

## **Session 5 – Contextual Factors – Webinar Summary**

### **Barriers and Facilitators to Program Attendance**

- We are just beginning to measure patient contextual factors; much of the work is still in the qualitative phase.
- Attendance barriers include:
  - Lack of time for both parent and child
  - Frustration from prior unsuccessful weight loss attempts
  - Perceived cost of healthy food and exercise options
  - Transportation
- Attendance facilitators include:
  - Convenient location
  - Supportive program leader
  - Rewards for child progress
- Transportation barriers include:
  - Accessibility to public transportation/lack of public transportation
  - Need for transportation reimbursement
  - Transportation to safe community resources, such as safe physical activity outlets for youth
- Transportation facilitators include:
  - Local and convenient location
  - Holding program right after school to reduce transportation burden and parent/guardian time
- Time barriers include:
  - Long work hours and busy schedules of parents
    - Limited time to attend the HWP and engage in healthy behaviors at home
  - Busy schedules of children where school, homework, and extracurricular activities take priority
    - Little time for exercise or to attend an HWP
- Time barriers can be attenuated by:
  - Scheduling programs sessions far in advance
  - Providing transportation assistance
  - Mapping the frequency and duration of the program onto the academic school year
- Time facilitators include:
  - Holding programs on weekday evenings or Saturday afternoons
  - Open to attending programs once a month to 2–3 times/week; this is highly variable
  - Year-round programming; but in a separate study, parents wanted to reduce the program length
- Access to healthy food barriers include:
  - Cost of fresh produce
  - Expiration of fresh produce before use/not wanting to waste food
  - Child's dislike for vegetables
- Exercise barriers
  - Cost of childcare for children not participating in the organized activities

- Community barriers include:
  - Lack of safe places to exercise
  - Limited locations
  - Limited information on exercise options in their communities
- Incentives as facilitators:
  - Motivational program leader
  - Incentives to encourage attendance, goal achievement, healthy behaviors
    - Parents also use incentives at home to reward healthy behaviors
- Program structure facilitators:
  - Group-based
  - Include the whole family
  - Fun and encourage child participation

### **Characteristics of Participants Who Do Not Complete the Program**

- Likelihood of not completing program (< 70%)
  - Attended a larger group
  - Attended a recent program year
  - Started the program in April or September (unknown why this is)
  - Lower socioeconomic status (SES)
  - Higher BMI standard deviation score
    - Weaker than program characteristics
- Characteristics of participants who only initiated the program (attended only first third of program)
  - White
  - Attended a larger group
  - Attended a recent program year (unknown why this is)
    - Speaks to evaluating your program longitudinally to see what is changing
  - Started the program in April or September
- Characteristics of participants who were late dropouts (did not attend the last third)
  - High BMI Standard Deviation Score (SDS)
  - Attended a recent program year (unknown why this is)
  - Started the program in April
- Characteristics of participants who attend sporadically (attended 50—70% of the program)
  - Compared to completers
    - Non-white
    - Lower SES
      - Overall lower attendance among people with fewer resources

### **BMI SDS Reduction**

- Completers:  $0.15 \pm 0.22$  units during the program ( $p < 0.001$ )
- Initiators:  $0.02 \pm 0.20$  units
- Late dropouts:  $0.07 \pm 0.21$  units
- Low sporadic attenders:  $0.07 \pm 0.18$  units
- High sporadic attenders:  $0.09 \pm 0.18$  units

### What Program Characteristics to Measure

- Program year
- Group size (≥20 participants or <20 participants)
- Age groups (separated younger/older age or mixed ages)
- Program length
- Session delivery day (weekday or weekend)
- Time of year

### Measures of Key Factors from Other Kinds of Programs (Adult cardiac rehab program)

- Travel distance to program was the only statistically significant factor in determining uptake
- Other factors that were enablers to attendance:
  - Easy access to transport (63%)
  - Family support (49%)
  - Work flexibility (43%)

### Measures That May Impact Program Success

- Childhood social determinants of health (SDoH)
  - No standard in the field, but survey exist
- Neighborhood characteristics

### Key Contextual Factors to Consider Measuring

- Transportation
  - Distance from program
  - Means of transportation
    - Own car, public transportation, depending on friends/family for rides
  - Cost of transportation
- Childcare
  - Availability during program time
    - Possibly on a scale of Always-Sometimes-Never
- Program time conflicts
  - Parents' work hours
  - Other family commitments
  - Child's school
  - Child's extracurricular activities
- Cost
  - Able to afford fresh fruits and vegetables
    - Possibly on a scale of Always-Sometimes-Never

### Individual-level Contextual Factors

- Parent readiness to change
  - Based on the literature, few families are ready to make a change
    - One study asked parents of overweight children aged 2–12 how ready are they to change their weight control behaviors; only 38% were ready to make a change
    - One study asked parents of pre-school aged children about fruit and vegetable availability; only 28% of parents were ready to make a change

- Among parents participating in a tertiary care obesity clinic, more were in the action stage for dietary (62%) and physical activity behaviors (41%)
  - Even when families are referred by physicians to tertiary care, many families are still not ready to make a change
- Parents who reported they were in the action stage were engaging slightly more in recommended dietary and physical activity behaviors

### Assessing Readiness to Change

- Difficult to assess
- Many scales exist
  - 10-point scale is common and can be used easily in HWPs
    - Questions can vary
      - How motivated are you to...?
      - How important is it to you to change?
      - How confident are you to make those changes?
  - Julie Wright worked on readiness scales that differentiate between the behaviors that are often associated with HWPs
    - First question is about readiness to change a specific behavior, followed by the stage of change
  - Lifestyle Behavior Checklist
    - Asks about confidence across different behaviors
  - Parent Self-efficacy for Obesity Prevention-related Behaviors by Julie Wright
    - Looks at self-efficacy of specific behaviors within the domains of physical activity and diet
    - Essentially asks, “How sure are you that you can engage in X behavior when you have other commitments or when money is tight?”
    - Scale was validated
  - Parent Efficacy for Child Healthy Weight Behaviour Scale
    - Assesses self-efficacy
    - Essentially asks, “How confident are you to engage in X behavior when you have these X issues and demands?”

### Physician Influence on Confidence and Readiness

- If a physician talks to families about trying to make changes and readiness, they have some influence on increasing confidence and readiness
  - Increased confidence if clinicians assessed:
    - Parent confidence in making overweight-related changes ( $\beta = 0.73$  [95% CI: 0.04 to 1.42])
    - Parent readiness to change ( $\beta = 0.80$  [95% CI: 0.10 to 1.49])
  - Increased readiness to make a change if child’s doctor commented that “child’s weight was a health problem” (OR 10.80 (95% CI: 3.78–30.86))
  - Increased odds of being in the action/maintenance SOC if providers discussed strategies for improved dietary behaviors (OR 2.1 (1.0 – 4.0))

### Does Readiness Predict Change in BMI or Attendance?

- In one study it does not appear to matter
  - Those in the preparation/action stage made slightly better changes, but they were not statistically significant.

### **Parent Factors Associated with Program Engagement**

- Higher education
- Higher income
- Two-parent households
- Less social disadvantage
- Engaged in their own healthy eating and physical activity behaviors
- More confident to make changes
- More concerned about child and want to do something for child
- Preconceived notions of the program and how well they align with what is happening in the program; the more aligned, the more likely they are to continue the program
  - Suggests program should be direct with parents about what their children will get out of the program

### **Child Factors Associated with Program Engagement (limited studies)**

- Boys
- Younger age
- Higher BMI
- Higher confidence and self-esteem
- Lack of depression
- Development of social connection with other children in the program
- Shared decision-making with the children—children agree to come and are aware of why they're coming to the program; it not something sprung on them by the parents
- Although non-Hispanic, white children attended more sessions, race/ethnicity did not show a difference in BMI-z score change (preliminary data)

### **Program Factors Associated with Program Engagement**

- Distance and transportation
- Referral type
  - Self-referred
  - Professional referral
  - Public ads
- Family support
- Facilitator familiarity with program materials
- Timing of program/scheduling conflict
- Size of group

### **Key Individual-level Contextual Factors to Consider Measuring**

- Readiness to change
  - Confidence
  - Self-efficacy
  - Importance or concern
- Demographic characteristics
  - Sex/gender
  - Race/ethnicity
  - Income/education
  - Food insecurity

- Family structure (single parent vs. two-parent household)
  - Immigration status (cultural factors)
- Personal characteristics
  - Mental health (depression, anxiety)
  - Abuse history
  - Executive function or problem-solving ability
- Social support (informational, emotional, functional)
- Family functioning (connectedness, organization, chaos level)
- Social connection with
  - Group leaders and behavioral/health coaches
  - Other group members
- Alignment of program expectations

### **Webinar Discussion**

M. Levy suggested going into a little more detail on the social determinants of health (SDoH) because of the impact it has on participation levels. He also suggested defining the transtheoretical model of change for the second part of the presentation, because some participants may not be aware of the model that was referred to. He added there has been some literature on physicians modeling behaviors, especially in the adult literature, so there may be something to add in that area here. He also suggested immigration and cultural factors should be considered separately.

- In response to the comment on SDoH, S. Hassink indicated the Collaborative may have an opportunity to settle on a measure/tool for SDoH. She thinks in the field this is still being worked out, but here there is an opportunity to take one of the measures and push it through our programs if it is of interest.
- B. Belay agreed and added that one thing he hears repeatedly is the concern that programs don't ask about SDoH because if the screener identifies issues, they do not know how to address the issues or lack the resources to address the issues. As an example, he noted if the question is, "What is it about the program that has been difficult for you?" and the responses relate to timing or transportation, there could be things that programs can do such as providing a greater variety of times and locations for the program. He felt such suggestions can be included in the toolkit.
- S. Hassink suggested that one of the SDoH—food insecurity—could be addressed, as there are questions that can be asked to determine if food insecurity is an issue, and strategies exist to ensure patients have access to federal food programs if they qualify and know where food sources are in the community. S. Hassink indicated there is a food insecurity informational [website](#) that includes two questions, policy strategies, and a [toolkit](#) developed by AAP and FRAC to implement food insecurity strategies in your practice.
- B. Belay added that CMS has a social needs screener, which has two questions that are very similar to the ones S. Hassink described. B. Belay was curious about the strategies to address food insecurity among participants in programs, and if they would be appropriate to include in the toolkit being developed. S. Hassink thought it would be, because it's only fair if programs ask the questions, that they provide families with a way to address the problem.

S. Yanovski noted there were many contextual factors presented, but given time and cost constraints, not all of them can be collected by a program. She asked if S. Hassink and K. Rhee have thoughts on how we can help programs prioritize which of these factors to focus on for their population?

- S. Hassink thinks about this in two ways: first, what measures are important, and second, what measures can you do something about. Factors to consider include food insecurity and

transportation (distance, type of transportation, travel time, etc.), because there might be some troubleshooting programs can do to address these factors. She added she may ask a question about time and scheduling, because there may an opportunity within the program to talk about time management.

- S. Yanovski suggested that as we develop the toolkit, we can provide some advice on how programs can prioritize.
- K. Rhee agreed that you want to ask about factors that your program can do something about. She wondered about some of the other factors such as quality of the group leader, and whether this is something that can be used as an internal measure to help program implementors train group leaders better. She suggested perhaps it is not a formal assessment but something that occurs at some point in the program to give a sense.
- B. Brook clarified that this is not a fidelity measure which is tied directly to outcomes, but it does impact implementation, and programs can take advantage to do some internal questioning.
- S. Hassink agreed. What arose for her was looking at your program longitudinally because some of the data showed there was a change in attendance over time, and [she is] trying to understand why this important as an internal programmatic measure.

B. Belay asked K. Rhee to what degree should the toolkit recommend assessing readiness, given there does not seem to be a direct link to hard outcomes?

- K. Rhee responded that one of the issues with assessing readiness is that it changes over time. She thinks it is hard to assess unless you are doing it continuously over time and using more complicated statistical analyses to determine how it changes over time and how that correlates with weight loss over time. She felt this could get very complicated.
- E. Jelalian felt this was a great point about transition over time. Anecdotally, she thinks it's very difficult for families to assess what they actually need to do for programs to be effective. As they begin to be engaged, they get a better sense of what is involved. For her programs, she stopped asking about readiness and instead asked for behavioral documentation.
- K. Rhee added this may go back to aligning program expectations. She wondered what can be done to show families what it will take.
- B. Saelens indicated he has very similar experiences in his programs. Their programs ask families in the beginning, and they all indicate they are "very ready." Five weeks in, they're asked the same questions, and they say they're not ready.
- S. Hassink added in the quality improvement collaborative with practitioners, they're not asking about program readiness. They've reduced it to asking about readiness and confidence about very specific goals. She indicated that this seems to map better to what is happening.

### **Follow-up Discussion Summary**

S. Hassink kicked off the conversation by indicating that during the webinar, the group had a good conversation on what was practical to do across the many contextual factors and determinants. She added that this discussion could offer direction to providers and programs, once questions are answered.

- K. Rhee agree and added many interesting ideas were brought up across the different factors. She hoped that the group could further discuss what is feasible and what would be useful to do, especially since there may not be readily identified ways to measure some of the factors discussed during the webinar.

H. Zaganjor reminded the group that during the webinar, it was recommended that assessing confidence and readiness of participants to complete specific goals may be more effective than assessing readiness.

T. Earle added that contextual factors are important but wondered if there was a way to set a stopping point for how much you can actually ask of participants and their families. One of the barriers to participation in her program is the length of surveys; they have found great resistance to too much being asked. She added this is a reason why they swayed away from asking questions about food insecurity, but now they know how important it is to ask about.

- S. Hassink thinks the tendency is find out everything at once, but the reality in practice is you have to peel things like an onion to find out information over the course of the program. She wondered if there was a way to prioritize what factors to ask over the course of a program.
- T. Earle liked the idea of using time to a program advantage, especially when you are working with participants for a long time.
- S. Hassink added that this is a way to build trust with participants.
- E. Jelalian noted she was thinking back to the conversation about outcome measures where the group discussed a tiered measure approach. She felt a similar approach can be applied to contextual factors and added it depends on what is actionable from what you are assessing. For example, if asking two questions on food insecurity allows you to connect participants to resources at the start of the program, then this warrants asking the questions upfront. Whatever the assessment, programs need to determine how the questions can be addressed by the program and prioritize the assessments based on that.
- M. Levy agreed and suggested thinking of it in the context of *what is preventing [participants] from getting to the program, what is preventing [them] from staying in the program, and then what are the barriers to continuing what you've done in the program*. He noted you can break those down, depending on what you are trying to accomplish.
- K. Rhee liked the idea of creating a tier of questions. She then asked the group if there is a way to ask some of these questions ahead of time instead of on day 1 of the program? She noted when they do this in the research setting, it helps participants stick around, but she was not sure if this would be feasible in a community setting. She also feels that some questions about context are factors that would have an implication on how programs are designed and implemented. This made her wonder when you ask these questions to your community to tailor your program to fit their needs? She wondered if you could tailor your program from the get-go to get better attendance and participation.
- T. Earle indicated that in her program, they train program managers in addition to leaders in the program's implementation. She noted that, depending on staff time and resources, some of their programs will have participants complete assessments on the first day; but others have tried different ways such as sending questionnaires in advance of the first day of class or calling participants into the office as they have signed up. She added this is impacted by the setting in which programs are delivered. Often in the clinic setting, many assessments already exist within patient files. When looking at modifications of programs, T. Earle noted that adjusting programs to meet the needs of the community is possible, based on her experience.
- K. Rhee wondered when you get the information to make modifications? Is it when you are running a program and then the next time you implement it, you make modifications? Or do you do prework before implementing a program?
- T. Earle indicated some people on the ground do prework, but it takes some time to collate the information. In some cases, they cannot get all the information because some of the tools used to standardize the information are not the easiest to use. T. Earle added MEND has found that transport and childcare are some of the biggest barriers to participation in MEND.

M. Levy indicated that currently in their clinic, they ask the question in the context of "Do you need help with this?" If participants say yes, they connect them to resources. He indicated it's important to ask

questions where you can give participants something in return. By connecting families to resources, they may be more likely to stay in your program and want to be a part of it because of the assistance they received.

- E. Jelalian added that her colleagues in the world of implementation science have introduced her to the concept of implementation blueprints, which essentially collates information on what it takes to implement an intervention step-by-step as you go, so that it becomes a living document for subsequent use and implementation.
- T. Earle felt this was interesting and not too broad. She noted MEND has done this before in slightly different way; this is how they manage implementation in Canadian provinces with partners.
- S. Hassink added they did some this “blueprinting” with the Institute for Medicaid Improvement. They had a learning collaborative for the Medicaid-managed care plans that were running obesity programs which produced two toolkits—[Changing the Culture of Health in Childhood Obesity: Implementation Toolkit for Medicaid Health Plans](#) and [Building a Culture of Health in Childhood Obesity: Overview & Action Plan for Medicaid Health Plans](#)—that include what to do at different stages of your program. S. Hassink added that they found programs really needed this type of help.

B. Saelens asked if there is information about programs that have failed. Many of the contextual factors this group is discussing are about participants engaging in a program, but lack evaluation information about what caused programs to fail.

- T. Earle said they have anecdotal information, and MEND pays close attention to what is not working.
- B. Saelens added it is hard to admit these types of things, which is why programs may not share this information.
- K. Rhee added that the factors discussed during the webinar are likely factors that influence success. She feels the issues are known, but they vary depending on your community. She thinks this is where community programs are different from research programs; there is so much flexibility and constant change, based on each of your cohorts. She feels that facilitators need to know their program well and know how they can adjust it accordingly.
- T. Earle felt this was an interesting point because one her programs is about to look at what are the elements where fidelity is most important and what are the areas that are changeable from experience. For example, when YMCAs implemented the MEND program, they shifted the dosage to once per week because participants said they wanted the program once a week; but after a year, the YMCAs went back to twice per week because they found out this dosage does not work.
- S. Hassink shared two thoughts: 1) When you have a program that is starting to not work or you are worried about attendance, you need to know if you have the right data to make a change that will put you in the right direction. 2) Once a program has made a change, what data will be collected to ensure the change made is the one desired? She finds that programs need guidance along these lines because otherwise the changes will be random, and programs will not have a way to look back to assess the change.
- K. Rhee finds these questions interesting but also challenging, because it can get complicated for programs to measure these things continually over time.

R. Porter responded to an earlier comment about implementation science. She indicated that in the implementation world, you think about contextual factors in the actual implementation of a program—such as procedures within an institution, leadership support, or time of day. These factors are contextual for the program, and the challenge is combining all those factors.

- E. Jelalian added it's about which components of an intervention are malleable, and which are not. In theory, you could designate a priority.
- R. Porter noted there is an NCI [guide](#) on implementation science; it is a stoplight approach to flexibility versus fidelity. She has learned that typically when someone buys or inherits a program, they want to make some changes. This document allows them the flexibility to make changes but put a stop on some of the things you cannot make changes on.
- T. Earle wondered if a traffic light system can be used with questions to measure the changes made or how much a program has been adapted from its original form? E. Jelalian thinks this would be great.

K. Rhee added that she thinks implementation science talks more about how to assess the community and the organization. But when you talk about changing the program's dose, she wondered if the program is being changed too much? She thinks we can address contextual factors, but she is unsure how to address the intensity of programs, especially since intensity is part of the reason some programs are successful.

- T. Earle noted that they've learned that dosage, intensity, and adherence to the dosage improve outcomes. In some cases though, organizations or hospital systems are more interested in whether the participants came to any of the sessions, because the participants get messaging they would not have received otherwise. Therefore, if a participant attends only three sessions, it is considered successful for those programs. T. Earle will plan to share what she and her colleagues develop related to balancing fidelity and adaptation once it is available. T. Earle added she will have another follow-up with the YMCA, which has done research in this area, and wondered if they will share.
- S. Hassink felt they may be willing share what they have done at the program- and organizational-level. She added they did not evaluate down to the patient-level; instead, they have evaluations of how the program worked at the clinical practices and at the YMCAs. One thing they learned is you up the complexity when you involve two entities trying to coordinate work—in this case, clinics and YMCAs. They learned each organization had its own processes and measures. They also learned how people implement things is very different on the ground—even the same intervention is implemented in different ways by different programs.
- S. Hassink closed the conversation by adding what makes it successful for the individual patient is an unknown to many programs. We don't why it works for some and not others. She indicated there are several levels to think about—what is working and not working for families, and what is working and not working for programs.

### **Session 5 Summary**

Evaluating contextual factors is complicated, given the different levels that they can work in. Key contextual factors to evaluate include transportation, childcare, time conflicts with the program, cost, readiness to change, demographic characteristics, personal characteristics, social support, family functioning, social connections, and alignment of program expectations.

Given the numerous contextual factors that can be evaluated and taking time and costs into consideration, not all measures discussed can be collected across programs. Programs can prioritize factors to collect, based on those that are important to measure as well as what factors can something be done about. Programs need to determine which factors are the malleable components of an intervention and which are not; this will allow for flexibility to make changes. It is important for programs to realize that not all changes are possible to implement and to know when to cease efforts to attempt further changes.