers with an idea of pricing so that they can allot a proper amount in budgeting for their project.

We plan to continue to update our current website: <https://ictr.johnshopkins.edu/community/community-involvement/mychart-recruitment-messages/> to include active studies that are utilizing our service. The website serves to inform the public of how the MyChart Recruitment service works to protect patient privacy and also help inform and promote the service to research teams within Johns Hopkins.