

Answers to Questions Asked During the Webinar

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Methods: Mind the Gap
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1. Have you considered whether they [participants] have the time and priority to undertake physical activity in daily life?

For our interventions, we typically assume that, because individuals are enrolling in a physical activity promotion trial, they have determined they have the time and priority to undertake physical activity. Of course, the reality of this is much different from the concept, which is why we have been trying to test different strategies to overcome barriers and facilitate physical activity participation.

2. What is the cost of engaging health care professionals in the interventions? Is this sustainable as they are busy in clinical work and need to support the patients 24/7?

Right now, since mostly everything aside from their time and our time to train them is automated, the cost of our physician engagement piece is mostly to program the inbox messages. We have purposefully made the physician role as minimal as possible to try to make the intervention more scalable/sustainable and get buy-in, especially since any time dedicated to the intervention is above and beyond their regular duties and is not billable to insurance outside of a regular office visit. We have four clinicians on the study team who have helped us design this component so we are hopeful that it will meet the study, patient, and provider needs. However, we will be measuring many fidelity (i.e., number of messages read), burden (i.e., time it takes to discuss), and satisfaction (for patient and provider) metrics. We will also get additional quantitative and qualitative feedback so we can determine whether/how to move forward.

3. What are your findings in terms of follow up? Do participants continue to sustain increased physical activity at follow up?

We are currently analyzing those data so please stay tuned.

4. A lot of attention has been paid to how quickly people stop using their fitness tracker regularly. What is your sense of how these interventions can be effective long term? How does this compare to other physical activity interventions?

I do think desensitization occurs and lack of sustained engagement in tech-supported interventions is a major barrier to their success. The potential for longer-term success may be greater for tech-supported interventions than traditional on-site interventions because participants have access to many of the intervention tools (i.e., Fitbit) into perpetuity. Additionally, participants are required, to a greater extent, to self-regulate their own behavior throughout the intervention because they have to figure out how to fit activity into their life and not just show up three times a week to a class or an individual training session. I also think we have the opportunity with tech-supported interventions to make our interventions longer term because many of the costs are up front. However, how to do this is still largely unknown, but we

do have a great opportunity to test maintenance strategies we haven't had the opportunity to previously, because we can see activity data in real time and are not relying on self-reports. We also have the ability to be more mindful of our resources by only "rescuing" those who need it. However, for all of this to happen, we do need to do more research into what strategies actually work to keep people engaged in the long term.

5. What are some suggestions to help sustain physical behaviors using technology? For example, how would you help sustain a physical activity behavior using technology for a study participant after the study is over?

Some ideas I have include: (1) text messages, (2) gamification within the app, (3) social support via technology, and (4) regular, but infrequent, text coaching/check-ins.

6. Could you please talk a little about how you incorporate behavior theories into technology design to change physical activities among these patients?

We have a conceptual model for each of our interventions to detail a priori how we anticipate each intervention component will work. We mostly use social cognitive theory in our interventions and design our components to specifically target self-efficacy, outcome expectations, goal-setting, and facilitators/barriers. For example, in Fit2Thrive, we hypothesize the following primary targets for each of our components: (1) support calls will increase self-efficacy, (2) Fitbit Buddy and online gym will reduce barriers and increase facilitators, (3) the deluxe app will increase goal-setting, and (4) tailored text messaging will increase outcome expectations. More details on this can be found in the publication: [Optimization of a Technology-Supported Physical Activity Intervention for Breast Cancer Survivors: Fit2Thrive Study Protocol](#).

7. How technologically feasible would it be to replace a wearable device with just a smartphone device?

I think technologically, it may be feasible. However, in our studies quantitatively and qualitatively exploring preferences for physical activity interventions, participants (primarily breast cancer survivors) have very explicitly indicated they prefer to NOT have to carry around their smartphone in order for the app/intervention to work. It may be more feasible with other populations or in the future as technology develops, but we have no plans to pursue this in the near future since we don't think it would be feasible/acceptable to our target population.

8. Can you talk a little more about Phase 1 of the Fit2Thrive study?

In Phase 1, we conducted individual interviews with stakeholders (i.e., community partners, clinicians) and engaged breast cancer survivors in intervention development. Survivors completed interviews and then an online survey about their preferences for technology-supported intervention features. This was followed by a consensus call and then app prototype development. Once we had a prototype, we did two iterative field tests with the app with survivors and had them rate and provide feedback on our app notification messages. Finally, we did a follow-up survey with survivors to assess their perceptions of our final components selected for testing, and to get feedback on their participation in Phase 1 since the whole process was also done nationwide and remotely to try to reflect end users. Two publications on the interview/survey phase include: (1) [Breast Cancer Survivors' Preferences for Social Support Features in Technology-Supported Physical Activity Interventions: Findings from a Mixed Methods Evaluation](#), and (2)

[Breast Cancer Survivors' Preferences for mHealth Physical Activity Interventions: Findings from a Mixed Methods Study](#). We hope to have another publication about the prototype testing out very soon.

9. How would you advise translating these learnings into the general wellness domain?

Our findings indicate many, multilevel factors likely influence physical activity behavior and that technology-supported interventions may be acceptable, feasible, and efficacious for increasing physical activity participation. I do think many of these findings can be generalized to other health behaviors. However, since behaviors are unique, understanding how to target and change different behaviors is important to determine what findings are more “general” and what findings are more specific to specific behaviors.

10. You were able to determine which intervention components work in your MOST trials, but can you look at which components work for which types of survivors (e.g., those with fatigue vs. not)? If not, how could you look at this?

The goal of MOST is really to find the most effective components, overall. However, we do have plans to conduct exploratory analyses to look at moderators to determine whether some of our components worked better for specific subgroups (i.e., older vs. younger, high vs. low fatigue, more recent vs. further since diagnosis). We are limiting the list to be explored to those who have the most practical utility (i.e., are already measured or could easily be measured within a clinical setting). These findings will give us data to determine whether we should pursue additional work to tailor our interventions to specific subgroups or not.