Exploring parent attitudes around using incentives to promote engagement in family-based weight management programs

Elizabeth Jacob-Files\(^a\), Jennifer Powell\(^a\), Davene R. Wright\(^a,b,\*\)

\(^a\) Center for Child Health, Behavior, and Development, Seattle Children’s Research Institute, Seattle, WA, USA
\(^b\) Department of Pediatrics, University of Washington School of Medicine, Seattle, WA, USA

**Abstract**

Incentives can promote adult wellness. We sought to examine whether incentives might help overcome barriers to engagement in child weight management programs and the ideal value, type and recipient of incentives. In 2017, we conducted semi-structured phone interviews with parents of children ≤17 years old, formerly or currently affected by obesity, who had \((n = 11)\) or had never \((n = 12)\) participated in family-based behavioral treatment (FBT) for obesity. Interviews explored the range and type of incentives families would be willing to accept. Interview transcripts were coded and data were analyzed using a thematic analysis. We found that some parents were skeptical about receiving cash incentives. However, once treatment-related costs were identified, some became more interested in reimbursement for out of pocket expenditures. Most parents felt up to $100/month would be adequate and that incentives should be tied to changing behaviors, not BMI. Some interviewees expressed preferences for non-cash incentives (e.g. a gift card) over cash incentives. Parents were willing to share incentives with adolescents, up to $50/month, but there was concern about incentives affecting a child’s intrinsic motivation for behavior change. All parents acknowledged that moderate incentives alone couldn’t overcome the realities of structural and familial barriers to engaging in weight management programs. In summary, we identified aspects of an incentive program to promote engagement in FBT that would be desirable and feasible to implement. Future quantitative work can reveal the value and structure of incentives that are effective for improving obesogenic health behaviors and outcomes.

**Keywords:**

Behavioral economics
Family-based treatment
Financial incentives
Health incentives
Childhood obesity

1. Introduction

Family-based behavioral treatment (FBT), encompassing dietary and physical activity modification as well as behavioral education and parenting strategies, is recommended for treating childhood obesity. (U. S. Preventive Services Task Force et al., 2017) While these interventions can be effective for sustained child weight management (Epstein et al., 1994), barriers to program completion and participant success exist (Skelton and Beech, 2011) Scheduling conflicts, transportation issues, childcare for non-participating children, child motivation, and stigma have been cited as barriers to FBT initiation and reasons for program attrition (Grow et al., 2013; Kelleher et al., 2017; Skelton et al., 2016; Staiano et al., 2017).

Financial incentives could motivate families of children with obesity to initiate and continue to engage in FBT. The burden of traveling to in-person FBT or tracking a child’s meals to achieve long-term, delayed, and uncertain health benefits could be reduced with tangible, proximal financial rewards (Giles et al., 2014; Loewenstein et al., 2007). Incentives could also compensate for direct costs (e.g. physical activity equipment, higher food costs) and indirect costs (e.g. travel and leisure time) of participation in obesity treatment programs (Sonneville et al., 2009).

Offering families incentives is supported by the U.S. private and public sector. Public payers can incentivize patients with in-kind rewards reasonably related to healthcare (2015). Private payers have flexibility in the incentives they offer; in 2016, 42% of large firms utilized payments up to $2000 to encourage participation in a wellness program (Claxton et al., 2016; Giles et al., 2014).

Financial incentives are positively associated with near-term changes in adult weight and health behaviors (Madison et al., 2013; Patel et al., 2016; Purnell et al., 2014; Riis, 2013; Sutherland et al., 2008). However, the family-based nature of FBT and patient age raise theoretical, logistical, and ethical issues that may distinguish the type, value, and process by which incentives are earned for adult versus child obesity treatment. It is unclear whether the value of incentives tested to date could alleviate the burden of the barriers to FBT participation for...
children and families (Finkelstein et al., 2008; Kane et al., 2004; Mitchell et al., 2013; Patel et al., 2016; Purnell et al., 2014; Riis, 2013; Shin et al., 2017; Sutherland et al., 2008; Volpp et al., 2008). A better understanding of how incentives could and should be implemented for families can guide the development of effective incentive programs that can enhance engagement with FBT.

This study aimed to qualitatively examine whether incentives might help overcome barriers to engagement in FBT for child weight management. Additionally, we sought to understand the ideal value, type, and recipient of potential incentives.

2. Methods

2.1. Study population

We conducted semi-structured interviews with parents of children aged 6–17 years who had previously participated in FBT for child weight management (Treatment Experienced Parents (TEP)) and parents who had never participated in FBT (Treatment Naïve Parents, TNP). FBT was defined as a structured program conducted over several months which included in-person contact, targeted both parents and children, assisted participants in setting and monitoring progress toward goals, and included behavioral counseling on healthful diets, feeding behaviors, screen time viewing, and physical activity (U. S. Preventive Services Task Force et al., 2017). To be studyelligible, children of TNP had to have a BMI ≥95th percentile; children of TEP did not have to currently meet this criterion. We interviewed TEP and TNP to understand heterogeneity in desired incentives based on parents’ understanding and perceptions of FBT challenges.

Participants were recruited by mail (TEP) and via a screening survey promoted via the Seattle Children’s Hospital Facebook page (TEP and TNP). The ad was targeted to parents in Seattle Children's catchment area with an interest in childhood obesity and/or weight loss. Of 82 parents who initiated our screening survey, 48 completed the survey and were found to be study-eligible based on child age and BMI. We followed-up with eligible parents via phone or email; 23 parents (11 TEP and 12 TNP) enrolled in the study. To capture a range of experiences and preferences, we purposefully recruited TEP participants who had previously participated in one of four different treatment programs, specific characteristics of which are described elsewhere (Nutrition and Fitness for Life, 2017; Saelens et al., 2017). Recruitment stopped when no new pertinent concepts were found, and thus thematic saturation was reached (Guest et al., 2006; Patton, 2002).

We obtained demographic data from our screening survey. Parents received an information sheet before the interview. Informed consent was obtained from all study participants. Parents received a $20 Amazon.com gift card for participating. The study protocol was approved by the Seattle Children's Hospital Institutional Review Board.

2.2. Interview guide

We developed the semi-structured interview guide based on literature on health-promoting incentives and input from decision scientists, obesity researchers, and a qualitative researcher (Appendix A). The guide was tested with two qualitative researchers who were otherwise uninvolved in the study. Phone interviews lasted 40–60 min and were audio recorded. TEP were asked to describe their FBT program and TNP parents were asked what they thought a FBT program might encompass. Interview questions explored barriers and facilitators to FBT participation and the range of and rationale behind what cash and non-cash incentives families would be willing to accept. After completing 2–4 interviews, coders met and discussed responses using an iterative approach to adjust the interview guide and verify themes. Adjustments included adding questions about types and justifications for preferred non-cash incentives, rationale for receiving payments, how payments would be spent, sustaining cash incentives at home, previous attempts to motivate children, and how preferences varied by child age.

2.3. Analysis

Interviews were de-identified to protect subject privacy and professionally transcribed. Two coders coded all transcripts within Dedoose software, and team discussions offered triangulation via thematic discrepancy consulting and codebook guidance (Dedoose, 2017; Manning, 1997). Coders met weekly to systematically review quotes and ensure codes were consistently and accurately applied. A targeted content analysis approach guided the identification of thematic concepts. A TNP or TEP descriptor code was assigned to each interview type, and emerging thematic concepts were compared between groups to assess similarities and differences. We kept behavior-related questions open-ended as conventional content analysis approach encourages participants-driven categories of behaviors, rather than placing pre-conceived researcher oriented categories onto participant experiences. This allows appropriate space for new thematic discoveries to surface (Hsieh and Shannon, 2005).

The organization of themes was primarily based on the social ecological framework (McLeroy et al., 1988). This approach can be used as a framework for understanding the interactive effects of individual, familial, and broader systemic factors that influence participation in a health intervention. De-identified transcripts are available from the corresponding author on reasonable request.

3. Results

Participant characteristics are presented in Table 1. Child age ranged from 6 to 16. Children of TNP were significantly younger than those of TEP (p = 0.02) and there was no difference in BMI z-score between groups (p = 0.23), although we may have been underpowered to detect differences in BMI z-score. Participants resided in rural, suburban, and urban areas.

We identified four themes: barriers to program engagement, parent cash incentives, child cash incentives, and non-cash incentives. Themes and sample quotations are presented in Tables 2–5, and additional quotations are provided in Appendix B.

3.1. Theme 1: barriers to program engagement

Both TEP and TNP parents reported that their child's perceived level of engagement with FBT was or would be influenced by two factors. First, poor health impeded the child's willingness or ability to engage in moderate to vigorous physical activity (Theme 1A). Second, typical adolescent attitudes were reflected in a child's willingness to engage in FBT. One TNP stated, "She is a teenager, and she wants to do things that are her idea, not somebody else's idea" (Theme 1B).

Parents, especially TEP, expressed logistical barriers to program engagement. Traveling time a deterrent and even led to program attrition for some TEPs, and some TNPss stated they would not consider enrolling unless the program was close to their home. (Theme 1C) Additionally, parents expressed having limited time for healthy meal preparation, especially on treatment days. Even TEP, who are well-
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