



# A Review of Health Promotion Curricula for Children and Youth with Special Health Care Needs

## Introduction

Obesity has become a growing national health problem for children and adolescents. In the United States, 31.7% of children and adolescents aged 2-19 years are overweight or obese (body mass index [BMI] for age > 85th percentile; Ogden et al., 2010). Obesity rates are disproportionately higher among Hispanic and African American children and adolescents compared with their non-Hispanic White peers (Ogden et al., 2008). Nanney and Davey (2008) referred to weight-vulnerable children as those (1) of color, (2) living in poverty, or (3) living in rural areas. Additionally, obesity



pared to their peers, CYSHCN are more likely to develop secondary conditions related to poor health and are less likely to access needed healthcare services, including preventive care and health education. Given the increased risk of health problems and reduced access to healthcare among CYSHCN, it is imperative that all children and youth, including CYSHCN, have access to effective health promotion programs.

tions. Therefore, increasing physical activity and promoting healthy eating are essential components of health promotion programs.

The Office of Children with Special Health Care Needs within the Bureau of Women's and Children's Health (BWCH) at the Arizona Department of Health Services (ADHS) provides information and resources for Arizona's 241,067 children with special health care needs and their families. With Federal Title V funding, an evaluation of health promotion programs was completed. Specifically, health promotion curricula that include nutrition and physical activity components were appraised according to their available research evidence, affect on important health outcomes, and relevance to CYSHCN.

## Method

A comprehensive review of published, peer-reviewed research was conducted to identify health promotion curricula that combined nutrition and physical activity com-

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rates for children with disabilities are nearly 38% higher than for children without disabilities. Children and adults with intellectual, learning, or physical disabilities are at greatest risk (CDC, 2010).

Children and youth with special health care needs (CYSHCN) are at risk for having or who have a chronic physical, developmental, behavioral, or emotional condition, and who require health and related services beyond those required by children generally as defined by the Maternal and Child Health Bureau. The 2009/10 National Survey of Children with Special Health Care Needs (NS-CSHCN) indicates that, com-

Childhood obesity is associated with physical, psychological, and social health problems. Although many factors, including genetics, are associated with obesity, inadequate physical activity and unhealthy eating are two major influencing factors (CDC, 2007; Edwards, 2005; Nemet et al., 2005). Both nutrition and physical activity are associated with maintaining a healthy weight and preventing chronic disease, including secondary health condi-



ponents. Articles were selected for review if they met the following inclusion criteria: (a) printed in English; (b) implemented a specific health promotion program or curriculum; (c) included both physical activity and nutrition components in the curriculum. Each article was examined for study quality and intervention effects. In addition, each curriculum or program was rated based on its relevance to children with special health care needs and their families. We considered programs and curricula that were inclusive and appropriate for a variety of children with special health care needs, had the potential to prevent secondary conditions, involved family members, and were suitable for implementation in a variety of home and community settings to be most relevant.

## Results

The initial literature search resulted in 693 articles. After reviewing the titles, abstracts, or complete articles, 42 met the inclusion criteria and were examined further. The majority of curricula reviewed (59.52%) were carried out in classroom settings, with the next most frequent setting being in after-school settings (16.67%). The most frequent age range of participants who were included in studies was children ages 8-10, or students in third, fourth, and fifth grades. 66.67% of studies were carried out in the United States. 64.29% of the studies included participants who were both male and female, while 7.14% of reviewed studies included only female participants. See Table 1 for more specific details related to demographic information.

Table 2 displays the results of each article according to study quality, intervention effects, and relevance. Results are displayed through shading, where more shading indicates higher quality, stronger effects,

**Table 1**

Setting		Participant Age in Years		Country		Gender	
Classroom	59.52%	2-4	5.71%	U.S.	66.67%	Male & Female	64.29%
After School	16.675%	5-7	20.00%	Outside U.S.	33.33%	Males only	0.00%
Home	4.76%	8-10	45.71%			Females only	7.14%
Girl Scout	4.76%	11-13	22.86%			Not specified	28.57%
University	4.76%	14-17	5.71%				
Church	2.38%	18 +	0%				

and greatest relevance to children with special health care needs and their families. Based on the current findings, three curricula have the strongest research support with the greatest relevance to children with special health care needs and their families. These include: (1) Healthy and Ready to Learn; (2) Media-Smart Youth; and (3) Let Us Protect Our Future. Although the evidence and relevance are not as high, the following three curricula are considered promising: (1) Be Smart; (2) Family Fitness Program; and (3) Pathways.

## Characteristics of Effective Nutrition and Physical Activity Curriculum

### *Focus on prevention and promotion of new skills*

Health promotion programs should proactively and positively target the function and context of eating behaviors and physical activity, rather than focusing on behaviors that are reactive (i.e., dieting) or punish-



ing strategies. Effective programs explicitly teach and expect healthy weight behaviors from the onset of the program and include activities to ensure practice of these behaviors.

### *Inclusive*

A critical component of an effective curriculum is that it is inclusive, meaning that it is designed for or can be used with all children, including children with special health care needs. Healthy promotion programs must be universally available and accessible to all students and families, regardless of their color, family structure, income, neighborhood, education, disability/special health-care need, or environment. Indeed, a core value within an effective health promotion program is cultural competency and sensitivity, where diversity is acknowledged, valued, and openly addressed.

### *Longevity*

Healthy promotion should be conceptualized as a life-long daily skill set, which is learned and practiced from childhood. Effective programs should not only teach that eating healthy and engaging in physical activity must occur on a daily basis throughout life, but programs should also be in effect long enough to observe progress. Physical changes (e.g., weight loss, reduction in BMI, lowered blood pressure, etc.) take a significant



amount of time to see improvements, and effective programs are carried out long enough for habits to form and important health outcomes to be achieved.

### Collaboration

Although school is often where health promotion programs are implemented, collaboration and connections to family and other community entities must be present for the program to function. Effective health promotion programs can be implemented in a variety of settings, but communication among families, schools, and other community partnerships are necessary, as nutrition and physical activity are components of a healthy lifestyle, rather than an isolated part of an individual's life. Children and adolescents must learn to take the skills they gain and translate them across contexts. The skills taught must be practiced and sustained in all aspects of a child or adolescent's life. Importantly, to create an environment that effectively includes children and youth of all abilities, communication and collaboration are essential.

### Training

Effective programs should include a training component, professional development materials, and/or a manual for the individual responsible for implementing the program. Many programs offer web-based resources, materials, and ideas for modifying the lessons for children and youth of all abilities. Step-by-step lesson plans and guidance for handling sensitive content are beneficial to assist the instructor to properly implement the program with all children and youth.

### Progress Monitoring/Evaluation of Program

A mechanism to measure progress of individuals receiving the curriculum is an essential component. The instructor or a family member can assess learners' attainment of curriculum goals or learners can assess their own progress.

**Table 2**

CURRICULUM	CURRICULUM			CURRICULUM	CURRICULUM		
	Study Quality	Intervention Effects	Relevance		Study Quality	Intervention Effects	Relevance
Healthy Children, Healthy Families: Parents Making a Difference (HCHF)				Let Us Protect Our Future			
Integrated Nutrition & Physical Activity Program (INPAP)				Just for Kids!			
Body Works				Multi-Disciplinary Lifestyle Intervention			
Take 10!				Lekker Fit!			
Be Smart				Scouting Nutrition & Activity (SNAP) Program			
Our Bodies, God's Temples (OBGT)				Exercise Your Options (EYO)			
Healthy Homework				Obesity Intervention			
EdAL-Educacio en Alimentacio				Sport for Life			
Healthy and Ready to Learn				Family Fitness Program			
Scouting Nutrition & Activity Program (SNAP)				Pathways			
Color Me Healthy				Healthy Children Healthy Families (HCHF)			
Media Smart Youth				Planet Health			
Healthy Buddies				Be a Fit Kid			
Be a Fit Kid				Jump into Foods and Fitness (JIFF)			
4-Health				APPLE Project			
CLICK-Obesity & Health Kids				Kids Living Fit (KLF)			
Join the Healthy Boat-Primary School				New Moves			
Nutrition on the Go				Great Fun 2 Run			
Bienstar & Coordinated Approach to Children's Health				Eat Well and Keep Moving			
Program				Weight Management Program			
WE CAN				Combined Dietary-Behavioral-Physical Activity			



Effective programs should provide a tool to assess health promotion skills before, during, and after the implementation of the curriculum.

## Implications

In health services, there is an emerging focus on evidence-based practice. Evidence-based practice is aptly described as a decision making process that integrates the best available evidence, clinical expertise and professional judgment, and individual and family values, preferences, and context (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). The logic of evidence-based practice follows that programs,

The ADHS-BWCH-Office of Children with Special Health Care Needs has committed to promoting evidence-based health services by working with the Northern Arizona University, Institute for Human Development to summarize the current best available evidence so that it is easily accessible to professionals who strive for evidence-based practice.

interventions, treatments, and curricula with strong research support produce the best outcomes.

Evidence-based health professionals are encouraged to consider the results of this review as a summary

## References

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Centers for Disease Control and Prevention, *Obesity Factsheet*, 2010. Retrieved December 20, 2012, from <http://www.cdc.gov/nccdd/disabilityandhealth/documents/obesityFactsheet2010.pdf>

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of the current best available evidence for health promotion curricula with an emphasis on nutrition and physical activity. Specifically, the evidence suggests that the curricula with the greatest potential for positive impact on health, focus on the prevention of health problems, address life-long skills, are applicable to all children and youth including those with special health care needs, encourage collaboration across home and community, and include training and evaluation components. Drawing from the current findings, professionals can select health promotion curricula with adequate research support and adapt and implement the curricula in a manner that ensures its relevance to their program participants and setting.

Because this brief only addresses the best available evidence regarding health promotion curricula, it is important that the other two elements of evidence-based practice are considered alongside these results to select, adapt, and implement a program with CYSHCN. The professional's clinical expertise and individual and

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Curricula with the greatest potential for positive impact on health, focus on the prevention of health problems, address life-long skills, are applicable to all children and youth including those with special health care needs, encourage collaboration across home and community, and include training and evaluation components.

family values, preferences, and context are necessary to ensure effective decisions. CYSHCN and their families are extremely valuable resources for suggesting what will be appropriate modifications and how best to accomplish the program's goals with a specific child or youth. They, not the professionals, have intimate knowledge of the child or youth's abilities, interests, and preferences. Their input and active participation in the decision-making process is critical for the goals of evidence-based practice to be achieved.



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