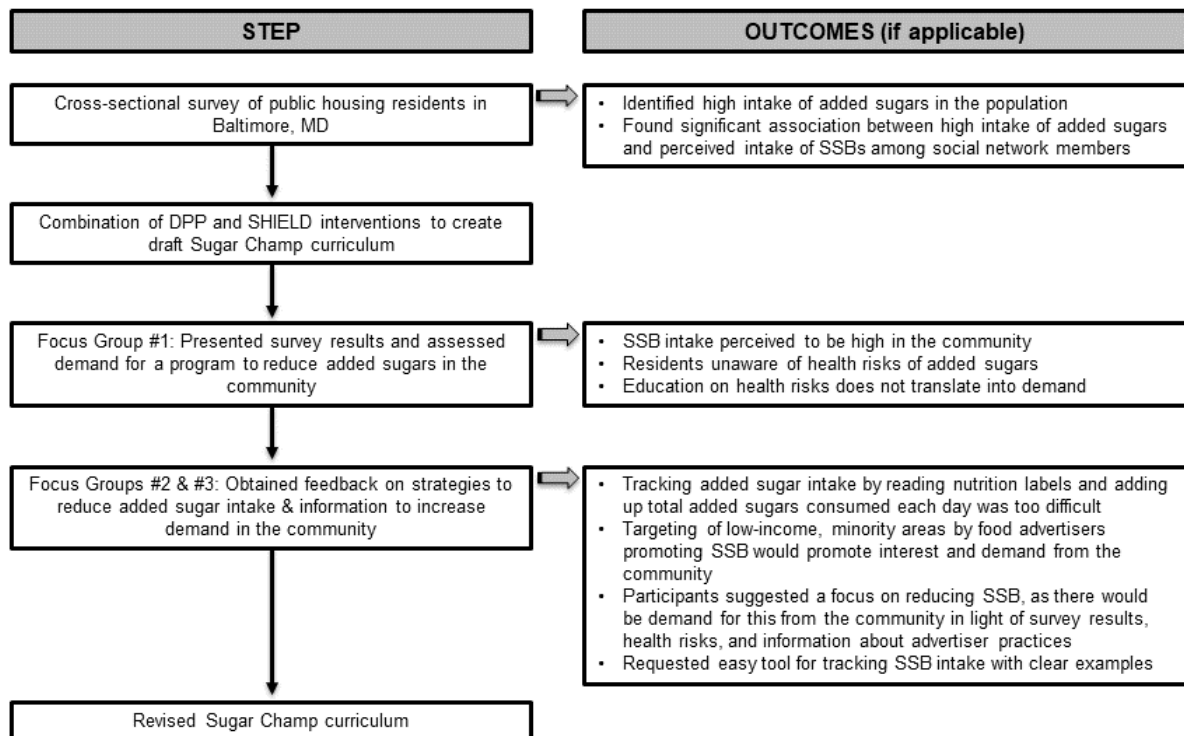


Supplemental Materials

1. Supplemental Figure 1 – Timeline of Intervention Development Activities
2. Supplemental Materials 1 – Detailed Focus Group Methods
3. Supplemental Materials 2 – Abbreviated Moderator Guides for Focus Groups
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Supplemental Figure 1. Timeline of Intervention Development Activities



Abbreviations: DPP – Diabetes Prevention Program; SHIELD – Self-Help in Eliminating Life-Threatening Diseases intervention; SSB – sugar-sweetened beverage

Supplemental Materials 1 – Detailed Focus Group Methods

The objective of the focus groups were to obtain Baltimore City public housing residents' feedback on strategies to reduce added sugar intake within their communities. In particular, we wanted to understand demand for and acceptability of the curriculum to reduce added sugar intake. Demand determines the extent that the intervention is likely to be used, and acceptability determines to what extent the intervention is suitable to participants (Bowen, 2009). We conducted a qualitative study in which we recruited a group of participants from two public housing developments to take part in a series of three focus groups to assess perceptions and attitudes regarding a social network intervention to reduce intake of added sugars. We elicited feedback on intervention materials and sought input on implementation strategy including recruitment and retention strategies for the subsequent intervention study.

Two cohorts participated in a series of three focus groups – one cohort from each of two public housing developments (six total focus groups) – and each cohort had at least 5 members. The first focus group defined their idea of a healthy diet and reviewed the results from our prior survey in these neighborhoods (Gudzune, 2018), which identified that intake of added sugars was high among these residents and their social network members. We assessed their perceptions and attitudes towards these results, sought to understand what behaviors or factors in their community might contribute to these results, and asked them brainstorm relevant strategies that they themselves would try changing. We asked participants to select and try out one of these ideas until the next focus group was held (approximately 7 days later). At the second focus group, we discussed whether members were successful with their selected strategy, as well as barriers and facilitators to making the change. We shared with them the materials for the intervention that the study team had developed. We again asked participants to select and try out one of these ideas until the next focus group was held (approximately 7 days later). During the third and final focus group, we discussed whether members were successful with their selected strategy, as well as barriers and facilitators to making the change. We also sought feedback on information to increase demand for the curriculum, feasibility and likability of intervention materials, as well as potential challenges/issues. We also sought feedback on recruitment and retention strategies for the subsequent intervention and follow up data collection points.

We recruited participants from two public housing developments by mailing a study recruitment letter to all residences that directed them to call our study office if they were interested in participating. We also followed up these mailings with door-knocking attempts in these communities. To be eligible, participants had to be at least 18 years of age, self-identify their primary residence to be within one of the selected public housing developments, and be willing to participate in a total of three focus groups over a 3-week period. Participants also had to be willing to try out two strategies to reduce their added sugar intake at home in between focus group sessions. We excluded any individual who had a medical condition where dietary change may be contraindicated (e.g., diabetes mellitus that requires medication, kidney disease, liver disease, or heart disease). Each participant was compensated \$30 for their time after each focus group. Supplemental Table 1 describes the characteristics of the focus group participants.

| Supplemental Table 1. Characteristics of Focus Group Participants | |
|---|------------------------------------|
| | Focus Group Participants (n=13) |
| Mean age in years (SD) | 51.8 (8.3) |
| Women | 69.2% |
| African-American | 100% |
| Resident of community #1 | 61.5% |
| Resident of community #2 | 38.5% |
| Mean number of focus groups attended in three-session series (SD) | 2.7 (0.5) |

All groups took place in a private room in each development's administrative building. We have designed moderator guides for each focus group in the series, which are included in Supplemental Materials 2. The groups were conducted by a moderator and an assistant moderator, and were tape-recorded. The study team reviewed and discussed the focus groups using a thematic analysis

approach (Braun & Clarke, 2006). Community members did not participate in the analysis. Based on these findings, we made modifications to the intervention materials, recruitment materials, and study procedures for the subsequent intervention study.

Supplemental Materials 2 – Abbreviated Moderator Guides for Focus Groups

Focus Group #1 Moderator Guide

- Tell us who you are, how old you are, and how long you've lived in this public housing development.
- What does it mean to you to have a healthy diet?
 - Probe 1: What foods or drinks should you have as part of a healthy diet?
 - Probe 2: Are there certain foods or drinks that you should limit or avoid all together to have a healthy diet?
 - Probe 3: Do you think the people in your community here at _____ have a healthy diet? What about your family and friends?
- What does the term “added sugars” mean to you?
 - Probe 1: The definition of “added sugars” according to ChooseMyPlate.gov is: Sugars and syrups that are added to foods or beverages when they are processed or prepared. This does not include natural sugars like those in milk and fruits. Examples include soda, energy drinks, candy, donuts and much more. Do you think there is a better way to think about added sugars and discuss it with your community or other people you know? Is there a better word or phrase for us to use?
- I want to share with you now the results of the survey we did here in your community last year.
 - Probe 1: Looking at the front page of your handout. What do you think about what we found about the amount of added sugars that people in your community eat? Does this surprise you? Why do you think they eat so much added sugars? Are there factors in your community that might contribute to this high intake?
 - Probe 2: Do you think that there are any health consequences for people who eat so much sugar? What might they be?
 - Probe 3: Please look at the back of your handout now. Did you know that all of these conditions were linked with eating too much sugar? What is the best way to talk with you community about these risks? Are there certain conditions that people worry about more? Are there certain words or phrases that we should use to talk about these health risks?
- The health program that we are creating will focus on helping people in your community decrease their added sugar intake.
 - Probe 1: Are there things that you have done or know that others have done to decrease their intake of sugary foods or drinks? What kind of challenges did you or others that you know face in making these changes?
 - Probe 2: Do you have any other ideas of things that you might do decrease your intake of sugary foods and drinks?
- You did a great job brainstorming ideas! Now I would like each of you to pick one of the ideas listed on the chart and your homework will be to do a 7-day trial run of putting this idea into action in your life. Please raise your hand and state which action you would like.
 - Probe 1: Is everyone clear on what strategy you'll be trying out over the next 7 days? Do you all have any questions or concerns about your chosen strategy at this time?

Focus Group #2 Moderator Guide

- Let's go around the group and state your name, which strategy you chose, and whether you were able to stick to it for the 7-day trial run.
- Let's think back to last week when we chose our actions. What made you pick the action you did?
 - Probe 1: Did you think it would be easy to stick with? Did you think it was interesting?
 - Probe 2: Did you have a personal connection to the action? Was it something you had heard of before or wanted to try previously?
- For those of you who were able to try out your strategy, what made it easy to stick with your task?
 - Probe 1: How did you make it work? Were there things that you or others did that made it easier?
- What made it hard to stick with your strategy? For those of you who were not able to try out your strategy, what things prevented you from trying it out?

- Probe 1: Were there things that you did or other people did that made it harder?
 - Probe 2: Do you think that the people you know would also have the same issues?
- Looking at the pros and cons of each strategy, would you recommend making any of these changes to your family or friends who wanted to decrease their added sugars intake?
 - Probe 1: Are there any changes that you would suggest or tips that you would give them to help them be successful?
- You did a great job! I would now like to share with you three strategies that our team has been thinking about in helping you and others in your community decrease their added sugars intake. I would like you each to again pick one of these strategies to follow for your second 7-day trial run.
 - Probe 1: Is everyone clear on what strategy you'll be trying out over the next 7 days? Do you all have any questions or concerns about your chosen strategy at this time?

Focus Group #3 Moderator Guide





























- Let's go around the group and state your name, which strategy you chose, and whether you were able to stick to it for the 7-day trial run.
- Let's think back to last week when we chose our actions. What made you pick the action you did?
 - Probe 1: Did you think it would be easy to stick with? Did you think it was interesting?
 - Probe 2: Did you have a personal connection to the action? Was it something you had heard of before or wanted to try previously?
- For those of you who were able to try out your strategy, what made it easy to stick with your task?
 - Probe 1: How did you make it work? Were there things that you or others did that made it easier?
- What made it hard to stick with your strategy? For those of you who were not able to try out your strategy, what things prevented you from trying it out?
 - Probe 1: Were there things that you did or other people did that made it harder?
 - Probe 2: Do you think that the people you know would also have the same issues?
- Looking at the pros and cons of each strategy, would you recommend making any of these changes to your family or friends who wanted to decrease their added sugars intake?
 - Probe 1: Are there any changes that you would suggest or tips that you would give them to help them be successful?
 - Probe 2: How do you think your friends and family would respond to the idea of changing to foods that have artificial sweeteners like diet soda? Do you think that they would try them? What concerns might they have?
- We'd now like to get your feedback on some of the materials that we have created for the program.
 - Probe 1: What do you like about the materials? Is there anything you would change or remove?
 - Probe 2: We would like to hang signs in local grocery and convenience stores as helpful reminders for the participants to reduce their added sugars. Which stores in your neighborhood do you or your neighbors go to for food items or grocery shopping? What stores do you go to if you need to just pick up a single item or a snack?
 - Probe 3: Our goal is for the participants to become healthy role models and to discuss healthy diet with their friends and families. We refer to this as a "peer educator" or a "peer mentor." Do you like one of these terms? Is there a better way to describe these people?
- Now we are going to talk about the best ways to get people in your community interested in participating in this new program.
 - Probe 1: We would like to share with you an article about food company practices. In brief, the companies tried to decrease the awareness of the health risks of sugar and instead focus only on the health risks of fat. How do you feel about this article? Do you think this information would be important for your community to know?
 - Probe 2: We would like to share with you another article about food company practices. In brief, the companies have targeted low-income communities and minority youth with

messages encouraging drinking sugary beverages. How do you feel about this article? Do you think this information would be important for your community to know?

- Probe 3: Are there certain aspects of the program that we should highlight to members of your community? What would get you or the people you know interested in participating?
- Probe 4: What do you think are the best ways to tell people in your community about the program?
- Probe 5: When and where do you think the groups should be held? How long should they last?
- Probe 6: We would like to follow-up with people who take part in the health program 3 months and 6 months after the program finishes to see how they are doing with the changes. It is very important for us to be able to check in with everyone who takes part in order to tell whether the program works or not. What do you think are the best ways to keep in contact with people? How can we best keep people engaged during this period?

Supplemental Materials 3 – Sugar Champ Sugar-Sweetened Beverage Tracking Sheet

Week: _____

| Day | Circle or cross off how many SUGARY DRINKS you had today! | | | Any others? |
|------------------|--|--------------|--|-------------|
| Sunday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |
| Monday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |
| Tuesday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |
| Wednesday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |
| Thursday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |
| Friday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |
| Saturday | Sugar Champ Cup | 8 oz |  | |
| | Can | 12 oz |  | |
| | Bottle or Small Fountain Drink | 20 oz |  | |
| | Bottle or Medium Fountain Drink | 32 oz |  | |

Sugar Champ Program

Supplemental Table 1

| Supplemental Table 1. Comparison of Baseline Characteristics of Study Participants with Characteristics of Public Housing Residents Reported in Other Studies | | | |
|---|-----------------------|---------------------------|---------------------------|
| | Sugar Champ (n=34) | Ludwig (2011)* (n=152) | Gudzune (2018) (n=266) |
| Mean age in years | 45.7 | 31.6 | 44.5 |
| Women | 79.4% | 100.0% | 86.1% |
| African-American | 97.1% | 98.7% | 95.5% |
| Less than high school education | 35.3% | NR | 33.8% |
| Employment status | | | |
| Unemployed | 29.4% | NR | 33.5% |
| Food insecure | 61.8% | NR | 67.3% |
| Mean BMI in kg/m ² | 32.1 | NR | 32.6 |
| BMI ≥30 kg/m ² (obesity) | 58.8% | 53.0% | 54.3% |

Abbreviations: BMI – body mass index; NR – not reported. *Statistics from Ludwig & colleagues (2011) are from the Baltimore-based sample of families from this study, which recruited female head of households only from this site. The family sampling strategy also likely influenced this sample being younger than our study, which did not have this limitation. Other sites included Boston, Chicago, Los Angeles and New York, which were also predominantly female.