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Patient Portal Messaging for Research Participant Recruitment: A Valuable Tool in the Recruitment Toolbox

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Purpose:

As electronic medical records (EMR) and complementary tools are becoming ubiquitous in healthcare, researchers are leveraging electronic methods for cohort discovery, participant identification, recruitment and data collection. Patient portal messaging (PPM) through EMRs is a rapidly evolving recruitment strategy that capitalizes on existing data. PPM provides a unique platform for investigators to securely connect with potential participants, while simultaneously enhancing patient experience and engagement (Irizarry, De Vito Dabbs, & Curran, 2015; Otte-Trojel, Rundall, De Bont, Van De Klundert, & Reed, 2015). The limited research suggests PPM is effective in research participant recruitment when messages are sent to a patient by their personal provider, and preliminary data suggests institution-wide services may also be effective (Gleason et al., 2018). Moreover, electronic recruitment methods, compared to traditional methods such as mailing or telephone, have the potential ability to save time and reduce cost (Irizarry et al., 2015; Kopcke & Prokosch, 2014)for the research team and increase convenience for patients and investigators (Gleason et al., 2018). Additionally, findings from previous studies' suggest patient portal messaging enhances patient experience, satisfaction, and clinical outcomes (Powell, 2017; Shaw, Casterline, Taylor, Fogle, & Granger, 2017). Our institution initiated the Epic MyChart Recruitment Service (service), our version of PPM, in 2017. To date, the service has been utilized by 14 research teams investigating various populations and topics of interest. In an effort to advance electronic recruitment methods, we are constantly evaluating the process to understand and improve service and functionality. We describe the service provided, recruitment yield and patient satisfaction with PPM for recruitment

Methods:

MyChart Recruitment Service is a collaboration between data analysts, experts in recruitment methods, and clinical researchers. Teams utilizing the service complete a multi-stage process:

Study teams initiate a service request.

1)Service staff meet with teams to review study target population and recruitment plan, provide input on feasibility of using PPM within their study and feedback on ways to refine overall recruitment methods.

2) For projects determined to be appropriate, the plan for use of PPM is reviewed by the MyChart Service Advisory Council for approval to proceed with PPM.

3) Service staff assist teams in the IRB process and collaborate with the clinical data analytics team to create a database query for computational phenotyping of the target population.

4) The EMR query is applied by a central EMR research team member to create a report of eligible patients.

5) Service staff use the EMR report to send batched messages to the eligible patients identified through the query. Messaging schedule is customized to fit the research team capacity.

6) Interested patients contact the study team to pursue participation in the study.

7) The study team evaluates the patient for inclusion in the study and proceeds with enrollment procedures. Service staff work with the study team to track recruitment and enrollment.

To inform the process, we examined the sociodemographic characteristics of active MyChart users compared to all patients within the JHHS EMR. To monitor the effect of the service, we examined: 1) the messaging response rate among 10 study teams, 2) enrollment rates for 3 study teams that have completed a recruitment cycle, and 3) satisfaction with messaging among a subsample of patients who received PPM.

Results:

Of 5.4 million patients in the health system EMR, almost 10% were active MyChart users. Active MyChart users were representative of the JHHS population in terms age and sex, but were more likely to be white and non-Hispanic.

Of the 14 teams that have utilized MyChart as a recruitment strategy, 10 were included in this analysis. Two studies were in the process of initiating recruitment, while two others were in the process of analyzing their recruitment rates per method and therefore were excluded.

Participants were recruited for studies based on general health (40%) or disease-specific characteristics (60%). Messaging frequency ranged from weekly to monthly, the average report size included 11,449 patients, and the average active messaging period was 6 months. The average response rate (n=10) was 2.9%, with higher rates among disease-specific (4%) versus general health (1.2%) studies. Among teams that completed a recruitment cycle (n=3), their average response and enrollment rates were 5.3% and 4.3%, respectively. Of the studies included, all but one required participants to attend one or more research study visits prior to enrollment. The study that allowed full online completion had the highest response rate (9.7%).

Among PPM recipients who completed a satisfaction survey (N=220), 39% reported that the service improved their satisfaction with being a patient at Johns Hopkins, and only 4% were less satisfied. The majority (81%) reported that recruitment messaging was a good use of MyChart.

Conclusion:

Based on preliminary experience, PPM is a promising tool to support patient engagement and research recruitment. Expanded use of the service has surfaced challenges such as: study team's capacity for follow-up with interested patients, saturation of frequently targeted populations, low response rates for general populations, and limited representativeness for specific populations within MyChart. Ongoing, iterative evaluation is needed to optimize aspects of the service including target population selection, computational phenotyping, and message frequency. Further, research to compare PPM effectiveness with traditional recruitment approaches is needed.

Title:

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Keywords:

electronic medical records, patient portal messaging and research recruitment

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Abstract Summary:

Patient portal messaging (PPM) through electronic medical records (EMR) is a recruitment strategy that capitalizes on existing data. PPM requires partnership with data analysts and expert researchers to provide secure access to target populations. PPM is a promising tool to support patient engagement and research recruitment.

Content Outline:

I. Introduction

A. Patient portal messaging (PPM) through EMRs is a rapidly evolving recruitment strategy that capitalizes on existing data.

B. PPM provides a unique platform for investigators to securely connect with potential participants, while simultaneously enhancing patient experience and engagement.

C. Our institution initiated the Epic MyChart Recruitment Service (service), our version of PPM, in 2017

D. We describe the service provided, recruitment yield and patient satisfaction with PPM for recruitment.

II. Methods/ Results

1. Method: We examined the sociodemographic characteristics of active MyChart users compared to all patients within the JHHS EMR.

Associated result: Active MyChart users were representative of the JHHS population in terms age and sex, but were more likely to be white and non-Hispanic

2. Method: We examined the messaging response rate among 10 study teams.

Associated result: The average response rate (n=10) was 2.9%, with higher rates among disease-specific (4%) versus general health (1.2%) studies.

3. Method: We examined enrollment rates for 3 study teams that have completed a recruitment cycle

Associate result: Among teams that completed a recruitment cycle (n=3), their average enrollment rates were 4.3%.

4. Method: We examined satisfaction with messaging among a subsample of patients who received PPM.

Associated result: The majority (81%) reported that recruitment messaging was a good use of MyChart.

III. Conclusion

A. PPM is a promising tool to support patient engagement and research recruitment.

B. Ongoing, iterative evaluation is needed to optimize aspects of the service including target population selection, computational phenotyping, and message frequency.

C. Research to compare PPM effectiveness with traditional recruitment approaches is needed.

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