

Rewarding participants through charitable donations to Melanoma UK motivates recruitment and engagement: a bring your own device study example

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BACKGROUND AND OBJECTIVES

Launched in October 2017, the Melanoma UK study (ClinicalTrials.gov ID: NCT03379454) was developed by Vitaccess in collaboration with the patient advocacy organization Melanoma UK and The Royal Marsden NHS Foundation Trust. It explored the real-world impact of melanoma through a bespoke 'bring your own device' (BYOD) mobile application (app).

Through the app, participants were asked questions about symptom burden and quality of life via validated patient-reported outcome measures (PROMs), specifically the EQ-5D-5L, EORTC QLQ-C30 and a melanoma-focused subset of the PRO-CTCAE. Participants were prompted by app notifications to complete the PROMs monthly.

In May 2019, Vitaccess launched a monthly scheme to improve recruitment and engagement. This paired a charitable reward to Melanoma UK with the completion of the study PROMs.

METHODS

For each of the first three PROMs (EQ-5D-5L, EORTC QLQ-C30 or PRO-CTCAE) participants completed each month, Vitaccess donated £1 to Melanoma UK, amounting to a maximum of £3 per person per month. In July 2019 only, the donation per PROM was increased to £2 (equating to a maximum of £6 per person).

The in-app home screen was updated monthly with specific relevant messages (Figure 1) and participants were notified each month of the total raised in the preceding month via a push notification on their device (Figure 2).

Figure 1: Examples of the Melanoma Study app home screen displayed on participants' devices in July (a), August (b) and September (c) 2019

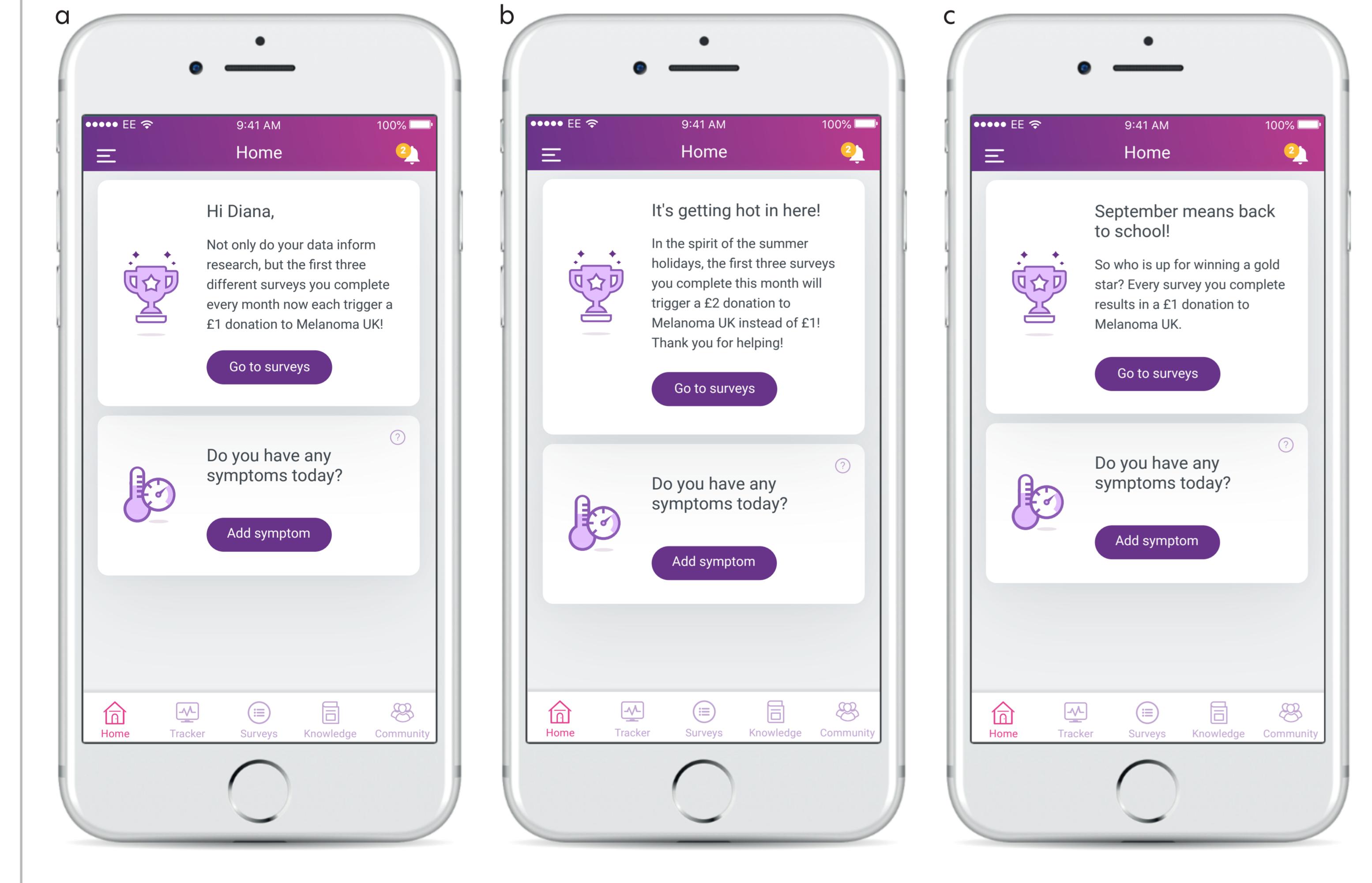
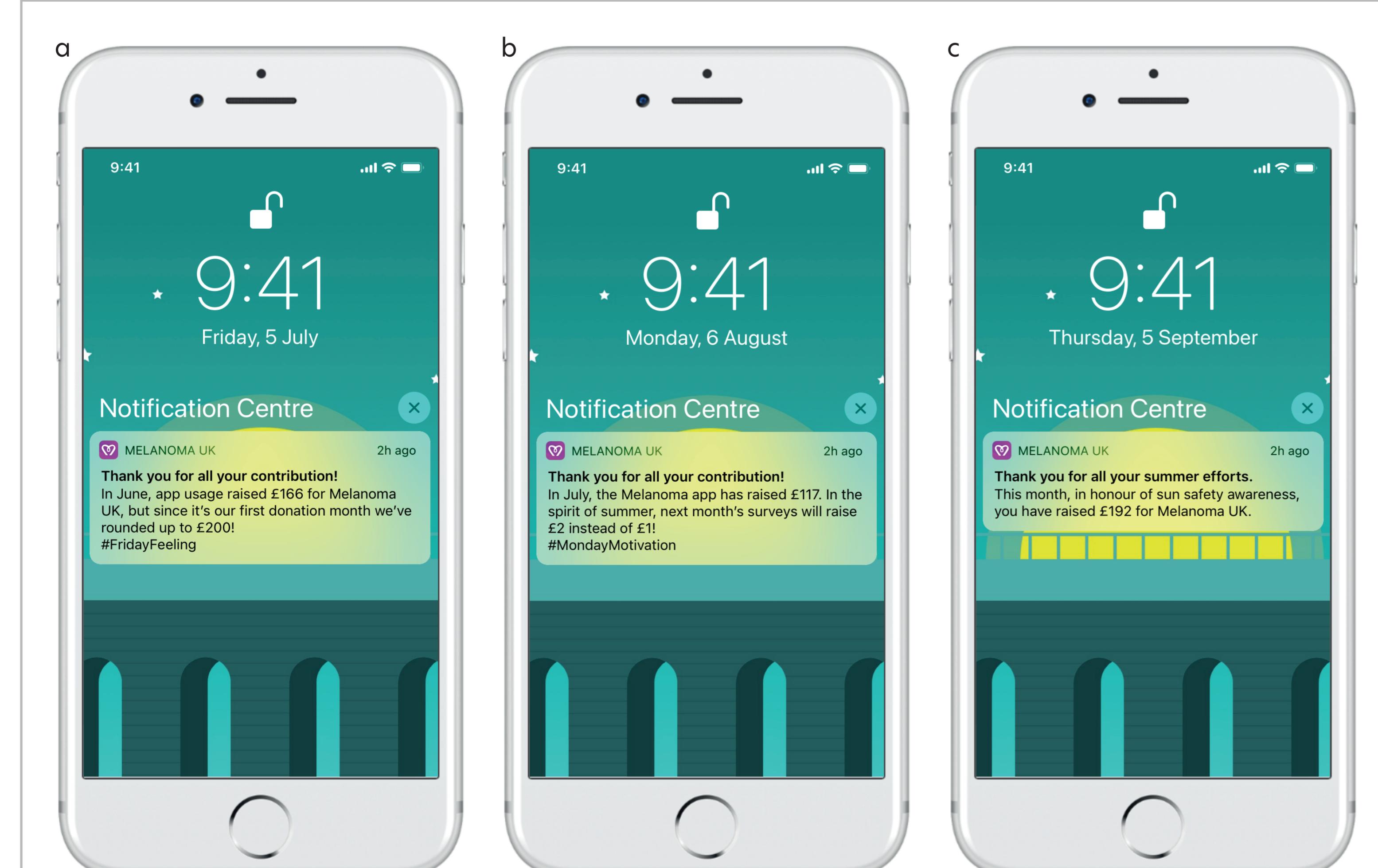


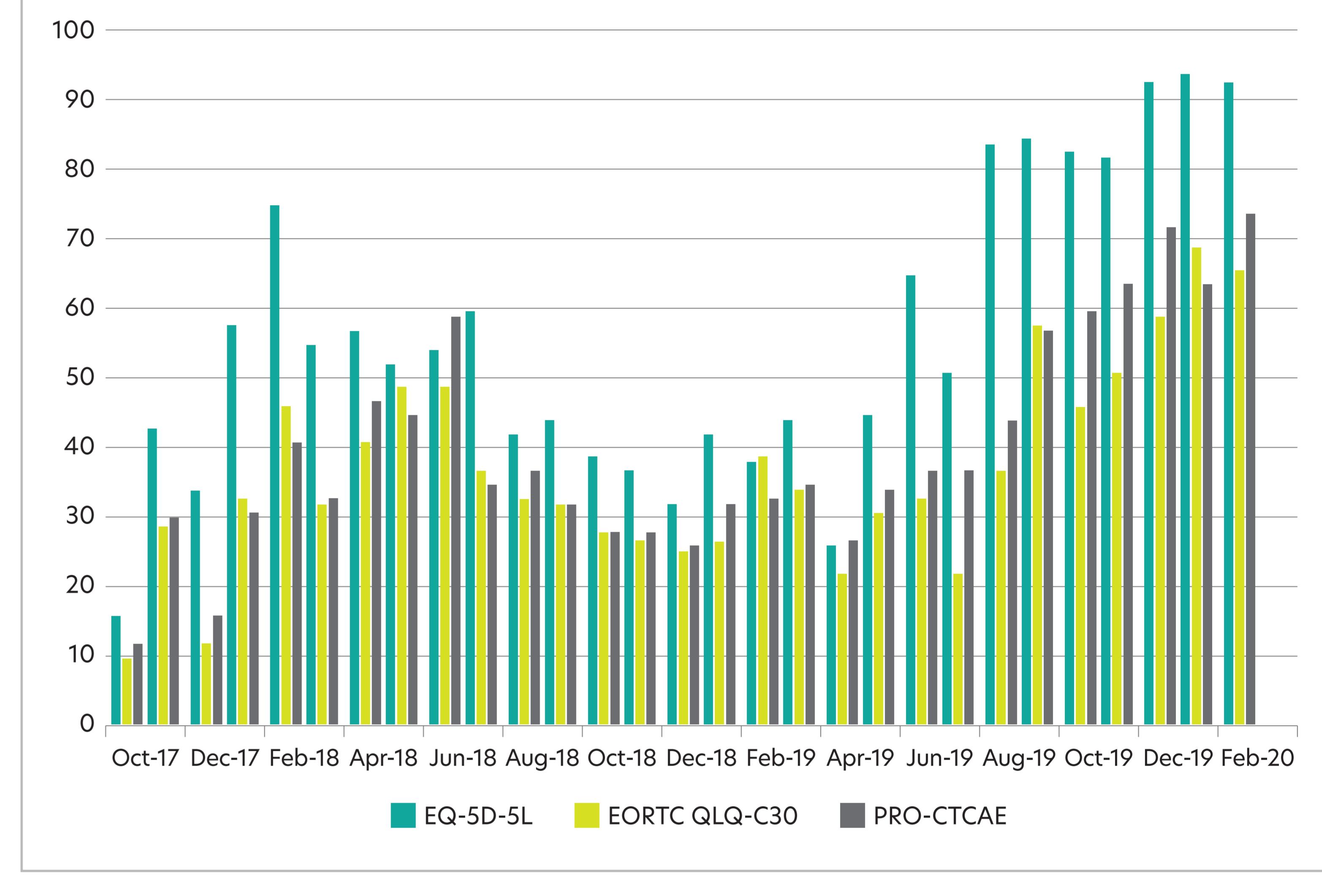
Figure 2: Examples of monthly push notification informing participants of the previous month's total donation, released July (a), August (b) and September (c) 2019



RESULTS

Between March 2018 and February 2020, the total number of registered app users increased from 259 to 599. After incentive scheme implementation in May 2019, the mean (standard deviation [SD]) monthly new users increased significantly from 13 (6.5) to 19 (5.8) ($p<0.05$). Similarly, a Chow test confirmed the total users increased at a significantly faster rate after implementation ($p<0.05$).

Figure 3: Total PROM completions since study launch (reward scheme implemented in May 2019)



The total numbers of each PROM completed per month are shown in Figure 3. Following incentive introduction, the monthly completions per user significantly increased from a mean (SD) of 2.79 (0.35) to 3.57 (0.51) ($p<0.05$).

The mean monthly completion rate of the EQ-5D-5L and PRO-CTCAE significantly increased across the same period from 0.046 completions (where 0.033 denotes completion of the PROM at least once per month) to 0.057, and 0.044 to 0.048, respectively ($p<0.05$). The mean percentage of users completing at least one PROM monthly did not change, nor did mean completion rate of the EORTC QLQ-C30.

Due to the incentive's framework, £1,342 was donated to Melanoma UK between the start of the reward scheme and February 2020.

DISCUSSION AND CONCLUSIONS

A key aspect of the value of app-based digital real-world evidence studies is the ability to generate longitudinal data, which requires patient engagement over time¹.

Implementation of a charitable reward scheme, whereby a participant's action was rewarded and recognized by a donation, improved recruitment and user engagement in completing specific PROMs in the Melanoma UK study. This is in line with literature indicating a higher motivation to complete actions for small charitable donations compared with direct monetary rewards².

This style of gamification may also prove successful in motivating participants to complete other data items in the study such as symptom tracking (e.g. body temperature, headache, abdominal pain, general pain, body weight and blood pressure), treatment patterns, hospitalizations and surgeries.

REFERENCES

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