

A well-timed reminder can increase patient portal enrollment by 200%

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Background

- **Timely** nudges may be especially effective when they render salient an otherwise “invisible” or diffuse decision point.¹
 - E.g., “your lab result is ready” alerts a patient to the heretofore unknown opportunity to decide to view it.
- Increasing utilization of **patient portals** can benefit patients and providers,
 - improving patient satisfaction and engagement, and
 - decreasing administrative burden and reclaiming physician time for patient care.²
- Geisinger's portal (on MyChart) allows patients to:
 - view lab results quickly,
 - message with providers, and
 - schedule appointments.

- Still, ~40% of patients are not enrolled.

Objectives

- Test if timely reminders highlighting a specific MyChart benefit—viewing lab results as soon as available—increase enrollment.
- Secondly, test which of two reminder message frames is most effective (**Fig 1**):
 - **Transparency** – this was upfront about the brief registration process and might prevent abandoning registration due to unexpected perceived sludge, or friction in enrolling.³
 - **Ease** – this did not mention the intermediate steps and might encourage a first step and consequent commitment to completing the process.⁴

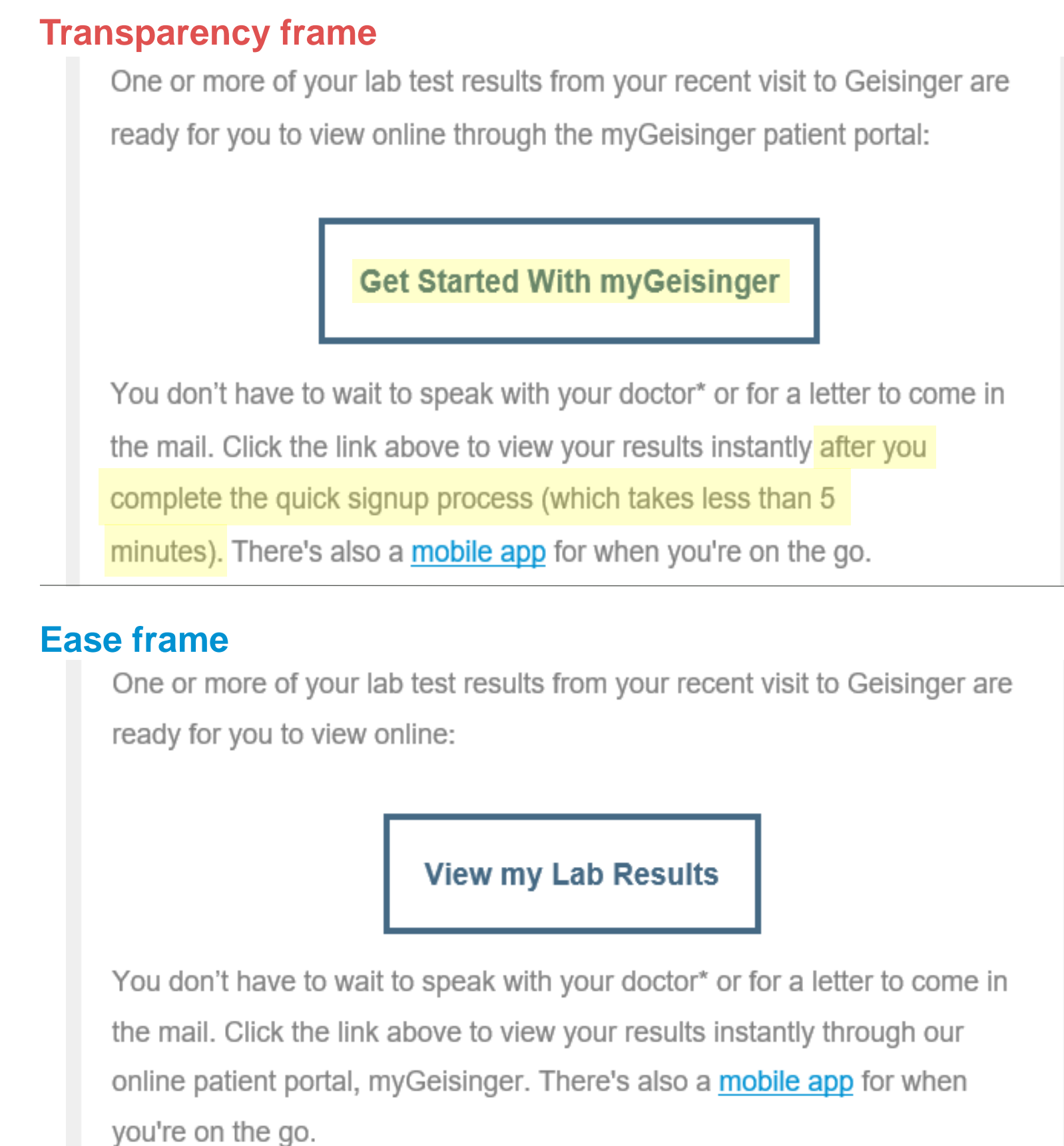
Methods and materials

- Sample: Geisinger patients with new test results over 15 days in May–June 2020 (N = 4605)
- Conditions (randomly assigned):
 - Transparency email
 - Ease email
 - No email
- Emails were sent within 24 hours of results being posted, with embedded hyperlinks to the registration page.
- Generalized linear models specifying a binary distribution and log-link function assessed activation within 1 week of emailing as a function of:
 1. Email vs. no email
 2. Ease vs. Transparency

Results

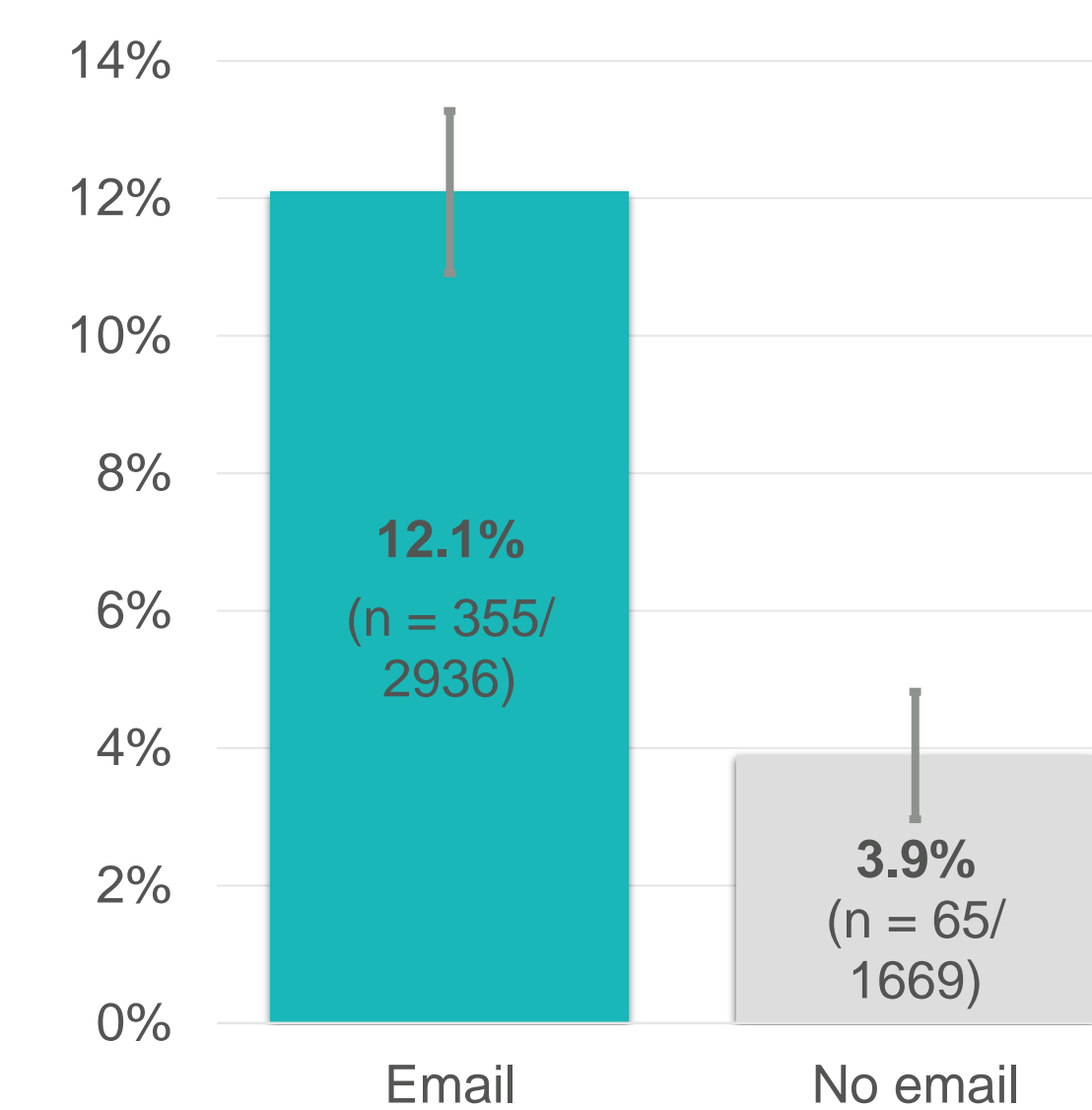
- Patients receiving an email were **3.1 times as likely to enroll in the portal** as those who did not:
 - Odds ratio = 3.39, $p < 0.001$ (**Fig 2**).
- **Emailed and non-emailed patients used the portal at similar rates over ensuing 6 months:**
 - $p = .54$ (**Fig 3**).
 - This suggests our nudge converted non-users into typical rather than “one and done” users.
- The **Ease frame resulted in only nominally higher enrollment** than the Transparency frame:
 - $p = 0.154$ (**Fig 4**).
 - The Ease frame resulted in significantly more hyperlink clicks, $p < 0.001$.
 - But among clickers, the Transparency frame resulted in marginally higher enrollment, $p = 0.063$.

Figure 1. Main content of timely lab results emails.



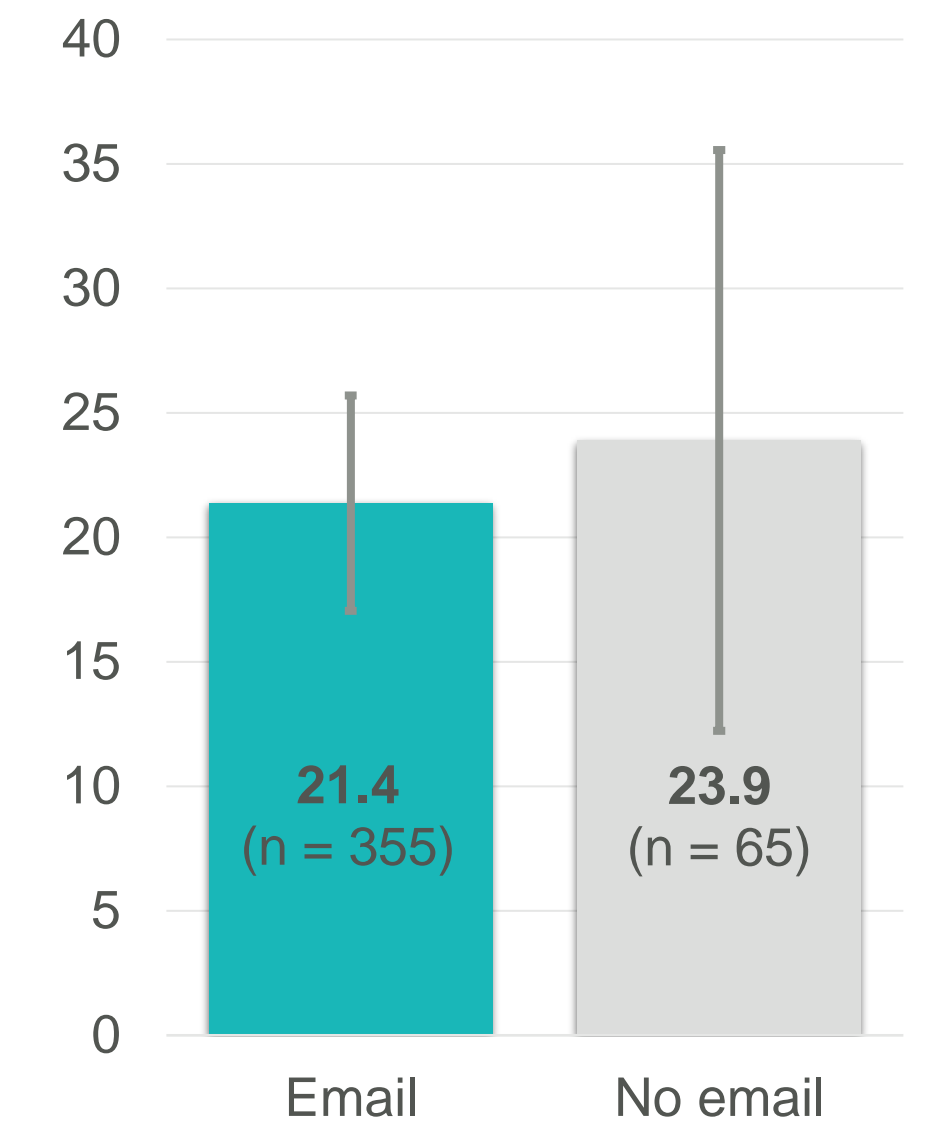
Note. Main text of emails with differences from Ease frame highlighted. The subject was, “Your lab test results are ready!”

Figure 2. MyChart account enrollment.



Note. Error bars depict 95% confidence intervals.

Figure 3. Portal mean logins over time.



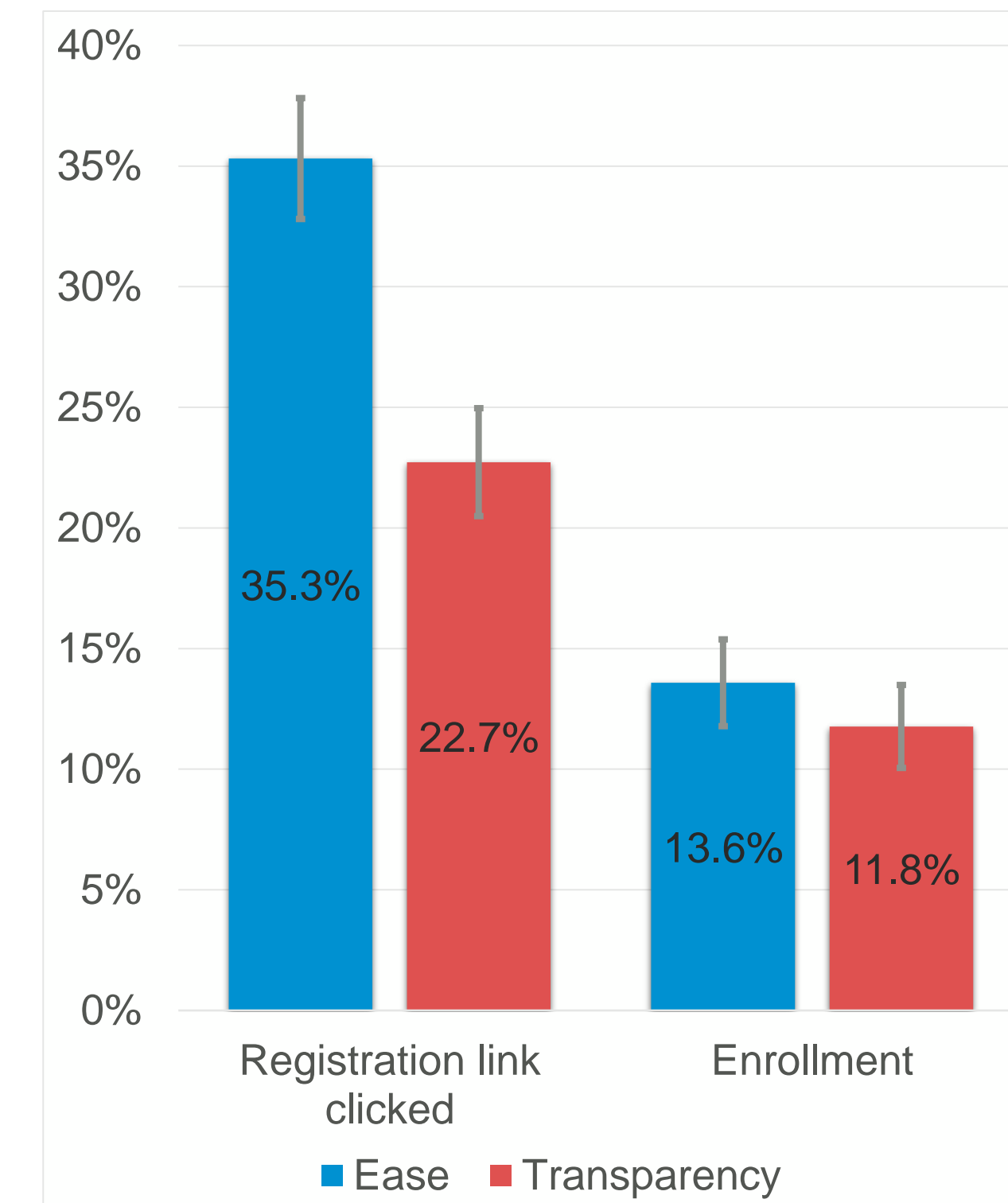
Discussion

- Presenting timely information about a specific benefit, while simultaneously creating a decision opportunity embedded in the message, can be a highly effective nudge for patient portal enrollment.
- This technique can be harnessed to increase adoption and utilization of a service that improves patients' access to their healthcare.
- “Easy” frames may be most effective in “one-and-done” situations absent any sludge.
- Otherwise, “transparent” frames may be preferable to motivate those with serious intentions, without need to omit reference to interim steps.

References

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2. Kruse, C.S., Bolton, K., & Freriks, G. (2015). The effect of patient portals on quality outcomes and its implications to meaningful use: A systematic review. *Journal of Medical Internet Research*, 17(2), e44.
3. Sunstein, C.R. (2019). Sludge and Ordeals. *Duke Law Journal*, 68, 1843–1883.
4. Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior and Human Performance*, 16(1), 27–44.

Figure 4. Clicks and enrollments across frames.



Note. Error bars depict 95% confidence intervals.