

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eAppendix 1. Study survey instruments

Demographics Form

Study ID _____

Age _____

Race

- African
- Asian
- Native American
- White
- Other
- NA

How would you describe your current state of health?

- Excellent
- Good
- Fair
- Poor
- NA

How long have you been using glaucoma medications? _____ (years)

Over the past month, what percentage of your glaucoma _____ drops do you think you took correctly (correct eye, correct time)

I'm the sort of person who follows doctors' orders exactly:

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Baseline Form

JHH MRN _____

Date of initial visit _____

Name _____

Sex

- Male
- Female

Do you currently have a strategy for remembering to take your eye drops?

- Yes
- No
- NA

If yes, please describe your strategy _____

How well do you think your strategy works?

- Very Well
- Well
- Neutral
- Poorly
- Very Poorly
- NA

How interested are you in receiving automated, telephone-based reminders to take your glaucoma medications?

- Very interested
- Somewhat Interested
- Neutral
- Not particularly interested
- Not at all interested
- NA

If you were to receive reminders, in what format would you like to receive them?

- Text message
- Voice message
- E-mail
- Other
- NA

Have you activated your HM MyChart account?

- Yes
- No
- Unsure
- NA

If not, why not? _____

Would you be willing to activate it with help from someone?

- No
- Yes, on my own
- Yes, with help from my family
- Yes, with help from someone in clinic
- Other
- NA

Who set up the reminders for this subject?

- Research Coordinator in clinic
- Patient/ Relative at home

How many glaucoma eye drops are you on? _____

Would you like to receive separate reminders for each of the drops (if you are on more than one)?

- NA (on only 1 drop)
- Separate reminder per drop
- Single reminder for all drops

Contact Phone Number _____

Scheduled Follow-Up Call Date _____

3-Month Follow-Up Form

Did you receive the reminders?

- Yes, all 3 months
- Yes for < 3 months
- No

Date of stopping reminders _____

How useful did you find the reminders?

- Very useful
- Useful
- Neutral
- Not useful
- Not at all useful
- NA

How difficult was it for you to configure the reminders using MyChart?

- Very easy
- Easy
- Neutral
- Difficult
- Very difficult
- NA

How likely are you to continue using the reminders?

- Very likely
- Likely
- Neutral
- Unlikely
- Very unlikely

○ Na

What did you like most about the reminder system? _____

What did you like least about the reminder system? _____

eAppendix 2. Participant instructions on how to configure reminders



Configuration of Medication Reminders

- In your web browser type in mychart.hopkinsmedicine.org
- Go to the “*Sign Up Now*” button on the MyChart page to activate your account (if you have not activated it before)
- Login with your MyChart Username and Password
- In your MyChart homepage, click on the icon “*Medication Reminders*”
- Click “*Create Reminder*”
- Under “*Choose which medication to set a reminder for*” using the drop down arrow on the right, select the medication you’d like to receive reminders for. (If you’d like to set up reminders for multiple medications, you may do so, but each will have to be done separately by repeating these steps)
- *Choose how you would like to receive notifications* – either “*Text Message*” or “*Voice Message*”. If you will not be using a cell phone number, make sure to select the voice option.
- *Choose how often you want to be reminded* – choose one of 3 available options- daily, twice a day, or three times a day based on the frequency of your medication use and/or your preference
- *Choose start and end dates* – using the calendars that appear when you click on the empty fields below the text
- *Choose the reminder time* – by clicking on the clock icon on the right or by editing the value directly in the time field
- *Enter the phone number to notify*
- Click on “*Create Reminder*”

You’re all set!

For any further assistance, you may contact the research coordinator using the phone number or email address provided to you.

eAppendix 3. Summary of negative feedback & suggestions from participants

No added benefit of system (n=10)

“Law of diminishing returns”

Technical issues (n=20)

Issues with setting up

- “I encountered browser issues when setting up”
- “I had difficulty remembering my login details to MyChart to set up the reminders”
- “It was tricky to set up since my medications did not show up the first couple of times I tried.”

Issues with the acknowledgement response

- “Having to respond with a 'C' was not effective since it would still send me a message asking me to confirm despite confirming.”
- “When I did reply within 30 minutes, it once again stated that I needed to confirm within 30 minutes. However, when I waited about an hour and then replied, I got a 'thank you' message.”

Issue with time changes

- “Around day light savings there were 3 days when I received the reminders an hour earlier”
- “It did not take into account the time change. I have weird work hours; I wake up at 5:00 AM and sleep pretty early. After the time change, the reminder would come in when I was sleeping already and had my phone switched off so it was essentially worthless.”

Other technical issues

- “There were about 3 instances each month when the phone would ring and I would pick up and it would say 'I'm sorry there is a system error'”
- “The last 2 weeks, I received a second phone call at random times saying 'administrative error' followed by an apology that said 'sorry for the error'”.

Disliked/Worried about having to acknowledge reminders (n=10)

- “I didn't think the kickback message in response to my confirming I took the message was required. There should be an option to not have to respond.”
- “Typing 'C' takes time and I'm usually doing something else. When I hear the tone I stop and take my drops but I don't want to actually pick up my phone and fiddle with it.”
- “Sometimes participants probably don't have the opportunity to respond immediately given certain social situations, for example there have been times when I'm driving and can't respond despite having taken the medication prior to receiving the reminder. This could make it seem like I am taking the reminders later than I am supposed to although I did take it at the right time.”
- “Sometimes I would worry when I didn't send the 'C' within the half hour because my drops have to be refrigerated and they aren't always with me. It made me worry that I might be messing something up on your end.”
- “Maybe the grace period can be an hour instead of 30 minutes to allow more flexibility. The reason I say this is that I have 3 eye drops I have to take in the evening 10 to 15 minutes apart, and receive 3 separate reminders. I get around to all of them but half an hour isn't enough time.”

Voicemail option (n=3)

“I wish it left voice messages. If I was not with my phone I missed the reminder.”

Work across time zones (n=3)

“When I travelled they did not work, which is when I am most likely to forget. It would be nice if I could be reminded while traveling across time zones.”

Greater Customizability (n=5)

- “My weekend schedule is very different from my weekday schedule. It will be great if it was customizable to set up different timings on weekdays and weekends.”
- “I work night shifts on many days, so it was a little tricky to figure out when best to set the reminders for. Might be nice if you can plan ahead week to week or month to month, and customize by each day before hand.”

Tone of the automated message was off-putting (n=4)

- “I found that very putting off. It seemed to me like the tone was trying to guilt me.”
- “I did not appreciate the scolding/reprimanding tone.”

Other issues/suggestions (n=10)

- “I found it inconvenient and disruptive. My phone would ring while driving down the highway and while I am in doctors' appointments, and since it requires me to take the eye drop on receiving the reminder”
- “I've had too many regimen changes since we first set up the meeting, and I didn't know how to change the reminders.
- “There is no option to leave commentary, i.e. explain why I didn't take my medication. For example, I ran out of my eye drops and the 3 days I was waiting for my doctor to refill my prescription, I was not taking my drops. But only because I did not have them, not because I forgot.”
- “I wish the MyChart Helpdesk was more user friendly.”
- “I wish I could log into MyChart to see how often I responded saying that I took the drops. It would also be nice if that same information was relayed to my eye doctor to see.”
- “If someone is taking 4 drops, you can't expect them to respond that many times. Maybe design and expect a summary response.”
- “Have an option to configure additional phone numbers of spouse, kids etc. where they receive the reminder as well so they can remind the patient. As an added layer of ensuring patients take their medications. It can even be used for older people who don't have phones or have vision/hearing impairments and therefore need to be reminded in person by someone living with them/by a neighbor.”
- “I like the idea of receiving reminders, but am more likely to set up my own system on my phone so that I have greater control over settings etc.”

eAppendix 4. Summary of positive comments from participants

Consistent, Simple and Reliable (n=70)

- “It is a nice concrete way of making sure I did not overlook taking the reminders at certain times.”
- “It reminded me when I was side tracked. It made me realize that there must have been many instances before I started receiving these reminders where I must have missed my drops.”
- “When I’m expecting to receive reminders, I find that I am that much more likely to remember to take my eye drops even prior to receiving the reminders.”
- “Sometimes I get so busy that I forget to take my eye drops, so when I’d get this reminder, I’d rush to take them.”
- “Even the times when I would fall asleep, the phone would ring and I would wake up and put the drops in.”
- “The system did what it was designed to do, it made sure to remind me everyday. I was very pleased with it. My eye pressure was lower at my last doctor’s appointment.”
- “It got me to the point where I anticipated the phone ringing at 9:15 pm everyday. It made me more aware of having to use my medication.”
- “It was simple and to the point, and polite.”
- “Started calling your reminders ‘my parole officer’.”

Useful on weekends/while traveling (n=8)

- “It was really nice to receive them when I was away from home/traveling”
- “I found it very nice and useful to be reminded on weekends when I’m sleeping in and have a tendency to forget.”

Liked the acknowledgement option (n=5)

- “If I could not get to my drops immediately, I would not send the ‘C’ text until I used my eye drops- so that feature also helped to make sure that I didn’t miss my drops.”
- “I also liked that when I did it late, it reminded me that I did it over 30 minutes. It reiterated the importance of taking them at the same time everyday.”
- “It made more of a demand for me to take it on time”