Email Campaign to Encourage Patients to Complete Sign-up Process for Geisinger's Patient Portal

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Study Protocol

Purpose

The purpose of the current study was to assess what kind of messaging improves the effectiveness of an email campaign targeted at enrolling patients into Geisinger's online patient portal, called myGeisinger. Currently, Geisinger sends an email every month to patients who have started but not completed the enrollment process (they have had an activation code generated but have not yet used that code to enroll). This study A/B tested 5 email messages to assess if they performed better than the current standard email message.

Background

In order to enroll in the myGeisinger patient portal, an activation code has to first be generated for a patient, which the patient subsequently uses to enroll in the portal. This code can be requested by the patient or generated by healthcare staff. Any patient who has had an activation code generated but has not yet enrolled is assigned a myGeisinger status of "Pending." Every month, patients with this status are sent an email encouraging them to enroll.

Method

Sample

The study population consisted of patients aged 18-88 who had an email address on file, a myGeisinger status of "Pending", and had not received emails from this monthly myGeisinger marketing campaign within the last 2 months. These eligibility criteria were used to match the ongoing marketing campaign already in place.

Based on the above criteria, N = 14,099 patients were randomized to a study condition and sent an email on April 6, 2020. Electronic Health Records for these patients were subsequently examined ~1 week and ~1 month after the campaign. We were only able to match unique records for 13,523 patients after ~1 week and for 13,344 patients after ~1 month, which served as the final sample for those respective analyses.

Intervention

Patients were randomly assigned to receive one of six emails. Each email intervention is named and described in the pre-registration under "Groups and Interventions." The precise email content is included in the Appendix below.

Outcomes

As described in the "Outcome Measures" section of the pre-registration, three outcome measures were assessed: Email opened, Link clicked, and Enrollment. The main purpose of examining *Email opened* was to evaluate the impact of the subject line; therefore, all patients whose emails were not delivered (i.e. bounced) were excluded from this analysis. The main purpose of *Link clicked* and *Enrollment* was to evaluate the impact of the full email (subject line and body); therefore, these outcomes were only assessed among patients who opened the email.

Data Extraction

The goal of this study was to evaluate outcome measures both 1 week and 1 month after the launch of the intervention. Technical issues resulted in delays in these data extractions. In addition, Enrollment data resided in a different database than the remaining email engagement data and was therefore extracted separately and subject to different delays. Below is the exact timeline of data extraction:

04/14/20 [08 days post-launch]: “1-week” engagement data
04/16/20 [10 days post-launch]: “1-week” enrollment data
05/08/20 [32 days post-launch]: “1-month” enrollment data
05/11/20 [35 days post-launch]: “1-month” engagement data

Statistical Analysis Plan

The primary questions of interest were whether each of the high-level interventions – less-is-better, social proof, or endowment – performed better than the standard email, which served as the control group. This was evaluated for all three outcome measures using a logistic regression (a generalized linear model with a binary distribution and log-link function) with the Standard Email condition dummy coded as the reference level. This dummy coding allowed for the comparison of each high-level intervention vs. control within a single model.

A secondary question of interest was: which less-is-better condition – provider communication, managing appointments, or medical information access – performed best? This was evaluated for all three outcome measures using a logistic regression (a generalized linear model with a binary distribution and log-link function). Each pair-wise comparison was evaluated with the appropriate correction for multiple corrections using a Tukey's test.

For both evaluations described above, a primary analysis was conducted for the outcome approximately 1 week after the intervention, and a secondary analysis was conducted approximately 1 month after the intervention. See the *Data Extraction* section of the *Study Protocol* above for the exact time frame.

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.