

# Encouraging “Active Learning”: Assessing Implementation of Head Start’s Physical Activity Requirements Within the Teaching and Learning Environment

Sandy J. Slater, Anmol Sanghera, Yadira Herrera, and Jamie F. Chriqui

**Background:** Head Start serves over 1 million diverse low-income preschool children and is an ideal setting for developing and implementing obesity prevention efforts, which is expected to have positive impacts on behavior as youth age. This study examined how regional- and state-level Head Start offices have supported implementation of the recently updated physical activity (PA) requirement within the teaching and learning environment Head Start Program Performance Standard (1302.31). **Methods:** Key informant telephone interviews were conducted with 8 regional- and 36 state-level Head Start representatives. Interviews were recorded and professionally transcribed. Data were coded and analyzed using constant comparative methods in ATLAS.ti (version 8). Audit trails were maintained, and disagreements in codes were discussed and resolved among coders. **Results:** The following 3 overarching themes emerged: communication, resources and technical assistance, and challenges. Results showed variation in respondent knowledge regarding the Standards. Although regional contacts provide technical assistance, state-level contacts have many information sharing strategies for programs. Implementation challenges included the need for frequent professional development opportunities given staff turnover and low PA competency, and additional PA curricula. **Conclusion:** Findings can help identify existing or potential strategies that could be adopted more widely or developed to assist Head Start programs incorporate PA into daily activities.

**Keywords:** preschool, underserved populations, gross motor movement, policies and practices

In the United States, young children, including those in preschool (under 5 y) from low-income families, are more likely to be obese.<sup>1</sup> Regular physical activity (PA) is one health behavior that prevents obesity and promotes cardiovascular health,<sup>2</sup> yet only half of children meet current daily PA recommendations.<sup>3</sup> The newly released *Physical Activity Guidelines for Americans* stress the importance of preschool-aged children engaging in regular PA throughout the day for their growth and development.<sup>4</sup> Yet, in a recent country-level research study<sup>5</sup> that provides grades for 10 key PA indicators for children and youth, the United States received an overall grade of D across the 10 measures, which include organized and free play, and family and community-based PA. Concurrent with these poor results of PA in children and youth, is recent evidence showing that the prevalence of overweight and obesity, particularly in children 2–5 years old,<sup>6</sup> has continued to increase annually, rather than level off as previously reported.<sup>7</sup>

Intervening early to teach young children healthy habits, such as being physically active regularly, can have positive health benefits.<sup>8,9</sup> Specifically, intervening through formalized policy or practice in early childhood settings can have positive long-lasting impacts on youth health behavior.<sup>10,11</sup> Head Start, which is a child development program for preschoolers from low-income families with a primary aim of preparing these children for school, recently revised and formally implemented its program performance standards in November 2016. This is the first time the

standards have been significantly updated since they were originally drafted and implemented in 1975. Head Start serves over 1 million low-income preschool children from diverse racial/ethnic backgrounds,<sup>12</sup> which makes it an ideal setting for developing and implementing obesity prevention efforts. This study examined how regional- and state-level Head Start offices facilitated the implementation of the recently updated PA requirement within the teaching and the learning environment Head Start Program Performance Standard (1302.31),<sup>13</sup> with the aim of informing ongoing implementation efforts of the PA requirement in Head Start programs. This Standard recognizes the importance of PA to learning for preschoolers and the need to incorporate PA into daily curricular activities, that is, encouraging “active learning.”<sup>13</sup> While researchers have examined PA interventions<sup>14</sup> and PA more generally<sup>15</sup> in Head Start programs, no one has examined how this revised Standard is being implemented in practice. The language in the revised standard is quite broad and provides much flexibility in implementation across Head Start programs. The new standard provides no specific detailed guidelines on how programs should implement it, which provides more flexibility for programs from an implementation perspective to enable them to tailor the PA programming to their context and within the realm of their available resources. The Office of Head Start oversees 6 national centers that provide professional development and training-related content. Head Start regional offices are responsible for providing or disseminating training and technical assistance to local Head Start programs. Thus, the overall study goal was to inform ongoing implementation of the Head Start program PA requirements. A qualitative evaluation of the standards was conducted using semi-structured interviews with regional training and technical assistance Head Start offices and state-level Head Start Collaboration offices. Understanding how, and the extent to which, these new

Slater is with the School of Pharmacy, Concordia University Wisconsin, Mequon, WI, USA. Sanghera, Herrera, and Chriqui are with the Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL, USA. Chriqui is also with the Division of Health Policy and Administration, School of Public Health, University of Illinois at Chicago, Chicago, IL, USA. Slater (Sandra.Slater@cuw.edu) is corresponding author.

standards are being implemented will provide important insight for designing interventions to facilitate universal compliance with the standards, as well as to provide information for decision makers and advocates focused on child PA issues.

## Methods

We used a qualitative descriptive approach, which is most relevant when the primary goal is to provide saturated and useful information for practitioners and policymakers.<sup>16</sup> Through qualitative interviews, we specifically assessed what training and technical assistance activities, and resources regional- and state-level Head Start offices were providing to Head Start programs to assist with implementation of the revised Head Start Program Performance Standards related to promoting learning through PA. Informed consent was obtained for all participants, and the study protocol was reviewed and approved by the University of Illinois at Chicago's Institutional Review Board (2017-0908).

### Participants

Key informants were identified through online research as well as assistance from the Department of Health and Human Services, Administration for Children and Families, Office of Head Start. State- and regional-level Head Start contacts from each of the 50 states and the 12 Head Start regions were invited via email, with follow-up telephone calls to nonresponders, to a 30- to 60-minute telephone interview. All formalized or structured training and technical assistance for Head Start programs is conducted at the regional level. However, the Head Start State Collaboration offices also serve as conduits of information for Head Start programs. Therefore, we wanted to speak with both regional- and state-level contacts to ensure that we were capturing the full range of opportunities that Head Start programs are provided for receiving information about the program performance standards. We conducted semistructured interviews<sup>17,18</sup> (target  $n=63$ ) with Head Start regional training and technical assistance coordinators (8 of 12 completed) and state-level collaboration office officials (35 plus Washington, DC completed). One regional office declined to participate and the other 3 were nonresponsive. Seven state-level offices referred us to their regional office contact and the other 9 were nonresponsive. Only 3 of the 9 nonresponsive states are missing both a regional- and state-level contact.

### Instruments

A semistructured (ie, open-ended questions) telephone interview guide was developed based upon the research questions (see [Supplementary Material](#) [available online] for a copy of the full interview guide), input from the research team, and relevant staff within the Department of Health and Human Services, Administration for Children and Families. Questions explored how the provision of training, technical assistance, and other resources have facilitated the implementation of the PA requirement, as well as what challenges programs experience. Participants were asked to provide verbal consent prior to the telephone interview.

### Procedures

Between October 2017 and March 2018, 4 research staff, trained in qualitative data collection, conducted semistructured telephone interviews with state ( $n=35$  plus Washington, DC) and regional

contacts ( $n=8$ ), which lasted between 30 and 60 minutes. Interviews were conducted in teams of 2, with one researcher conducting the interview while the other interviewer kept notes during and after each interview to document emerging observations and analysis.<sup>19</sup> All interviews were audiotaped and transcribed verbatim by a professional transcription service.

### Data Analysis

All transcribed files were uploaded into ATLAS.ti (version 8; ATLAS.ti Scientific Software Development GmbH, Berlin, Germany) Qualitative Analysis Software for organization and management. Transcript documents were assigned to a respective "classification" group (regional office, state-level Head Start Collaboration office, or state-level Head Start Association). Conventional qualitative content analysis procedures were used to analyze the data.<sup>16,20,21</sup> Prior to coding, transcripts were read thoroughly by each analyst, and short descriptive "memos" were drafted to document initial impressions of topics and their relationships, and to define the boundaries of specific codes (ie, the inclusion and exclusion criteria for assigning a specific code). Content in these documents was used to develop the initial codebook. Qualitative codes were grouped into following 3 broad topic areas: (1) communication, (2) resources and technical assistance, and (3) challenges. Next, transcripts were coded and analyzed following principles of constant comparative analysis<sup>22,23</sup> for major themes. Segments of text ranging from a phrase to several paragraphs were assigned codes based on a priori (ie, from the interview guide) or emergent themes (also known as open coding).<sup>19</sup>

### Rigor

Each transcript was coded by 2 researchers. Disagreements in assignment or description of codes were resolved through discussion between the 4 coders. An iterative process was used to edit problematic codes and to refine coding definitions and/or inclusion/exclusion criteria. To facilitate ongoing coding reliability, the 4 coders met on a regular basis to discuss revisions to the coding guide and emergent themes. As a final quality control measure, the coders maintained an "audit trail" for their research.<sup>24</sup> "Audit trails" are common in qualitative research and are meticulously kept to allow outside researchers to examine the processes of the study and to evaluate the rigor with which findings were generated. The following documents were maintained as an audit trail: (1) data reduction and analysis products (write-ups of analysis notes and summaries), (2) data reconstruction and synthesis products (findings and a final report), (3) process notes (methodological decision-making process), (4) materials relating to intentions (reflective notes and motivations),<sup>25</sup> and (5) instrument development information (notes from cognitive interviews and revisions).

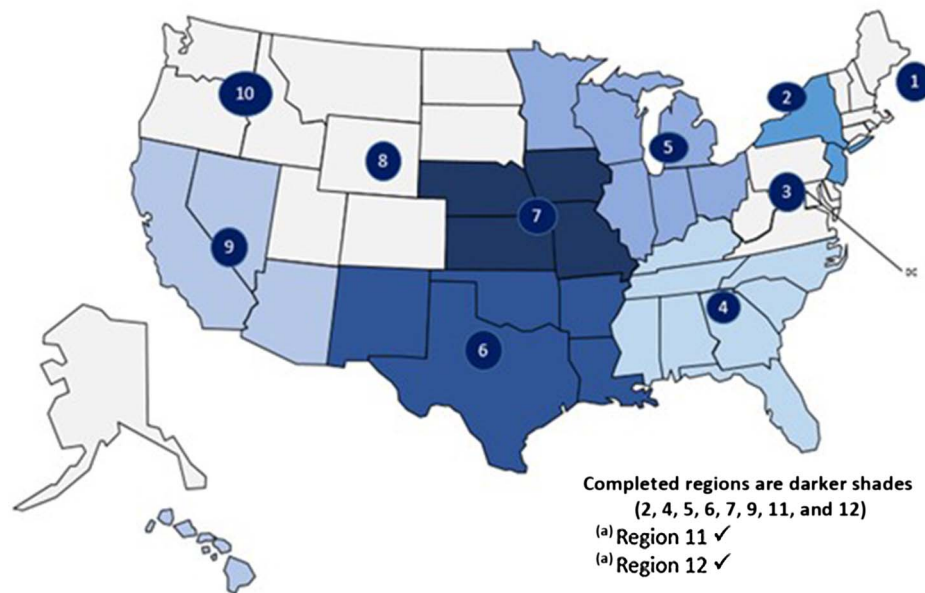
## Results

The findings from the key informant interviews are organized as key overarching themes with corresponding subthemes and listed in Table 1 across the 3 topics. Figures 1 and 2 provide a visual representation of states and regions where interviews were completed. The 3 overarching themes are communications, resources and technical assistance, and challenges. Figure 3 also provides a visual summary of key themes, including overlap as well as which themes were distinct by type of key informant. Each key theme is discussed further below.

**Table 1** Frequency of Key Topics and Subtopics by Mention and Key Informant Type

Key topic area and subtopics	Key informant type		
	Total, n	Region, n	State, n
<b>Communication</b>	<b>178</b>	<b>22</b>	<b>156</b>
Awareness of changes to the standards	57	11	46
Strategies employed to inform programs of changes to the standards	48	11	37
Alignment with state-level Child Care Licensing and Standards	73	0	73
<b>Resources and technical assistance</b>	<b>256</b>	<b>56</b>	<b>200</b>
Training and technical assistance opportunities	109	24	85
Access to appropriate curriculum resources	51	10	41
Information sharing	96	22	74
<b>Challenges</b>	<b>100</b>	<b>26</b>	<b>74</b>
Staffing issues	52	16	36
Prioritization/competing demands	24	5	19
Infrastructure and environmental barriers	24	5	19

Completed regional interviews

**Figure 1** — Completed regional interviews. <sup>a</sup>Region 11 serves American Indian and Alaska Native, and region 12 serves Migrant and Seasonal Head Start programs.

## Communication

We were interested in documenting the general awareness of program performance standards changes specifically related to PA. We also wanted to capture the primary methods used to inform Programs/Grantees of program performance standards changes, as well as whether there were any efforts underway to align the revised standards with state-level Child Care Licensing and Standards. All regional contacts were aware of the revised PA standards. However, 8 state-level contacts were unfamiliar with the standards, and 2 stated that they knew very little about them. Regional contacts stated that they received detailed information from the Federal Office of Head Start informing them about the revised standards, whereas state-level contacts indicated that they

either read through the standards themselves or attended trainings that reviewed, in depth, all revisions. The state-level contacts also indicated that they provided opportunities for collaborative peer networking opportunities, through statewide conferences, monthly meetings, and online communication such as mobile applications, where Head Start programs could share successes and failures related to current practices. A recurring comment we heard throughout the interviews was that the updated standards really mirror current practices. For example, we heard the following from state-level informants:

I haven't been focused on specifically physical activity because our programs have been involved in doing really basically [*sic*] meeting that standard for some time. Our

Completed State Interviews

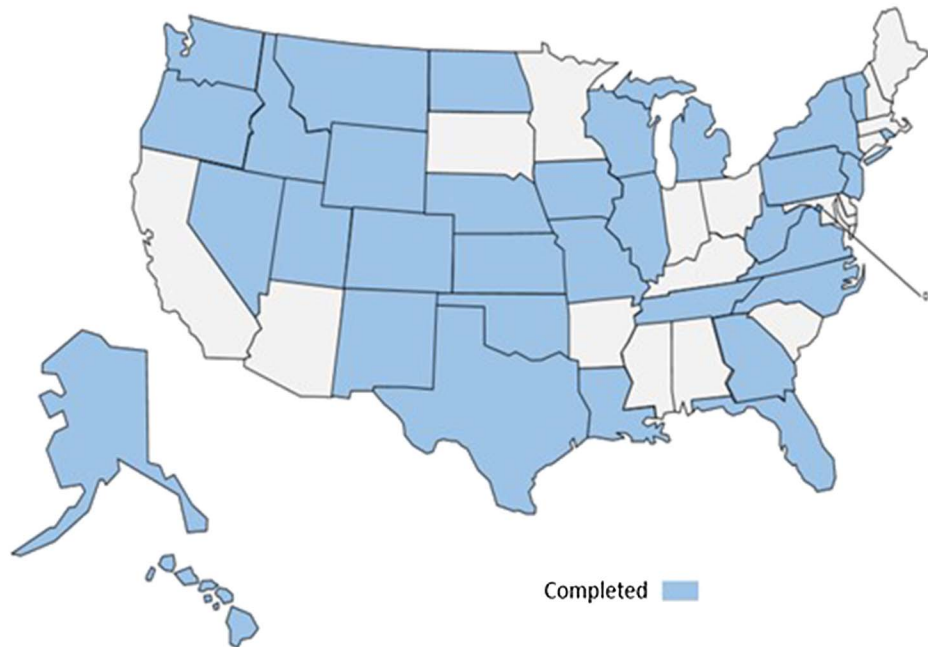


Figure 2 — Completed state interviews.

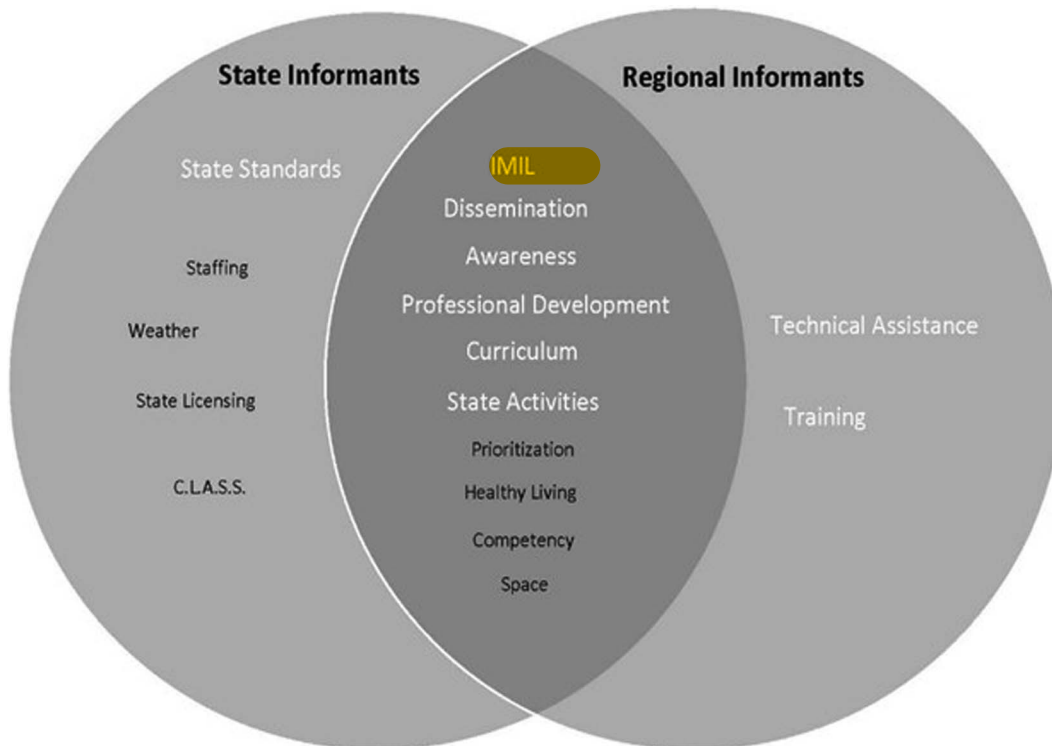


Figure 3 — Key state and regional key informant interview subthemes.

community fully supported this in the proposed standards. Then when they did . . . when they were released of course, we as a community, Head Start, Early Head Start community, went through all of the standards and talked about what that meant for practice. (State-Level Respondent)

### Resources and Technical Assistance

We heard about multiple “sharing knowledge touchpoints” or technical assistance opportunities across states/regions provided to programs. At the regional level, this theme captures information



on the types of training and technical assistance provided to programs, as well as what access programs have to different PA curriculum resources/tools. The most prevalent PA resource mentioned was the “I am Moving I am Learning” (IMIL) curriculum enhancement,<sup>26</sup> which provides tools and activities to increase moderate to vigorous PA in young children. All regional contacts mentioned providing regular trainings on the IMIL resources and PA curriculum enhancement. Very few other PA curriculum resources were mentioned, and of the few that were, they were more localized in their reach, whereas IMIL is widely used by all regions. The interview data suggest that after the creation of Head Start’s IMIL PA program in 2004, there has been a lack of updated training resources for PA. Although the IMIL resource is well-received at both the regional and programmatic level, key informants are looking for alternative resources to share with programs. This point particularly resonated with regional offices:

I don’t see much challenges implementing the way the guidelines are written. I think what we would need is more support as far as educating teaching staff of what physical activity should look like and how to implement it correctly. I know we use a curriculum already (I am Moving I am Learning), but I think that being limited to that one curriculum, I think there is room to grow and there’s room to learn more about physical activity. (Regional Respondent)

I mean, I think it’ll be really important. I know a lot of programs have reported that they have really high instances of childhood obesity and so I think having the standards recognized will be helpful to kind of just promote it a little bit more. I’m really hopeful too that now that the DHS system has purchased that license for Go NAPSACC that programs will take advantage of that because I think it provides a lot of good resources so once they pick what their goals will be it gives them activities and tips for how they can accomplish the goal. I’m really hopeful that programs will take advantage of that because it will be free for them. (Regional Respondent)

State-level contacts do not directly provide training and technical assistance to programs; therefore, the types of resources they share with programs are better categorized as information sharing strategies (via social media, listservs, webinars; access to financial resources for professional development and some infrastructure). Results of the interviews highlight that directors in Head Start Collaboration and Head Start Association offices are important, efficient resources in Head Start programs’ education and training on new standards.

Yeah, within our state we have what we call our early childhood councils, we have 34 of them across the state. They are geographically located around the state. One of their tasks is to ensure that they are like our resource and referral for communities and providing support and coaching opportunities for programs including Head Start. One for professional development, some of them have the opportunities to provide mini grants, not all of them do. However, the grants that are available in our state would be open to Head Starts and they are open to everybody so it wouldn’t be specific to Head Start. We also have an organization in Colorado called Healthy Childcare Colorado that does a lot of work with like health consultants across the state. They have ability to provide grants for playground equipment as well. (State-Level Respondent)

## Challenges to Implementation

Challenges to implementation of the new standards clustered around staffing issues, prioritization issues, and infrastructure and environmental barriers.

**Staffing.** Both regional- and state-level respondents indicated that it is important to have staff who are confident in their own PA competency implementing the standards. Yet, Head Start programs are constantly seeking training opportunities for their staff due to high turnover rates. Respondents indicated that training was needed to educate newly hired staff on how to implement Head Start performance standards, as well as train them on the use of the specific preferred PA curricula (eg, IMIL).

You know there’s always like staff wellness trainings, but I mean it’s a physically demanding difficult job, people work long hours and aren’t paid well, and it is a real struggle for programs and retention is a huge issue. (State-Level Respondent)

I think that what’s happening with our region again is grantees are reaching back out again and saying, hey we need this particular training again because of turnover, etc. I think that’s where they are right now as it relates to that particular standard. (Regional Respondent)

I know that they will need additional training because that is how the staff will be able to carry out the performance standard, I think it is ongoing training, it can’t be a one stop shop. They would have to have training if they are using I Am Moving, I Am Learning it would have to have training on that which if they use that they have to have the training on it. Then they would also have to have training on nutrition, how to properly address this in your lesson plan by including lesson for nutrition, activities on nutrition. Not just the physical piece but actual classroom activities on nutrition, they would have to include parent trainings, to train parents on nutrition. (State-Level Respondent)

**Prioritization.** Respondents also mentioned that prioritizing PA may conflict with other competing demands, such as classroom instruction or assessment, of the Head Start program.

I think, this is just me talking, but I think there is such an emphasis on C.L.A.S.S. and I don’t know if you know what C.L.A.S.S. is, but it is a teacher/child interaction, it is an observational assessment, and it does have small pieces related to physical development but not a whole lot. So teachers are really focused on making sure their C.L.A.S.S. scores are where they need to be. It is high stakes for Head Start because having low C.L.A.S.S. scores can threaten your grant, you could lose your grant, be in re-competition if your scores are not high enough, or if after the Federal review year your scores are in the bottom 10% of those that went through federal monitoring during that fiscal year, you would be put up for re-competition. So there’s been such a focus on C.L.A.S.S. and implementation of C.L.A.S.S. and the elements and the indicators within C.L.A.S.S. that sometimes other things like physical development and physical activity get pushed to the bottom of the barrel. Even though we know children learn better if they are physically active and learning happens when children are physically active. (State-Level Respondent)

It was also mentioned that it was easier to incorporate PA throughout the day during full-day, rather than half-day, programs.

So to the extent that something can feel like additional or sort of yet another requirement it could be a challenge. But not because people aren't interested in supporting the physical development of our kids, I think just more administrative and bureaucratic and financial challenges. (State-Level Respondent)

**Infrastructure and Environment.** To a lesser extent, insufficient indoor and outdoor infrastructure, including lack of space, as well as weather-related issues were mentioned by some of the respondents as barriers to meeting daily PA standards.

They do like it when they are able to bring children outside, but when it comes to like winter time, sometimes they have to limit the outside time so they have to do it inside, because they do have to do it no matter what. So they have to provide space for those large motor activities in the classroom, dancing and all that. Sometimes that's probably one of the challenges having to do something inside, because children really look forward to that open space and getting to meet with children from the other classrooms or whatever, and so doing the inside activities for physical activities that's a little bit of a challenge. (State-Level Respondent)

However, this challenge was inconsistent across respondents due to variations in state-level licensing and early childhood standards, as well as state-level Quality Rating and Improvement Systems that are used to measure program performance standards.

Every program has some kind of playground for them to go to, and it's approved. I mean they have to have so much square footage, that's per our state licensing and our standards. So it is already built in, most everybody has at minimum 30 minutes. That is on our schedule and of course it depends on what the weather is like and then if you for some reason can't go outside most people have some large motor activities whether they are using a parachute or some other large motor activities, maybe they get to be in a gym depending on where their center is located or they have trikes inside or balls and hula hoops, those kinds of thing, I'm speaking to my program because

we have all those things available to them no matter what the weather and I would guess that 99.9% of all the other programs have those available to their classrooms as well. I know they definitely have their already 30 minutes of outdoor time planned in their daily schedule already. (State-Level Respondent)

## Results Across Head Start Regions

In addition to analyzing the data by key informant type, we compared regions 4, 6 (represent southern states, which are more likely to have high rates of childhood obesity and lower rates of PA), and 10 (represents northwest states, which are more progressive in their policies addressing childhood obesity), and regions 11 and 12, which serve special populations (American Indian and Alaska Native and Migrant and Seasonal Head Start programs, respectively), to all other Head Start regions to examine whether there were differences in themes and subthemes. Although we found differences in the frequency of themes and subthemes mentioned (see Table 2), the actual content of respondents' answers did not differ from the results already provided in the manuscript. There are 2 subthemes that were never mentioned by key informants in regions 11 and 12. First, alignment with state-level Child Care Licensing and Standards was never mentioned. These regions have programs in 26 and 38 states, respectively; thus, it would be more difficult to accurately discuss alignment with state-level standards across all states that they serve. Second, there was no mention of infrastructure or environmental barriers for these sites. Again, because regional key informants serve programs across many states, there may be no clear trend in these challenges across sites.

## Discussion

Results of the qualitative interviews suggest that regional-level training and technical assistance opportunities for programs already exist and provide system-wide the tools and strategies needed to implement effective PA curriculum and that updating the Head Start

**Table 2** Frequency of Key Topics and Subtopics by Mention Broken Down by Regions

Key topic area and subtopics	Total, n	Other regions, n	Regions 4 and 6, <sup>a</sup> n	Region 10, <sup>b</sup> n	Regions 11 and 12, <sup>c</sup> n
Communication	178	106	41	20	11
Awareness of changes to the standards	57	33	12	5	7
Strategies employed to inform programs of changes to the standards	48	30	9	5	4
Alignment with state-level Child Care Licensing and Standards	73	43	20	10	0
Resources and technical assistance	256	136	70	28	22
Training and technical assistance opportunities	109	68	20	9	12
Access to appropriate curriculum resources	51	23	15	7	6
Information sharing	96	45	35	12	4
Challenges	100	52	20	19	9
Staffing issues	52	25	11	9	7
Prioritization/competing demands	24	13	3	6	2
Infrastructure and environmental barriers	24	14	6	4	0

Note: Key informant (n) by group: Other regions (n = 27), regions 11 and 12 (n = 3), regions 4 and 6 (n = 10), and region 10 (n = 4). Regional groups include both regional- and relevant state-level contacts.

<sup>a</sup>Regions 4 and 6 represent Southern states. <sup>b</sup>Region 10 represents Northwest states. <sup>c</sup>Regions 11 and 12 represent special populations (American Indian and Alaskan Natives, and Migrant and Seasonal Head Start programs).

Standards specific to PA was more of a formality to align the standards with current practice. This finding is supported by a recent research study<sup>27</sup> that found high rates of adoption of PA best practices in Head Start programs. Although the new standards included broad language that allowed for programs to adopt and tailor PA curricula specific to their local or regional needs, we identified very little diversity in the PA curricula used in practice. Rather than initiating tailored state and regional efforts, the broad language generated a consistent implementation approach across states and regions. It is likely that such an approach will generate similar benefits for PA. Finally, our study also identified some ways to improve existing training and technical assistance practices. Specifically, there is a need to ensure that regional technical assistance opportunities include train the trainer models for IMIL and identify and provide broader choice for PA curriculums. Additional curricula resources should be developed by the national centers, based on best evidence, and disseminated by the regional offices.

However, several barriers were identified that may impede full implementation at the program level. For example, we identified some breakdown in communication channels regarding the dissemination of the information on program performance updates specifically with state-level key informants. Our results suggest that the state-level contacts can be an additional resource for Head Start programs to ensure successful implementation of the program performance standards, but they are currently being underutilized in some states. Although, formalized training and technical assistance for Head Start programs is provided at the regional level there are many resources and communication strategies that can be learned from the state collaboration offices. There is an opportunity at the national or regional level within the existing Head Start infrastructure to identify and adopt some successful state-level strategies that have helped Head Start programs successfully implement the PA program performance standards. A more formalized process that would allow state-level contacts to share their PA strategies more widely with other states could be implemented.

Staffing-related issues were also cited as a barrier to programs fully implementing the PA program performance standards. Consistent with previous research,<sup>28–31</sup> low PA competence (eg, staff are uncomfortable with their own level of physical coordination) of staff members may contribute to poor implementation uptake at the program level. Early childhood educators are low-wage earners, with high rates of overweight and obesity, and other chronic health conditions.<sup>32,33</sup> These individual-level characteristics may be associated with low PA competence. High staff turnover was also cited as a barrier. Staff turnover is not unique to Head Start programs; this is a common issue across a variety of early child care centers.<sup>34,35</sup> It is an ongoing systemic-level issue within the early childhood field, and more guidance is needed to implement policies to reduce outcome-affecting levels of staff turnover. Head Start program directors typically represent a level of staff continuity for these sites. Over 60% have been in their current position over 4 years (unpublished data). While they have years of experience, other program staff are representative of low-wage workers, which are more likely to have higher job turnover.<sup>35,36</sup> This is an important factor that decision makers and state agencies need to account for with these types of policies, and they should work with a range of staff who have both short- and long-term knowledge.

In addition, key informants indicated the need for additional training. In a previous evaluation<sup>37</sup> of the IMIL curriculum enhancement, it was identified that Head Start programs inconsistently implemented the IMIL curriculum enhancement, and some Head

Start teachers reported that they needed additional training beyond the initial IMIL training. There is a need to determine whether booster or follow-up trainings are needed for existing staff that received an initial IMIL training in case their effectiveness at delivering the IMIL curriculum enhancement weakens over time. Future research should evaluate program implementation of the IMIL curriculum enhancement in a diverse sample of Head Start programs now that it has been fully adopted into Head Start programs.

Consistent with previous research,<sup>38</sup> our key informants identified inconsistent and diverse quality ratings systems currently in place across states. There is a need to align state-level child care licensing regulations, early learning standards, and their accompanying Quality Rating and Improvement Systems infrastructure across states and also ensure that requirements within these systems is aligned with Head Start Program Performance Standards.

## Strengths, Limitations, and Implications for Policy and Practice

Strengths of this study include high participation by both regional and state informants providing us with a comprehensive snapshot of multilevel training and technical assistance resources and information related to the PA program performance standards. Qualitative interviews provide rich, detailed responses that are not possible through quantitative data collection, such as a questionnaire. However, limitations of qualitative data collection include nonrepresentative samples leading to lack of generalizability of findings. Our use of a semistructured interview guide minimizes these limitations because it allowed for consistency in replicability in responses across interviews, but also provided flexibility to ask follow-up questions and probe for additional information. We also had a large sample of respondents across both states and Head Start regions, and participants were carefully chosen to avoid bias in responses, but also ensure we reached the correct, most knowledgeable informant. This broad range of respondents gives this study contextual generalizability as reported results are indicative of most Head Start programs. Respondents had varying experience and possibly differing levels of management. Qualitative data capture all experiences while remaining focused. With any qualitative study, it is important for researchers to continually reflect on how they are framing the questions asked, as well as their own personal assumptions and interests. It is possible that in trying to better understand increasing rates of obesity coupled with decreasing PA as youth age particularly in the Head Start population, this may have biased study interviewers during data collection. However, the interview guide is not framed this way (see [Supplementary Material](#) [available online]). Another key limitation of this study is absence of information from the Head Start programs themselves. The updated standards now better reflect the practices in place at the regional level. However, understanding how, and the extent to which, these new standards are being implemented by programs is still needed and could provide important insight for designing interventions to facilitate universal compliance with the standards, as well as to provide information for decision makers and advocates focused on young children's PA and development.

## Acknowledgments

Funding for this study was provided by the Robert Wood Johnson Foundation (grant #73758) for the Policies for Action Children's Healthy



Weight Hub. The authors gratefully acknowledge Amanda Rizkallah, University of Illinois at Chicago's Research Assistant, for her participation in coding the transcripts, and Marco Beltran, Senior Head Start Program Specialist, DHHS, Administration for Children and Families, Office of Head Start, for his review and input on our semistructured telephone surveys. Finally, the authors specifically thank all the region- and state-level contacts that took the time to participate in the telephone interviews. The authors have no potential conflicts of interest to report.

## References

- Pan L, Park S, Slayton R, Goodman AB, Blanck HM. Trends in severe obesity among children aged 2 to 4 years enrolled in special supplemental nutrition program for women, infants, and children from 2000 to 2014. *JAMA Pediatr.* 2018;172(3):232–238. PubMed ID: 29309485 doi:10.1001/jamapediatrics.2017.4301
- Hills AP, Dengel DR, Lubans DR. Supporting public health priorities: recommendations for physical education and physical activity promotion in schools. *Prog Cardiovasc Dis.* 2015;57(4):368–374. PubMed ID: 25269062 doi:10.1016/j.pcad.2014.09.010
- Pate RR, O'Neill JR, Brown WH, Pfeiffer KA, Dowda M, Addy CL. Prevalence of compliance with a new physical activity guideline for preschool-age children. *Child Obes.* 2015;11(4):415. PubMed ID: 26121562 doi:10.1089/chi.2014.0143
- Piercy KL, Troiano RP, Ballard RM, et al. The physical activity guidelines for Americans. *JAMA.* 2018;320(19):2020–2028. PubMed ID: 30418471 doi:10.1001/jama.2018.14854
- Tremblay MS, Barnes JD, González SA, et al. Global matrix 2.0: report card grades on the physical activity of children and youth comparing 38 countries. *J Phys Act Health.* 2016;13(s2):S343–S366. doi:10.1123/jpah.2016-0594
- Skinner AC, Ravanbakht SN, Skelton JA, Perrin EM, Armstrong SC. Prevalence of obesity and severe obesity in US children, 1999–2016. *Pediatrics.* 2018;141(3):e20173459. PubMed ID: 29483202 doi:10.1542/peds.2017-3459
- Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA.* 2014;311(8):806. PubMed ID: 24570244 doi:10.1001/jama.2014.732
- Händel MN, Larsen SC, Rohde JF, Stougaard M, Olsen NJ, Heitmann BL. Effects of the Healthy Start randomized intervention trial on physical activity among normal weight preschool children predisposed to overweight and obesity. *PLoS One.* 2017;12(10):e0185266. doi:10.1371/journal.pone.0185266
- Waters E, de Silva-Sanigorski A, Burford BJ, et al. Interventions for preventing obesity in children. *Cochrane Database Syst Rev.* 2011(12):CD001871.
- Sisson SB, Krampe M, Anundson K, Castle S. Obesity prevention and obesogenic behavior interventions in child care: a systematic review. *Prev. Med.* 2016;87:57–69. PubMed ID: 26876631 doi:10.1016/j.ypmed.2016.02.016
- Ward DS, Welker E, Choate A, et al. Strength of obesity prevention interventions in early care and education settings: a systematic review. *Prev Med.* 2017;95:S37–S52. PubMed ID: 27693295 doi:10.1016/j.ypmed.2016.09.033
- Services USDoHaH. Head Start program facts, fiscal year 2017. 2017. <https://eclkc.ohs.acf.hhs.gov/about-us/article/head-start-program-facts-fiscal-year-2017>. Accessed November 30, 2018.
- Services USDoHaH. Head Start Program Performance Standards. 2016. <https://eclkc.ohs.acf.hhs.gov/policy/45-cfr-chap-xiii>
- Bellows LL, Davies PL, Anderson J, Kennedy C. Effectiveness of a physical activity intervention for Head Start preschoolers: a randomized intervention study. *Am J Occup Ther.* 2013;67(1):28. PubMed ID: 23245780 doi:10.5014/ajot.2013.005777
- Pate RR, McIver K, Dowda M, Brown WH, Addy C. Directly observed physical activity levels in preschool children. *J School Health.* 2008;78(8):438–444. PubMed ID: 18651931 doi:10.1111/j.1746-1561.2008.00327.x
- Sandelowski M. Whatever happened to qualitative description? *Res Nurs Health.* 2000;23(4):334–340. PubMed ID: 10940958 doi:10.1002/1098-240X(200008)23:4<2C334::AID-NUR9%2E3.0.CO;2-G
- Flick U. *Designing Qualitative Research.* Thousand Oaks, CA: Sage; 2018.
- Gill P, Stewart K, Treasure E, Chadwick B. Methods of data collection in qualitative research: interviews and focus groups. *Br Dent J.* 2008;204(6):291. doi:10.1038/bdj.2008.192
- Miles MB, Huberman A, Saldana J. *Qualitative Data Analysis: A Methods Sourcebook.* 3rd ed. Thousand Oaks: Sage Publications; 2014.
- Colorafi KJ, Evans B. Qualitative descriptive methods in health science research. *HERD.* 2016;9(4):16–25. PubMed ID: 26791375 doi:10.1177/1937586715614171
- Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nurs Health Sci.* 2013;15(3):398–405. PubMed ID: 23480423 doi:10.1111/nhs.12048
- Glaser BG. The constant comparative method of qualitative analysis. *Soc Prob.* 1965;12(4):436–445. doi:10.2307/798843
- Glaser BG, Strauss AL. *Theoretical Sampling the Discovery of Grounded Theory: Strategies for Qualitative Research.* New Brunswick, NJ: Aldine Publishing Company; 1999.
- Rodgers BL, Cowles KV. The qualitative research audit trail: a complex collection of documentation. *Res Nurs Health.* 1993;16(3):219–226. PubMed ID: 8497674 doi:10.1002/nur.4770160309
- Agee J. Developing qualitative research questions: a reflective process. *Int J Qual Stud Educ.* 2009;22(4):431–447. doi:10.1080/09518390902736512
- Administration for Children and Families. I Am Moving I Am Learning Curriculum Enhancement. <https://eclkc.ohs.acf.hhs.gov/physical-health/article/i-am-moving-i-am-learning-early-findings-implementation-obesity-prevention>. Accessed March 25, 2019.
- Byrd-Williams C, Dooley EE, Sharma SV, Chuang R-J, Butte N, Hoelscher DM. Peer reviewed: best practices and barriers to obesity prevention in head start: differences between director and teacher perceptions. *Prev Chronic Dis.* 2017;14:E139. PubMed ID: 29267155 doi:10.5888/pcd14.170297
- Derscheid LE, Umoren J, Kim S-Y, Henry BW, Zittel LL. Early childhood teachers' and staff members' perceptions of nutrition and physical activity practices for preschoolers. *J Res Child Educ.* 2010;24(3):248–265. doi:10.1080/02568543.2010.487405
- Lu C, Montague B. Move to learn, learn to move: prioritizing physical activity in early childhood education programming. *Early Child Educ J.* 2016;44(5):409–417. doi:10.1007/s10643-015-0730-5
- Breslin CM, Morton JR, Rudisill ME. Implementing a physical activity curriculum into the school day: helping early childhood teachers meet the challenge. *Early Child Educ J.* 2008;35(5):429–437. doi:10.1007/s10643-007-0200-9
- Hughes CC, Gooze RA, Finkelstein DM, Whitaker RC. Barriers to obesity prevention in Head Start. *Health Aff.* 2010;29(3):454–462. doi:10.1377/hlthaff.2009.0499
- Otten JJ, Bradford VA, Stover B, et al. The culture of health in early care and education: workers' wages, health, and job characteristics. *Health Aff.* 2019;38(5):709–720. doi:10.1377/hlthaff.2018.05493
- Linnan L, Arandia G, Bateman L, Vaughn A, Smith N, Ward D. The health and working conditions of women employed in child care.



- Int J Environ Res Public Health*. 2017;14(3):283. doi:10.3390/ijerph14030283
34. Chriqui JF, Leider J, Schermbeck RM. Early childhood education centers' reported readiness to implement the updated child and adult care food program meal pattern standards in the United States, 2017. *Child Obes*. 2018;14(6):412–420. PubMed ID: 30199290 doi:10.1089/chi.2018.0075
  35. usa.childcareaware.org. The US and the high price of child care: an examination of a broken system. 2019. <https://cdn2.hubspot.net/hubfs/3957809/2019%20Price%20of%20Care%20State%20Sheets/Final-TheUSandtheHighPriceofChildCare-AnExaminationofaBrokenSystem.pdf>. Accessed June 9, 2020.
  36. Bullough RV, Hall-Kenyon KM, MacKay KL. Head Start teacher well-being: implications for policy and practice. *Early Child Educ J*. 2012;40(6):323–331. doi:10.1007/s10643-012-0535-8
  37. Administration for Children and Families, Fox MK, Hallgren K, Boller K, Turner A. *Efforts to Meet Children's Physical Activity and Nutritional Needs: Findings From the I Am Moving, I am Learning Implementation Evaluation*. Washington, DC: U.S. Department of Health and Human Services; 2010.
  38. Pianta R, Downer J, Hamre B. Quality in early education classrooms: definitions, gaps, and systems. *Future Child*. 2016;26(2):119–137. doi:10.1353/foc.2016.0015