

Appendix E. Mobile App Features

1. Treatment Plan: As part of routine clinical care, participants had an initial consultation with their oncology clinician (i.e., oncologist or nurse practitioner) to review their personalized chemotherapy treatment plans. These treatment plans were uploaded into the mobile app so that patients had access to them throughout the study period. The chemotherapy treatment plan included the patient's medication name, dosage, administration schedule, break schedule, and prompts for medication reminders.
2. Medication adherence: Within the app, participants could set up daily alerts to take their medication. In addition, they were asked to complete a weekly, two-item questionnaire assessing how well they took their oral chemotherapy medication in the last week. Specifically, these questions asked: 1) what percent of the time did you take your prescribed oral chemotherapy medication(s)? (0%-100%); and 2) on average, how would rate your ability to take all of your oral chemotherapy medication(s) as your doctor prescribed? ("very poor" to "excellent"). Patients were reminded to take their medications and complete weekly adherence reports via push notifications sent directly from the server. Push notifications are pop-up messages that appear on the mobile device and serve to remind the user to engage with the app. The patient could accept the notification on the screen which directly opened the app to the adherence report page. In addition, if the patient ignored the notification but entered the app at a later date, a banner would appear on the home screen serving as a reminder to complete the weekly report. Finally, a badge would display on the app icon itself (known as a badge app icon), serving as an additional reminder for the patient to enter the app and complete the weekly report. The adherence reports were then emailed to the patient's oncology clinicians on a weekly basis.
3. Symptom and side effect reporting: The mobile app contained features for symptom and side effect reporting to participants' care team. Patients completed an abbreviated version of MD Anderson Symptom Inventory (MDASI) within the app. At a minimum, patients were required to complete symptom reports on a weekly basis, and were

prompted with push notifications (as described above) to complete the symptom and side effect survey on the app. Participants were also able to go into the app at any time and report any bothersome symptoms or side effects. For any extreme, new (or worsening) symptoms, patients were instructed through the app to call their oncology clinician directly. The symptom reports were also displayed in a graph format showing symptoms over time. Compiled results from these symptom reports were emailed to the patients' oncology clinicians on a weekly basis.

4. Education library: To enhance patient engagement with the app, the study team compiled a library of educational materials that could be accessed by patients within the app. The library included descriptions of symptom self-management strategies, skills for communicating effectively with providers, and links to reputable websites (i.e., American Society of Clinical Oncology and American Cancer Society websites) where educational material about specific cancer types is available. There was also a page devoted to connecting participants with reputable sources that provide advice about managing finances and financial assistance during cancer care.
5. Social networking: The mobile app contained a social networking component that provided patients with relevant websites with disease-specific forums and support groups. In addition to specific resources, all patients had access to general oncology forums and support groups from reputable websites (eg, inspire.com, cancer.net, patientslikeme.com, etc). Patients were also given contact information for the Cancer Resource Center at the MGH and the Patient and Family Advisory Board to gain information, resources, and support throughout their time at the MGH.
6. Nutrition education: The mobile app had a page that provided participants with helpful nutritional information as well as suggestions for healthy recipes. This page contained specific information on nutrition that work well for patients undergoing treatment for cancer.
7. Fitbit integration: We provided intervention participants with Fitbit devices that connected directly to the mobile app. Patients were able to keep track of steps taken each day and create activity goals for themselves.