

# Development of Healthy Eating and Physical Activity Quality Standards for Out-of-School Time Programs

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## Abstract

**Background:** Out-of-school time (OST) programs serve over 8 million children per year and have ample opportunity to promote health through menu and physical activity choices. Until recently, however, the field has lacked a comprehensive set of operationalizable standards for healthy eating and physical activity. The National AfterSchool Association adopted voluntary healthy eating and physical activity quality standards (HEPAQS) in April, 2011.

**Methods:** We describe the development of HEPAQS. This work reflects a social ecological model for changing children's eating and activity behaviors through program-level interventions. The standards were developed using a national, mixed-methods needs assessment, review of existing standards and expert recommendations, and a participatory process of discussion, review, and consensus engaging 19 influential service and policy organizations and agencies in the Healthy Out-of-School Time (HOST) coalition, which we convened in 2009.

**Results:** The HOST coalition approved a final version of the HEPAQS in January, 2011. The 11 standards address content, curriculum selection, staff training, program support, and environmental support for healthy eating and physical activity. In April, 2011, the HEPAQS were adopted by the National AfterSchool Association, and have subsequently been widely disseminated. Extensive adoption and implementation efforts are underway.

**Conclusions:** The availability of a comprehensive set of standards for healthy eating and physical activity in OST provides practical information to help community-based youth-serving organizations participate in obesity and chronic disease prevention. A working awareness of their content will be useful to scientists undertaking health promotion studies in the out-of-school time setting.

## Introduction

Healthy environments can foster healthy behaviors that reduce children's risk of obesity and chronic disease. Although schools and early child care settings have received considerable research and regulatory focus in this regard, out-of-school time (OST) programs are also a potentially important setting for health promotion. These programs serve children and youth in grades K–12 before school, after school, on holidays, and during vacations and have broad national reach. Although the number of OST programs is not known, surveys indicate that over 8 million U.S. children attend afterschool programs annually,<sup>1</sup> with access to roughly 3 hours per day of activities that typically include homework, snack or meal, and gross motor play.

OST programs' potential role in chronic disease preven-

tion is due not only to their reach but also to their mission and structure. Many programs have explicit goals related to healthy social, academic, and physical development, and evidence-based resources enable programs to participate in professional development and quality improvement efforts aimed at enhancing children's well-being in a holistic manner. The OST field is active in promoting quality through a variety of channels including the National AfterSchool Association (NAA), a professional membership organization, the Council on Accreditation, and state and municipal licensing regulations. Many programs have daily schedules that include a snack and physical activity period, so focusing on the quality of the latter is a matter of improvement rather than invention. While NAA and the Council on Accreditation have provided detailed standards for many aspects of quality programming since the 1980s, until recently neither has

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provided detailed guidance on nutrition and physical activity responsive to the nation's need to reduce obesity and chronic disease risk, and licensing standards appear to vary widely on these topics. Beets et al. reviewed standards for physical activity among nonregulatory statewide afterschool organizations and showed that standards were present in a third of states and that they ranged greatly in content.<sup>2</sup> Some OST programs that provide snacks do so through the National School Lunch Program (NSLP)<sup>3</sup> or the Child & Adult Care Food Program (CACFP).<sup>4</sup> These federal nutrition programs do prescribe menu content, but many OST programs do not participate in them and purchase food on their own.

This report briefly describes efforts to address the absence of a broad-based statement on healthy eating and physical activity in OST through the development of comprehensive, science-based standards. Our healthy eating and physical activity quality standards (HEPAQS) have been adopted by NAA and the Council on Accreditation, among others, and a working awareness of their content will be useful to scientists undertaking health promotion efforts in OST.

## Approach and Methods

In developing HEPAQS, we embedded our approach within a social ecological framework. Social ecological models posit that individual behavior is influenced by concentric levels that emanate from peers and family to social settings, institutions and organizations, communities, and social policies.<sup>5</sup> Thus, standards that become part of licensing, accreditation, organizational norms, or policy can have a profound influence on program practices. By creating healthy environments, standards can influence the behavior of staff and children in OST, an idea supported by research showing that availability, peers, and adult role models influence children's eating habits and physical activity.<sup>6-11</sup> Story et al. suggest that "environmental and policy interventions may be among the most effective strategies for creating population-wide improvements in eating."<sup>12</sup>

The second component of our approach was a commitment to ensuring that the new standards reflected current science. Thus, we started with the premise that adequate research was available to inform standards for food and beverage selections and for the content of physical activity periods. We consulted peer-reviewed literature and expert recommendations (referenced in the Results section) for efficacious risk-reduction strategies for obesity and related disorders such as dyslipidemias, hypertension, and early-onset type 2 diabetes.

The major process goal for developing HEPAQS was to use a participatory model that engaged leaders in the field in order to foster relevance, consensus, utility and uptake. To do this, the authors convened the Healthy Out-of-School Time (HOST) coalition. We invited individuals representing 24 major OST service and policy

leaders to a kick-off meeting in January, 2009, held in Washington, D.C. Nineteen individuals from 13 organizations attended; they self-funded their travel, and space for the meeting was donated by a participating group. The focus of the meeting was to develop agreement about the goal of the coalition, discuss process, and identify other individuals/organizations to invite into the process. Attendees agreed that our objective was to reach consensus on a set of science-based, up-to-date HEPAQS appropriate for use in a range of OST settings. After the meeting, we sent emails to the original invitees as well as additional contacts suggested by those that had attended with a request to join HOST either as an "official" coalition member or in an advisory or informational capacity. Over time, HOST evolved to include official members representing 14 organizations and five additional organizations that remained involved in an advisory status.<sup>13</sup> There were no dues and new organizations were welcomed at any time. HOST met several times a year by telephone to review progress, identify new contacts, identify existing curricula and standards, and review draft documents. Conference call attendance varied but we received inputs and critiques from many members and advisors over time. A final document including an introduction, the 11 standards, and best practices for each standard was approved by conference call and e-mail in January, 2011. Conference calls were arranged and hosted by the authors who were responsible for all drafts and revisions. The final standards were subsequently sent to the NAA board of directors, which approved their adoption in April, 2011.

One of the roles of the HOST coalition was to identify existing standards, guidelines, and other material providing high quality nutrition and physical activity advice for OST. Many members represented organizations that had previously produced such materials. These materials were gathered together and posted for public access.<sup>13</sup> The authors reviewed the materials for commonalities and differences to identify existing language that merited adaptation into the new consensus document and also to identify gaps. The final HEPAQS document credits many of these sources and serves to lift up the work of many service and advocacy organizations (Table 1).

To further ensure the relevance and salience of the new standards within the OST field, we undertook research to assess receptivity to developing HEPAQS with funding from the Robert Wood Johnson Foundation (RWJF). Our 2010 needs assessment included formative qualitative research among OST policy and service leaders and quantitative survey research among OST programs. Interviews with national and regional policy and service leaders ( $n = 17$ ) showed that childhood obesity was a high organizational priority.<sup>14</sup> Interview participants stated that quality standards would be helpful for promoting practice changes in the context of appropriate ongoing training, consideration of budgetary impact, and accountability measures.<sup>14</sup> Addi-

tional quantitative analysis of the online survey of a set of OST programs ( $n = 443$ ) showed that almost all (96%) providers viewed the development of comprehensive standards positively with the caveats that implementation would require ongoing training and that some programs were concerned about the financial implications of changing their food and beverage offerings (unpublished data).

## Results

HEPAQS's final content reflected literature review, review of existing standards and guidelines, and HOST members' experience and expertise. The first standard in each domain (healthy eating and physical activity) relates to content. Expert dietary recommendations reflected in HEPAQS include reducing or eliminating sugar-sweetened beverages,<sup>15</sup> avoiding foods high in trans fats, saturated fats, and sugars,<sup>16</sup> and eating at least five fruits and vegetables daily.<sup>15-17</sup> With respect to physical activity, experts recommend that children obtain at least 60 minutes of moderate-to-vigorous physical activity (MVPA) daily that includes cardiovascular, muscle, and bone-strengthening components.<sup>18</sup> HEPAQS adapts these individual level recommendations into program recommendations. For example, it recommends that programs serve a fruit or vegetable daily and provide each child with at least 30 minutes of organized, inclusive physical

activity per 3 hours of program time.

Our needs assessment validated a pre-existing concern that guidance on content of menus and physical activity alone was insufficient, and that programs also needed input on program elements that could support full implementation. The final HEPAQS document comprises 11 standards for healthy eating and physical activity that address content, staff training, program infrastructure, curriculum selection, and creating a supportive social and physical environment. HEPAQS also includes best practices for each standard consistent with NAA's preferred format. The standards are shown below and are posted with their corresponding best practices at the National Institute on Out-of-School Time and NAA websites.<sup>19, 20</sup>

### Healthy Eating

#### 1. Content and Quality

Standard: Programs serve foods and beverages in amounts and types that promote lifelong health and help prevent chronic disease. These include minimally processed foods made with whole grains and heart-healthy fats or oils and without added sugar or trans fats; fruits and vegetables; and beverages made without added sugars.

#### 2. Staff Training

Standard: Staff regularly participate in learning about healthy eating grounded in effective training models using content that is evidence-based.

**Table 1. Sources Used in Developing the Out-of-School Time Healthy Eating and Physical Activity Quality Standards<sup>a</sup>**

1. Alliance for a Healthier Generation, Healthy Schools Program Framework. <i>Healthy Schools Program Framework: Criteria for Developing a Healthier School Environment</i> . Available at <a href="http://www.healthiergeneration.org/schools.aspx?id=1504&amp;terms=Framework/">www.healthiergeneration.org/schools.aspx?id=1504&amp;terms=Framework/</a> . Last accessed October 30, 2012.
2. California After School Resource Center, Nutrition. (n.d.). <i>California Department of Education Nutrition Standards for Snacks in After School Programs</i> . Available at <a href="http://www.cde.ca.gov/ls/nu/as/documents/afterschoolnutstan.doc">www.cde.ca.gov/ls/nu/as/documents/afterschoolnutstan.doc</a> . Last accessed October 30, 2012.
3. Center for Collaborative Solutions, Healthy Behaviors Initiative. (2010). <i>Changing Lives, Saving Lives, A Step-by-Step Guide to Developing Exemplary Practices in Healthy Eating, Physical Activity and Food Security in Afterschool Programs</i> . Available at <a href="http://www.ccscenter.org/afterschool/Step-By-Step%20Guide/">www.ccscenter.org/afterschool/Step-By-Step%20Guide/</a> . Last accessed October 19, 2012.
4. Eat Smart, Move More North Carolina. (2009). <i>North Carolina Recommended Standards for After-School Physical Activity</i> . Available at <a href="http://www.eatsmartmovemorenc.com/">www.eatsmartmovemorenc.com/</a> . Last accessed October 19, 2012.
5. Food Research and Action Center. (2010). <i>School Wellness Policy and Practice: Meeting the Needs of Low-Income Students</i> . Available at <a href="http://frac.org/federal-foodnutrition-programs/school-breakfast-and-lunch/local-school-wellness-policies/">http://frac.org/federal-foodnutrition-programs/school-breakfast-and-lunch/local-school-wellness-policies/</a> . Last accessed October 19, 2012.
6. Stallings VA, Yaktine AL. (2007). <i>Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth</i> . The National Academies, Advisors to the Nation on Science, Engineering, and Medicine, Committee on Nutrition Standards for Foods in Schools. Institute of Medicine. Available at <a href="http://books.nap.edu/openbook.php?record_id=11899&amp;page=1/">http://books.nap.edu/openbook.php?record_id=11899&amp;page=1/</a> . Last accessed October 19, 2012.
7. Yale Rudd Center for Food Policy & Obesity. (2011). <i>Childcare &amp; Preschool</i> . Available at <a href="http://www.yaleruddcenter.org/what_we_do.aspx?id=165/">www.yaleruddcenter.org/what_we_do.aspx?id=165/</a> . Last accessed October 19, 2012.
8. Harvard School of Public Health Prevention Research Center. <i>Environmental Standards for Nutrition and Physical Activity in Out-of-School Time Programs</i> . (formerly <i>YMCA Health Promotion Standards for Afterschool Programs</i> .) In: <i>Food and Fun After School</i> . Available at <a href="http://www.hsph.harvard.edu/research/prc/projects/food-fun/">www.hsph.harvard.edu/research/prc/projects/food-fun/</a> . Last accessed October 19, 2012.

<sup>a</sup>Adapted from Wiecha JL, Hall G, Gannett E, Roth B. National AfterSchool Association Standards for Healthy Eating and Physical Activity in Out-of-School Time Programs. 2011. Available at [www.niost.org/pdf/host/Healthy\\_Eating\\_and\\_Physical\\_Activity\\_Standards.pdf/](http://www.niost.org/pdf/host/Healthy_Eating_and_Physical_Activity_Standards.pdf/). Last accessed October 4, 2012.

### 3. Nutrition Education Curriculum

Standard: Programs that offer nutrition education classes will ensure that materials presented to children are evidence-based, do not support a particular industry or food sector agenda, and delivered by qualified personnel.

### 4. Social Support

Standard: The program creates a social environment, including positive relationships, that encourages children to enjoy healthy foods. Research shows that children's food choices are influenced not only by food appearance, taste and familiarity, but also by social factors including peers, role models, group dynamics, and having healthy options.

### 5. Program Support

Standard: Infrastructure supports healthy eating through management and budgeting practices.

### 6. Environmental Support

Standard: The program's physical environment supports healthy eating. Availability of vending machines, advertising and availability of kitchen facilities can all influence food choices and food availability.

## *Physical Activity*

### 7. Content and Quality

Standard: The program's physical activity offerings support the USDHHS 2008 guidelines recommending that all children and youth obtain at least 60 minutes of physical activity per day that includes a mixture of moderate and vigorous intensity activity as well as bone- and muscle-strengthening activities.

### 8. Staff Training

Standard: Staff participate in learning about physical activity using effective training models and using content that is evidence-based.

### 9. Social Support

Standard: The program creates a social environment, including positive relationships, that encourages children to enjoy and participate in physical activity. Research shows that children's physical activity choices are influenced not only by preference and familiarity, but also by social factors including peers, role models, group dynamics, and having multiple options.

### 10. Program Support

Standard: Infrastructure supports physical activity through management and budgeting practices.

### 11. Environmental Support

Standard: The program's physical environment supports the physical activity standards.

are notable. First, achieving these standards requires more than an executive decision. Depending on baseline program capacity, some of the standards will be easier to adopt and have fewer cost implications than others that may require planning, retraining, and even rebudgeting. Consistent with any attempt to change organizational practices, programs should seek to accomplish the standards over time and obtain assistance with the process if needed. For example, parent involvement through advisory boards, advocacy, or volunteerism could enhance adoption and implementation efforts. Second, some standards may depart from current regulations with which the OST programs are required to comply. It is not our intent to put programs in conflict with regulations, and we emphasize that the NAA standards are voluntary. Programs need to comply with current regulations stipulated through licensing or federal nutrition programs they participate in. Third, HEPAQS will not end the childhood obesity epidemic. These standards are not meant to reduce weight or prevalence of obesity in individuals or programs in a short period of time; rather, they are meant to be part of a continuum of health promotion efforts. Implemented well, they should contribute to reduced risk of obesity and chronic disease over time by changing children's behavior during program sessions, with the potential for spillover to the home environment.

Our participatory process has led to considerable activity among HOST members and others to disseminate HEPAQS. Since April, 2011, at least 50,000 HEPAQS informational e-mails have been sent by the NAA, Afterschool Alliance, National Physical Activity Plan, CDC's Division of Nutrition, Physical Activity, and Obesity, and RWJF Active Living Research Program. Policy implications for HEPAQS are several. Their adoption by NAA is a major benefit to OST because for the first time, the professional association for the field has a comprehensive, vetted resource for its 7000 members. NAA's validation has led to other policy actions. First, the Council on Accreditation is currently engaged in the process of integrating HEPAQS language with the afterschool accreditation standards. Accreditation is a voluntary process that a program may undergo to demonstrate a high level of quality. Second, two major national organizations, Alliance for a Healthier Generation and the YMCA of the USA, have adopted HEPAQS completely or with minor changes. For example, YMCA of the USA pledged in November, 2011, to implement their version of the standards in 85% of YMCA OST sites.

## Discussion

The HEPAQS document has implications for both practice and policy. A major strength of the document is that it reflects a consensus among major OST providers and advocates. In addition, it incorporates current science and provides comprehensive guidance on content and infrastructure that can support implementation. Caveats

## Conclusion

The availability of a comprehensive set of quality standards for healthy eating and physical activity in OST provides practical information to help community-based youth-serving organizations participate in obesity and chronic disease prevention. Whether individuals, sites, or programs adopt all of the standards or a select few, the

advantages of having a common dialog remain strong. We urge scientists interested in health promotion in OST to consider HEPAQS in developing their research and intervention frameworks. Future research on effective approaches to adoption, training, and implementation are warranted, as are studies of impact and behavioral outcomes.

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## Author Disclosure Statement

No competing financial interests exist.

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## References

1. Afterschool Alliance. America after 3 PM. Available at [www.afterschoolalliance.org/AA3PM.cfm/](http://www.afterschoolalliance.org/AA3PM.cfm/). Last accessed October 19, 2012.
2. Beets MW, Wallner M, Beigle A. Defining standards and policies for promoting physical activity in afterschool programs. *J Sch Health* 2010;80:411–417.
3. U.S. Department of Agriculture. National School Lunch Program. Afterschool Snacks. Available at [www.fns.usda.gov/cnd/afterschool/](http://www.fns.usda.gov/cnd/afterschool/). Last accessed October 19, 2012.
4. U.S. Department of Agriculture. Child & Adult Care Food Program. Afterschool Programs. Available at [www.fns.usda.gov/cnd/care/Afterschool.htm/](http://www.fns.usda.gov/cnd/care/Afterschool.htm/). Last accessed October 19, 2012.
5. Stokols D. Establishing and maintaining healthy environments: Toward a social ecology of health promotion. *Am Psychol* 1992;47:6–22.
6. French SA, Stables G. Environmental interventions to promote vegetable and fruit consumption among youth in school settings. *Prev Med* 2003;37:593–610.
7. Nestle M, Wing R, Birch L, et al. Behavioral and social influences on food choice. *Nutr Rev* 1998;56:S50–S64; discussion S64–S74.
8. Sallis JF, McKenzie TL, Conway TL, et al. Environmental interventions for eating and physical activity: A randomized controlled trial in middle schools. *Am J Prev Med* 2003;24:209–217.
9. Shepherd R. Influences on food choice and dietary behavior. *Forum Nutr* 2005;36–43.
10. Stroebele N, De Castro JM. Effect of ambience on food intake and food choice. *Nutrition* 2004;20:821–838.
11. Tergerson JL, King KA. Do perceived cues, benefits, and barriers to physical activity differ between male and female adolescents? *J Sch Health* 2002;72:374–380.
12. Story M, Kaphingst KM, Robinson-O'Brien R, et al. Creating healthy food and eating environments: Policy and environmental approaches. *Annu Rev Public Health* 2008;29:253–272.
13. National Institute on Out-of-School Time. Healthy Out-of-School Time Home Page. 2012. Available at [www.niost.org/HOST-Program/](http://www.niost.org/HOST-Program/). Last accessed October 19, 2012.
14. Wiecha JL, Hall G, Gannett E, et al. Healthy eating in out-of-school time: The promise and the challenge. *Afterschool Matters* 2012:1–7.
15. Barlow SE. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report. *Pediatrics* 2007;120:S164–S192.
16. U.S. Department of Agriculture and U.S. Department of Health and Human Services. (2010). *Dietary Guidelines for Americans, 2010*. (7<sup>th</sup> ed.). Center for Nutrition Policy and Promotion: Washington, DC. Available at [www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm/](http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm/). Last accessed October 19, 2012.
17. Stallings VA, Suior CW, Taylor CL, eds. *School Meals: Building Blocks for Healthy Children*. Committee on Nutrition Standards for National School Lunch and Breakfast Programs, Institute of Medicine; 2009. National Academies Press: Washington, DC.
18. US Department of Health and Human Services. Physical activity guidelines advisory committee report. 2008. Available at [www.health.gov/paguidelines/Report/Default.aspx/](http://www.health.gov/paguidelines/Report/Default.aspx/). Last accessed October 19, 2012.
19. Wiecha JL, Hall G, Gannett E, et al. National AfterSchool Association Standards for Healthy Eating and Physical Activity in Out-of-School Time Programs. 2011. Available at [www.niost.org/pdf/host/Healthy\\_Eating\\_and\\_Physical\\_Activity\\_Standards.pdf/](http://www.niost.org/pdf/host/Healthy_Eating_and_Physical_Activity_Standards.pdf/). Last accessed October 19, 2012.
20. National AfterSchool Association. HEPA Standards. 2011. Available at [www.naaweb.org/default.asp?contentID=672/](http://www.naaweb.org/default.asp?contentID=672/). Last accessed October 19, 2012.

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