Nudging myGeisinger Enrollment Using Timely Email Messaging Reminding Patients of Lab Results Available

NCT04333199

April 7, 2021

Study Protocol

Purpose

The purpose of the current study is to test whether sending email communications in a timely manner - when patients have laboratory results available to view on the myGeisinger patient portal - increases enrollment in the portal. Secondarily, this study A/B tested 2 different versions of the timely email.

Method

Sample

The study population consisted of patients aged 18 or older who were not yet enrolled in myGeisinger, who had an email address on file, for whom a lab or test was ordered within 30 days prior to the email date, and whose lab or test result was released to myGeisinger the day before the email date. Patients who had declined enrollment in myGeisinger were excluded from the study.

Based on the above criteria, N = 5,012 patients were randomized to a study condition and sent an email between May 18, 2020 and June 1, 2020 (15 days). Patients who had multiple lab/test results in this period were only randomized to a study condition once, upon their first qualifying result, and did not receive more than one email. Electronic Health Records (EHR) for study patients were subsequently examined to evaluate portal enrollment; records for 3 patients were no longer present in the EHR, leaving a total of N = 5,009 patients for analysis. All comparisons between patients emailed and those not contacted were conducted within this total.

Within the analyzed sample, 3,340 patients were allocated to an email condition. Of these, 404 were flagged by the email delivery software as invalid email addresses and were thus not sent an email. Subsequently, an additional 186 emails bounced, leaving a total of N = 2,750 emails delivered. All comparisons between the two email conditions were conducted within this total.

Intervention

Patients were randomly assigned to one of three conditions, two of which entailed an email. Each intervention is named and described in the pre-registration under “Groups and Interventions.”

Outcomes Timeframe

As described in the “Outcome Measures” section of the pre-registration, we examined study outcomes within one week (or 7 days) after they received the intervention (for the patients in the email groups) or, for the control group, within one week after they would have received the intervention had they been in an email group. For example, if the patient was emailed on 5/20/20, we assessed if they had enrolled by 5/26/20. Secondary analyses examined study outcomes within one month (or 31 days) after the intervention.

Statistical Analysis Plan

The primary question of interest was whether a timely email improves one-week patient portal enrollment when compared with no such email. This was evaluated using a logistic regression (a generalized linear model with a binary distribution and log-link function) in an intent-to-treat design: patients who were randomized to receive an email but whose addresses were scrubbed by the email delivery software were still included in any such comparisons with the control group, so the total sample size was N = 5,099.

A secondary question of interest was whether one email version performed better than the other. This question was assessed by examining whether a patient opened the email, clicked on the registration link in the email, unsubscribed from email communications, or enrolled within the outcome timeframe (1 week). This was evaluated for all four outcome measures using a logistic regression (a generalized linear model with a binary distribution and log-link function). These analyses focused on patients' responses to the two email conditions and thus only included patients who were successfully sent the email, N = 2,075. Unsubscribe data was unexpectedly unavailable at 1-week post-intervention, so this measure was collected and analyzed at 1-month post-intervention instead.

Finally, for the primary question of interest, a secondary analysis was conducted 1 month (31 days) after the intervention.

For all tests, odds ratios (ORs) were calculated, along with 95% confidence intervals (CIs); two-tailed p-values < 0.05 were used to determine statistical significance.