



Evidence Summary

Focused Bedside Education May Improve Engagement of Hospitalized Patients with Their Patient Portals

A Review of:

Greysen, S.R., Harrison, J.D., Raeshide, C., Magan, Y., Seghal, N., Rosenthal, J., Jacolbia, R., & Auerbach, A.D. (2018). A randomized controlled trial to improve engagement of hospitalized patients with their patient portals. *Journal of the American Medical Informatics Association*, 25(12), 1626-1633. <https://doi.org/10.1093/jamia/ocy125>

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Abstract

Objectives – To study hospitalized patients who were provided with tablet computers and the extent to which having access to these computers increased their patient portal engagement during hospitalization and following their discharge.

Design – Prospective, randomized controlled trial (RCT) within a larger, observational study of patient engagement in discharge planning.

Setting – A large, academic medical centre in the Western United States of America.

Subjects – Of a total of 250 potential subjects from a larger observational study, 137 declined to participate in this one; of the remaining 113 subjects, 16 were unable to access the patient portal, leaving 97 adult (18 years of age or older) patients in the final group. All subjects (50 intervention and 47 control) were randomized but not blinded, had been admitted to medical service, and spoke English. In addition, all participants were supplied with tablet computers for one day during their inpatient stay and were provided with *limited* assistance to the portal registration and login process as needed. They were also

required to have access to a tablet or home computer when discharged.

Methods – The intervention group participants received *focused* bedside structured education by trained research assistants (RAs) who demonstrated portal key functions and explained the importance of these functions for their upcoming transition to post-discharge care. Following enrolment and consent, RAs administered a brief pre-study survey to assess baseline technology use. Then, at the end of the observation day, the RAs performed a debrief interview in which participants were asked to demonstrate their ability to perform key portal tasks. The RAs recorded which tasks were accomplished or if the RAs had provided assistance. Patient demographics and clinical information were obtained from the Electronic Health Record (EHR).

Main results – Of the 97 patients who were enrolled in the RCT, 57% logged into their portals at least once within seven days of their discharge. The mean number of logins and specific portal tasks performed was higher for the intervention group than for the control group. In addition, while in the hospital, the intervention group was better able to log in and navigate the portal. Only one specific portal task reached statistical significance – the use of the tab for viewing the messaging interaction with the provider. The time needed to deliver the intervention was brief – less than 15 minutes for 80% of participants. The intervention group’s overall satisfaction with the bedside tablet to access the portal was high.

Conclusion – Data analysis revealed that the bedside tablet educational intervention succeeded in increasing patient engagement in the use of the patient portal, both during hospitalization and following discharge. As the interest and demand for patient access to EHRs increases among patients, caregivers, and healthcare providers, more rigorous studies will be needed to guide the implementation of patient portals during and after hospitalization.

Commentary

This is the first randomized clinical trial to test an intervention for increasing patient engagement with their portals in hospital and post-discharge settings. The study, through its strong design, provides a model for other studies of patient portal use.

A critical appraisal tool (Glynn, 2006) revealed the study’s strengths and weaknesses. The authors received IRB approval and provided appendices outlining the inclusion criteria, enrolment, and randomization details as well as other details (the MyChart tutorial, post-study survey, and final questionnaire). However, the study would have been stronger if it had included patients from more than one hospital, as noted by the authors together with other study limitations in the “Discussion” section (p. 1632). With regard to the training provided by the RAs, the effect of the study not being blinded is unclear, as is the effect of RAs being allowed to “tailor the depth of the explanations to the needs of individual patients” (p. 1627). In future studies, a separate “limitations” section might assist readers in considering study limitations.

Patient demographics and clinical information were adequately summarized. However, when logistic regression analysis was performed, it revealed that an area of difference between the two groups was prior *MyChart* registration: 34 participants in the intervention group (68%) were previously registered versus 18 participants (38%) in the control group. Given this difference, the study would have been more robust if it had randomized for previous *MyChart* registration.

Future studies might be enriched by incorporating a “teach to goal” approach for such skills as effective use of inhalers for patients with respiratory conditions and might investigate additional patient characteristics (acute care needs, use of different devices, and age/income effects, for example). Several recent studies have focused on how inpatient portals have furthered patient empowerment.

A qualitative, retrospective study (McAlearney, 2019), found early indications that inpatient portals “promoted independence, reduced anxiety, informed families, and increased patient empowerment, overall.” A randomized trial (Masterson, 2019) concluded that inpatient portals resulted in a decreased 30-day readmission rate. A systematic review (Dendere, 2019) found some evidence that patient portals benefited by discovering medical errors, improving medication adherence, and enhancing patient-provider communication, and these predictors for portal use could be used in future studies.

Clinical, consumer health, or hospital-based librarians may wish to collaborate with health providers in further studies in order to contribute to the development of new evidence-based, consumer health resources that could be linked within the patient portals and to understand how library resources might be integrated into such portals. Medical librarians might also benefit from understanding the degree of engagement for patients who receive consumer health educational interventions using patient portals and might contribute to identifying patients with the greatest need for portals, such as those with serious health conditions.

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