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**Early Childhood Education Journal**

ISSN 1082-3301

Early Childhood Educ J

DOI 10.1007/s10643-020-01102-z



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# Evaluation of “Healthy Way to Grow”: An Obesity Prevention Program in Early Care and Education Centers

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## Abstract

The aim of this study was to test a training and technical assistance program in early care and education (ECE) center-based programs focused on obesity prevention – Healthy Way to Grow (HWTG). After completing a self-assessment, ECE programs develop actionable policies to improve the wellness environment. Then, they receive individualized one-on-one support from a local, trained Child Care Specialist to develop, implement, and monitor policies. Three hundred and sixty ECE programs participated in HWTG for at least one year. Center-level outcomes were examined pre- and post-intervention, including the number of policies, wellness educational opportunities offered (to staff, families, and children), and monitoring wellness practices. A subset of centers was followed for five years to determine if the program results were sustained over time. Study findings revealed that after participating in HWTG for one year, centers developed more policies, provided more educational opportunities, and more frequently monitored wellness practices at ECE centers. Even with reduced training and technical assistance in years two through five of the program, centers were able to maintain gains in improvements to wellness environments. These findings provide evidence for the effectiveness of the HWTG wellness program and offer insights into how to support ECE programs to improve wellness environments.

**Keywords** Obesity prevention program · Preschool prevention · Early care and education prevention · Wellness environments · Wellness policies · Policy development

## Introduction

Childhood overweight and obesity impacts 40% of children between the ages of two and five, increasing their risk for numerous health problems such as Type 2 diabetes, asthma, and depression (Centers for Disease Control and Prevention 2017). With children spending a significant amount of time in early care and education (ECE)<sup>1</sup> environments, ECE programs offer an opportunity to expose children, staff, and families to a culture of health. Research suggests that establishing ECE program policies around health and wellness is key in shifting the culture in ECE programs and impacting center practices (Schwartz et al. 2017). Given that ECE

programs face challenges when developing and implementing wellness policies and practices, this study examined how ECE centers’ participation in a technical assistance program, Healthy Way to Grow, would facilitate their (1) development of wellness policies, and (2) corresponding education and monitoring of those policies. The goal of this study was to strengthen our understanding of the ways in which supporting ECE programs might improve health and wellness environments.

## Child Health and Wellness

The American Academy of Pediatrics encourages a life-course approach to a healthy lifestyle, as children’s long-term health can be impacted as early as the prenatal and early infancy (e.g., breastfeeding) periods (Daniels and Has-sink 2015). Engaging in positive health practices during the

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<sup>1</sup> For the purpose of this paper we use the term Early Care and Education (ECE) and childcare interchangeably to refer to all types of center-based childcare programs.

early years is important for short- and long-term development across physical, mental, emotional, social, and academic domains (UNICEF 2013; Williams et al. 2002). Indeed, it is well established that consuming nutritious foods, engaging in regular play, and reducing screen time are all associated with positive developmental outcomes (Center on the Developing Child 2010; Katzmarzyk et al. 2009; Kenney and Gortmaker 2017; Sun et al 2015), while poor health practices increase the risk for acute and chronic disease, such as obesity, diabetes, hypertension, and cardiovascular disease (Eid 1970; Willers et al. 2012). Given that children in environments with few economic resources and more stressors are at even greater risk for disparate health and wellness (Benjamin-Neelon 2018; Brown et al. 2015; Center on the Developing Child 2010), children's ECE environments, particularly childcare programs, can be a pivotal mechanism in bridging the gap and shaping life-long healthy behaviors for children and their families.

### Role of Early Care and Education (ECE) in Wellness Promotion

Approximately 36% of children under six years of age spend time in center-based care, with children spending an average of 30 h per week in these arrangements (U.S. Department of Education, 2016). Given the number of families reached and the extent of time children spend in non-parental care, ECE settings are an opportune environment to target children's health and wellness and support positive practices in the home. Best practices guidance for ECE programs emphasize prevention of childhood obesity and target the areas of nutrition (e.g., consumption of minimally-processed foods and offering water regularly), infant feeding (e.g., encouraging breastfeeding, following healthy bottle-feeding practices), physical activity (e.g., limiting seated activities and offering outdoor play opportunities), and screen time (e.g., limiting media viewing and access to screen media) (American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education 2012; Institute of Medicine 2011).

Despite this guidance, barriers such as cost, time, knowledge, training, and weather constraints all pose challenges to best practice implementation in ECE centers (Hughes et al. 2010; Nanney et al. 2017). Research has shown that ECE programs continue to serve food and drinks that do not meet recommended nutrition standards (e.g., excessive juice and whole milk or high-sugar and high-salt snack foods) (Erinosho et al. 2013; Benjamin Neelon et al. 2012) and struggle to meet best-practice standards for physical activity (Tandon et al. 2017). As a first step towards improving child outcomes, it is critical to

understand how ECE program environments can overcome barriers and better implement best practices.

### Changing Wellness Environments

With federal and state policies addressing child health and wellness (Cradock et al. 2010), research increasingly aims to understand the corresponding policies that ECE centers create and how those policies relate to centers' health and wellness environments. Given variation in the presence and quality of these programs' wellness policies, technical assistance to support wellness policy development in centers may be a key strategy in shifting wellness environments (Academy of Nutrition and Dietetics 2018). Furthermore, as centers each have their own unique needs and strengths, they should be encouraged to create and prioritize their own written wellness policies (Story et al. 2006). Still, only a few studies have examined technical assistance and training interventions around wellness policy development and implementation in ECE centers. For example, one study of childcare program staff found technical assistance to be a key facilitator in creating breastfeeding policies (Calloway et al. 2017). Another study by McDavid et al. (2016) examined how a four-hour group training model helped ECE centers self-assess, create policy statements, and plan for implementation.

As studies in the U.S. and Europe have found that simply developing or establishing policies does not necessarily translate to action (Lyn et al. 2011; Jennings et al. 2011), education provided to children, staff, and families focused on health and wellness areas and continuous monitoring of policies and practices are also key strategies to ensure healthy ECE environments. For example, an intervention designed to introduce healthy eating practices and policies in Australian child care centers found that staff training, performance monitoring and feedback, and other supports significantly impacted implementation of best practices around child nutrition (Bell et al. 2015). Furthermore, a study examining implementation of physical activity and nutrition policies in Australian ECE centers found that programs were more likely to fully implement wellness policies when parents were supportive of program implementation or felt that resources to implement the initiatives were accessible to them, suggesting that wellness initiatives in ECE may have more success when they include strategies to engage families (Wolfenden et al. 2015). While wellness policy interventions have demonstrated improvements in educating staff and children (Lyn et al. 2011; Natale et al. 2016), more research is needed around how extending education to families supports positive developmental outcomes.

**Table 1** Centers that participated in the HWTG program

	Centers served by end of year 5					Total
	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 5	
Chicago, IL	20	12	10	9	8	59
Denver, CO	20	9	29	9	10	77
Kansas city, KS	17	6	12	9	5	49
Northeastern PA	20	10	10	11	10	61
Reno, NV	20	11	11	8	10	60
Rochester, NY	20	10	9	10	4	53
Total	117	58	81	56	47	359

## Summary

Given that building habits for lifelong health starts in early childhood, ECE settings present a unique opportunity to address children's health, particularly in communities at greater risk for poor health outcomes. Despite the role that ECE programs play in meeting children's health needs, centers still face many challenges in implementing best practices around health. Research suggests that developing written wellness policies helps ECE centers overcome implementation barriers, and that technical assistance and training for wellness policy interventions is helpful in supporting programs through the time-consuming and overwhelming process of writing policies. As policy development is important to ensure policies are tailored to center needs and may instill greater ownership (Norton et al. 2012), more research is needed to understand how technical assistance around policy development supports centers' implementation of best practices. In addition to policy development, education provided to program staff, children, and families, and the monitoring of policy implementation are all integral factors in creating and sustaining wellness improvements in ECE environments.

This study sought to understand the multiple components of *Healthy Way to Grow* (HWTG), a program that focused on wellness policy development, education, and monitoring in ECE centers. We examined how participation in HWTG was associated with (1) the creation of wellness policies (number and topic areas), (2) education provided to children, staff, and families, and (3) monitoring of best practices, during the initial year of participation and, for a subset of centers, after five years.

## Method

### Participants

The study consisted of 359 child care centers, which included 4,447 staff, and served approximately 42,791 children (birth to age five) in six communities across the

United States (Northeastern Pennsylvania; Rochester, New York; Kansas City, Kansas; Chicago, Illinois; Denver, Colorado; and Reno, Nevada). The HWTG program intentionally focused recruitment in neighborhoods with low-social economic standings (utilizing census data, Child and Adult Care Food Program participation, and child care subsidy rates). There were five cohorts of centers in each community, with new centers recruited each year. All centers participated in the evaluation for at least one year, and the first cohort of centers participated for five years. The HWTG program continues to work with centers even beyond the end of the evaluation. Table 1 shows the number of participating centers in each community across cohorts.

### HWTG Program

The Healthy Way to Grow (HWTG) program is an expansion and scale-up of a pilot obesity prevention program implemented in Florida in 2009—by Nemours Children's Health System's Florida Prevention Initiative. The Nemours Florida Prevention Initiative piloted multiple training approaches and obesity prevention focal topical areas with 20 ECE programs in two phases. Both the Nemours Florida Prevention Initiative and Healthy Way to Grow programs were informed by research, science-based criteria, and guidelines for obesity prevention standards in ECE from sources including, American Academy of Pediatrics, American Heart Association, Institute of Medicine, Let's Move! Child Care, National Association for Sport and Physical Education, Nemours Children's Health System, U.S. Department of Agriculture, Child and Adult Care Food Program, and U.S. Department of Health and Human Services.

The HWTG training and technical assistance program uses a trained Child Care Specialist (CCS) to provide individualized support to ECE center directors and other staff. Each community has a dedicated CCS who develops and sustains relationships with ECE staff. After initial intake, the CCS helps ECE program staff complete a wellness environment self-assessment—Wellness Policy Workbook (WPW). The WPW self-assessment allows providers to assess center's existing wellness practices and policies and encourages



centers to reflect on new or updated policies. For guidance and as examples, the WPW outlines national best practice guidelines for the education, standards, and environment in the areas of nutrition (e.g., meals, snacks, beverages), infant feeding (e.g., breastfeeding), physical activity (e.g., amount of structured and unstructured play time), and screen time (e.g., amount of time for use of computers and TV). After the WPW was completed, center directors chose wellness policies that meet the needs of, and align with, the available resources of their centers. Next, centers chose from a wide range of best practice guidelines to apply as center policies and were encouraged to adopt at least 10 policies; these policies were finalized and a Wellness Policy Poster (WPP) was created and hung at the entry way of centers for all (e.g., staff, families) to be aware of the center's commitment to those policies. During technical assistance, center staff were encouraged to engage families (e.g., workshops, newsletters, etc.) to align the home-school health environments for children. Centers were also encouraged to incorporate policies into staff and family handbooks. Action plans were then created to align and support the selected wellness policies into practice at the center and in the classroom.

Throughout the process of developing a WPP and for the remainder of the school year, technical assistance was individualized and provided at the request of the center staff. The CCS provided trainings to center staff, with some training provided in collaboration with local partners to aid in sustainability post-CCS involvement. The resources, tools, and technical assistance provided by CCS helped centers develop policies, as well as identify visible and measurable markers of progress with policy implementation and support sustainability for policy implementation. Providing health and wellness education to the ECE community that consistently and strategically monitors the center's wellness practices are central to moving from a written wellness policy to a sustained culture shift in the center's wellness environment; and this is a core idea of the HWTG.

## Measures

### Center Information and Demographics

During initial recruitment, centers completed a survey to provide basic information about staff and families served, such as number of staff, age range, and number of children and families served. See Table 2 for center characteristics.

### Center Wellness Environment

A self-report survey (i.e., Center Director Survey, CDS) was developed for center directors, or other designated staff, to report center-level changes in the wellness environments. The CDS was developed by a team of researchers (including

**Table 2** Center characteristics

	Total	
	Number of centers	Percent of centers (%)
Age grouped		
Infant (0–12 months)	210	63
Toddler (13–35 months)	261	77
Preschooler (36–60 months)	344	97
School-age (60+ months)	199	60
Time in care		
Full day only	73	22
Full day and half day	185	57
Half day only	69	21
Type of center (check all that apply)		
Head Start/Early Head Start	63	21
Private	130	43
Non-profit	110	36
Faith-based	28	10
School-based	39	13
For-profit	129	42

Data are missing from three centers that did not report populations served, 32 centers that did not report time in care, and 27 centers that did not report any center type

a survey design expert) on the evaluation team. It was piloted and tested (through cognitive interviews and semi-structured interviews) with the CCS as well as a select few cohort 1 center directors before full implementation of the survey. The CDS assessed the ECE practices and policies on four key wellness areas including nutrition, infant feeding, physical activity, and screen time. Specifically, the CDS assessed whether the center had related written policies in each topic area; the frequency of related education or training offered to staff, children (nutrition and physical activity areas only), and families; and whether and how implementation of best practices were monitored across wellness areas. Notably, implementation of specific policies was not examined given the wide range of policies that could be chosen across centers; rather, monitoring of best practices was used as a proxy for implementation of policies, where having a process for determining if best practices are being implemented (e.g., walk-throughs, check-ins with staff, feedback from families) served as a way to ensure that related policies were integrated/implemented into practice.

## Procedure

As part of the Healthy Way to Grow (HWTG) program, a local Child Care Specialist (CCS), trained by the American Heart Association, identified prospective ECE centers each year and recruited them into the program. During the

**Table 3** Initial implementation and sustainability years by cohort

	2013 – 2014	2014 – 2015	2015 – 2016	2016 – 2017	2017 – 2018
<b>Cohort 1</b>					
<b>Cohort 2</b>					
<b>Cohort 3</b>					
<b>Cohort 4</b>					
<b>Cohort 5</b>					

Color Code
Initial Implementation
Sustainability

recruitment process, centers learned that the program was being evaluated by an independent research organization.

Prior to initiating work on the WPW, center directors completed the CDS survey in the fall of their first program year reflecting on the prior year. They also completed the survey in the spring following completion of the workbook and support from the CCS reflecting on the current academic year that they participated in the HWTG program. The survey was completed primarily via an online survey platform, though options for hard copy or phone interview formats were also available. There was a total of five cohort of centers, and center directors were asked to complete the survey again every subsequent spring. The first cohort of centers was followed over a 5-year period to determine if program outcomes were sustained over time.

## Results

The results are presented separately for initial implementation and sustainability analyses (see Table 3 for breakdown by cohort, across years). Data from each cohort's initial implementation year were combined. Three main results are shared for each analysis: (1) centers' written wellness policies, (2) the education provided to teachers, children, and families, (3) and center directors' monitoring of wellness policies. Throughout the results section, the sample of centers used is the same across all measures, except for infant feeding. For measures related to infant feeding, only centers that served infants were included in the sample.

### Initial Implementation

The initial implementation analysis results show the change in center outcomes from the fall to the spring of their first year of implementation, for all five cohorts.

### Creation of wellness policies

The number of wellness policies that centers chose remained largely consistent for all five cohorts, with the average number of policies ranging from 15 to 20 each year (Table 4).

Selected policies covered the areas of nutrition, infant feeding, physical activity, screen time, or strategies to attain wellness. In cohort 5, the last cohort to choose wellness policies, the top 10 most popular policy topics were related to physical activity, nutrition, and center and community stakeholder engagement; specific policies that were selected most often are shown in Table 5.

Across all cohorts, the percentage of centers with written policies in a given topic significantly increased from the fall to the spring of their first year, across all topics (Fig. 1). The largest increase was for written policies on screen time; while 58% of centers had written policies on screen time in the fall, this increased to 84% of centers by the spring of their first year.

### Education Provided

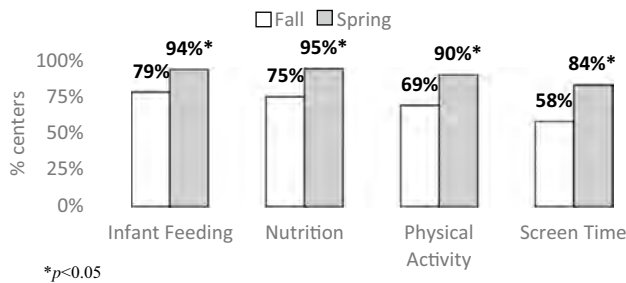
From fall to spring of their first year of implementation, the percentage of centers that provided education on HWTG topics to teachers, children, and families significantly increased across all five cohorts (Fig. 2). The threshold for education frequency was at least two times per year for teachers and

**Table 4** Number of wellness policies chosen in first year, by cohort

Cohort	Average and range of number of wellness policies
1	15 (9–30)
2	15 (9–30)
3	20 (11–47)
4	15 (10–22)
5	15 (9–23)

**Table 5** Most popular wellness policies developed during ECE participation in HWTG

- Lesson plans include learning experiences about healthy eating and physical activity
- Children are provided with active playtime
- Water is available and accessible to children throughout the day
- Staff participate in professional development to support implementation of wellness policy goals
- Written instructions are provided to families to guide selection of foods brought from home
- Providers lead and participate in active play
- Food and beverages served at events, celebrations and meetings include healthy foods and beverages
- The children eat meals family style
- Education and outreach on healthy lifestyles are offered to parents
- Meals and snacks for children include nutrient rich foods (e.g. healthy fruits, vegetables, grains, meats, and meat alternatives)
- Early childhood providers are encouraged to eat/drink healthy food and beverages in front of children



**Fig. 1** Percent of centers with written policies by topic, in implementation year

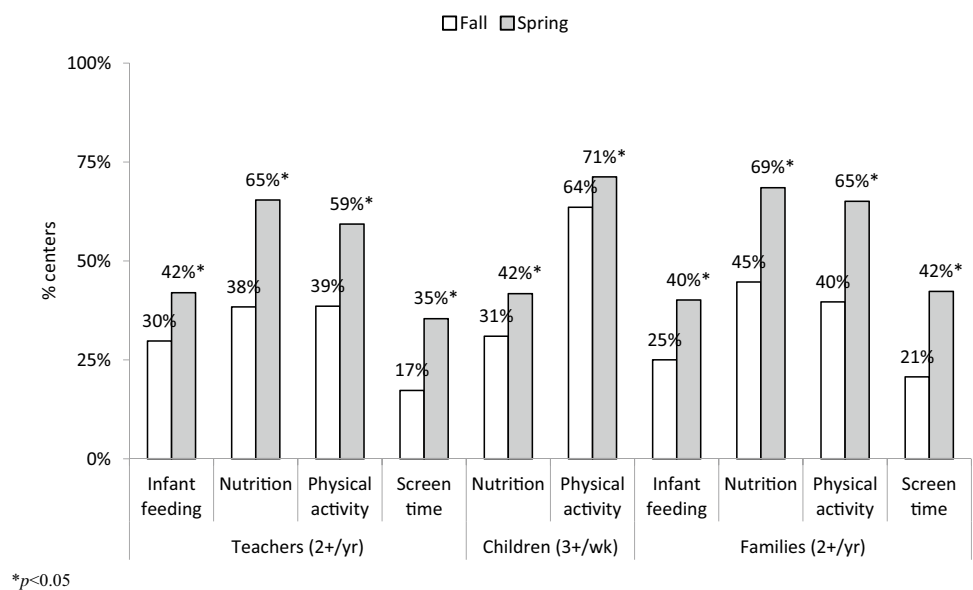
families and at least three times per week for children (i.e., recommendation from the WPW and research). The topic with the largest increases in the percent of centers offering education on it from fall to spring for both teachers and children was nutrition. For teachers, the percentage of centers offering education on nutrition increased from 38% of

centers in the fall to 65% of centers in the spring. For children, the percent of centers offering education on nutrition increased from 31% in the fall to 42% in the spring. For families, the topic with the largest increase was physical activity. In the fall, 40% of centers were educating families on physical activity, and this increased to 65% of centers in the spring.

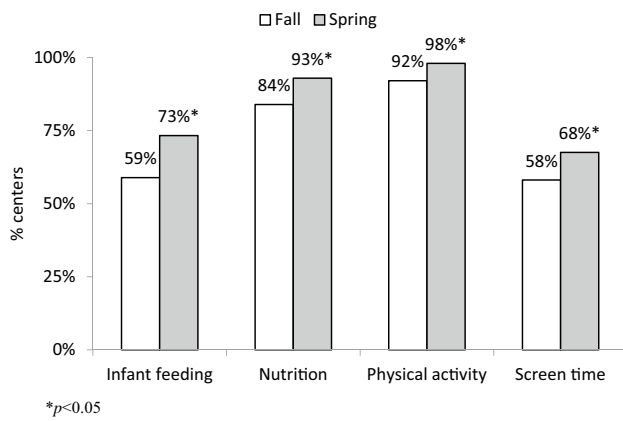
**Monitoring of Wellness Policies**

As noted previously, monitoring of best practices was used as a proxy for implementation of wellness policies; specifically, center directors were asked whether and how best practices are monitored, where monitoring could take the form of walk-throughs, check-ins with staff, feedback from parents, or some other method used by the center. The percent of center directors monitoring their wellness policies (e.g., walk throughs, tracking parent feedback)

**Fig. 2** Percent of centers providing education, by topic, in implementation year







**Fig. 3** Percent of centers reporting monitoring of wellness policies, by topic, in implementation year

significantly increased from fall to spring for all topics in the implementation year (Fig. 3). The largest increase was for infant feeding, while 59% of center directors reported monitoring this policy in the fall, 73% reported monitoring this policy in the spring.

### Sustainability

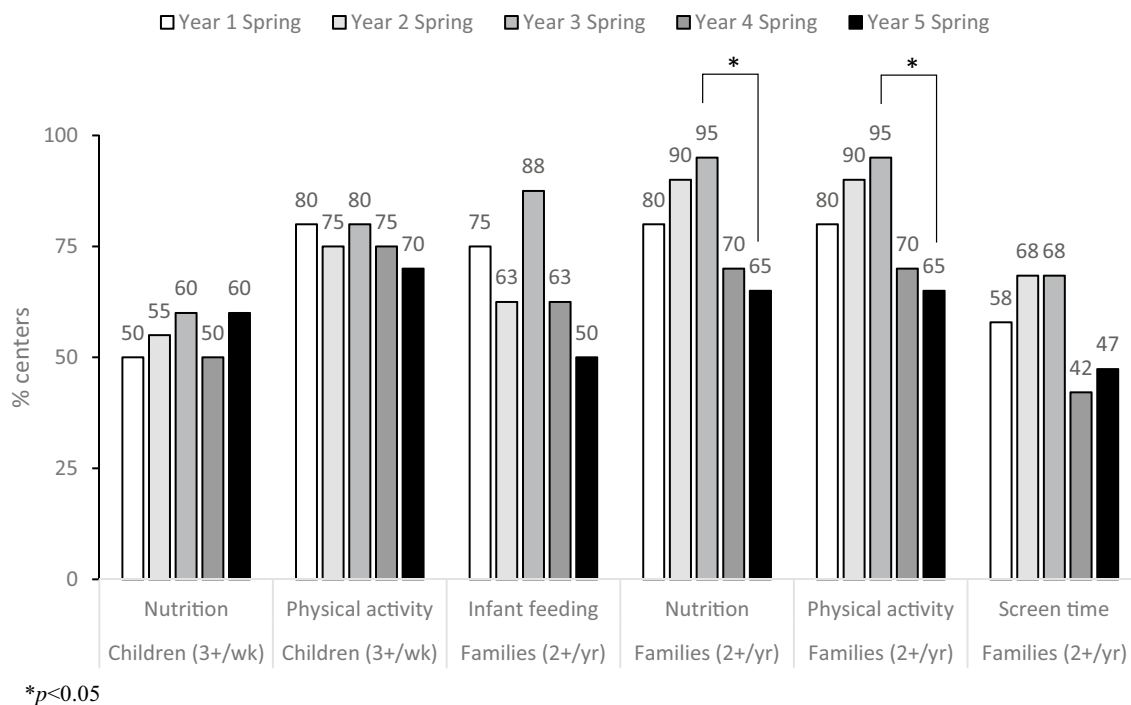
The sustainability analysis results show the change in center outcomes for the first cohort, across five years.

### Education Provided

Improvements in the percentage of centers providing education in year 1 were maintained five years later; from year 1 to year 5, there was not a significant decrease in the percentage of centers providing education to children, families, and teachers in any topic for cohort 1 (Figs. 4, 5). However, there was some variation in the interim years, with the percent of centers providing education on nutrition and physical activity to families significantly declining from year 3 to year 5 (Fig. 4). Also, the percent of centers providing education on physical activity to teachers significantly declined from year 3 to year 4 (Fig. 5). The threshold for education frequency was at least two times per year for families and teachers and at least three times per week for children.

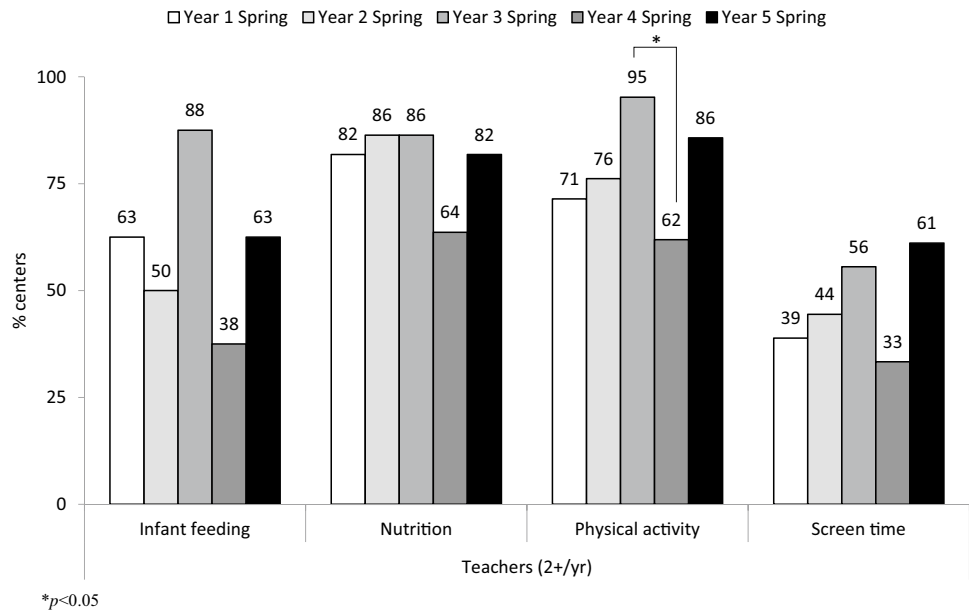
### Monitoring of wellness policies

The percentage of center directors in cohort 1 monitoring their wellness policies (e.g., walk throughs, tracking parent feedback) did not significantly change from year 1 to year 5 (Fig. 6). All center directors reported monitoring their wellness policies on physical activity and screen time for the past three years. The same was true for monitoring of nutrition wellness policies, until year 5, though the decline was not statistically significant.

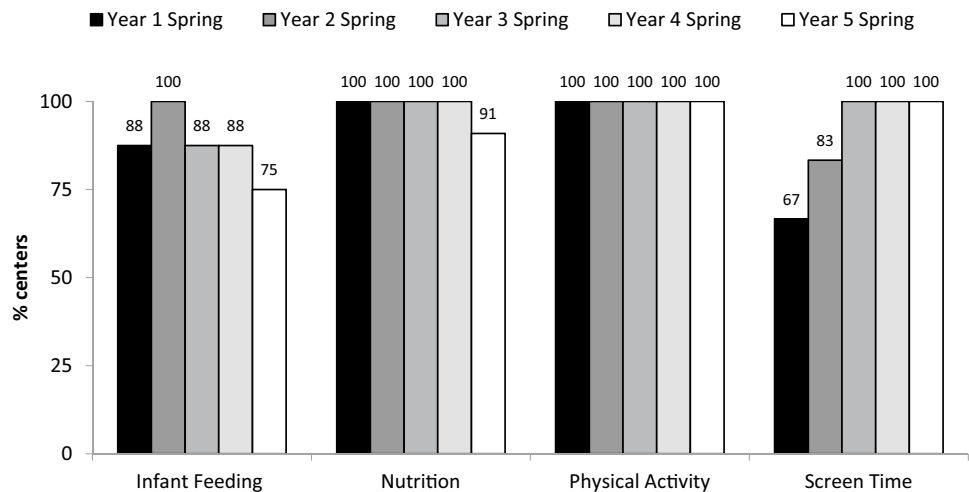


**Fig. 4** Percent of centers providing education, by topic, for children and families

**Fig. 5** Percent of centers providing education, by topic, for teachers



**Fig. 6** Percent of centers reporting monitoring of wellness policies, by topic



## Discussion

This study examined whether Healthy Way to Grow (HWTG), a training and technical assistance intervention, could help ECE center directors develop and implement wellness policies and provide support, resources, and tools to sustain implementation of wellness policies. This evaluation followed five cohorts of centers that participated in HWTG, allowing examination of progress over the course of five years of participation.

Findings support the utility of HWTG in helping centers to develop wellness policies during the initial implementation year. Centers developed an average of 15–20 wellness

policies, with most policies covering the topic areas of nutrition, physical activity, and family and center engagement. During the initial implementation year, the percentage of centers that developed written wellness policies increased significantly from fall to spring across all topic areas. The number of centers reporting having written policies on screen time increased the most, jumping from just 58% of centers with a policy on the topic before HWTG to 84% after the program. As 69–79% of centers reported having policies on other wellness topics before participating in HWTG, it appears that HWTG helped raise awareness about the importance of minimizing screen time, an issue that appeared to be less salient to centers than other wellness areas. This

finding is not surprising given that states often lack guidelines around screen time. While all states have ECE licensing requirements or Quality Rating and Improvement System (QRIS) standards around healthy eating and physical activity, only 29 states have guidelines around screen time (Warren et al. 2018). Following participation in HWTG, between 84–95% of centers had a written wellness policy in a given topic area, which indicated that working through the wellness policy workbook helped centers consider existing policies, identify best practices, and develop best-practice policies in priority wellness areas.

In addition to the development of wellness policies, HWTG helped centers provide education on wellness topics. During the initial implementation year, the percentage of centers offering education to teachers (at least twice per year), families (at least twice per year), and children (at least three times per week), increased significantly from fall to spring. Though there were significant increases in all topic areas, the largest increase was seen for nutrition education for teachers and children and for physical activity education for families. Although education provided improved, it remains an area of additional work as only 35–71% of centers provided education in a given topic area after participation in HWTG. For screen time, only 35–42% of centers provided education to teachers and families, respectively, despite the improvement in developing a written policy. This is a missed opportunity to ensure awareness, implementation, and home-school alignment of screen time policies and practices. Overall, technical assistance and support should bolster efforts around helping centers identify what they consider as education, set goals for providing education, address barriers to providing education, and determine the best approach for providing education across all topic areas (e.g., a multi-year plan that prioritizes education on particular topic(s) each year).

In addition to developing and providing education around wellness policy topic areas, centers monitored implementation of their policies. There was a significant increase in the percentage of centers monitoring implementation of wellness policies in each topic area following participation in HWTG. With a large percentage of centers already having some monitoring in place for nutrition (84%) and physical activity (92%) prior to participation in HWTG, the largest gains were for infant feeding (73%) and screen time (68%), though the percentage of centers monitoring these areas was relatively low overall. This finding is similar to that found in a study of centers participating in Georgia's *Growing Fit* training. While the training was designed to help centers develop policies supportive of nutrition and physical activity best practices, centers still rated themselves low on implementing breastfeeding-related best practices after program completion (McDavid et al. 2016). Technical assistance and support should help centers determine processes

for monitoring infant feeding and screen time given schedules for infant feeding or possibly few chances to monitor the presence or absence of screen time. Though monitoring was used as a proxy for implementation here given the wide range of wellness policies that centers could choose and challenges with assessing actual implementation of centers' specific policies, having a process in place to ensure that there is an emphasis on integrating best practices in center activities and processes is essential to improving wellness in the center environment.

Our results also demonstrate the sustainability of providing education and monitoring wellness policies to ECE centers. However, though improvement continued through Year 3, there were significant declines in the percentage of centers offering education to families around nutrition and physical activity and to teachers around physical activity from Year 3 to Years 4 or 5. These declines could be due to such issues as center staff turnover or fewer technical assistance interactions per design of the HWTG program. Some modest technical assistance about three to four years following initial wellness policy development may help centers maintain consistent efforts in later years.

## Implications

ECE programs are encouraged to address child health and wellness by developing written policies to guide efforts but have expressed a desire for technical assistance (TA) given concerns about the complexity of the process and limited time. The study herein supports the HWTG approach to utilizing CCSs to help centers assess current wellness environments, identify best practices, choose priority areas, and develop/implement written policies based in best practice. Moreover, as part of the policy development process, CCSs help centers to establish clear policy goals and develop action plans (e.g., education, monitoring) to support implementation of wellness policies. Additionally, wellness policies are documented in the form of wellness policy posters and manualized as part of handbooks and staff trainings. This comprehensive approach to policy development and implementation (i.e., policy development, goal-setting, action planning, documentation, training, and ongoing TA support) ensures that wellness policies become part of center operations, thereby creating a center environment that prioritizes wellness in both policy and practice in the short- and long-term.

Creating a wellness environment requires engagement from center staff, families, and children. Having clearly developed and displayed wellness policies and making an effort to train and educate staff communicates what is valued, which practices and behaviors should be promoted, and the value of their personal health and wellness. Policies also help set parental expectations around center priorities and what their children will experience at the

center. Educating families on wellness policy topic areas promotes healthy behaviors as home, creating complementary home-school environments for children who will receive consistent messaging around health and wellness.

HTWG's individualized TA approach may help centers maintain efforts well beyond the initial year of participation. The CCS works one-on-one with center directors to complete the wellness policy workbook and think through current efforts, priority areas, and desired goals. Regular and as-needed TA interactions during the initial implementation year helps the CCS develop a relationship with center directors, which in turn, increases the likelihood that center directors would disclose any concerns, challenges, or barriers, and better enables the TA to address concerns and provide useful resources (e.g., Gibbs et al. 2009). Though interactions taper, TA remained on an as-needed basis in later years to encourage sustainability. Continued involvement helps the CCS maintain a personal relationship with center directors or develop new relationships in the event of staff turnover. Additionally, CCS involvement in later years helps them to stay abreast of center efforts around developed wellness policies and allows them to help address challenges as needed, thereby increasing the likelihood of sustainability beyond the initial year. Research on the relationship between TA providers and site lead implementers suggest the importance of the collaborative nature of the relationship (Chilenski et al. 2016), where the tailored and ongoing CCS interaction with center directors increases the likelihood of a collaborative and positive relationship.

## Limitations

### Evaluation

As part of the evaluation, center directors self-reported on the existence of center policies and engagement in best practices across wellness topic areas before and after participating in HWTG. Self-reported information may be biased given concerns about social desirability, even for self-administered modes such as online surveys (Brenner and DeLamater, 2016). To alleviate any concerns that the center's CCS would have access to the completed survey and to encourage center directors to respond freely, researchers took care to inform center directors that the information would only be made available to the study team.

Centers could voluntarily participate in HWTG, which raises concerns about the representativeness of participating centers. It is possible that centers that were most motivated

self-selected into HWTG. To further strengthen understanding of the effectiveness of HWTG, it is necessary to have centers that range in awareness of and motivation around issues of child health and wellness.

### HWTG Program

Because the HWTG program encourages centers to choose policies based in best-practice, it is possible that centers had strong existing policies or practices prior to participation in HWTG that would not have necessarily been chosen as part of completing the wellness policy workbook. If this were the case, ideally the HWTG program would have helped center directors strengthen existing policies to ensure they reflect best-practice elements.

A challenge with almost any intervention is continuity in persons responsible for carrying out intervention efforts over time. Center staff turnover impacted changes in center leadership and staff, which may have impacted the interpretation and implementation of wellness policies developed during the first implementation year. The HWTG program aims to account for staff turnover by ensuring that policies are written and documented as part of staff handbooks and integrated into staff trainings. Additionally, the same CCS works with center directors over time to help with continuity of center efforts around the wellness policies. The likelihood of sustaining change over time, even with staffing changes, is strengthened when there are changes in overall policy.

Other limitations that befall almost any intervention are time and competing priorities. To engage in HWTG, center directors are required to invest time in collaborating with the CCS. However, there are likely difficulties that arise, such as finding the time as they manage various other issues around center operations, staffing, and child development. HWTG aims to address this issue by allowing flexibility in the frequency of engagement with CCSs, especially after the first implementation year when centers engage with CCSs as needed. Centers likely have other initiatives that may be competing with HWTG making full engagement in the program difficult, such initiatives may be around other aspects of child development, curricula, accreditation, etc. HWTG aims to build on what centers already have in place by strengthening existing health and wellness policies to be consistent with best practices and addressing center's specific goals and priorities.

HWTG individualizes and tailors technical assistance based on centers' needs, even using the same CCS. Thus, there is great variation in the duration, type, and content of technical assistance provided across centers. In this way, it is

difficult to pinpoint what aspects of technical assistance are most effective. Nonetheless, the HWTG program prioritizes meeting the specific needs of a center and its students, staff, and families, rather than having one set approach to technical assistance that might obscure and fail to attend to a center's unique characteristics and needs.

A key component of the HWTG program is the one-on-one support provided by CCSs to center directors. Though there are benefits of having such a sustained, personal relationship, the one-on-one approach is challenging to scale. Additionally, there is also the reality of cost; CCSs are currently supported through national funding, which may impede program operations should funding end or be disrupted. The HWTG program looks forward to shifting to a community-based model, which is expected to give a sense of ownership to the communities in which HWTG operates. In this way, program operations should be able to continue regardless of events at the national level, and centers and their communities would benefit from forming partnerships and building shared resources for improving health and wellness.

## Opportunities

This evaluation focused on the HWTG program that involved a CCS to provide direct TA to center directors. However, it is possible that other methods of engaging centers may be useful. Given potential issues with the capacity of CCSs to work with additional centers, it is important to consider whether other modes of administering HWTG are more feasible or as effective. For example, there have been efforts to use a mentorship model by which center directors experienced with HWTG mentor center directors new to HWTG, but these efforts are very preliminary. Also, it is possible that a self-learning module may make completing the wellness policy workbook or accessing tools and resources more convenient for center directors, as well as curtail any issues around scheduling meetings. Ultimately, it's helpful to consider other formats of administering HWTG to ensure sustainability in integrating wellness policies into the center environment. As noted earlier, the next phase of HWTG will shift towards a community-based model that relies on the involvement of local partners.

With a focus on children's health and wellness in the areas of nutrition, infant feeding, physical activity, and screen time, there is potential for HWTG to address other aspects of health promotion. For example, helping

children and families build resiliency may be especially beneficial for families in lower-resource communities who are more likely to experience stressors, including those associated with poorer health and wellness. Additionally, building mental health into wellness policies (e.g., self-care) may encourage overall health and wellness. Finally, with some states having developed a Quality Rating and Improvement System (QRIS) that awards quality ratings to early care and school-age education programs based on various standards, it would be interesting to see how centers' efforts around wellness are associated with the rated quality of the overall program.

## Conclusion

Centers need support in the development and implementation of wellness policies. This study examined HWTG, an individualized TA approach to supporting childcare programs in wellness policy development, goal-setting, action planning, and implementation. Findings indicate that the HWTG program supported centers in developing wellness policies based in best-practice, providing education to staff, children, and families, and monitoring the implementation of policies. With sustained, as-needed TA over time and documentation of wellness policies in staff and training materials, findings also indicate that centers are able to sustain wellness efforts over time. Sustained efforts indicate a shift in the overall center environment around wellness, which is necessary to meaningfully impact the staff, children, and families served. Future work on HWTG or similar programs should focus on understanding how variations in program delivery or other aspects of health promotion or center quality relate to efforts around wellness. Early care and education environments are a great opportunity to reach children and families, especially those at greater risk for poor health and wellness. Thus, it is imperative that these environments be supported in efforts to making a culture of health and wellness a normal and integral part of program operations.

**Acknowledgements** The inaugural funder, The McGowan Foundation; Child Care Specialists: Humu Ibrahim, Nancy Herman, Clara Westfall, Rhonda Erpelding, Stephanie Romney, Chloe Sundberg, Charmika Hansen; American Heart Association Staff: Paul Kalil, Kim Stitzel and Eduardo Sanchez; and Nemour's Children Health System Staff: Kate Blackburn and Tris Barber.

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## Appendix

See Fig. 7



Fig. 7 HWTG Theory of Change



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