TRIO STUDIO: Recruitment and Further Participant Engagement for the Home Sleep and Metabolism Study
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Attendees:
Design Thinking Team: Cynthia Tom-Klebba Loyola Medical University, David Sedillo RUMC, Margaret Wieczorek U of Chicago, Adrian Melendez RUMC, Sherry Robison ITM, U of Chicago, Nurie Dervishi ITM U of Chicago, Raj Shah ITM RUMC, Gerald Stacey ITM U of Chicago

Summary
Eva Kahn, University of Chicago, introduced the goal of the Home Sleep (HS) and Metabolism study and the challenges of enrolling participants. She gave background information and introduced the challenges to the studio on how to best recruit for this study. Home Sleep (HS) and Metabolism study aims to examine the association between sleep habits and metabolism in healthy, overweight people who sleep less than 6.5 hours.

Design thinking approach was primarily used to solve these problems faced by Eva and her team at University of Chicago. Many suggestions based in experiences at different institutions were made:

Top 3 Actions Proposed by the Studio Participants to Eva Kahn:

1. Update flyer/advertisements to take out ”SLEEP” in the title as it isn’t a traditional sleep study where people have to sleep in a lab setting.

2. Video testimonials from previous participants to upload on to social media or the RedCap page. This will enable people to see the actual participants and see themselves in the study.

3. Approach student bodies at local universities to enable access to their email listserves or specific school or dept mailing lists (law, business, etc) within the universities. Flyers can then be distributed using this channel.
TRIO Studio Problem Description:

The main problem, as per Eva Kahn, is that many people take the survey for the study but the conversion rate to actual consented participants is low. Some people also “Ghost” the study team where in they do not participate after qualifying for the study through survey. The group’s discussion of the problem(s) lead to identification of these issues:

<table>
<thead>
<tr>
<th>Unclear communication through advertisements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertisements do not convey the eligibility criteria precisely</td>
</tr>
<tr>
<td>People assume that the study is about insomnia or sleep apnea</td>
</tr>
<tr>
<td>There is a gap between knowing the criteria and having people to take the survey</td>
</tr>
<tr>
<td>The advertisement needs to convey that the study is for busy people as well</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Restrictions that UoC faces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team at University of Chicago is only 1 person</td>
</tr>
<tr>
<td>University of Chicago has to figure out if a particular participant might qualify in case of certain medical conditions like cancer</td>
</tr>
<tr>
<td>Participant can’t be continuously compensated because they might drop out of the study mid-way</td>
</tr>
<tr>
<td>Unemployed people do not have a stable schedule. So, even if they have time, they aren’t potential participants</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Participants are ghosting on the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even with a lot of people taking the survey, the desired number is not reached because people do not qualify</td>
</tr>
<tr>
<td>Eligibility criteria is stricter than people can see in the advertisements</td>
</tr>
<tr>
<td>Phone and email is not an effective follow up communication method</td>
</tr>
<tr>
<td>Even after the survey, participants do not qualify because they do not know enough about their bodies</td>
</tr>
<tr>
<td>It is a long study and needs commitment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ineffective other modes of advertisement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listserv are very protective and hard to get in for certain schools</td>
</tr>
<tr>
<td>Institutions are not properly engaged. They only post information not detailed</td>
</tr>
<tr>
<td>CTA is now doing constrained advertisements</td>
</tr>
<tr>
<td>Craigslist can now only post in one category</td>
</tr>
<tr>
<td>Most people are coming through CTA and craigslist even though it is easier to click on Facebook and Instagram</td>
</tr>
</tbody>
</table>

| Advertisement graphics need to be generic but also communicate the criteria correctly |
| People are enticed by the $ amount and miss paying attention to eligibility criteria |
| But participants won’t bother to complete the study if they do not receive anything in the process |
| People drop off the study because they aren’t compensated enough for taking time off of their work |
| People do not know why exactly they do not qualify |
| There is a long wait between people taking the survey and being followed up by the researcher |
| People lose interest and enthusiasm by the time they are followed up |
| Potential participants currently do not know what the study entails, and how will it be done |

Figure 1. Digitized view of whiteboard about issues in “Home Sleep (HS) and Metabolism Study”
Main problem for the studio participants to solve:  
How to engage eligible volunteers and trafficking them to our online pre-screening survey?

Studio Methodology  
Design thinking approach was used as part of the studio to solve this problem(s).

Design Thinking Method  
We used the Design thinking approach with four steps:

1. Create a free form mind map of the problem and identification of issues – Mind Mapping technique
2. Actionable insights were identified
3. Generating ideas to address issues
4. Synthesizing solutions from the smaller ideas – Creative integration of smaller ideas led by Design Thinking Expert facilitator was done using white boards.
5. Solutions were proposed to the PI. Solutions were rated by the team on implement-ability (0-4 scale)
Design Thinking Based Solutions:

Problem visualized with Insights
Group first discussed the problem and its context yielding the following context diagram.

Figure 2. Mind map of Issues with context
Figure 3. Stakeholder Map
Mind Map of Innovation Space Generated during Studio Session:
Following the context discussions, insights were generated as follows:

![Mind Map Image]

Figure 4. Insight Map

Solutions Generated by Design Thinking Approach Team:
Five relatively comprehensive yet pragmatic solutions were created to solve the issues. They are as follows:

1. **Update the advertisements**: The study isn’t a sleep study so it is suggested to remove “SLEEP” in the title. Update the eligibility to include restricted medications. Add FREE to the laboratory screening tests and body composition scan. Reframe time commitment, for example 7 visits over a 6-8 week period. Lastly, reword the compensation to include a bonus if the study is completed.

2. **Video testimonials**: Add video testimonials of previous participants to social media and RedCap. Also create a video advertisement for social media.
3. **Student Bodies at Universities**: Post advertisements at different universities within the Chicagoland area. Request that emails are sent, advertising the study, to Listserves at the different universities. Email the different schools (law, business, etc) within the universities to send out advertisements.

4. **Dynamic Ads**: Change advertisements on Facebook and Twitter (target more), target students, unemployed and possible injured workers.

5. **Team Build up**: Train and recruit less qualified people/volunteers to help screen and process potential participants. Increase capacity of the team to cover more hours on weekdays and weekends.

<End of Document. Thank you.>
Appendix 1.
Slides used by Eva Kahn, University of Chicago, for the studio kick off.

Appendix 2.
Actual pictures of white board from the studio session. Titles of figures are in the pictures at the top.
TRIO STUDIO: Recruitment and Further Participant Engagement for the Home Sleep and Metabolism Study
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SOLUTION

1. FLYER: what it says is not what it is.
   - Incl. sleep/tired many
   - What is in for me?
   - Free lab screening
   - Reframe time
   - Positive tone
   - Break the connection
   - Commitment
   - Ad can change every week
   - Bonus on complete the study

2. VIDEO TESTIMONIALS
   - Student bodies @ Univ
   - List cars = flight vs. attend
   - Dept. email list

3. FLYER REDESIGN
   - Incl. study purposes (why)
   - Sleep less than 6 hrs/day
   - What is in for me?
   - Change the incentives
   - Raw data
   - Video testimonials
   - Video ads in social media for eligibilities
TRIO STUDIO: Recruitment and Further Participant Engagement for the Home Sleep and Metabolism Study

Solutions

4. **Dynamic Ads**
   - Changing advertisements on FB + Twitter [Target more]
     - Sleepy heads
     - Few Electric Sleepers
     - Students
     - Unemployed...

5. Team build up using less qualified people
   - Volunteers to do screening process
   - Train volunteers/participants
   - Nanny
   - Part-time nanny
Addendum 1 – One Month Follow up

Top 3 Actions Proposed by the Studio Participants:

1. **Update flyer/advertisement to take out “SLEEP” in the title as it isn’t a traditional sleep study where people have to sleep in a lab setting.**

   **Implementation and Results:**

   Since TRIO Design Studio on July 11, 2018, *Home Sleep and Metabolism* study is awaiting IRB approval on the updated flyer. The following changes are pending IRB approval:

   The title was updated. The tone of the title was changed to grab the attention of potential participants.

   Quick response code was added, which allows individuals with a smart phone to take a picture of the code and be directly linked to the survey.

   Lastly, the flyer included the number of required visits.

2. **Video testimonials from previous participants to upload on social media or the RedCap page. This will enable people to see the actual participants and see themselves in the study.**

   **Implementation and Results:**

   The study team is currently awaiting the cost of video testimonials to determine if they have funds for this type of advertising.

3. **Approach student bodies at local universities to enable access to their email listserves or specific school or dept mailing lists (law, business, etc.) within the universities. Flyers can then be distributed using this channel.**

   **Implementation and Results:**

   Due to summer vacation, student bodies at local universities have yet to be approached. Once the school year resumes, the research team will be actively distributing flyers throughout campuses.
Misc:

*Home Sleep and Metabolism* study have completed 56 subjects. As of Aug 9, 2018, they have consented 157 subjects. At the time of TRIO, 154 subjects were consented and 55 completed the study.

The Research coordinator requested updates to be made on original report to enhance clarity.

Page 4- Figure 1. Digitized view of whiteboard about issues in “Home Sleep (HS) and Metabolism Study”.

Remove the following boxes:

Unemployed people do not have a stable schedule. So even, if they have time, they aren’t potential participants.

CTA is now doing constrained advertisements.

People drop off the study because they aren’t compensated enough for taking time off their work, and there is a long wait between people taking the survey and being followed up by the researcher.

Page 8- Figure 4 “Insight Map”

Reword the box that reads, “Can reach to not health related potential group.”

Remove the following two boxes: Include medical students and respond within a half hour. Medical students are not allowed to participate in the study. Responding to requests within in a half hour is not feasible as study team is with other patients or it’s the weekend.
Addendum 2 – Three Month Follow-up

Suggestions Proposed by Studio Participants:

1. **Update flyer/advertisement to take out “SLEEP” in the title as it isn’t a traditional sleep study where people have to sleep in a lab setting.**

**Implementation and Results:**

Since the 30-day follow up on August 9, 2018, all changes to the flyer were approved by the IRB and the title states: “Help Us Learn About Sleep”. The quick response code was approved along with the number of required visits.

At the 90-day follow up, *Home Sleep and Metabolism* study is undergoing additional changes to their CTA ad and flyer. The following changes will be sent to IRB for approval, and CTA ad will be posted in the month of December 2018.

The image will be refreshed in an effort to gain more attraction to potential participants.

The flyer bullet points will read: “Body composition scans” and “Questionnaires”.

The CTA ad will have the following lines added: “8 visits (30 mins to 6 hours) over 1.5 months” and “All research is conducted at the University of Chicago’s Hyde Park campus”.

2. **Video testimonials from previous participants to upload to social media or the RedCap page. This will enable people to see the actual participants and see themselves in the study.**

**Implementation and Results:**

The study team has not received information from ITM Communications regarding the cost of video testimonials. Since the study is nearing completion, video testimonials will not be used.

3. **Approach student bodies at local universities to enable access to their email listservers or specific school or dept mailing lists (law, business, ect.) within the universities. Flyers can then be distributed using this channel.**

**Implementation and Results:**
The Research Assistants are actively placing flyers around University of Chicago campus. As a result, a number of University of Chicago graduate students have taken interest in the study. As of now, two graduate students are in the screening process for the study.

4. **Dynamic Ads:** Change the advertisement on Facebook and Twitter (target more), target students, unemployed and possible injured workers.

**Implementation and Results:**

Since the IRB approval of the amendment to update the flyer, the Facebook advertisement was updated. They have received thousands of responses through the Facebook page but unfortunately, many participants have not qualified. Additionally, many individuals who are eligible do not follow up/re-connect with the study staff, even after numerous attempts.

5. **Team Build up:** Train and recruit less-qualified people/volunteers to help screen and process potential participants. Increase capacity of the team to cover more hours on week days and weekends.

**Implementation and Results:**

Currently, the department has 3 highly-qualified Research Assistants to help with the study. The goal is to hire 1 to 2 more Research Assistants to recruit, consent and follow subjects in the study.

Approximately 30% of the individuals approached about the study ask if it accommodates weekend hours. Due to limited hours and staffing of the CRC and DCAM, they cannot incorporate weekend hours to the study. This has resulted in subjects unable to participant.

**Misc:**

Recruitment prior to Design Studio was 154 subjects consented and 55 subjects who completed the study. Since Design Studio, 10 additional subjects have consented, 6 screen failed, 1 subject is currently in screening, and 3 subjects have completed the study. A total of 58 subjects have completed the study.

One-year follow will be done in July 2019.