



*Building a Culture of Health in  
Childhood Obesity:*

# Overview & Action Plan for Medicaid Health Plans



**Sandra G. Hassink, MD, FAAP**  
Chair, CHOPT for Medicaid National Advisory Committee  
Director, AAP Institute for Healthy Childhood Weight  
Immediate Past President, American Academy of Pediatrics

**Jennifer E. Moore, PhD, RN**  
Principal Investigator, CHOPT for Medicaid  
Executive Director, Institute for Medicaid Innovation

### **National Advisory Committee Members**

**Diane J. Abatemarco, PhD, MSW**  
Vice Chair of Research, Professor of  
Obstetrics, Gynecology & Pediatrics  
Sidney Kimmel Medical College  
Thomas Jefferson University

**Jill Birnbaum, JD**  
Vice President, State Advocacy & Public Health  
Executive Director, Voices for Healthy Kids  
American Heart Association  
Represented by:

**Carter Headrick**  
Director of State and Community Obesity Policy  
American Heart Association

**Deborah Burnet, MD, MA**  
Professor of Medicine & Pediatrics  
Chief, General Internal Medicine  
Medicine Vice-Chair for Faculty Development  
University of Chicago

**Stephen Cook, MD, MPH, FAAP, FTOS**  
Associate Professor, Pediatrics  
Associate Professor, Center for Community Health  
University of Rochester Medicine's Golisano Children's Hospital  
Associate Director, Institute for Healthy Childhood  
Weight, The American Academy of Pediatrics

**William Dietz, MD, PhD**  
Director of Global Center for Prevention and Wellness  
Milken Institute School of Public Health  
George Washington University  
Represented by:

**Christine Petrin**  
Research Assistant  
STOP Obesity Alliance  
Milken Institute School of Public Health  
George Washington University

**Meghan L. Johnson, MSc**  
Interim Director of Programs  
National Institute for Children's Health Quality

**Marianne McPherson, PhD, MS**  
Director, 100 Million Healthier Lives Implementation  
Institute for Healthcare Improvement

**Diane Padden, PhD, CRNP, FAANP**  
Vice President, Professional Practice and Partnerships  
American Association of Nurse Practitioners  
American Association of Nurse Practitioners

**Alan I. Schwartzstein, MD, FAAFP**  
Representing the American Academy of Family Physicians  
Family Medicine  
Dean Clinic  
Oregon, Wisconsin

### **Expert Contributors**

**Brook Belay, MD, MPH**  
Division of Nutrition and Physical Activity & Obesity  
National Center for Chronic Disease  
Prevention and Health Promotion  
Centers for Disease Control and Prevention

**Alexandra Bryden, MPP**  
Health Insurance Specialist  
Office of Minority Health  
Center for Medicare and Medicaid Services

**Karen M. Dale, RN, MSN**  
Market President  
AmeriHealth Caritas of DC

**Mary Beth Hance**  
Senior Policy Advisor  
Centers for Medicare and Medicaid Services

**Deborah Kilstein, JD, MBA, BSN**  
Vice President for Quality Management  
and Operational Support  
Association of Community-Affiliated Plans

**David M. Krol, MD, MPH, FAAP**  
Senior Program Officer  
Robert Wood Johnson Foundation  
Fellow, American Academy of Pediatrics

**Kamila B. Mistry, PhD, MPH**  
Senior Advisor, Child Health  
Agency for Healthcare Research and Quality

**Meredith Morrisette, MPH**  
Public Health Analyst  
Maternal and Child Health  
Health Resources and Services Administration

.....  
Copyright 2016  
CHOPT for Medicaid 2016

**Authors:**  
Jennifer E. Moore, PhD, RN  
Ashley A. Hernandez Gray, MPP  
Emily Lanier, RN, NP-C

**Graphic Design by** Nikida Levy

# table of contents

<b>Acknowledgments</b>	iv
<b>Foreword</b>	v
<b>Introduction</b>	1
<b>Part I. Childhood Obesity in the Medicaid Population</b>	3
<b>Part II. Environmental Scan of Childhood Obesity Efforts</b>	15
<b>Part III. Case Studies of Childhood Obesity Initiatives and Perspectives from Families and Children</b>	27
<b>Conclusion</b>	46
<b>Appendix A. Readiness Assessment: Preparing to Launch a Childhood Obesity Initiative</b>	48
<b>Appendix B. Tools to Guide the Implementation of a Childhood Obesity Initiative</b>	56
<b>Appendix C. References</b>	81
<b>List of Tables and Figures</b>	
Table 1. Prevalence of High Body Mass Index by Selected Cut Points for Youth Aged 2 to 19 Years, by Age and Race/Hispanic Origin, United States, 2011-2012	5
Figure 1. Factors Contributing to Higher Prevalence of Obesity Among African American and Hispanic Children	5
Table 2. Recommended Total and Rate of Weight Gain During Pregnancy, by Pre-Pregnancy BMI	6
Figure 2. Prevalence of Overweight and Obesity among Low-Income U.S. Children 2 to 5 Years of Age Who Are Enrolled in Federally Funded Health Programs, 2008	7
Figure 3. Health Consequences Associated with Childhood Obesity	8
Figure 4. Average Annual Per Capita Medical Spending by Payer	9
Figure 5. Six Types of Obesity Prevention Programs	10
Figure 6. Comprehensive Approach of the Committee	13
Figure 7. Percentage of Single State and Multistate Plan Respondents	16
Figure 8. Market Share of Medicaid MCO Respondents	16
Figure 9. State Markets Represented by Health Plan Respondents	17
Figure 10. Top Methods of Engagement of Medicaid MCO Members about Healthy Behaviors	18
Figure 11. Availability of Educational Materials	19
Figure 12: Top Methods of Engagement of Medicaid MCO Members about Healthy Behaviors	19
Figure 13. Most Common Community Organizations Engaged to Implement Childhood Obesity Initiatives	20
Figure 14. Community Activities Provided by MMCOs to Address Childhood Obesity	21
Figure 15. Methods of Identification for Weight Management Programs	22
Figure 16. Types of Maternity-Based Weight Management Programs Offered by Health Plans	22
Figure 17. Health Plan Use of Incentives for Member Participation	23
Figure 18. Most Commonly Cited Challenges Faced by MMCOs	24
Figure 19. Commonly Cited Policy Changes and Resources Needed to Support Initiatives	24
Table 3. Tips for Common Issues when Designing and Implementing Childhood Obesity Initiatives	35
Table 4. Summary Information of Family Interviews	42
Figure 20. Overview of Common Themes from Family Interviews	43
Figure 21. Selected Quotes from Family Interviews by Theme	44



# acknowledgments

The **CH**ildhood **O**besity **P**revention and **T**reatment (CHOPT) for Medicaid project is a collaborative project between the **Institute for Medicaid Innovation (IMI)**, **Medicaid Health Plans of America (MHPA)**, and the **Association for Community-Affiliated Plans (ACAP)**. The purpose of this toolkit is to describe initiatives developed by Medicaid managed care organizations (MMCOs) to prevent and treat childhood obesity and to offer resources and tools to support future efforts.

The CHOPT for Medicaid project is appreciative of the participation of the National Advisory Committee, MMCOs, federal agencies, and community stakeholders. Their dedication to preventing and treating obesity in the pediatric Medicaid population has resulted in the development of innovative programs and critical lessons learned that have the potential to assist other MMCOs to launch their own initiatives. This project would not be possible without the participation of Medicaid enrollees and their families as well as health clinics, schools, churches, and other community resources. We are grateful for their enthusiastic engagement in this project and imparting their expertise and wisdom with us.

The important work of CHOPT for Medicaid was realized through the generous support of the **Robert Wood Johnson Foundation**. Their commitment to building a Culture of Health to reduce health disparities and improve social determinants of health serves as the foundation for the nation's work in addressing salient issues for the Medicaid population.



Robert Wood Johnson Foundation

# foreword

Childhood obesity remains one of the most significant threats to health and well-being of children and adolescents in the United States, especially for those living in low-income households and enrolled in Medicaid. This threat is compounded by the lifelong health impact of childhood overweight and obesity on adult chronic illnesses like diabetes and cardiovascular disease. Evidence suggests that in some places, particularly vulnerable communities, childhood obesity rates are not stable or declining. Thus, it is critically important to develop evidence-based programs that not only demonstrate effectiveness at preventing and treating obesity, but also consider the impact of social determinants of health for groups disproportionately impacted by health disparities.

To this end, the Robert Wood Johnson Foundation and American Academy of Pediatrics are united in leveraging the experiences and lessons learned by key stakeholders and stewards of healthcare to build a Culture of Health and ensure that all children are able to grow up at a healthy weight. In order to impact the trend of children and adolescents with obesity, especially among those enrolled in Medicaid, we must support the efforts of those on the frontlines: Medicaid managed care organizations (MMCOs). By documenting and spreading best practices from MMCOs reporting progress in preventing and treating obesity, we can help other health plans, providers, and communities adopt approaches that may work best for them.

If we want to move the needle on childhood obesity, we must make progress in improving the health and wellbeing of children living in low-income households and enrolled in Medicaid by fostering cross-sector collaboration, creating healthier communities, and integrating health services and education. The CHildhood Obesity Prevention and Treatment (CHOPT) for Medicaid project represents a significant step in the right direction and sets the groundwork for future progress to ensure that every child has the equal opportunity to live healthier lives.



**Sandra G. Hassink, MD, FAAP**  
Chair, CHOPT for Medicaid National Advisory Committee  
Director, AAP Institute for Healthy Childhood Weight  
Immediate Past President, American Academy of Pediatrics



**David M. Krol, MD, MPH, FAAP**  
Senior Program Officer  
Robert Wood Johnson Foundation  
Fellow, American Academy of Pediatrics

The background features a collage of images: a woman smiling, a young girl with glasses holding a watermelon slice, and children playing tug-of-war. There are also images of fresh vegetables like onions and bell peppers. The collage is overlaid with semi-transparent circles in various colors (red, green, blue, yellow) and a white circular graphic element.

# introduction

Childhood obesity is one of the most common and significant health conditions in the U.S. and yet, is the least understood. Current research demonstrates an overall lack of evidence to assess the efficacy of non-school based interventions in preventing childhood obesity. Furthermore, there is little available research that stratifies outcomes of childhood obesity prevention and treatment initiatives by age, race/ethnicity, and sex. These two significant gaps affect the Medicaid population and demonstrate the complexity of the impact of social determinants of health on the efficacy of interventions and limits the application of potential interventions.

In response, the Institute for Medicaid Innovation, in collaboration with its partners, launched the CHildhood Obesity Prevention and Treatment (CHOPT) for Medicaid project, a multi-pronged approach to examine responses to childhood obesity amongst Medicaid managed care enrollees. Currently, the majority of individuals enrolled in Medicaid receive coverage through Medicaid managed care organizations (MMCOS), or health plans that contract with state Medicaid programs to provide access to covered benefits and services. Considering the limited evidence base in childhood obesity prevention and treatment, MMCOS find it important that their initiatives are collaborative efforts with community organizations, local departments of health, and key stakeholders.

The CHildhood Obesity Prevention and Treatment (CHOPT) toolkit contributes to closing the current gaps in research by: 1) providing an environmental scan and case studies of childhood obesity prevention and treatment initiatives led by MMCOS; and, 2) offering resources including a readiness assessment and implementation tools to guide MMCOS seeking to enhance their existing initiative(s) or to launch a new program through the design, implementation, and evaluation process. The toolkit includes the following key components:

- **Environmental Scan of Childhood Obesity Efforts Led by Medicaid Managed Care Organizations**  
*The environmental scan reports the results of a national survey completed by MMCOS that examined and described the components, design, and implementation of childhood obesity prevention and treatment efforts and the needed policy changes to address challenges faced by MMCOS.*
- **Case Studies of Childhood Obesity Initiatives and Perspectives from Families and Children**  
*Provide detailed accounts of known innovative programs developed by MMCOS, in collaboration with local community groups and key stakeholders. Additionally, results of interviews with families are presented, offering insight into their experiences and preferences while participating in the initiatives.*
- **Readiness Assessment and Implementation Tools**  
*The toolkit also includes a readiness assessment and implementation tools to guide MMCOS through the process of identifying priority pediatric groups in their Medicaid population; determining the appropriate design of an intervention and the resources needed to facilitate the implementation of the intervention. Lastly, measurement and data resources are included to evaluate the outcomes associated with the implementation of the childhood obesity intervention.*



weight  
health  
pressure  
diastolic  
mobility  
loss  
contribute  
self-esteem  
surgical  
image  
Frequent  
increase  
reasons  
three  
Anaerobic  
cycling  
joints  
stretching  
terms  
grouped  
focus  
build

training  
cardiovascular  
system

muscle  
static  
immune

prevent  
overall  
health  
weight  
pressure  
diastolic  
mobility  
loss  
contribute  
self-esteem  
surgical  
image  
Frequent  
increase  
reasons  
three  
Anaerobic  
cycling  
joints  
stretching  
terms  
grouped  
focus  
build  
improves  
generally  
lowering  
improve  
functional  
concern  
include  
diabetes  
range  
depending  
depression  
steady  
performed  
skills  
Aerobic  
sprinting  
reducing  
may  
systolic  
bodily  
human  
significantly  
Benefit  
common  
promoting  
due  
cause  
promote





part one:

*Childhood Obesity  
in the Medicaid  
Population*

# childhood obesity in the medicaid population

Over the past decade, rates of obesity among children have not stabilizing but rather have increased,<sup>1</sup> disproportionately affecting minority children.<sup>2</sup> Medicaid and the Children's Health Insurance Program (CHIP) are the most common sources of medical coverage in the treatment of obesity. Studies have confirmed that childhood obesity increases the likelihood of obesity and comorbid conditions in adulthood<sup>3,4</sup> with 40 percent higher per capita medical spending than other adult individuals of healthy body weight.<sup>5\*</sup> Considering the health consequences and cost trends associated with individuals diagnosed with obesity, it is vital that evidence-based obesity prevention efforts are targeted towards children and their families.

## Trends and Disparities in Childhood Obesity Rates

The Centers for Disease Control and Prevention (CDC) defines children and adolescents with overweight as those with a body mass index (BMI) at or above the 85th percentile and below the 95th percentile and obesity is defined as a BMI above the 95th percentile.<sup>6</sup> The National Health and Nutrition Examination Survey (NHANES) from 1999-2000, established that the prevalence of obesity in the U.S. has increased significantly amongst both sexes, roughly quadrupling in the past three decades.<sup>7</sup> According to 2013-2014 NHANES data, 11.6 percent of children between the ages of 2 and 5 years were obese rising to 23.6 percent between the ages of 6 and 11 years and 34.1 percent among adolescents ages 12 and 19 years.<sup>1</sup>

Examination of obesity rates by socioeconomic status and race/ethnicity demonstrates that rates are disproportionately high for African Americans, Hispanics, and individuals from low socioeconomic households (Table 1).<sup>1,2</sup> Among these populations, social determinants of health (e.g., income, availability of stable and affordable housing, access to affordable and nutritious foods, access to regular primary care) have a large influence on overall health status and quality of life and may contribute to obesity.

Table 1. Prevalence of High Body Mass Index by Selected Cut Points for Youth Aged 2 to 19 Years, by Age and Race/Hispanic Origin, United States, 2011-2012

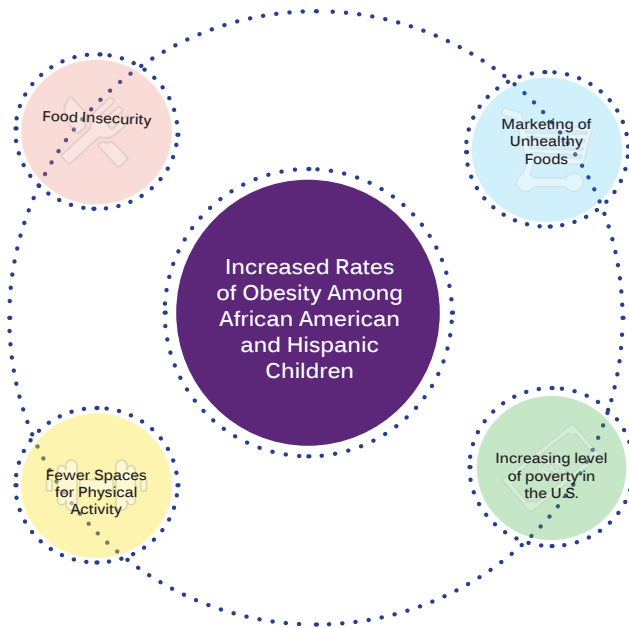
	2-19 Years	2-5 Years	6-11 Years	12-19 Years
Non-Hispanic White	14.1%	30.5%	13.1%	19.6%
Non-Hispanic African American	20.2%	11.3%	23.8%	22.1%
Hispanic	22.4%	16.7%	26.1%	22.6%
All race/Hispanic origin groups	16.9%	8.4%	17.7%	20.5%

Source: Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014, February 26). Prevalence of Childhood and Adult Obesity in the United States. *The Journal of the American Medical Association*, 311(8), pp. 806-814. doi:10.1001/jama.2014.732

Note: The identified higher rate of per capita medical spending is aggregated across all payers, including Medicaid and commercial business.

A number of factors influence childhood obesity rates among African American and Hispanic children, especially those covered by Medicaid (Figure 1). In particular, food insecurity, marketing of unhealthy foods, and fewer safe, designated community spaces for physical activity disproportionately affect both African American and Hispanic children more than compared to White children.<sup>8-11</sup>

Figure 1. Factors Contributing to Higher Prevalence of Obesity Among African American and Hispanic Children



## Poverty & Medicaid Coverage

According to the Census Bureau’s 2014 Current Population Survey (CPS), approximately 38 percent of African American children under 18 years of age live below poverty and over 43 percent of children under age 5 live below the poverty line.<sup>12</sup> For Hispanics, approximately 30 percent of children under 18 years of age and 33 percent under age 5 live below the poverty line.<sup>13</sup> The rates of childhood obesity are significantly higher than those covered by commercial insurance –

nearly 1,115 of every 100,000 children covered by Medicaid or CHIP have obesity compared to 195 of every 100,000 children covered by commercial insurance.<sup>14</sup>

## Impact of Maternal Preconception Health and Gestational Weight Gain on Child Health

In 2009, the Institute of Medicine (IOM) revised its recommendations for weight gain during pregnancy to mirror the World Health Organization’s BMI categories in an effort to address the relationship between gestational weight gain and childhood obesity (Table 2).<sup>15</sup> Several factors may influence a child’s BMI, including baseline maternal weight, excessive maternal weight gain, smoking during pregnancy, and duration of breastfeeding.<sup>16-22</sup>

*Table 2. Recommended Total and Rate of Weight Gain During Pregnancy, by Pre-Pregnancy BMI*

Pre-pregnancy BMI	BMI (kg/m <sup>2</sup> ) (WHO)	Total Weight Gain Range (lbs)
Underweight	<18.5	28-40
Normal Weight	18.5-24.0	25-35
Overweight	25.0-29.9	15-25
Obese	30.0	11-20

Source: Institute of Medicine. (2009). *Weight Gain During Pregnancy: Reexamining the Guidelines*. Retrieved from <http://www.nationalacademies.org/hmd/~/media/Files/Report%20Files/2009/Weight-Gain-During-Pregnancy-Reexamining-the-Guidelines/Report%20Brief%20-%20Weight%20Gain%20During%20Pregnancy.pdf>.

Thirty prospective studies examining preconception and gestational risk factors for being overweight and obese in infancy found statistically significant and strong independent association between childhood overweight and maternal pre-pregnancy overweight, high infant birth weight, and rapid weight gain in infancy.<sup>22</sup> According to the CDC’s 2008 Pediatric and Pregnancy Nutrition Surveillance Systems, roughly one-third of children over two years of age have excessive weight or obesity, reaching as high as 39 percent for low-income children enrolled in federally funded health programs, including Medicaid and CHIP (Figure 2).<sup>16</sup>

Figure 2. Prevalence of Overweight and Obesity among Low-Income U.S. Children 2 to 5 Years of Age Who Are Enrolled in Federally Funded Health Programs, 2008

Prevalence of Pediatric Population with Body-Mass-Index (BMI) Scores Above 85th Percentile				
Less than 25%	25-29.9%	30-34.9%	Greater than 35%	Data Unavailable
CO, HI	AL, AR, FL, ID, MT, NM, NV, OH, PA, SC, TN, VT, WI, WV	AZ, CA, CT, DC, GA, IA, IL, IN, KS, KY, MA, MD, MI, MN, MO, MS, NC, ND, NE, NH, OR, RI, WA	SD, NJ, VA	AK, DE, ME, LA, OK, UT, WY

Source: Wojcicki, J. M., & Heyman, M. B. (2010). "Let's Move – Childhood Obesity Prevention from Pregnancy and Infancy Onward." *The New England Journal of Medicine*, 362(16), pp. 1457-59. doi: 10.1056/NEJMp1001857

Gestational weight gain (GWG) can influence infant and childhood overweight and obesity, although the link between maternal GWG and child BMI is not as well studied. A systematic review of 23 prospective and retrospective cohort studies for children born to mothers who gained excessive weight had significantly higher BMI and risk for obesity (up to 57 percent).<sup>19</sup> While the relationship between GWG and childhood overweight and obesity is documented in the literature, it is not clear whether the causal link stems from shared genetics, environmental factors (e.g., community resources, access to healthy food, family lifestyle, physical activity, breastfeeding), or the intrauterine environment.<sup>19</sup>

### Consequences of Childhood Obesity and Adult Health Status

The diagnosis of obesity during childhood can have short- and long-term impacts on health through adulthood.<sup>23</sup> In a longitudinal study conducted by Freedman et al. (2005) researchers found that children with overweight were over four times more likely to become obese adults.<sup>3</sup> A study conducted by Fontaine, Redden, Wang, Westfall, and Allison (2003) found that young adults with overweight and obesity experienced a larger number of years of life lost than non-obese older adults.<sup>24</sup> Individuals with severe obesity (adult BMI greater than 45) had reduced life expectancies between 5 to 20 years.<sup>24</sup>

The continuation of obesity from a young age through adulthood is alarming when considering the physical and behavioral health consequences, comorbid conditions, and increased mortality rates that are associated with obesity (Figure 3). An analysis of 1999-2006 NHANES data found that the prevalence of abnormal cholesterol (a cardiovascular disease risk factor) in adolescents between 12 to 19 years of age was approximately 14 percent among individuals of normal weight while it reached almost 43 percent for individuals with obesity.<sup>25</sup> In addition to abnormal cholesterol<sup>26</sup>, noncongenital cardiovascular diseases rates have increased over time, in conjunction with increasing childhood obesity rate.<sup>27,28</sup>

Figure 3. Health Consequences Associated with Childhood Obesity

metabolic	mechanical	psychosocial
<ul style="list-style-type: none"> <li>• Diabetes</li> <li>• Metabolic Syndrome</li> <li>• Hypertension</li> <li>• Lipid abnormalities</li> <li>• Cardiovascular disease</li> <li>• Cancer</li> <li>• Infertility</li> <li>• Hyperandrogenism</li> <li>• Polycystic ovarian disease</li> <li>• Gout</li> <li>• Gallbladder</li> <li>• Hypercoagulability</li> </ul>	<ul style="list-style-type: none"> <li>• Sleep apnea/hypoventilation</li> <li>• Pseudotumor cerebri</li> <li>• Slipped capital femoral</li> <li>• Kidney structural abnormalities</li> <li>• Cardiomyopathy</li> <li>• Degenerative arthritis</li> <li>• Flat feet</li> <li>• Blount disease</li> <li>• Respiratory disease</li> </ul>	<ul style="list-style-type: none"> <li>• Depression</li> <li>• Eating Disorder</li> <li>• Anxiety</li> <li>• Deterioration of social interaction</li> </ul>

Source: Velasquez-Mieyer, P., Perez-Faustinelli, S., & Cowan, P. A. (2005). Identifying Children at Risk for Obesity, Type 2 Diabetes, and Cardiovascular Disease. *Diabetes Spectrum*, 18(4), 213-220. doi: 10.2337/diaspect.18.4.213

Cardiovascular disease is one of several conditions associated with childhood obesity, including non-atopic asthma<sup>29</sup>, pre-diabetes, and type 2 diabetes<sup>30</sup>. From 2001 to 2009, the incidence of type 2 diabetes among children under 19 years of age increased by almost 31 percent.<sup>31</sup> Individuals with obesity during childhood and adolescence develop type 2 diabetes at a faster rate than adults and are more likely to develop other comorbid conditions like hypertension and nonalcoholic fatty liver disease that carry over into adulthood. Furthermore, diabetes in adulthood is associated with increased risk for heart attack and diminished life expectancy by almost 13 years, making obesity prevention initiatives targeted to childhood obesity critical to addressing and reducing serious mortality risks in adulthood.<sup>32</sup>

Based on an analysis using the 2000-2009 Healthcare Cost and Utilization Project (HCUP) data, researchers found that the most common primary diagnosis for obese children ages 1 to 17 years was mood disorders, accounting for 16 percent of hospitalizations.<sup>33</sup> Specifically, 4.1 percent of Medicaid children with obesity were diagnosed with comorbid depression as compared to 1.4% of children of normal weight covered by Medicaid.<sup>14</sup>

Other studies have found that childhood overweight and obesity is associated with increased risk for disordered eating symptoms (e.g., unhealthy weight control methods, binge eating) and full-syndrome eating disorders (e.g., anorexia nervosa, bulimia nervosa, binge eating disorder).<sup>34,35</sup> Another study found that individuals with early adolescent bulimia nervosa were nine times as likely to have late adolescent bulimia nervosa and 20 times as likely to have adult bulimia nervosa.<sup>36</sup>

### Economic Impact of Childhood Obesity

The short and long-term consequences of childhood obesity are pervasive, resulting in increased utilization of medical services and costs associated with care. In order to estimate direct per capita healthcare costs associated with obesity, an analysis using 2002-2005 Medical Expenditure Panel Survey (MEPS) data for children ages 6

to 19 years with obesity found that these children had \$194 higher outpatient visit expenditures, \$114 higher prescription drug expenditures, and \$12 higher emergency room (ER) expenditures as compared to children of normal weight accumulating to over \$2.9 billion in additional costs.<sup>37</sup> Another analysis using 1999-2005 HCUP Nationwide Inpatient Sample (NIS) data examined the relationship between childhood obesity on inpatient hospital costs and found that childhood obesity resulted in over \$237 million in inpatient hospital expenditures annually.<sup>38</sup>

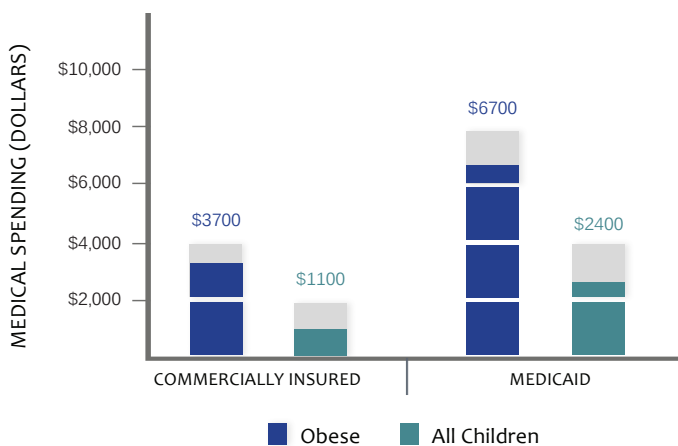
Nationally, across all ages and payers (private and public), annual medical costs associated with obesity range from \$147 billion to \$210 billion which equates to 42 percent higher spending than individuals of normal weight.<sup>5,39</sup> Based on these cost estimates, projected direct healthcare costs attributed to overweight and obesity are expected to reach over \$693 billion by 2030.<sup>40</sup>

Additionally, children with overweight and obesity are more likely to have significant absences from school, or absenteeism. According to an analysis by Geier et al. (2007), children with overweight are likely to miss 12.2 school days on average, compared to 10.1 days for children with normal-weight.<sup>41</sup> Furthermore, a meta-analysis completed by Taras and Potts-Datema (2005) found that research demonstrates a relationship between overweight and obesity with lower levels of academic achievement.<sup>42</sup>

### Medicaid Spending on Childhood Obesity

According to 2013 National Health Expenditures (NHE) data, Medicaid spending accounted for approximately 15 percent of total national healthcare spending and will continue to expand because of the Affordable Care Act's (ACA).<sup>43</sup> In fact, the average healthcare costs for children with obesity covered by Medicaid are over \$6,700, compared to roughly \$2,400 for children of normal weight covered by Medicaid (Figure 4).<sup>14</sup>

Figure 4. Average Annual Per Capita Medical Spending by Payer



Source: Marder, W. D., & Chang, S. (2005). *Childhood Obesity: Costs, Treatment Patterns, Disparities in Care, and Prevalent Medical Conditions*. Thomson Medstat. Retrieved from [http://www.nptinternal.org/productions/chcv2/healthupdates/pdf/Cost\\_of\\_childhood\\_obesity.pdf](http://www.nptinternal.org/productions/chcv2/healthupdates/pdf/Cost_of_childhood_obesity.pdf).

## Obesity Prevention Interventions

Obesity is a complex condition influenced by biological, behavioral, social, environmental, and economic factors. To date, most initiatives have been designed as a singular approach, narrowly focusing on a particular influence in isolation of other factors. A comparative effectiveness study completed by Wang et al. (2013) for the Agency for Healthcare Research and Quality (AHRQ) examined the effect of six types of childhood obesity prevention programs on outcomes related to weight, clinical outcomes related to obesity, behavioral outcomes, and adverse effects of interventions (Figure 5).<sup>44</sup>

The systematic review revealed that effective, evidence-based interventions have not been adequately identified and evaluated. Among 124 studies reviewed, 104 studies examined school-based interventions in which children participated in programs and the remaining 20 studies focused on home, community, consumer health, and primary care-based interventions and demonstrated low or insufficient evidence to conclude the effectiveness of the interventions.<sup>44</sup> Based on the lack of sufficient evidence for several interventions in a variety of settings, AHRQ recommended targeted research on obesity prevention initiatives in non-school settings, especially for those with innovative designs that are grounded in systems science, with results accounting for the impact of interventions on subgroups defined by age, race, and sex.<sup>44</sup> A more systems or community-based approach in which prevention focuses on key stakeholders and accounts for the interrelationships between physical and behavioral influences and external social factors that contribute to obesity is a promising method for future initiatives.

Figure 5. Six Types of Obesity Prevention Programs

### school-based

- Primarily occurring in a school-setting (e.g., homework, fliers from school)
- May involve parents, community- or home-based activities

### home-based

- Primarily occurring in child's home (e.g., family fitness, changes to foodstuffs purchased for home)

### primary care-based

- Primarily in primary care clinician's (PCP) office or clinic

### childcare-based

- Primarily in nonparental/noncustodial setting (e.g., daycare)

### community-based/environment-level interventions

- Primarily resulting from policy or legislation
- May include physical environment (e.g., playground, recreational center)

### consumer health informatics-based

- Primarily using information delivery to consumers or patients
- Can be Web-based, phone-based, video-based, etc.



In recent years, certain obesity prevention programs have been evaluated to determine cost effectiveness. An analysis by Gortmaker et al. (2015) found that the use of a sugar-sweetened beverage excise tax and elimination of a tax subsidy for television advertising to children saves \$55 and \$38 for every dollar spent, respectively.<sup>45</sup> Another analysis by Gortmaker et al. (2015) found that nutrition standards for foods and beverages sold in schools saves roughly \$4.56 for every dollar spent.<sup>46</sup>

## Childhood Obesity Interventions Covered by Medicaid

Under the Early Periodic Screening, Diagnostic and Treatment (EPSDT) program, MMCOs have initiated preventive services and programs that focus on children under the age of 21. As part of the EPSDT benefit, Medicaid-enrolled children “receive regular well-child exams, and any service, treatment, supply or device determined to be medically necessary,” including nutritional assessments and counseling. Furthermore, the screening component of EPSDT provides coverage for measurement of height and weight, BMI, and assessment of risk for obesity.

The U.S. Department of Health and Human Services “2014 Report to Congress: Preventive and Obesity-Related Services Available to Medicaid Enrollees” noted specific federal and state initiatives.<sup>47</sup> The Childhood Obesity Research Demonstration (CORD) initiative is a four-year demonstration project led by the Centers for Disease Control (CDC) with the primary goal to improve diet and physical activity in order to reduce childhood obesity rates between ages 2 through 12 years in communities with a predominant Medicaid and CHIP population.<sup>48</sup> The CORD project utilizes a system-based approach, leveraging child care, school, insurer, clinician, and community interventions. Also, the 2014 report stated that 11 states participated in obesity prevention performance improvement projects (PIPs), and four of which were conducted by MCOs.<sup>47</sup> Interventions were focused on primary care clinicians’ evaluation of patients for BMI measurements and/or referrals to nutrition and physical activity counselors allowing Medicaid MCOs to conduct beneficiary outreach, education, structure and manage appointments.<sup>47</sup>

Finally, a Healthcare Effectiveness Data and Information Set (HEDIS) measure in the Core Set of Children’s Health Care Quality Measures for Medicaid and CHIP (Child Core Set) has contributed to increased rates of BMI percentile assessments, counseling for physical activity, and counseling for nutrition among youth ages 3-17 years.<sup>49</sup> These clinical assessments are a first step in identifying children in need of obesity prevention interventions. The Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents (WCC) measure is defined as:

“The percentage of children and adolescents 3–17 years of age who had an outpatient visit with a primary care practitioner or OB/GYN during the measurement year and who had evidence of:

- BMI percentile documentation.
- Counseling for nutrition.
- Counseling for physical activity.

Because BMI norms for youth vary with age and gender, this measure evaluates whether BMI percentile is assessed, rather than an absolute BMI value.”<sup>49</sup>

From 2009 to 2014, reporting rates among MMCO plans has increased by 33.7 percentage points for BMI percentile assessment, 18.6 percentage points for counseling for nutrition, and 21 percentage points for counseling for physical activity.<sup>49</sup> In fact, reporting rates were higher for MMCO plans than commercial health plans for BMI percentile assessment and counseling for nutrition.<sup>49</sup> Increasing reporting rates for the HEDIS WCC measure demonstrate growing awareness of the need to assess and monitor children and adolescent's weight in order to provide targeted and impactful weight and lifestyle guidance that will prevent or treat childhood obesity.

## Gaps in Research with Obesity Prevention

The findings of the AHRQ report demonstrated that non-school based interventions lack sufficient study and rigorous evaluation to determine their effect on preventing childhood obesity.<sup>44</sup> This parallels the same gap previously noted by the IOM's Committee for the Prevention of Childhood Obesity.<sup>50</sup> Additionally, AHRQ noted that studies reporting on outcomes associated with specific subgroups identified by age, race, and sex were vastly underrepresented in the literature<sup>44</sup> making it difficult to understand the impact of social determinants of health on the efficacy of interventions and limiting the application of the intervention.<sup>51</sup>

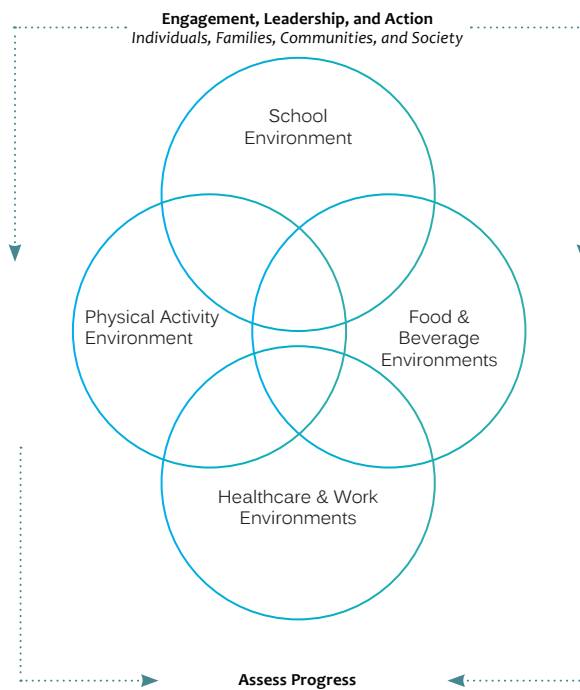
AHRQ's recommendations for targeted research on obesity prevention initiatives that utilize innovative designs grounded in systems science aligns with other clinical and policy-based recommendations for childhood obesity prevention.<sup>44</sup> In May 2012, IOM established a committee, in collaboration with the Robert Wood Johnson Foundation (RWJF), calling for a systems approach yielding policy recommendations and best practices for the development of obesity prevention programs.<sup>52</sup> The five goals identified by the committee included:

- Recognize physical activity as a critical and routine part of life;
- Tailor food and beverage environments to promote healthy options as routine options;
- Reinvigorate messaging around physical activity and diet;
- Identify schools as a national focus; and
- Focus on the role of clinicians, insurers, and employers.<sup>43</sup>

IOM's committee also identified a comprehensive, systems approach designed to leverage the engagement of key stakeholders who are well positioned to "create meaningful societal change and accelerate progress in preventing obesity."<sup>52</sup> The approach identifies school, nutritional intake, health care, work, and physical activity and the way in which stakeholders (e.g., parents, communities) can engage in progress and shaping messages to prevent obesity (Figure 6).<sup>52</sup> This approach may serve as a helpful guide or rubric for organizations developing a system-based intervention because it considers the major components of an intervention that are commonly used in isolation of one another. By integrating these factors in a cohesive approach, interventions following this design may yield valuable data currently

under represented in the literature.

Figure 6. Comprehensive Approach of the Committee



Permission received for reprint from the National Academy of Sciences.

Source: Institute of Medicine. (2012). *Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation*.

Retrieved from [https://iom.nationalacademies.org/-/media/Files/Report%20Files/2012/APOP/APOP\\_rb.pdf](https://iom.nationalacademies.org/-/media/Files/Report%20Files/2012/APOP/APOP_rb.pdf).

## Critical Role of Medicaid

Among the five goals outlined by IOM's committee, the final goal represents a step towards addressing the current gap in research for non-school based interventions. Expanding the focus of interventions to include clinicians, insurers, and health plans and focus on non-school based health settings would contribute to the gaps in research cited in the AHRQ report findings and recommendations. This is particularly important for interventions developed by health plans or insurers, especially Medicaid MCOs. Commercial insurers and Medicaid MCOs provide valuable case management for their patients, providing access to a number of medical services and treatments using clinician referrals and complex data analytics to identify patients who have a high risk for certain illnesses and disorders. Health plans are also uniquely positioned to collaborate with community organizations, local departments of health, schools, and more, extending their influence beyond clinicians to key stakeholders that are actively engaged in the childhood obesity prevention space.<sup>53</sup> Combining cross-sector collaborations with robust use of claims data and data analytics, health plans can design evidence-based, multifaceted systems approach interventions for their patients, targeting specific subgroups (e.g., low-income patients). The current gap in research necessitates rigorous evaluation of non-school based interventions. The data collected from such evaluations may contribute to the current evidence base while also promoting the diffusion of best practices for childhood obesity prevention programs.



A close-up photograph of a hand holding a red marker, drawing a red shape on a surface of sand. The sand is light-colored and has some other markings in red, green, and yellow. The background is a solid blue color.

part two:

***Environmental Scan  
of Childhood Obesity  
Efforts***

# environmental scan of childhood obesity efforts led by medicaid managed care organizations

In an effort to close the gap on existing research and contribute to the dissemination of information about the types of programs developed by Medicaid managed care organizations (MMCOs) to prevent and treat childhood obesity, the Institute for Medicaid Innovation (IMI), in collaboration with the Association for Community-Affiliated Plans (ACAP) and Medicaid Health Plans of America (MHPA), conducted a national survey. The survey was developed in consultation with the CHOPT for Medicaid National Advisory Committee representing the expertise of multiple stakeholders including clinicians, health plans, federal agencies, and researchers. The final survey included questions that assessed the tools, resources, and factors influencing the adoption and implementation of childhood obesity prevention and treatment initiatives.

The survey was conducted in early 2016 with responses from MMCOs that were members of ACAP and MHPA, trade associations representing the Medicaid managed care industry. Medicaid fee-for-service (FFS) and Medicaid Accountable Care Organizations (ACOs) were not included in the sample. Survey responses were collected from 39 health plans, representing 38 states and the District of Columbia. A profile of MMCO respondents is provided in Figures 1 and 2 and map of MMCO respondents' markets is provided in Figure 9. The majority of health plan respondents (72 percent) were non-profit, safety net plans. Of the 39 respondents, 15 percent were multistate plans and 85 percent were plans that operated in a single state (Figure 7). The majority of health plan respondents were small plans providing coverage to less than 250,000 Medicaid enrollees (Figure 8).



## Profile of Health Plan Respondents

Figure 7. Percentage of Single State and Multistate Plan Respondents

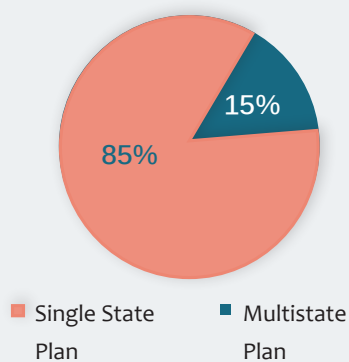
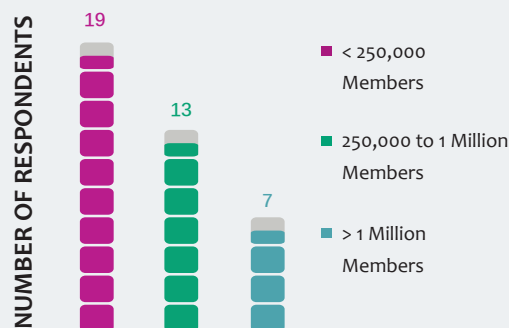
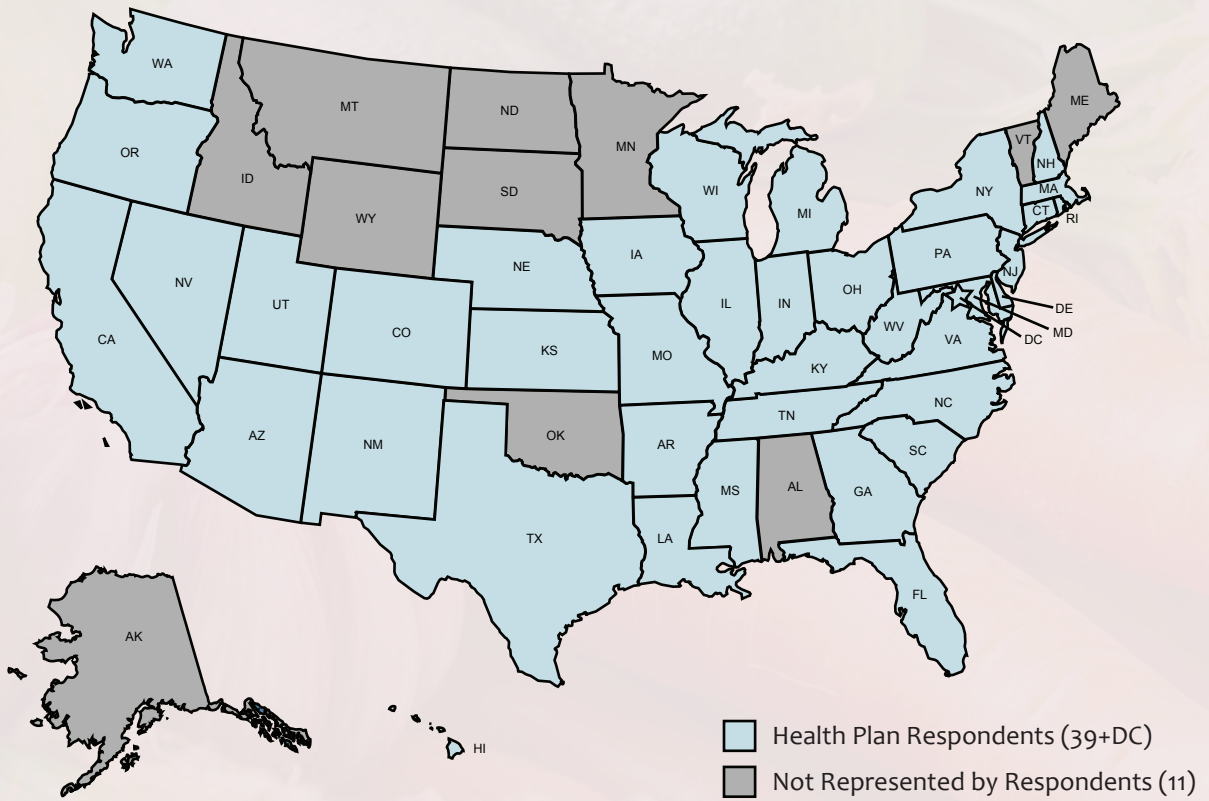


Figure 8. Market Share of Medicaid MCO Respondents



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

Figure 9. State Markets Represented by Health Plan Respondents



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.



## key findings

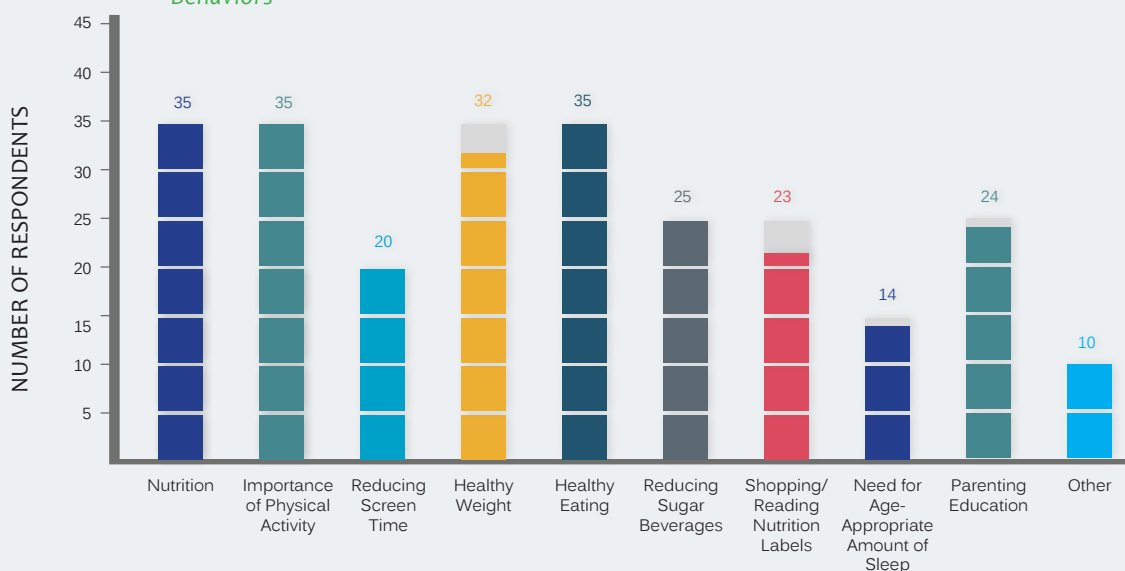
Analysis of the survey data revealed several key findings. The findings are grouped into five categories. These categories include health education for Medicaid managed care enrollees, community resources and stakeholders, clinician engagement with MMCOs, design of obesity interventions, and implementation and sustainability of initiatives.



## health education

A common component of childhood obesity prevention and treatment initiatives led by MMCOs is the provision of health education through printed materials offered to a plan's Medicaid enrollees. These materials are typically adapted for low-income populations, both in terms of health literacy and linguistically, and cover a range of topics. Among the respondents, the most commonly available printed educational materials provided by MMCOs covered topics on nutrition, the importance of physical activity, healthy eating, and health weight (Figure 10).

Figure 10. Top Methods of Engagement of Medicaid MCO Members about Healthy Behaviors

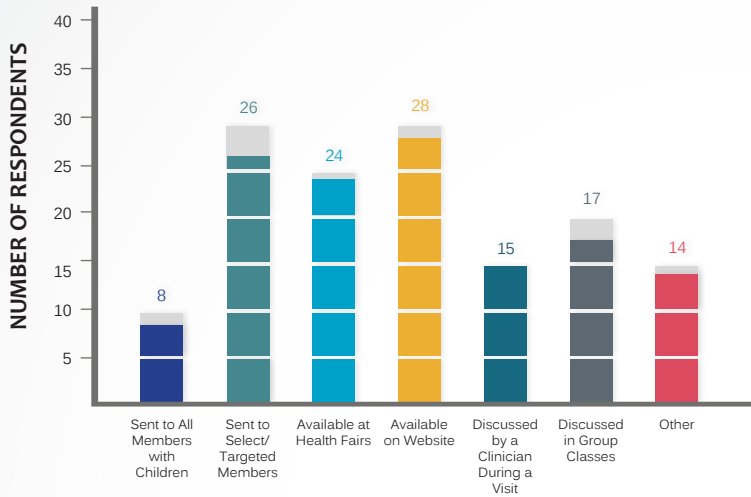


Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire



MMCOs distribute educational materials to enrollees in a number of locations and settings, including the health plan’s website, targeted mailings and emails to members, health fairs, and group sessions (Figure 11). Of the respondents, 53 percent reported distributing educational materials to clinicians in their network as well.

Figure 11. Availability of Educational Materials



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

Educational materials were made available in all languages, upon request from the MMCO’s member. The most frequently translated languages for educational materials were:

- Spanish
- Chinese
- Korean
- Arabic
- Russian
- Farsi

While printed educational materials are one component of a MMCO’s activities as part of their initiatives to prevent and treat childhood obesity, they also informed members about healthy behavior to prevent childhood obesity through other methods. Among survey respondents, the most common methods of engaging members to inform them about healthy behaviors were through member newsletters, telephonic outreach from case managers, and community outreach/coordination with community resources (Figure 12).

Figure 12. Top Methods of Engagement of Medicaid MCO Members about Healthy Behaviors



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.





## community resources and stakeholders

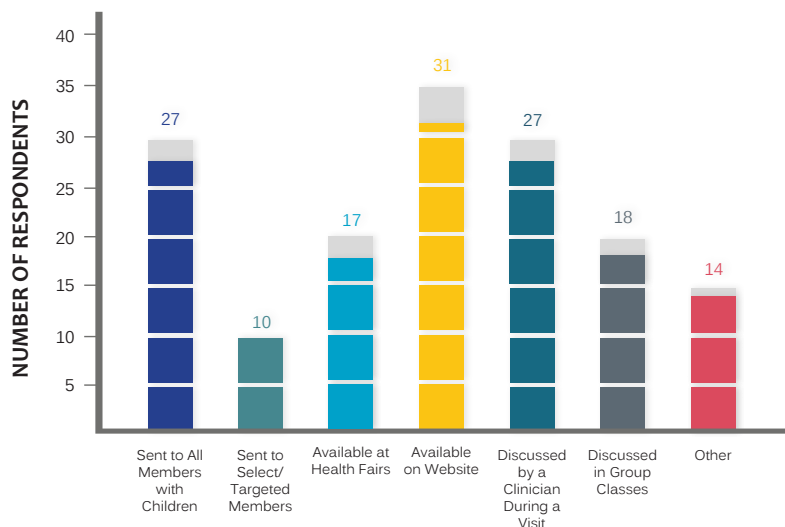
Survey respondents also utilized local community resources to reach members and implement multisector, systems-based strategies to address childhood obesity. One method was through the utilization of community health workers, or frontline public health workers who are trusted members and/or have a close understanding of the community served.<sup>54</sup> Over half (54 percent) of respondents utilized community health workers or other community resources to reach members on issues related to childhood obesity. Engagement of the local community was a consistent theme found throughout all methods of data collection (i.e., questionnaire, case studies, and family interviews). Other methods commonly used by MMCOs to identify and implement strategies to address childhood obesity included partnerships with clinicians (79 percent), community-based organizations (69 percent), members (69 percent), caregivers (46 percent), and schools (44 percent) (Figure 13).

In order to establish and maintain these partnerships with community groups and key stakeholders, MMCOs reported the following strategies as being the most successful in their efforts:

STRATEGIES

- 01 Maintaining communication (whether in-person or telephonically) with clinicians and community partners;
- 02 Using clinician incentives to foster buy-in and participation; and,
- 03 Collaboration with multiple community partners (e.g., community-based organizations, schools, and local health organizations) as an integral part of the initiatives.

Figure 13. Most Common Community Organizations Engaged to Implement Childhood Obesity Initiatives



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

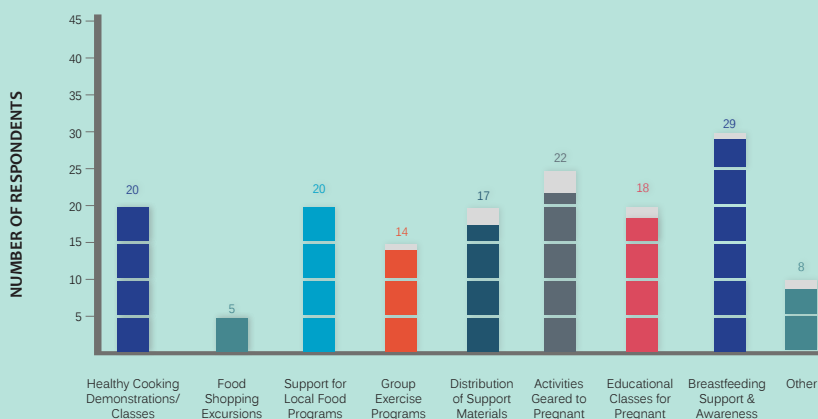
Note: Other includes partnerships with local health departments and other plan-based programs.

Respondents noted that when partnerships with community resources and key stakeholders were established, they were more easily able to provide their members with access to programs that addressed childhood obesity.

Community Partners Most Commonly Assisted With:

- 74%** programs on breastfeeding support and awareness
- 56%** activities geared to pregnant women
- 51%** healthy cooking demonstrations and classes
- 51%** & support for local food programs

Figure 14. Community Activities Provided by MMCOs to Address Childhood Obesity



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.  
 Note: Other includes community activities such as school assemblies, engagement at community locations (e.g., parks and farmer's markets), and web-based classes.



## clinician engagement with medicaid managed care organizations

In addition to one-on-one interaction with enrollees and the creation of partnerships with community resources and stakeholders, MMCOs also worked with their network of clinicians. Respondents shared that clinician engagement, such as reporting important information like body-mass-index (BMI) scores, helped MMCOs to identify Medicaid enrollees that needed to be followed-up with for more intensive weight management interventions. According to respondents, roughly 74 percent of clinicians shared BMI scores with MMCOs to support the efforts of the childhood obesity initiatives.

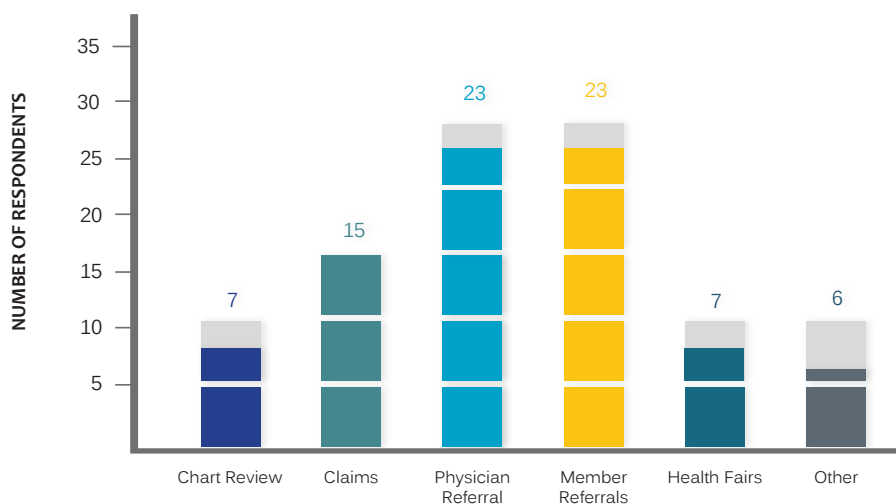
Survey data revealed that once children were identified as overweight or obese, MMCOs were able to utilize clinicians to disseminate printed and electronic educational materials in the clinician's office during routine health visits. Also, approximately 63 percent of respondents offered resources such as clinical guidelines and weight management program information to clinicians to assist in their efforts to treat Medicaid enrollees diagnosed as overweight or obese.



## design of obesity interventions

We learned through the survey that MMCOs consider multiple approaches when designing interventions to prevent and treat obesity in their pediatric population. Respondents indicated that they consider several factors, including methods of identification for participants in interventions, the evidence-based components of the intervention, and how they will assess the impact of their intervention on those children diagnosed with overweight or obesity. Respondents utilized a number of methods to identify children for participation in their initiatives, including member and provider referrals and data mining of claims (Figure 15). Once identified, roughly 71 percent of respondents used a defined process or system to refer enrollee to counseling for weight management.

Figure 15. Methods of Identification for Weight Management Programs

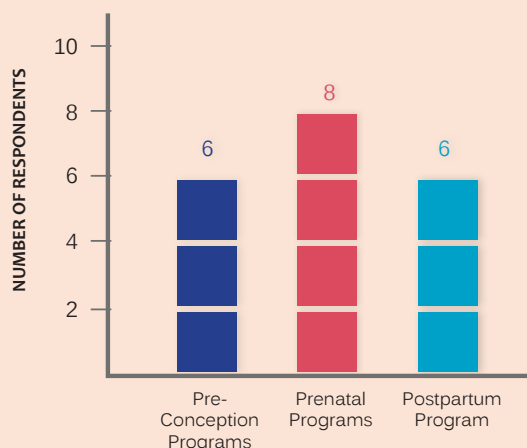


Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

Note: Other includes health risk assessments, predictive modeling, and pay-for-performance data.

In addition to establishing a means of identifying and referring pediatric members for weight management, MMCOs indicated that they must also design interventions that best meet the needs of their enrollees. Respondents frequently used a health education component to provide Medicaid enrollees with information about healthy lifestyle changes and the importance of weight management. Educational components were offered in a variety of formats including group or one-on-one, in-person sessions with children and their parents or caregivers. MMCOs also offered weight management programs that were directed to a specific segment of their enrollees. For instance, 31 percent of respondent MMCOs offered maternity-based weight management programs (Figure 16).

Figure 16. Types of Maternity-Based Weight Management Programs Offered by Health Plans

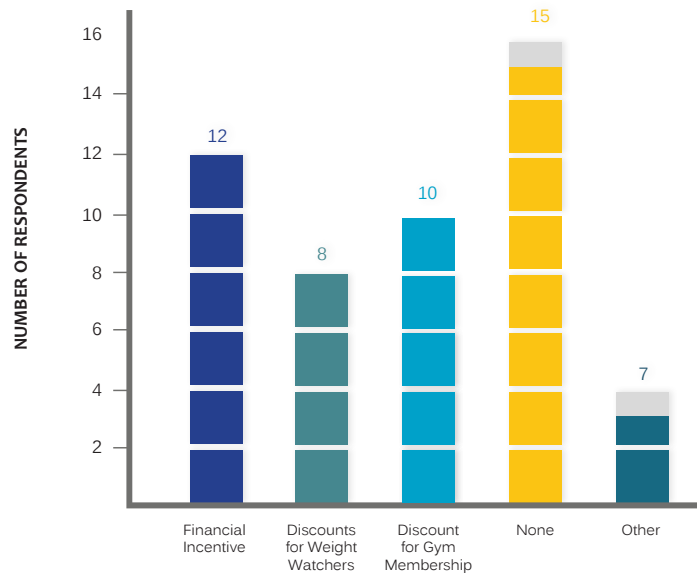


Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

Note: Pre-conception and postpartum weight management programs are limited to states that have expanded Medicaid eligibility to childless adults.

Sixty-two percent of respondents reported using incentives to enhance member participation, including financial incentives and discounts on gym memberships (Figure 17). For MMCOs operating in rural markets where it is harder to gain and retain participants, the use of weight management programs through telemedicine was noted as a popular option to maintain engagement with enrollees. However, among survey respondents, only 10 percent of MMCOs currently used telemedicine to provide Medicaid enrollees with access to weight management programs.

Figure 17. Health Plan Use of Incentives for Member Participation



Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.  
 Note: Other includes weight loss tools like jump ropes, resistance bands, and pedometers.

Finally, the data showed that once MMCOs identify their target pediatric population, have developed a referral system, and planned the components of their intervention, they have discussions within their organizations as to whether to test their intervention as a pilot program or roll it out as a full program. They also determine how they will evaluate the outcomes associated with the interventions of the initiative. Of the survey respondents, 59 percent conducted pilot testing prior to implementation of the initiative and sought feedback from community stakeholders. Findings from the survey identified a number of metrics that are used by MMCOs to evaluate the effectiveness of the interventions in attaining desired outcomes.

Most Common Metrics Used by MMCOs to Evaluate Interventions

- ➔ Patient satisfaction: 94 percent
- ➔ NCQA-endorsed children’s health measures: 51 percent
- ➔ For example, HEDIS WCC Measure.
- ➔ Process measures: 36 percent

In all, 28 percent of MMCOs also reported using assessments to evaluate the impact of interventions on enrollee behaviors. Of the respondents, 15 percent used a pre- and post-intervention behavioral survey to assess changes in eating, screen time, and physical activity and 13 percent used a competency test to evaluate skill development (e.g., reading nutrition labels).





# implementation and sustainability of initiatives

Current research gaps pertaining to the efficacy of non-school based interventions make it difficult to evaluate the impact of the social determinants of health on the impact of interventions on groups disproportionately impacted by health disparities, namely the Medicaid population. Since MMCOs provide coverage directly to low-income children, they are able to identify the top challenges faced when trying to prevent or treat obesity (Figure 18).

Figure 18. Most Commonly Cited Challenges Faced by MMCOs

- ➔ Clinicians are not documenting body-mass-index (BMI) scores.
- ➔ Difficulty targeting or identifying Medicaid enrollees for initiatives.
- ➔ Educating parents and/or members about risks associated with childhood obesity.
- ➔ Cultivating parent and/or child participation or engagement.
- ➔ Cultural perspectives on obesity.
- ➔ Sustainability of interventions to prevent and treat childhood obesity.
- ➔ Food deserts and lack of affordable healthy food options in member communities.

Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

In response to these challenges, respondents were asked to identify policy changes, both state and federal, as well as general resources needed to support Medicaid health plan efforts in treating children enrolled in their plan (Figure 19).

The policy changes cited by respondents focused on social supports and the role of schools in supporting healthy lifestyle choices. The resources identified by survey respondents were targeted to provider engagement with patients and sources of financing that would encourage the stability and sustainability of interventions to prevent and treat childhood obesity. Interestingly, the most common resource that MMCOs cited was the need for a national learning network that included community stakeholders to share resources and offer support with implementation and evaluation efforts. As policymakers, key stakeholders, and thought leaders continue to work towards improving interventions tailored to prevent and treat childhood obesity, it will be necessary to address these challenges faced by Medicaid managed care organization with potential policies and resources to improve the implementation and sustainability of these programs.

Figure 19. Commonly Cited Policy Changes and Resources Needed to Support Initiatives

Most Commonly Identified Policy Changes	Most Commonly Identified Resources Needed
Changes to school menus and available foods at schools.	Standardized clinical guidelines to treat obesity.
Increased and required physical education at schools.	Creation of a learning network for MMCOs and community stakeholders to share resources and offer support with implementation and evaluation efforts.
Increased Medicaid coverage of funding for obesity-related initiatives.	Research specific to MMCOs.
Policies to increase availability of healthy foods in food deserts.	Changes in reimbursement structure to account for costs of obesity programs and to offer stability and sustainability of programs as long-term initiatives.
	Health plan flexibility to offer rewards and allow Medicaid enrollee financial contributions.
	Improved consumer experience through technology that supports engagement (e.g., mobile apps, wearables (e.g., Fitbit), online health portals).
	Grant funding to assist with implementation efforts (including a national learning network) and sustainability.

Source: 2016 CHOPT for Medicaid National Childhood Obesity Questionnaire.

*Page left blank intentionally*








part three:

*Case Studies of  
Childhood Obesity  
Initiatives and  
Perspectives from  
Families and Children*



The background of the page is a soft-focus photograph showing several hands of different skin tones gently holding a child's hand. The child's hand is in the center, and the other hands are positioned around it, suggesting care and support. The colors are warm and natural, with shades of skin tones and hints of clothing colors like purple and yellow.

## case studies of childhood obesity initiatives and perspectives from families and children

The environmental scan in the previous section provided an overview of activities and methods that Medicaid managed care organizations use when addressing overweight and obesity in their pediatric population. While the data provides a snapshot of the tools Medicaid managed care organizations (MMCOS) may use when developing and implementing their initiatives, there are a number of factors that influence the design of the program that are often unique to the health plan's population. This section provides an overview of programs implemented by Medicaid managed care organizations across the country. Additionally, a summary of the lessons learned and key takeaways from the case studies is provided for other MMCOS that plan on developing and implementing childhood obesity prevention and treatment initiatives.

### medicaid managed care organization initiatives

The following five case studies provide examples of the innovative programs that MMCOS have implemented to address obesity in their pediatric populations. The MMCOS highlighted developed initiatives that were tailored to their pediatric members.

#### Common Theme Across Initiatives:

Uniting key stakeholders and/or community groups around a common cause:

***Preventing and Treating Obesity  
in Medicaid-Covered and  
Low-Income Children***



## CASE STUDY 1:

### COMPREHENSIVE FOOD PROGRAM INFLUENCES HEALTHY CHOICES

**Initiative: Kids Healthy Living Program**

**Organization: Community Health Plan of Washington**

In 2015, Community Health Plan of Washington partnered with Healthy Byte and Sea Mar Community Health Centers to establish the Kids Healthy Living Program. The curriculum, developed by pediatricians and nutritionists, provides interactive learning and classroom events to create a collaborative and sustainable environment around healthy living for children and parents. The program, grounded in a socioecological model that incorporated family and community support, included components on nutrition, exercise, and video education to provide a comprehensive program that influences healthy choices. The Kids Healthy Living Program also included class and cooking activities supported by Tasty Crate, a program that supplies food for the recipes taught in the cooking class along with written material to support the content covered during each class.

From a design perspective, there are several components that drove the success of the program and strengthened the ties between clinicians, community, parents or caregivers, children, and health educators. Some key components of the program are:

- + A day of training to provide education to prepare the community health professionals for the course;
- + Selection of supporting proprietary program videos and material in English and Spanish, targeting both parents and children; and,
- + Digital technology platform to outreach, track and increase engagement.

In order to determine participation in the program, Community Health Plan of Washington targeted low-income Hispanic families with obese children who had indications of type II diabetes and demonstrated high utilization of clinic resources. After identifying eligible families for participation, two clinics on childhood obesity were started and enrolled a total of twelve families and fifteen children between the ages of five and ten years at each location, reaching a total of 124 participants.

Since the start, Community Health Plan of Washington measured outcomes by using Healthcare Effectiveness Data and Information Set (HEDIS) measures and patient satisfaction scores through Consumer Assessment of Healthcare Providers and Systems (CAHPS). Of the families invited to participate in the program, 90 percent consented to participate and almost all have completed the program. Based on results from the satisfaction survey, 97 percent of participants were satisfied with the investment of their time and efforts in the classes and the increased awareness of their children in making healthier choices.

#### Advice from the Field

##### Challenges to Consider:

- There are start-up costs to consider with the development of training sessions, manuals, and content for trainers.
- Some language assistance and logistical support may be needed to increase opportunities for families to participate in sessions.
- Typically, efforts that utilize community resources are short-term and rely on grant funding, which is not sustainable. It is important to develop long-term partnerships based on results that can be shared and demonstrate value.

##### Successes and Helpful Advice:

- By engaging patients in a collaborative setting, clinician-patient relationships may be strengthened, resulting in improved self-management capabilities on the part of patients.
- Stronger clinician-patient relationships also led to more aligned focus on community education.
- Participation of children in the cooking process was an educational opportunity that empowered them to make the right eating choices.
- Identify other community organizations that have similar initiatives, align mutual interests, and communicate and set prioritized goals that benefit the community. This facilitates sponsorship and effective use of community resources to maximize results.
- Taking into account socio-ecological factors to create sustainability is the key to promoting and effecting long term behavior change.



#### Initiative: Healthy Lifestyle Clinic

#### Organization: Denver Health Plan

The Healthy Lifestyle Clinic is a pediatric obesity and comorbidity clinic launched in 2014 as a collaboration between Denver Health's Community Health Services and Denver Health Medical Plan. The focus of the evidence-based program is to improve the quality of care for pediatric patients between the ages of 2 and 18 years old with overweight or obesity. The program offers children and their families' access to weight and comorbidity management services in a central location to prevent and treat pediatric obesity through evidence-based interventions. The team that operates the clinic is comprised of clinicians, dietitians, behavioral health counselors, and health coaches. This clinical team travels to three pediatric community health center clinics and school-based health centers to provide specialty weight management services at the patient's medical home.

The key elements to the success of this clinic were clinician buy-in and interest in the multidisciplinary model, the initial support and funding from stakeholders throughout Denver Health, and the demonstrated ability of the medical team to cover the program costs through billing for medical services. Additionally, the various clinical disciplines represented in the team offer specific expertise to help address non-medical barriers to lifestyle change and help patients and families set and reach healthy lifestyle goals by using motivational interviewing. The clinic has prioritized delivering linguistically and culturally appropriate lifestyle counseling to the low-income and largely Latino population that Denver Health serves.

Since opening in July 2014, the Health Lifestyle Clinic was widely adopted by referring clinicians. Within six months of opening the clinics, two of the three sites had over an eight-month waitlist. The clinics were expanded to meet these demands, reducing the waitlist to less than 2 months. As of April 2016, Health Lifestyle clinic has seen 323 patients in 756 visits and contributed to improved patient body-mass-index (BMI) percentiles and cost savings are estimated to be at least \$130 per patient visit. In the near future, Denver Health's Healthy Lifestyle Clinic will open three more clinics to meet the needs of family medicine and school based health center patients.

#### Advice from the Field

##### Challenges to Consider:

- It can be difficult to meet rapidly growing demand (through clinician referrals) while still systematically evaluating progress against predetermined indicators and outcomes.
- Expanding services in order to meet patient demand requires increasing amounts of resources and support from all the stakeholders involved.

##### Successes and Helpful Advice:

- The multidisciplinary clinical model to treat pediatric obesity has been demonstrated to be feasible, financially sustainable, and beneficial to the health plan, health system, and patients and their families.
- Using motivational interviewing, pediatric obesity counseling can address family and patient barriers to change and help patients and families set and reach their healthy living goals.
- Focus resources and efforts to make sure the health plan is delivering linguistically and culturally appropriate lifestyle counseling to Latino English- and Spanish-speaking population.
- Engage your stakeholders early.



#### Initiative: Keep Fit

#### Organization: Texas Children's Health Plan

In 2007, Texas Children's Health Plan launched the Keep Fit initiative, a seven-week program that engaged families impacted by childhood obesity through a group approach. The program was designed to increase knowledge in basic nutrition, encourage the adoption of healthy lifestyle changes, and increase awareness of community resources. Keep Fit used group sessions to provide children and parents or caregivers with education about physical activity, healthy snacks and drinks, goal setting, and appropriate screen time. Texas Children's Health Plan connected with a variety of organizations to bring the program to its membership, such as the Young Men's Christian Association (YMCA) of Greater Houston, Dance Houston, and Houston Parks and Recreation for physical activity, and H-E-B (Houston Headquarters), a grocery chain, to provide cooking demonstrations.

Program sites were selected by focusing in areas with high concentrations of membership with a diagnosis of obesity, abnormal weight gain and/or BMI percentile >95%. During the group sessions, children and their families were introduced to a different activity each week that included physical activity (i.e. tennis clinic, exercise stations, dance clinic, or soccer clinic), a hands-on cooking class with a registered dietitian, and how to build a healthy meal by utilizing My Plate (a tool created by the United States Department of Agriculture). Additionally, children and parents or caregivers were taught how to read nutrition labels and provided with resources to overcome barriers to healthy lifestyles.

Since 2007, 731 children and adolescents between the ages 10 to 18 years participated in the program. Participants have tracked weekly logs of their physical activity, sugary drink consumption, fruit and vegetable consumption and screen time. The greatest improvement in lifestyle changes was seen with decreased consumption of sugary beverages and screen time, 59 and 61 percent respectively. Additionally, the health education provided during group sessions was associated with positive lifestyle changes not only in the seven weeks of the program, but after program completion. Participating families were followed up with by telephonic coaching to encourage the continued implementation of healthy lifestyle habits learned through the program.

#### Advice from the Field

##### Challenges to consider:

- Social determinants of health, such as lack of transportation and lack of available caregivers make it difficult for participants to regularly attend sessions.
- Program marketing challenges to enroll eligible members in the program within a large urban setting with a vast network of clinicians and specialists.
- The targeted age group of 10-18 years provides a challenge with older teenagers who have to address the social stigma of attending a weight management program.
- Addressing behavioral health issues that often accompany an obesity diagnosis.

##### Successes and Helpful Advice:

- Clinicians are increasingly engaging health plan members in discussions about the importance of physical activity, screen time limits, and a balanced diet.
- Establish an easy referral program for clinicians to refer eligible patients to the program.
- Help members overcome social determinants of health by connecting them with public transportation, providing culturally competent educational materials at an appropriate health literacy level, and scheduling sessions on the weekends when it may be easier for members to attend.
- Implement surveys and assessments to gauge knowledge of nutrition, track behavior change, assess attitude towards behavior change, and program satisfaction. Measure height, weight, and BMI percentile during the first and final weeks of the program.
- Partnerships with experts and local community group are key to the program's success. It is important to meet members where they live, eat, and attend school.



## CASE STUDY 4

### PARTNERING WITH NATIONAL COMMUNITY ORGANIZATIONS TO INCREASE OVERALL IMPACT

#### Initiative: Food Smart Families

#### Organization: UnitedHealthcare Community & State

In 2015, UnitedHealthcare and National 4-H Council evolved our successful Healthy Living Partnership to offer low-income youth and families *Food Smart Families* (FSFs). The program addresses childhood obesity and helps low-income youth and families improve eating habits through evidence-based educational programming implemented through a community based approach in eight states (AZ, FL, LA, MS, NE, NY, TN, WI).

*Food Smart Families* 4-H program leaders partner with community centers, public housing, and schools where at least 50 percent of students are eligible for free and reduced lunch to provide youth with ten hours of health education, including nutrition, food budgeting, and meal preparation. In addition, the program utilizes Teen Healthy Living Ambassadors as peer educators and role models. FSF addresses social determinants of health by providing referrals for food security resources, including SNAP and WIC, and ingredients for healthy dishes.

FSFs has demonstrated successful educational results among participating youth. Preliminary 2016 results include:

- 92 percent of youth know what makes up a balanced diet
- 87 percent have used the cooking skills they learned to prepare meals at home
- 85 percent say their family has prepared healthier foods

*Food Smart Families* has resulted in the development of 163 partnerships with local community-based organizations. The program has educated more than 26,000 youth and their families, improved health choices among participants, provided more than 14,000 referrals to nutrition resources, and distributed more than 9,000 bags of food. Approximately 56 percent of the program's participants have been female, 38 percent African American, and 22 percent Hispanic.

To increase family engagement in *Food Smart Families*, UnitedHealthcare and National 4-H Council have begun to plan program events in tandem with caregiver events such as school open houses and hold events in public housing community rooms.

#### Advice from the Field

##### Challenges to Consider:

- Parental and caregiver attendance at events was initially difficult to cultivate as a result of social determinants of health like lack of transportation, conflicts with work schedules for multiple jobs, and jobs with untraditional hours.

##### Successes and Helpful Advice:

- To foster increased participation by parents and caregivers, consider scheduling events that coincide with others that parents might attend, like school open houses, or at convenient locations, like public housing community rooms.
- Build relationships with local community-based organizations to ensure programming reaches the youth and families that would benefit most from participation.
- Programming should be adapted to meet the needs of local communities and families.
- Best practices should be shared to support continued program improvement.
- Youth and families should be engaged through approaches that are fun, empowering, promote learning, and address needs.





## CASE STUDY 5

### IMPORTANCE OF EXTENDED HEALTH EDUCATION AND MONTHLY MAINTENANCE

**Name of the Initiative:** Join for Me

**Organization:** UnitedHealth Group

Join for Me, a weight management program, was developed by UnitedHealth Group for overweight and obese children and teenagers and established in 2012. The program was based on a group model that was delivered in local community settings where children and parents were able to easily access. The focus of the initiative was to provide children between the ages of 6 and 17 years who were at or above the 85th percentile in body-mass-index (BMI) with resources to help them reach healthier weights. The program also emphasized the importance of cultivating a healthier environment and behaviors at home with the entire family.

Join for Me worked locally with physicians, pediatricians, and school nurses to refer children and teenagers who qualify for the program based on BMI. Partnering with community clinicians and pediatricians was instrumental to ensuring that the program was accessible to families. Designed to provide participants with extended health education and resources in local settings, children and parents or caregivers attended a series of sixteen weekly, one-hour group sessions at community centers, Young Men's Christian Associations (YMCAs), Boys and Girls clubs, Federally Qualified Health Centers (FQHCs), or other community locations. These sessions were led by trained staff and covered topics like reducing consumption of processed foods and sugar drinks; increasing and sustaining daily physical activity; improving sleep habits; increasing consumption of fruits and vegetables; and, the link between mood and foods. In addition to evidence-based tools and strategies, Join for Me offered incentives to adopt healthier habits that lead to lifelong healthier weight. After the completion of the sixteen sessions, the children and parents were encouraged to attend monthly maintenance sessions for an additional eight months.

Since 2012, 223 children and their parents or caregivers completed the sixteen session program. At the end of four months, children and teens experienced a 4.5% reduction in percentage overweight. Attendance was a larger predictor of success and those who more frequently attended sessions experienced greater reductions in weight. To continue the success of this program, Join for Me will focus on improving clinician engagement to identify and diagnose children who are overweight or obese and make the referral process seamless. Additionally, the health plan is considering the development of a virtual program that will allow for increased participation from those families who face challenges in attending in-person sessions.

#### Advice from the Field

##### Challenges to consider:

- Access to transportation to attend group sessions is limited for some members.

##### Successes and Helpful Advice:

- To facilitate attendance in group meetings, provide transportation to members through your health plan's transportation vendor.
- Consider virtual programming to foster greater participation rates than only offering in-person programs.



# lessons learned

In general, health disparities and social determinants of health create added challenges in the implementation of programs and interventions designed for the Medicaid population. As part of their ongoing efforts, MMCOs constantly seek to better understand and address such disparities. For this toolkit, we asked MMCOs with current childhood obesity prevention treatment and prevention initiatives to identify tips and solutions for other MMCOs to consider as part their adoption strategies. By recognizing the challenges and successes encountered in their initiatives, the featured MMCOs identified a number of useful lessons for future initiatives (Table 3).

Table 3. Tips for Common Issues when Designing and Implementing Childhood Obesity Initiatives

## helpful advice for program design

- Account for start-up costs and resources that are needed to develop training sessions, manuals, and content for staff and trainers.
- The pediatric obesity treatment model needs to be targeted to capture family dynamics which greatly influences the adoption of healthy lifestyle changes.
- It is important for MMCOs and clinicians to guide patients and families through goal setting and monitor progress by using motivational interviewing.
- Establish an easy referral program for clinicians to refer eligible patients to the program.
- Youth and families should be engaged, utilizing approaches that are fun, empowering, promote learning, and address their needs.

## helpful advice for addressing disparities and social determinants of health

- Programmatic considerations such as language and transportation assistance along with scheduling in-person sessions on weekends may be needed to increase opportunities for families to participate.
- Focus resources and efforts to ensure that the health plan is delivering linguistically and culturally appropriate lifestyle counseling to Latino English- and Spanish-speaking populations.
- Consider virtual programming to foster greater participation rates than offering only in-person programs.

## helpful advice for developing community resources

- Engage your stakeholders early and often.
- If you are considering leveraging community resources, be aware that these relationships tend to rely on time limited grant funding, which is not sustainable. It is important to develop long-term partnerships, share ownership, and communicate results that demonstrate the value of the program.
- Identify other community organizations that have similar initiatives, and to align those interests, communicate and set prioritized goals that benefit the community. This facilitates sponsorship and effective use of community resources to maximize results.

## helpful advice for implementation and evaluation

- Utilize surveys and assessments to gauge knowledge of nutrition, track behavior change, assess attitude towards behavior change, and program satisfaction. Measure height, weight, and BMI percentile during the first and final weeks of the program.
- Best practices should be shared to support creative, innovative solutions.

# snapshots of additional childhood obesity prevention and treatment initiatives

The following initiatives provide examples of other approaches in implementing childhood obesity prevention and treatment initiatives amongst the Medicaid population. Each of these programs had varying levels of engagement with stakeholders and local community resources, depending on the goals of the program.



## THE HEALTHY HEARTBEATS PRENATAL CARE PROGRAM

**Organization:** Virginia Premier

The Healthy Heartbeats Prenatal Care Program was created in 2010 by Virginia Premier to curb childhood obesity by promoting breastfeeding amongst new mothers. The health plan enhanced breastfeeding awareness through group interaction at baby showers, offering double electric breast pumps to all pregnant and postpartum women enrolled in the health plan, and educating members on short and long term benefits of breastfeeding. Once Virginia Premier identified that a low percentage of their enrollees breastfed or had access to breast pumps, the health plan began to offer pumps to every pregnant or postpartum woman enrolled in the plan. Since 2014, participation in the program has increased roughly 2.5 percentage points per year, reaching a total of 1,559 participants.

Virginia Premier delivered patient education through a number of sources, including Facebook, email, phone, text messages, and at baby showers and home visits. In particular, the main educational components of baby showers were breastfeeding, nutrition, healthy eating, parenting, and child wellness. Virginia Premier offered healthy cooking demonstrations and enrollees were allowed to bring their children and partners. Additionally, the health plan provided referrals to health educators for individualized diet and exercise plans. Key partnerships for the Healthy Heartbeats program included Women, Infants, and Children (WIC), local health departments, Virginia Cooperative Extension Nutrition Education, Virginia Commonwealth University Hospital Breastfeeding Education, Baby Basics Mom's Club, and Smiles for Children.



## **GO! CLUB: PEDIATRIC OBESITY DISEASE MANAGEMENT PROGRAM**

**Organization:** Contra Costa Health Plan

In 2013, Contra Costa Health Plan launched the Go! Club: Pediatric Obesity Disease Management Program to promote healthy lifestyle changes after recognizing high rates of obesity in their pediatric population. The health plan promoted these changes by increasing knowledge, connecting families to community resources, and engaging clinicians to utilize tools that support healthy lifestyle changes among families. Prior to the initiative, families with obese children were not receiving consistent, intensive care for obesity in the delivery system. The program has reached over 1260 children with body mass index (BMI) scores greater than or equal to the 95th percentile. Since its launch in 2013, the program has primarily impacted children between the ages of 2-11 years, 52 percent from Spanish speaking families, and 98 percent from low-income households.

Working with Women, Infants, and Children (WIC) and the Healthy and Active before 5 Community Collaborative, Go! Club provided enrollees with consistent, intensive care to treat pediatric obesity. Participants were identified quarterly through referrals from clinicians, screening of electronic health record and claims data, patient educators, case managers, and self-referrals. The health plan sent welcome packets about the program with educational materials and recipes, encouraging families to contact the Pediatric Obesity Program nurse for counseling, education, and goal setting. After enrolling in the program, the families began to receive ongoing quarterly health education, including low literacy materials covering topics like sugar-sweetened beverages, active play, screen time and sleep. Patients were also offered support in making appointments to see patient educators, nutritionists and local obesity programs.



## THE RAISING WELL PROGRAM

**Organization:** Home State Health Plan (Centene)

Launched in 2015 by Home State Health Plan (Centene) in partnership with Evolve PeopleCare's Health and Life Coaching Service and ICF International, the Raising Well Program was established to address overweight status and obesity in children. The program delivered individually tailored interventions through a family approach, via telephonic coaching and a social media group targeted to parents, guardians, and caregivers. Using data mining software of claims, case management, and clinician referrals, the health plan identified children using codes that indicated overweight or obesity.

Home State Health Plan encouraged healthy behavior change through individualized coaching interventions led by registered dietitian nutritionists and exercise physiologists who were able to provide connections to community resources like the YMCA and Boys and Girls Clubs for each family. The coaches also partnered with Cenpatico Behavioral Health to provide assistance in addressing behavioral health issues that often complicate weight management. Additionally, the health plan utilized private social media support groups to educate and empower parents and caregivers to adopt healthy lifestyle changes, encourage discussions of health habits, educate members on healthy nutrition and physical activity habits, and decrease BMI percentiles among children participating in the program. As of January 2016, 409 children between the ages of 2-17 years participated in the Raising Well Program.



## HEALTHY YOU, HEALTHY ME

**Organization:** AmeriHealth Caritas Pennsylvania (AmeriHealth Caritas)

The Healthy You, Healthy Me Program, created in 2007, was a child and caregiver focused program promoting awareness of the importance of healthy eating and staying active. Community Health Navigators (CHNs) conducted 45-minute in-person sessions for elementary school children in multiple settings with community partners like churches and Head Start programs. The sessions included a presentation and interactive activities (e.g., bean bags, hula hoops, jump ropes, balls, and Frisbees) to increase physical activity and improve nutrition through healthy food choices. The initiative also offered resources for parents to make healthy choices for their families, and advocated for serving healthy foods in schools and increased opportunities for physical activity for children in school and the community.

The program has supported 1,400 individuals ranging from children to caregivers, some enrolled in AmeriHealth Caritas' health plan and others who were referred through community partners. Those children and caregivers enrolled in AmeriHealth Caritas' health plan were identified through case managers and health risk assessments that identified them as high-risk for obesity. Stakeholders that supported this initiative include YMCA, Big Brothers Big Sisters of America, The Salvation Army, community and childcare centers, Head Start, and public libraries, and area churches. Over a nine-month period, children and caregivers participated in 91 sessions and 14 percent of children enrolled in AmeriHealth Caritas' plan lost over 10 pounds (roughly 1 percent of their BMI weights).



## PEDIATRIC OBESITY PREVENTION AND TREATMENT PARTNERSHIP TO ENHANCE CLINICIAN EDUCATION

**Organization:** Gateway Health Plan

The Pediatric Obesity Prevention and Treatment Partnership to Enhance Clinician Education was created in 2016 as a collaboration between Gateway Health Plan and the Pennsylvania chapter of the American Academy of Pediatrics (AAP), using the EPIC® - Pediatric Obesity: Evaluation, Treatment and Prevention in Community Settings program. The AAP scheduled on-site, free 1-1.5 hour Continuing Medical Education (CME) programs for clinicians that focused on increasing patient-centered pediatric obesity prevention education, and offered practical suggestions for working with parents, family, and community.

The initiative targeted primary care clinicians (PCPs) with the highest frequency of patients diagnosed with obesity. Fifty out of 713 primary care clinicians serving Gateway Health's pediatric members in Pennsylvania were targeted for the clinician education program. The top 46 PCPs targeted for this initiative were the primary clinician for approximately 51.2 percent (7,623) of all pediatric members with obesity and overweight diagnoses, while representing only 6.5 percent of PCPs. Ultimately, the PCPs selected for the program treated over 68,270 beneficiaries ranging from age 0-21 years.



## LET'S MOVE 2B FIT

**Organization:** Empire BlueCross BlueShield HealthPlus (Anthem)

Let's Move 2B Fit launched in 2015 as a school-based childhood obesity prevention program led by Empire BlueCross BlueShield HealthPlus in collaboration with New York City (NYC) public schools, school-based health centers, Federally Qualified Health Centers (FQHCs), city agencies, and community-based organizations. The initiative expanded the role of the health plan in obesity prevention by collaborating with community partners to create healthier school environments, promote healthy behaviors, prevent onset of obesity, and improve access to quality care.

Let's Move 2B Fit targeted public elementary school children and parents or caregivers in South Brooklyn, in response to a state initiative that identified childhood obesity prevention as a focus area. The initiative impacted over 1,500 NYC public elementary school children in grades 3 through 5 and parents or caregivers at target schools. The program was implemented at schools in South Brooklyn neighborhoods, where many of the families were enrolled in the health plan. In the first year of program, a total of four public schools in a targeted geographic area participated in the initiative, and continued in the next school year. The schools' administrators, program participants (students and parents or caregivers), and community partners have provided feedback showing high satisfaction with the program.

# perspectives from families and children

The case studies and snapshots of childhood obesity prevention and treatment programs offer valuable information about the design, implementation, and results associated with programs tailored for each health plan’s unique pediatric population. This data is critical to alleviating the existing research gaps and provide useful context for factors that influence the decision-making of MMCOs when addressing childhood obesity. However, the most important information comes from the voices of families and children. A total of 28 families who participated in one of the five featured case study programs were interviewed to gain insight into three areas.

## Three Focal Points of Family Interviews:

**01** Capturing the voices of families that participated in the initiatives by highlighting their experiences, perspectives and preferences.

**02** Identifying social determinants of health that affect the families’ ability to access and maintain a culture of health.

**03** Identifying opportunities to improve upon existing initiatives from the perspective of families.

A summary of the family interviews and a brief overview of the common themes can be found below (Table 4 and Figure 20). It is worth noting that several of the themes listed in Figure 20 align with the lessons learned and advice highlighted by the MMCOs in the previous section of this toolkit.

*Table 4. Summary Information of Family Interviews*

Program	Location	Number of Interviews	Total Number of Individuals
Join For Me	Kansas City, Kansas	4	4 adults, 9 children
Keep Fit	Houston, Texas	6	6 adults, 6 children
Food Smart Families	Lorman, Mississippi	6	6 adults, 9 children
Kids Healthy Living Program	Bellingham, Washington	5	5 adults, 7 children
Healthy Lifestyle Clinic	Denver, Colorado	5	6 adults, 5 children

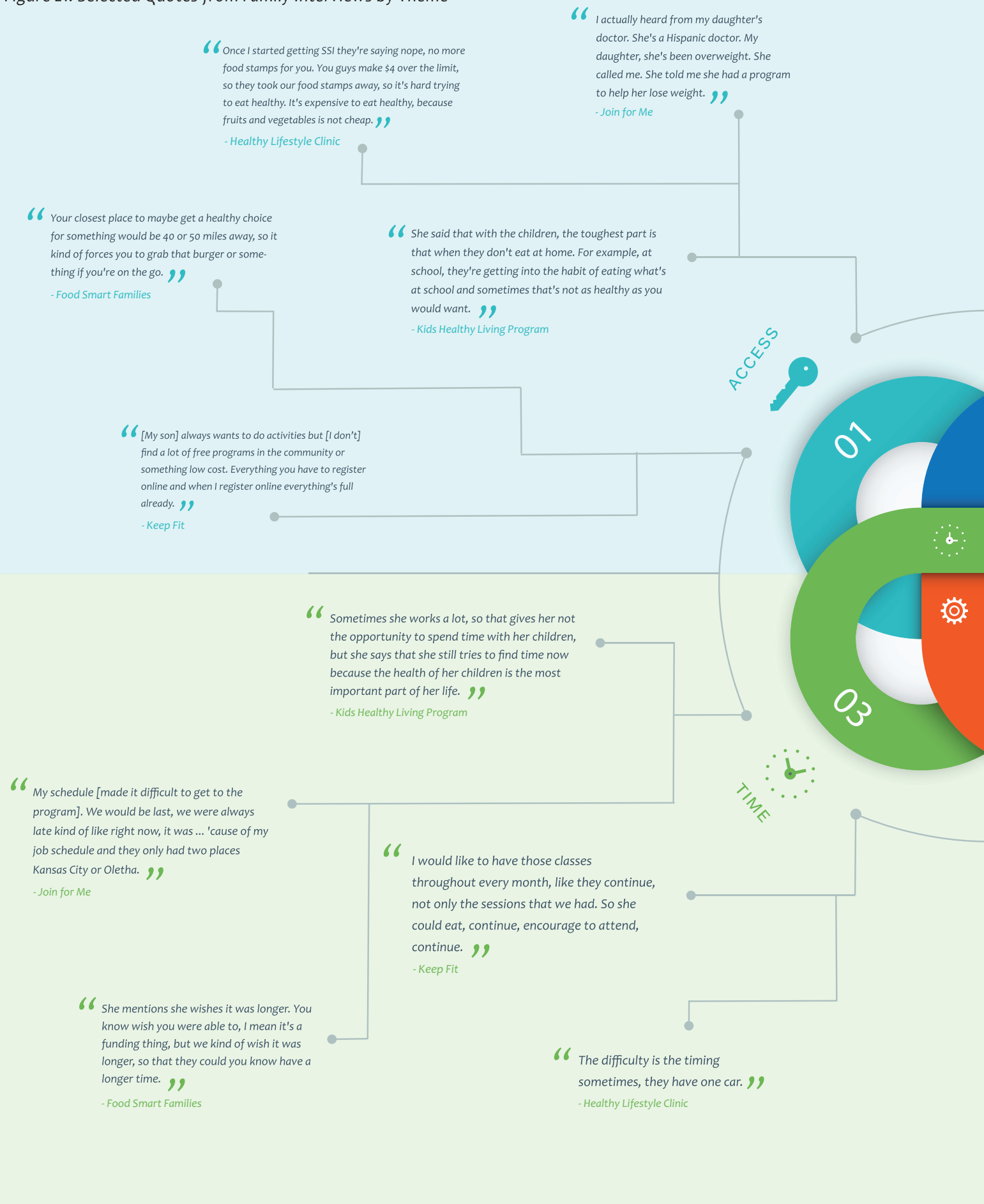


Figure 20. Overview of Common Themes from Family Interviews



The family interviews revealed a number of interconnected factors that impact the efficacy of the childhood obesity prevention and treatment initiatives and influence a family's ability to maximize participation. In particular, time and access themes demonstrated that the scheduling of group sessions (e.g., day of the week, location of session) greatly impact participation rates across four of the initiatives. Furthermore, duration of the program was closely tied to sustaining family motivation and providing the support needed for families to adopt and maintain healthy lifestyle changes. Families who participated in three of the initiatives noted that extending the duration of the program would be helpful for staying on track in reaching goals and facilitating continued learning. Finally, the family interviews highlighted the critical role MMCOs play in connecting families to evidence-based health education, community resources, and social supports that allow the families to overcome some of the social determinants of health (e.g., access to affordable, healthy food, lack of transportation) that would otherwise prevent the family from engaging in healthy behaviors and lifestyle changes.

Figure 21. Selected Quotes from Family Interviews by Theme



“ I was afraid she would get diabetes. That was my major wake up call, that we were doing something wrong at home. That's my only reason I started, to go there because of her. ”

- Join for Me

“ Gaining weight, other kids had the same problem because he saw them there. You know big kids are prone to being bullied... He would come home and tell me. With this program he saw the other kids and was like, I'm not the only one with this problem. ”

- Keep Fit

“ We went in for a physical and she did some blood drawing and found out that his A1C was a little bit high and from there they called us, and she told us about the program that they had going on and asked us whether we're interesting in it. I told her yeah, any little thing will help, keep us on the right track. ”

- Healthy Lifestyle Clinic

“ We thought this would be a good way to give her some insight into why it's important to eat right. Portion control and different types of things like that. ”

- Food Smart Families

“ She wanted to make sure that her son was going on a healthier route, so that her son would start learning how to eat healthier and to make better choices when eating. ”

- Kids Healthy Living Program

“ [The instructor] was awesome. She'll call you, even when the class stops, she'll still call you once in a while to ask how you're doing and stuff like that. She asked about how school was. Our conversation doesn't just have to be about losing weight and fitness. ”

- Keep Fit

“ One of the most positive things about it that I appreciate is, this group giving the opportunity to young kids, black, white, or green, it didn't matter about the color, but the opportunity for them to come together on something that none of them know how to do actually, and being given that awareness that's needed. ”

- Food Smart Families

“ There's lots of programs they always offer, but it really just comes down to if you want to attend, if you have a discipline and you want to be here, I really wanted to be here. ”

- Join for Me

“ [She] really liked the fact that she had the opportunity to meet other families who are going through the same issues with children and she also felt that it helped her daughter because she was able to participate with other children, be more social. ”

- Kids Healthy Living Program

“ He seems to have a good relationship with the doctor, she's able to motivate him and times where sometimes you may work on something, and the next thing she's able to keep them on track. ”

- Healthy Lifestyle Clinic

MOTIVATION



02

04



SUPPORT

Source: 2016 CHOPT for Medicaid Family Interviews







## conclusion

An opportunity to better understand how to prevent and treat childhood obesity in the Medicaid population is learned from the advice given by initiatives launched by Medicaid managed care organizations (MMCOS) and the experiences of the families that have participated in the initiatives. In learning about the design, implementation, and outcomes associated with these initiatives, current gaps in research are also addressed. Furthermore, identifying lessons learned from these initiatives contribute to awareness of the impact of social determinants of health on the efficacy of interventions and will help other MMCOS to address health disparities during the design of the intervention.

In order to address existing research limitations, the Childhood Obesity Prevention and Treatment (CHOPT) for Medicaid toolkit provides an environmental scan and case studies of childhood obesity prevention and treatment initiatives led by Medicaid managed care organizations; and, offers a number of readiness assessment and implementation tools to guide other MMCOS through the design, implementation, and evaluation of childhood obesity prevention and treatment initiatives.

Medicaid managed care organizations, especially those providing coverage for significant numbers of children and adolescents with obesity, are uniquely positioned to improve weight management interventions and encourage the adoption of healthy behaviors. Using this toolkit, more MMCOS will have the information and resources needed to promote better member outcomes and improve the overall quality of life for children and their families.

Moving forward, it is critical that we address the most common resource that Medicaid managed care organizations and community groups cited: the need for a national learning network to share resources and offer support with implementation and evaluation efforts. Furthermore, incorporating the invaluable insight provided by families to improve access to group sessions by addressing the social determinants of health (e.g., scheduling on weekends, providing transportation support, allowing participation of multiple children from a single family) and connecting families to community resources and social supports will greatly enhance future initiatives.

As policymakers, key stakeholders, and thought leaders continue to work towards improving interventions tailored to prevent and treat childhood obesity, it will be necessary to address these challenges faced by Medicaid managed care organization with potential policies and resources to improve the implementation and sustainability of these programs.

A young girl with brown hair, bangs, and purple-rimmed glasses is smiling. She has metal braces on her teeth. She is holding a large slice of watermelon. She is wearing a blue and white striped shirt. The background is a solid green color.

appendix a:

*Readiness*

*Assessment:*

*Preparing to Launch  
a Childhood Obesity  
Initiative*

# appendix a

## READINESS ASSESSMENT: PREPARING TO LAUNCH A CHILDHOOD OBESITY INITIATIVE

In 2007, the Agency for Healthcare Research and Quality (AHRQ), developed the TeamSTEPPS program, a suite of evidence-based tools developed to improve patient outcomes by enhancing communication and teamwork skills among clinicians and medical staff. This comprehensive, evidence-based national initiative includes many resources including a validated readiness assessment tool. Readiness assessment tools provide organizations with an opportunity to perform a systematic analysis of readiness to pursue new processes or changes. This may also include opportunities to identify gaps in the current organization or methods and may structure approaches to close those gaps, potentially leading to quality improvement and improved outcomes for patients or Medicaid managed care organizations (MMCO) members.

Clinical leadership at MMCOs can use this tool to assessment barriers to implementation and identify resources that may need to be developed before implementing childhood obesity prevention and treatment initiatives. One of the first steps to launching a successful childhood obesity prevention and treatment initiative is to determine how ready the plan is to design and implement a program that will make meaningful change in the lives of children with obesity who are enrolled in Medicaid. Identifying and addressing barriers to program development will improve your plan's ability to implement successful initiatives.



# GUIDE TO COMPLETE THE READINESS ASSESSMENT

The following are list of questions that have been adapted from the original Team-STEPPS tool. The questions are intended to help assess your organization's readiness to implement a childhood obesity prevention and treatment initiative. As you complete the questions, you may find it helpful to have several members of clinical leadership staff review this tool independently. This may include your plan's chief medical officer, chief quality officer, nursing leadership, pediatric experts, and product development staff.

## Identifying Need

*The first two questions of the readiness assessment found on **page 54** is identifying need. Has your organization identified a need to initiate an evidence-based program to address (i.e., prevent and/or treat) childhood obesity? You may want to consider the following questions as you evaluate your organization's need for a childhood obesity prevention and treatment program.*

### **1. Do your current claims track pertinent data that highlight disease processes that are related to childhood obesity?**

Organizations are more likely to be ready to design and implement a childhood obesity prevention and treatment initiatives if they are already collecting preliminary data to track conditions or illnesses that provide evidence of overweight or obesity. MMCOs make consider the following information helpful to track for the purposes of an obesity prevention initiative: BMI scores, growth charts, asthma, pre-diabetic, type II diabetes, hyperlipidemia, hypertension, blood work (e.g., lipid panel, glucose, HbGA1C).

### **2. Are parents, caregivers, community stakeholders, and/or clinicians expressing a need for a childhood obesity prevention and treatment program?**

While tracking pertinent data that highlights disease processes related to obesity and overweight is one method of identifying need for an initiative, another indicator is feedback from clinicians, caregivers, and family members. If your plan is receiving feedback from individuals that regularly interact with enrollees in your health plan that overweight and obesity is a growing concern for your members, it might be the right time to consider designing and implementing a childhood obesity prevention and treatment program. Additionally, you may wish to consider confirming feedback with data collected from claims or begin to track preliminary data that would be helpful to identify the individuals who should participate in such initiatives.



**3. Is developing an evidence-based childhood obesity program an appropriate strategy to mitigate disparities correlated with childhood obesity? Is developing an evidence-based childhood obesity program an appropriate strategy to improve the health status and associated health outcomes for overweight or obese children enrolled in your plan?**

If your organization is beginning to identify a need for a childhood obesity prevention and treatment program, whether from claims data or from stakeholders, then it is important to consider the potential options for responding to this need. In an era of value-based purchasing, quality reporting, and pay-for-performance, it is increasingly important to assess potential designs for obesity prevention and treatment efforts through a lens of evidence-based methods that account for relevant health data and are responsive to quality metrics.

**4. Readiness for Change**

Questions three through six of the readiness assessment found on page 54 evaluate readiness for change. Has your organization clearly assessed the willingness and readiness of clinical leadership to participate in an initiative using evidence-based approaches to prevent and/or treat childhood obesity? You may want to consider the following questions as you evaluate your organization's readiness for change.

**5. Do you feel the organization is supportive in pursuing a childhood obesity and preventive initiative?**

The goals of a childhood obesity prevention and treatment initiative may include providing overweight and obese children with evidence-based, effective ways to safely reduce body weight, providing understandable, accessible health education, and the adoption of a healthy lifestyle. Once your organization has identified a need for a childhood obesity prevention and treatment initiative, it will be necessary to discuss the development of an initiative with your organization's leadership. In order to foster support, it will important to communicate the evidence supporting a need for an initiative, the goals, and thoughts around potential designs for the program.

**6. Will your plan's clinical leaders and product development staff support the effort required to implement and sustain a childhood obesity prevention and treatment program?**

In order to accomplish these goals, your organization must be willing to identify and build relationships with key stakeholders, foster support among clinician groups, and drive change in approaches to the health care delivery with community health workers and other community-based resources. These changes may require your organization to be supportive of the use of internal resources and experts to engage in the creative development of evidence-based, team-driven designs for a childhood obesity prevention and treatment initiative.



## Time, Resources, Staff, and Partnerships

Questions seven and eight of the readiness assessment found on page 54 address time, resources, staff, and partnerships. Is your organization willing to allocate the necessary time, resources, and staff to implement and sustain a childhood obesity program? Is the community and/or key stakeholders expressing a need for such a program? You may want to consider the following questions as you evaluate your organization's capacity to undertake a childhood obesity prevention and treatment program.

### 7. Will your organization provide sufficient support staff for the initiative?

In order for a new childhood obesity prevention and treatment program to be successful, it is important to find the internal support staff and resources needed to design and implement the program. This may include:

- Registered Dietitian
- Behavioral Therapist
- Fitness Trainer
- Health Care Clinician (e.g., Primary Care Clinician)
- Nurse
- Medical Assistant
- Informatics Specialist/Coder
- Care Coordinator

### 8. Will your organization develop the necessary stakeholder relationships and community partnerships to implement a childhood obesity prevention and treatment initiative? And allow clinicians and support staff to develop community partnerships?

Commonly, childhood obesity prevention and treatment programs leverage existing community resources and stakeholders to provide various services and social supports. In some cases, MMCOs may have existing relationships with appropriate community stakeholders. For those organizations that do not have established community partnerships, it may be necessary to allocate time and resources to identify community stakeholders and establish solid relationships that yield additional benefits and resources for initiatives.

### 9. Will your organization allow time to train support staff and clinicians on the initiative?

If your childhood obesity prevention and treatment program utilizes a treatment model that is new to your organization, you will need time and resources to properly train staff. Additionally, if your organization needs to expand the number of staff to implement a childhood obesity prevention and treatment model, new staff will need to be trained to provide care, even if the model is currently used by your organization. In order for initiatives to be successful, it is important that participating staff are given the training and resources needed to adhere to identified model of care.

## Sustainability

Questions nine and ten of the readiness assessment found on page 54 consider sustainability of childhood obesity prevention and treatment programs. Has your organization clearly defined the systems and measures needed for sustaining continuous evaluation and improvement of childhood obesity prevention and treatment initiatives? You may want to consider the following questions as you evaluate your organization's ability to sustain a childhood obesity prevention and treatment program.

### **10. Will your plan be able to measure and assess the success of your initiative? (Taskforce to comply and evaluate the data)**

A key component of implementation is evaluation. In order to properly evaluate a childhood obesity prevention and treatment initiative, an organization must identify measures of success during the design phase (prior to implantation). These measures of success should be guided and informed by your goals and intended outcomes. Once these measures are identified, it is important to collect preliminary or baseline data to provide information about the condition of the enrollees prior to intervention. Throughout the implementation of the initiative, your organization should continue to collect data for these very same measures. Once the initiative is concluded, the pre- and post-intervention data should be analyzed by individuals with experience in data analytics and evaluation methods to determine the success of your initiative. If your organization has not collected data previously or does not currently have staff to evaluate the initiative, your organization may need to invest in resources to ensure an evaluation can be conducted once the initiative is complete.

### **11. Will your organization be able to sustain and scale the initiative if it is determined to be successful and treating or preventing childhood obesity?**

Once your organization has evaluated the childhood obesity prevention and treatment initiative and determined the program to be successful in meeting identified goals, your organization may want to consider sustaining the current initiative and scaling, or expanding, the initiative into other geographic areas. In order to do this, your organization will need to identify sustainable sources of funding to ensure the continuation of the program. Additionally, your organization will need to determine whether the initiative needs to be adapted to meet the needs of the population in other areas. This may include changes to the implementation of the treatment model, changes to community partnerships, or changes to the types of staff needed to implement the initiative.

# ORGANIZATIONAL READINESS ASSESSMENT CHECKLIST

## What is this tool?

*This tool was developed by the Agency for Healthcare Research and Quality’s (AHRQ) Quality Indicators Toolkit. This tool can be used to assess your organization’s resources and readiness to support effective implementation of childhood obesity prevention and treatment initiatives. Using this checklist, you can identify resources, infrastructure and staffing needs that should be in place prior to implementation of such initiatives.*

Record your responses to the questions below:

	Yes	No
Have you clearly defined the need that is driving your organization to consider designing and implementing a childhood obesity and prevention program?	<input type="checkbox"/>	<input type="checkbox"/>
Is building an evidence-based childhood obesity program an appropriate strategy to mitigate patterns of claims suggesting childhood obesity?	<input type="checkbox"/>	<input type="checkbox"/>
Do you feel the organization is supportive in pursuing a childhood obesity and preventive initiative?	<input type="checkbox"/>	<input type="checkbox"/>
Will your organization provide sufficient support staff for the initiative?	<input type="checkbox"/>	<input type="checkbox"/>
Does your organization currently have the necessary stakeholder relationships to implement a childhood obesity prevention and treatment initiative?	<input type="checkbox"/>	<input type="checkbox"/>
Does your organization currently have the necessary community partnerships to implement a childhood obesity prevention and treatment initiative?	<input type="checkbox"/>	<input type="checkbox"/>
Will your organization allow time and resources to prepare support staff?	<input type="checkbox"/>	<input type="checkbox"/>
Will your organization allow time and resources to develop community partnerships?	<input type="checkbox"/>	<input type="checkbox"/>
Will your organization be able to measure and assess the success of your initiative?	<input type="checkbox"/>	<input type="checkbox"/>
Will your organization be able to sustain and scale the initiative if it is determined to be successful and treating or preventing childhood obesity?	<input type="checkbox"/>	<input type="checkbox"/>
Total		

Count the number of **NO** responses that you have recorded. If the number is:

- 0–3:** This is likely to be a good time to design and implement a childhood obesity prevention and treatment initiative at your plan. As you begin the design and implementation process, make sure you continue to monitor whether the answers to these questions change and keep a close eye on any items to which you answered “no.”
  
- 4–6:** Your responses indicate that your plan may not be ready on one-third to one-half of the factors. This may likely undermine the success of the initiative if your plan moves forward with implementation. Take some time to determine if this is the appropriate time to implement a childhood obesity prevention and treatment program. Review the following tips and suggestions to enhance readiness that follow and determine if any are appropriate within your institution.
  
- 7–10:** Based on your responses, significant work is likely needed to raise the readiness level of your plan. Consider postponing the design and implementation process for a few months, and then answer the questions again to determine if your readiness has changed. Also, review the helpful advice in Section III to enhance your institution’s readiness.





appendix b:

***Tools to Guide the  
Implementation of  
a Childhood Obesity  
Initiative***

# appendix b

## TOOLS TO GUIDE THE IMPLEMENTATION OF A CHILDHOOD OBESITY INITIATIVE

Once your organization has determined that it is ready to implement a childhood obesity prevention and treatment initiative, your health plan will need to consider a number of factors to ensure that your program best meets the needs of your priority groups. The following implementation tools will assist your organization in this process:

### Featured Tools:

- 1. Childhood Obesity Prevention & Treatment (CHOPT)-Action Statement (CHOPT-AS)**  
*The CHOPT-AS template is a four-step process to guide your planning and implementation efforts. Most importantly, this template includes an Operational Worksheet to organize and collect your preliminary thoughts for your initiative.*
- 2. A Step-by-Step Worksheet of the Four-Step Process**  
*The step-by-step worksheet accompanies the CHOPT-AS template, providing guidance on completing the four-step process. Each step of the process is described at length, posing thought-provoking questions and providing tips to complete the CHOPT-AS tool.*

### Supplemental Tools to Facilitate the Completion of the CHOPT-AS:

- 3. A Goal Setting Worksheet**  
*The goal setting worksheet may prove helpful if your team or organization is facing difficulty identifying the appropriate goals for your initiative in Step 2. This tool follows the SMART (Specific, Measurable, Attainable, Relevant, Time-Bound) method of identifying goals and will help to shape the aims you identify and work toward in Steps 2 and 3 of the CHOPT-AS.*



4. **Aims and Drivers for Improvement Template**

*The Aims and Drivers for Improvement template offers a visual aid of a driver diagram to assist your organization with Steps 2 and 3 of the CHOPT-AS. While your driver diagrams may be more robust or complex than pictured in the template, it will serve as a basic starting point to gather your thoughts around the primary and secondary drivers to effect changes in your pediatric populations affected by overweight and obesity.*

5. **Communications Plan Worksheet**

*The communications plan worksheet provides your organization with questions to consider as you develop strategies to communicate with your key stakeholders and community resources upon completing Steps 1 through 4 of the CHOPT-AS. Your organization may have a different communication plan that you may utilize for this purpose.*



# Childhood Obesity Prevention & Treatment Action Statement (CHOPT-AS)

The CHOPT-AS (Childhood Obesity Prevention & Treatment Action Statement) tool was adapted in consultation with the Centers for Medicare and Medicaid Services' (CMS) from their original Disparities Action Statement (DAS) template. CHOPT-AS offers a framework to help you:

- Understand the childhood obesity-related health disparities and social determinants of health influencing families enrolled in your Medicaid managed care organization
- Design and test solutions to address childhood obesity in your community
- Take action through continuous quality improvement for health equity

This worksheet will guide your efforts in identifying childhood obesity-related disparities in and among the pediatric populations you serve, set goals, develop a plan, and improve the health of your community. A CHOPT-AS offers your organization guidance in building health equity into the culture of your program to enhance the care that you offer your pediatric members and their families while also improving community health and lowering costs through quality improvement.

Clinician/Case Manager Champion (CHOPT-AS Lead):

Department or Organization:

Reason(s) for Program:

Projected Timeframe for 4-Step CHOPT-AS Planning Process:

Area(s) of Improvement You Are Considering:



STEP 01



Identify priority group(s) & their disparities

STEP 02



Set SMART Aims

STEP 03



Develop an Action Plan

STEP 04



Monitor, Improve & Disseminate

If you need assistance with implementation, contact the Institute for Medicaid Innovation at [info@medicaidinnovation.org](mailto:info@medicaidinnovation.org).





## KEY DEFINITIONS

### Health disparities

*Differences in health outcomes closely linked with social, economic, and environmental disadvantage – are often driven by the social conditions in which individuals live, learn, work, and play. Characteristics including race, ethnicity, disability, sexual orientation or gender identify, socio-economic status, geographic location, and other factors historically linked to exclusion or discrimination are known to influence the health of individuals, families, and communities.<sup>55</sup>*

### Social determinants of health

*The complex, integrated, and overlapping social structures and economic systems that include the social environment, physical environment, and health services; structural and societal factors that are responsible for most health inequities. Social determinants of health are shaped by the distribution of money, power and resources at global, national, and local levels, which are themselves influenced by policy choices.<sup>56</sup> Examples of social determinants of health include income, educational level, availability of stable and affordable housing, access to affordable and nutritious foods, and access to regular primary care.*



## STEP 1: IDENTIFY PRIORITY GROUP(S) AND THEIR DISPARITIES

Identify the priority group(s) and health disparities within the population you serve

Assess available data and identify **priority group(s)**, within the total pediatric population you serve who have notable **health disparities** and are at risk for overweight and obesity as identified through referrals, data mining, etc.

**NOTE:** Use multiple data sources to creatively compare and contrast populations and health disparities within the broader pediatric population in your health plan. Please list data sources used. Refer to the Data Sources to Understand Your Community table for possible data sources.

**Priority Group(s)** may include:

- Racial or ethnic minorities
- Sexual and gender minorities (LGBT)
- Individuals with a disability
- Those living in rural or frontier communities

**Health Disparities** may include:

- Health status
- Disease prevalence
- Death rates, such as mortality and morbidity rates
- Emergency department visits for potentially avoidable utilization or readmission
- Utilization of preventive services
- Access to care
- Quality/Safety
- Chronic disease management
- Poverty/economic factors
- Other social factors

After careful consideration of the highest priority groups and greatest needs, select the priority group(s) you will target and the health disparities you plan to address within your **CHOPT** program.



## STEP 2: SET SMART AIMS

### Identify your aim

Your aim is what you want to improve for the population you identified. As it relates to childhood obesity, your aims may focus on improving body-mass-index (BMI) scores, encourage healthy lifestyle changes, or provide access to treat or prevent obesity.

Make sure your aim is **SMART** [**S**pecific, **M**easurable, **A**ttainable, **R**elevant, and **T**ime-based].

Use the [Goal Setting Worksheet](#) for setting SMART aims.

Stakeholder engagement is key to the success of your initiative. You may engage with stakeholders and community resources in many ways throughout your initiative, depending on program's aims and design. It is important to consider how and when you will strategically engage key stakeholders and community resources. There is guidance in the [Stakeholder & Community Engagement Plan](#) on page 66 and in the [CHOPT-AS Step-By-Step Worksheet](#).



### STEP 3: DEVELOP AN ACTION PLAN

[CONTINUE WORKING ON YOUR OPERATIONAL TABLE, BEGIN YOUR STAKEHOLDER & COMMUNITY ENGAGEMENT PLAN]

Identify key system elements (Primary Drivers) necessary to achieve your aim

Key (primary) drivers are the things that have to occur for you to achieve your aim. You can have multiple key drivers. Involve key stakeholders and community members from the priority group(s) you are targeting when you are:

- Brainstorming about your primary driver; and,
- To gain buy-in and valuable insights.

Note how, when, and why you are engaging each partner in your [Stakeholder & Community Engagement Plan](#). These stakeholders and resources may also be helpful in decreasing the role or impact of health disparities.

Identify activities or interventions (Secondary Drivers) to make progress

Secondary drivers are the specific activities or interventions (the “how”) needed to impact the primary drivers. Each secondary driver contributes to at least one primary driver. You can have multiple secondary drivers for each key driver.

It may be helpful to draw a driver diagram or flow chart. Use the [Aims and Drivers for Improvement template](#) to assist you with your driver diagrams.

Remember to involve community stakeholders as needed – continue making notes to your [Stakeholder & Community Engagement Plan](#).

Identify key individuals and organizations

Note the key staff, partners, stakeholders, or members of the community leading and contributing to the secondary drivers.

- Include these in your [Stakeholder & Community Engagement Plan](#).

Write out your Action Plan

Secondary drivers are the specific activities or interventions (the “how”) needed to impact the primary drivers. Each secondary driver contributes to at least one primary driver. You can have multiple secondary drivers for each key driver.

It may be helpful to draw a driver diagram or flow chart. Use the [Aims and Drivers for Improvement template](#) to assist you with your driver diagrams.

Remember to involve community stakeholders as needed – continue making notes to your [Stakeholder & Community Engagement Plan](#).





## STEP 4: MONITOR, IMPROVE, DISSEMINATE

[COMPLETE OPERATIONAL TABLE, USE THESE TOOLS TO EVALUATE, IMPROVE & SHARE YOUR LEARNINGS]

<p>Define metrics to monitor progress and assess impact toward your aim</p>	<ul style="list-style-type: none"> <li>Define measures and metrics you will use to track progress toward your aim in the <a href="#">Operational Table</a>.</li> <li>Define how you will measure success.</li> <li>Define how often data will be tracked.</li> </ul>
<p>Define measurable outcomes</p>	<ul style="list-style-type: none"> <li>Define outcomes in your <a href="#">Operational Table</a>.</li> <li>These outcomes should be aligned with or linked to your aim.</li> <li>How many individuals in your priority group will this impact?</li> <li>Remember that outcomes need a timeline.</li> </ul>
<p>Improve: Use quality improvement methods to keep a pulse on your progress</p>	<ul style="list-style-type: none"> <li>Use the <a href="#">Plan Do Study Act (PDSA) methodology</a> to fluidly adjust your course of action. Refer to the <a href="#">Plan, Do, Study, Act Diagram</a> on page 66 for guidance.</li> <li>Engage stakeholders in your community to address challenges/barriers you've identified. Note how in your <a href="#">Stakeholder &amp; Community Engagement Plan</a>.</li> </ul>
<p>Write out your Action Plan</p>	<ul style="list-style-type: none"> <li>Secondary drivers are the specific activities or interventions (the "how") needed to impact the primary drivers.</li> <li>Each secondary driver contributes to at least one primary driver. You can have multiple secondary drivers for each key driver.</li> <li>It may be helpful to draw a driver diagram or flow chart. Use the <a href="#">Aims and Drivers for Improvement template</a> to assist you with your driver diagrams.</li> <li>Remember to involve community stakeholders as needed – continue making notes to your <a href="#">Stakeholder &amp; Community Engagement Plan</a>.</li> </ul>

# OPERATIONAL TABLE

<b>SMART Aim</b>  What you are trying to improve for the priority group you identified?	<b>Primary Drivers</b>  What is needed to achieve your aim? You may have more than three drivers for each aim, just add lines to the table.	<b>Secondary Drivers</b>  What interventions will help you achieve the primary drivers?	<b>Key Individuals and Organizations</b>  Key staff, partners, stakeholders, or members of the community leading the secondary drivers.	<b>Metrics</b>  What data will be used to track progress toward your aim and how often?	<b>Measurable Outcomes with Timeline</b>  Should align with aims.
Aim #1	Primary Driver #1				
	Primary Driver #2				
	Primary Driver #3				
Aim #2	Primary Driver #1				
	Primary Driver #2				
	Primary Driver #3				
Aim #3	Primary Driver #1				
	Primary Driver #2				
	Primary Driver #3				

If you need assistance with implementation, contact the Institute for Medicaid Innovation at [info@medicaidinnovation.org](mailto:info@medicaidinnovation.org).



## STAKEHOLDER & COMMUNITY ENGAGEMENT PLAN

*Explain your plan to engage partners who serve the vulnerable population you focus on, and individuals within your community.*

**Who** will you engage?

**When** will you engage them (at what step in the process)?

**Why** did you choose the particular stakeholder (s)?

**What** will the stakeholder bring to the project (how will they be contributing)?

**How** will you ensure the stakeholder(s) are a continued part of monitoring and improvement?

**Resource:**

*If you are communicating with a few different stakeholder or community groups (audiences), you can use this Communication Plan Worksheet template to stay organized.*

## PLAN, DO, STUDY, ACT (PDSA) DIAGRAM

*Once implementation has begun, if changes need to be made to the design of the program, explain your changes and secure buy-in from stakeholders and community partners.*

Evidence to explain and support your changes may include:

- Interventions attempted
- Results/findings
- Lessons learned or emerging issues
- New data identified
- Stakeholders involved
- New actions warranted

**Resource:**

*More on the PSDA cycle: <https://innovations.ahrq.gov/qualitytools/plan-do-study-act-pdsa-cycle>*



# CHOPT-AS STEP-BY-STEP WORKSHEET

This worksheet will help guide you through the four steps of your CHOPT-AS. It was adapted in consultation with the Centers for Medicare and Medicaid Services from the Disparities Actions Statement Step-by-Step Worksheet.

## Step 1: Identify priority groups(s) and their disparities

These questions are intended to guide you in identifying a population to focus on.

.....

### Which population(s) should you focus on?

→ List the priority groups(s) impacted by your program.

- For example, this might include racial or ethnic minorities or those living in rural or frontier communities.

→ Select one priority group to focus your efforts on first.

- You may find that several populations are impacted by health disparities and social determinants of health that contribute to overweight and obesity. Use the questions in Step 1 to narrow your focus to specific priority group among your pediatric population. You may find a priority group or disparities surface that you were not previously aware of – you can always amend your action plan as you learn and improve.

---

### How does this population compare to your total pediatric population?

→ Assess available data and see how the health of your priority group compares to your total pediatric population, and if available, the broader pediatric population in the community.

- For example: data reported to state and federal agencies, available local community health data, claims data, census, and other federal data sets. Use stratified data to identify priority groups.
- Data Sources to Understand Your Community table has information on potential data sources.

→ Compare a priority group's overall health status and outcomes and access to health care to your total pediatric population and the community's pediatric population, if possible. You may also want to consider comparing the social determinants of health impacting your priority group to the impact on the children in the community.

→ Make notes of the health disparities your priority group faces, including data sources where available.



How does your focus population compare to your total pediatric population by:

- + *Disease prevalence*
- + *Mortality and morbidity rates*
- + *Emergency department utilization*
- + *Readmissions*
- + *Preventive service utilization*
- + *Chronic disease management*
- + *Prescription drug utilization and adherence*

## What disparities will you focus on?

- Select a priority group and set of disparities to focus on.
- Talk with partners serving your priority group and individuals in the community. Ask what they think is causing or contributing to the disparities or if there are obstacles to addressing them. While your organization might not be able to address all disparities, you will gain useful information to guide the development of your childhood obesity prevention and treatment initiative. The information will also inform your [Stakeholder & Community Engagement Plan](#).

## Step 2: Set SMART Aims

As you consider your approach to addressing childhood obesity in your health plan, you will need to set an aim(s) in coordination with your community partners or key stakeholders. It is important that your aim(s) are specific, measurable, attainable, relevant, and time-based (SMART). Begin populating your [Operational Table](#) in the CHildhood Obesity Prevention & Treatment Action Statement as you think through this step.

.....

**Write down your SMART aim(s). Your aims will guide your action plan, and can help you bring your organization and community together around a shared goal.**

- Write down your overall aim(s) related to the priority group and driver(s) you are focusing on to reduce childhood overweight and obesity. Your aims should be clear, concise statements of the target outcomes for each priority group. If you are unsure of your drivers, do not dwell on this section of the action plan. You can come back and refine your aims when you fill in your [Operational Table](#) or driver diagram.
- Talk with some of the key groups you identified in Step 1 to gather reactions and feedback on your aims. You may also wish to develop aims together as a group and work toward them together. The more your aims are shared, the bigger your team effort towards improvement. Note these in your [Stakeholder & Community Engagement Plan](#).

→ Once your aims have been identified you will need to consider what change(s) you will make, what effect you want each change to have, and how long you think it will take to achieve your aims. Be as specific as possible. If possible, tie your aims to what your community needs and wants. Set a time frame for each target outcome, so you can track and measure progress.

→ The following statement is a formula for SMART objectives, which are specific, measurable, attainable, relevant, and time-bound:

I will do \_\_\_\_\_, in order to \_\_\_\_\_, by \_\_\_\_\_

For example:

*Our health plan will reduce BMI scores among children ages 2-5 years identified as overweight and obese within 2 months.*

For guidance on how to set SMART aims, see the [Goal Setting Worksheet](#).

**Remember Advice from the Field**

- As you consider the changes your organization may need to make, bear in mind that your partnerships with key stakeholders in the community are critical to meeting the needs of your priority group and ensuring that you meet your members where they live, eat, and attend school. As you develop your SMART Aim, your partnerships may allow your organization to have a deep impact. For example, your organization may be able to work with providers to align your focus on community education or unite members with community agencies who can provide culturally appropriate lifestyle counseling for certain segments of your priority group. Your partnerships may also help your organization to identify barriers and find way to address them.

**Can you measure it? What are the specific indicators or data points you will monitor, and how often?**

→ List the indicator or data points that you will monitor and the frequency. You can use these as benchmarks to measure and share your progress as you go.

**Remember Advice from the Field:**

- Implement surveys and assessments to gauge knowledge of nutrition, track behavior change, assess attitude towards behavior change, and program satisfaction. Your organization may consider regularly measuring height, weight, and BMI percentile, especially during the first and final weeks of the program.

**Check for relevance: How are you involving your community?**

→ List three ways you can include stakeholders as you work toward your aim. For example, you could use pilot testing, focus groups, and dissemination of resources. The more specific you are, the easier your next step (Action Plan) will be.

**Check for duplication: Are there other stakeholders or groups who are already addressing childhood obesity in the community? Or perhaps, related health disparities or social determinants of health? If so, how do your aims overlap?**

- Look at your list from the beginning of this step and note which partners and stakeholders you know are already addressing this disparity, or have overlapping aims around this disparity.
- For each partner, write down an idea for how you can work together to reach or support your shared aims. Make notes in your [Stakeholder & Community Engagement Plan](#).

### Step 3: Develop an Action Plan

The following questions will help you to complete the [Operational Table](#) and [Stakeholder & Community Engagement Plan](#).

.....

**Use the Operational Table or create a separate driver diagram to identify the root causes or drivers of your priority group's obesity problem, including relevant health disparities and social determinants of health.**

- Make a list of factors contributing to the obesity issues of the priority group, noting health disparities and social determinants of health that may make it difficult to address the obesity issue. Use this list to create a driver diagram or a flow chart. For guidance on creating driver diagrams, use the [Aim and Drivers for Improvement template](#).
  - *Think about all of the factors that may create a gap in health care outcomes, quality, or access for your priority group, or that may make a disparity worse.*
  - *Consider what you learned from key stakeholders and resources in the community about what is causing local disparities or affecting health.*
  - *Be ready to revise your driver diagram as you go. You may learn of a driver or circumstances that you did not realize existed.*

**Remember Advice from the Field:**

- *Parental and caregiver attendance in program activities can be difficult to cultivate as a result of social determinants of health like lack of transportation and conflicts with work schedules. Your organization may need to further explore the social determinants of health impacting your priority group in the initial planning phase.*

**Choose one or two root causes – or drivers – you want to start with.**

- The outcome of your aim should be attainable. Focus on areas you can change and pick one or two drivers your organization can directly impact.
- As you make plans or strategies to address certain drivers, consider including your key stakeholders or community resources. Later in this step you will think about what aims you share with your partners and how to work together.

---

**List key community groups and local partners who serve and/or support your target population.**

- Focus on community resources or stakeholders who work in the geographic areas that your pediatric members and their families reside in.
  - *For example, if your focus is addressing disproportionate rates of childhood obesity among your African American or Hispanic members, consider local health care clinicians, community recreational centers, nutrition assistance, and social and supportive services for African American and Hispanic residents in the community.*

**Remember Advice from the Field:**

- *Once you have connected with your partners, your organization may be better able to provide members of your priority group with resources to overcome social determinants of health. For example, your organization may be able to connect members with public agencies who provide assistance securing healthy foods, or public transportation. Additionally, you may be able to collaborate with partners to create culturally competent educational materials at an appropriate health literacy level.*

---

**How many individuals in the priority group will you reach through your childhood obesity prevention and treatment initiative?**

- Provide an estimate. Your estimate should be based on data available to your health plan. Data sources you might consider include encounter data, claims data, and clinician referrals.

---

**What outcomes do you expect to have, and by when?**

- Consider the change(s) you expect to see in your priority group once your initiative has completed.
- Identify time frames by which you expect change(s) to occur, and the incremental changes you expect to see.
  - *There are more questions about benchmarks and milestones to mark your progress in Step 4. You can make notes now to help you later.*

## What barriers do you expect to encounter?

- List potential obstacles you may encounter throughout your initiative, especially those identified by your community resources and stakeholders.
  - *You can map these on your driver diagram to help you visualize where they might impact your initiative and the priority group.*

---

## How can those barriers be addressed?

- You will need develop strategies to address the barriers you have identified.
- Talk with your community resources and stakeholders to see if they have encountered and overcome similar obstacles and learn what might work for your priority group.

---

## How will you integrate your community resources in your engagement with the priority group?

- Discuss how you will work with stakeholders and local groups, including how or if you plan to partner with others to reach your aims. Consider formal and informal relationships, and opportunities to convene and learn from each other.
- Write down a rough timeline for when you plan to engage with the your local partners.

### **Remember Advice from the Field:**

- *Childhood obesity prevention and treatment programs should be adapted to meet the needs of local communities and families. As you think of ways to engage your community and stakeholders, remember that short-term partnerships are not financially sustainable. In order to ensure that your program is sustainable, consider developing long-term partnerships based on clinical outcomes and results that can be shared with partners and demonstrate the value of your partnership. It will be helpful to work with groups that have similar initiatives, aligned mutual interests, and goals that benefit the community.*

## Step 4: Monitor, Improve, Disseminate

Complete your **Operational Table** by writing out how you will monitor and improve upon your aims. The questions and ideas below will help you identify metrics and measurable outcomes and your timeline.

---

### What do you hope to achieve for the target population(s)?

- Look at your SMART aim(s) on your **Operational Table**.

## How will you assess changes in your target group(s)?

→ Take a look at your notes from Step 2 that describe the changes you are expecting to see and the measures you have identified. Now, write out the answers to these questions:

- *What specific outcome measures will you use to show change?*
  - *How will you stratify your data to compare populations and monitor emerging disparities?*
  - *How often will you check them?*
- 

## What benchmarks will use you and how will you track them?

→ For each outcome, list the benchmarks or milestones you'll use, and how often you'll check them.

- *How will you collect and track this information?*
  - *How will you share your progress with your team and community?*
- 

## How will you use available data to manage your work and improve health equity for your target population?

→ Look at the measures and benchmarks you identified. What are the quantitative and qualitative data sources you will need to measure change?

→ Note where you will get the data you have identified and what staff members will be responsible for ensuring your data is available, reliable, and as current as possible.

---

## How will you measure success?

→ Using your answers to the questions above, fill in the Metrics and Measureable Outcomes and Timelines columns on your [Operational Table](#).

---

## How frequently will you revisit your target outcomes to assess progress, and revise your Action Plan?

→ How often will you revisit your Action Plan from Step 3, and update it based on what you have observed?

→ How will you involve your community and target population in updating your Action Plan? Note this in your [Stakeholder & Community Engagement Plan](#).

## How will you share, spread, and scale what you learn?



- Your initiative to prevent and treat childhood obesity in the Medicaid pediatric population may yield results and lessons that can help other MMCOs, clinicians, and community groups who are struggling with similar challenges.
- *How do you plan to share your results and lessons with others, including peers and colleagues, associations and networks of health care clinicians, policy makers, and government officials at federal, state, and local levels?*
- Sharing your lessons and progress with your community can also establish credibility with your stakeholders and bring new partners into your work, building momentum.

**congratulations!**

You have completed a  
**CHildhood Obesity Prevention & Treatment  
Action Statement (CHOPT-AS).**

As you implement your **CHOPT-AS**, you may see outcomes you did not expect.

Revisit and revise your approach as you learn.

**Keep testing and improving to reduce childhood  
obesity and achieve health equity!**

*If you need assistance with implementation, contact the Institute for Medicaid Innovation  
at [info@medicaidinnovation.org](mailto:info@medicaidinnovation.org).*



# GOAL SETTING WORKSHEET

This document was adapted in consultation with the Centers for Medicare and Medicaid Service from the QAPI Goal Setting Worksheet.

**Directions:** Goal setting is important when measuring quality and performance improvement. This worksheet is intended to help health plan staff identify appropriate goals for measure related to performance improvement projects. This worksheet does not include the necessary steps to be taken to reach your organization's goals. Goals should be clear and describe what your health plan or team seeks to accomplish. Use this worksheet to identify goals that follow the SMART formula outlined below.

**Describe the childhood obesity problem to be solved. If possible, identify the relevant health disparities or social determinants of health linked to childhood obesity.**

*[Example: We have found that children living in Area 1 are experiencing high rates of overweight and obesity. Clinicians have notified case management staff of ongoing chronic disease management for comorbid conditions. Area 1 is considered a food desert and has a very transient population.]*

Use the SMART formula to develop a goal:

## SPECIFIC

Describe the goal in terms of 3 'W' questions:

**What does your organization want to accomplish? [Example: Reduce obesity rates in pediatric members.]**

**Who will be involved? Who will be affected? [Example: Children ages 5 to 12 years.]**

**Where will your program or initiative take place? [Example: Areas with the highest rates of obesity among pediatric members.]**

## MEASURABLE

Describe how you will know if the goal is reached:

**What measure(s) will your organization use? [Example: Decrease body-mass-index (BMI) scores, decrease utilization of prescription drugs for obesity-related conditions.]**



What is the baseline data for the measure(s)? [Example: Used obesity-related ICD-10 codes in claims data to find 15 percent of pediatric members have BMIs greater than 95th percentile.]

What is the target you would like your measure(s) to meet? [Example: The national average for children with BMI scores greater than the 95th percentile is 8 percent.]

## ATTAINABLE

*Defend the rationale for setting the goal measure(s) above:*

Did you identify the measure(s) based on a particular average score or benchmark? [Example: The target is based on the national average for pediatric obesity rates.]

Are the goal measures set too low?

Are the goal measures reasonable?

## RELEVANT

*Briefly describe how the goal will address the childhood obesity problem stated above.*

## TIME-BOUND

*Define the timeline for achieving the goal:*

What is the target date for achieving this goal?

Write a goal statement, based on the SMART elements above. The goal should be descriptive, yet concise enough that it can be easily communicated and remembered.

*[Example: Improve body-mass-index (BMI) scores and reduce utilization of prescription drugs to treat obesity-related condition within 12 weeks.]*

**Tip:** It is prudent to post the written goal in a visible space and regularly communicate the goal during meetings in order to stay focused and remind health plan staff that everyone is working toward the same aim.

# KEY DATA SOURCES TO COMPARE YOUR PRIORITY GROUP TO THE COMMUNITY

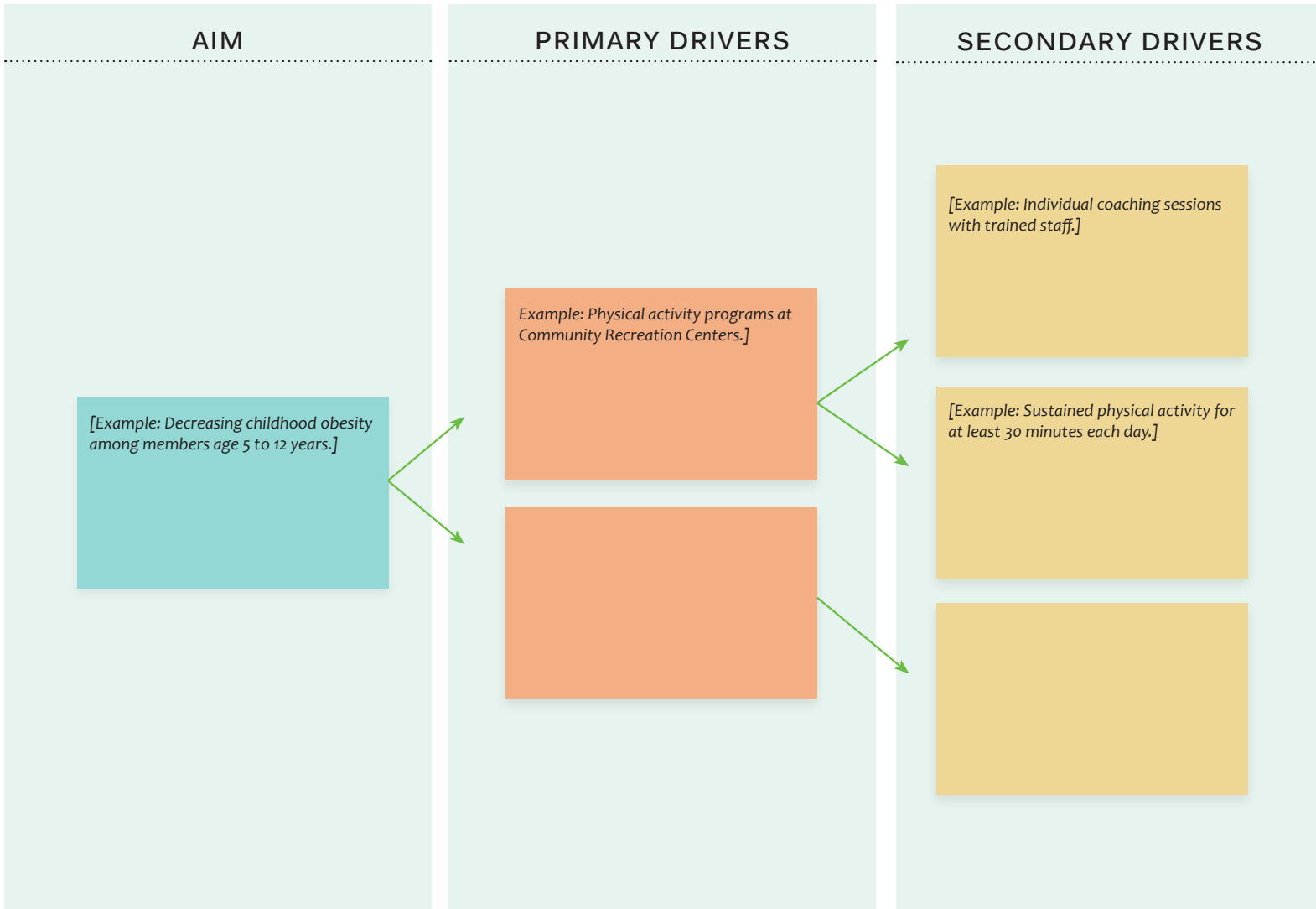
Use this table of data sources to help you with Step 1 of your **CHILDHOOD Obesity Prevention & Treatment Action Statement (CHOPT-AS)**. While these resources do not contain information on children in each community, they provide a representation of the households in which your pediatric population will live in and be impacted by.

Data	Description	Level	Health and healthcare					Demographics						
			Q/O	C	A	U	P	SES/SDH	R/E	L	D	SO/GI	R/U	
<b>Community Health Status Indicators</b> Centers for Disease Control	Provides indicators of health outcomes, access and quality, health behaviors, social factors, and the physical environment.	County	X		X	X	X	X	X	X	X		X	
<b>Healthcare Cost and Utilization Project</b> Agency for Healthcare Research and Quality	Contains diagnoses and procedures, discharge status, patient demographics, and charges for all patients regardless of payer.	County, State, National	X	X		X		X	X				X	
<b>Area Health Resource Files</b> Health Resources and Services Administration	Compares population characteristics, health resources, and demographics.	County, State, National		X	X	X		X	X	X	X		X	
<b>Health Indicators Website</b> National Center for Health Statistics	Describes community's health status and determinants.	Varies (Hospital, County, State, National, Region)	X	X	X	X	X	X	X			X	X	
<b>County Health Rankings</b> Robert Wood Johnson Foundation, University of Wisconsin	Ranks the health of nearly every county in the nation, with social determinants.	County	X	X	X	X	X	X	X				X	
<b>Dartmouth Atlas of Health Care</b> Dartmouth Institute	Provides medical resource distribution, hospital care intensity, variations in care/procedures, end of life care, and cost.	Hospital, County, State, Region	X	X	X	X		X	X			X	X	
<b>Community Health Profiles</b> Community Commons (CHNA)	Provides data layer maps with demographic elements, SES, clinical care, health behaviors, and outcomes.	County, State	X		X	X	X	X	X	X	X		X	
Additional local data sources: State or Local Health Department Data, Local Community Health Needs Assessment (CHNA), Stakeholder Interviews, Administrative Claims, State Medicaid Data, American Communities Survey (ACS), Behavioral Risk Factor Surveillance System (BRFSS)														
<b>KEY</b>														
Q/O	Quality & Outcomes	P	Prevalence of conditions / disease					D	Disability Status					
C	Cost	SES/SDH	Socio-economic Status / Social Determinants of Health					SO/GI	Sexual Orientation & Gender Identity					
A	Access	R/E	Race / Ethnicity					R/U	Rural / Urban					
U	Utilization of care	L	Language											



## AIM AND DRIVERS FOR IMPROVEMENT

This tool was adapted in consultation the Centers for Medicare and Medicaid Services from the Aims and Drivers for Improvement tool.



# COMMUNICATIONS PLAN WORKSHEET

This document was adapted in consultation with the Centers for Medicare and Medicaid Service from the QAPI Communications Plan Worksheet.

**Directions:** Use this worksheet to plan your communications strategy with key stakeholders and community resources for any component of your childhood obesity prevention and treatment initiative. A communications plan should be revisited every three to six months to ensure it is still appropriate to meet the objectives of the initiative. Your CHOPT-AS lead may find it helpful to plan communications using this worksheet.

Date of Current Review: \_\_\_\_\_

Next Review Schedules for: \_\_\_\_\_



**Step 1: State the purpose for the communication.** [Example: For a performance improvement project to reduce obesity rates among the health plan’s pre-diabetic and diabetic pediatric population living in Area 1. The health plan needs to leverage community food bank and nutrition assistance resources to improve access to healthy food options.]

**Step 2: Define Audiences.** An effective communications plan targets messages and customizes tactics to specific audiences. In order to direct resources appropriately, you may choose to rank order audiences as primary or secondary.

**Primary Audiences:** [Example: Local health departments, WIC, community food bank.]

**Secondary Audiences:** [Example: Farmers market, community groups assisting with healthy foods for families.]

**Step 3. Define approach.** Using the table below, define key aspects of the communication plan based on audience and timeframe.

	Name of Audience	Time Frame
<b>Purpose</b> Why is it important to communicate to this audience? What is the goal of your communications? Do you have a specific need or request (i.e., do you need approval, buy-in, involvement, support)?		
<b>Values</b> What does this audience most value when it comes to this topic? How will the content support these values? How will you express this in your messaging?		
<b>Concerns</b> What is this audience's greatest concern when it comes to this topic? How can the content alleviate these concerns or overcome them as barriers? How will you express this in your messaging?		
<b>Message</b> What is the key message you want to deliver to this audience at this time? Remember to tie in the audience's values and concerns. Also address the following: what successes are there at this point? What challenges need to be overcome? What is happening next?		
<b>Messenger</b> Who will deliver the message to this audience? You may assign the responsibility for delivering the message through each channel to different individuals.		
<b>Evaluation</b> How will you know you were successful? What output will you track (e.g., number of e-newsletters delivered and opened)? How will you monitor the effectiveness of the messages and channels used (e.g., surveys, key informant interviews, observations of changed behavior)?		

# appendix c

## REFERENCES

- 1 Skinner, A. C., Perrin, E. M., & Skelton, J. A. (2016, May). Prevalence of Obesity and Severe Obesity in US Children, 1999-2014. *Pediatric Obesity*, 24(5), 1116-1123. doi: 10.1002/oby.21497
- 2 Wang, Y., & Beydoun, M. A. (2007, May 17). The Obesity Epidemic in the United States - Gender, Age, Socioeconomic, Racial/Ethnic, and Geographic Characteristics: A Systematic Review and Meta-Regression Analysis. *Epidemiologic Reviews*, 29(1), 6-28. doi: 10.1093/epirev/mxm007
- 3 Freedman, D. S., Khan, L. K., Serdula, M. K., Dietz, W. H., Srinivasan, S. R., & Berenson, G. S. (2005, January 1). The Relation of Childhood BMI to Adult Adiposity: The Bogalusa Heart Study. *Pediatrics*, 115(1), pp. 22-27. doi: 10.1542/peds.2004-0220
- 4 Reilly, J. J., & Kelly, J. (2010, July). Long-Term Impact of Overweight and Obesity in Childhood and Adolescence on Morbidity and Premature Mortality in Adulthood: Systematic Review. *International Journal of Obesity*, 35(7), pp. 891-898. doi: 10.1038/ijo.2010.222
- 5 Finkelstein, E. A., Trogdon, J. G., Cohen, J. W., & Dietz, W. (2009). Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates. *Health Affairs*, 28(5), w822-w831. doi: 10.1377/hlthaff.28.5.w822
- 6 Centers for Disease Control and Prevention. (2015, June 19). Defining Childhood Obesity. BMI for Children and Teens: <http://www.cdc.gov/obesity/childhood/defining.html>
- 7 Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2014, February 26). Prevalence of Childhood and Adult Obesity in the United States. *The Journal of the American Medical Association*, 311(8), pp. 806-814. doi:10.1001/jama.2014.732
- 8 Coleman-Jensen, A., Nord, M., & Singh, A. (2013). Household Food Security in the United States in 2012. United State Department of Agriculture. Economic Research Service. <http://www.ers.usda.gov/media/1183208/err-155.pdf>
- 9 Yancey, A. K., Cole, B. L., Brown, R., Williams, J. D., Hillier, A., Kline, R. S., . . . McCarthy, W. J. (2009, March). A Cross-Sectional Prevalence Study of Ethnically Targeted and General Audience Outdoor Obesity-Related Advertising. *The Milbank Quarterly*, 87(1), 155-184.
- 10 Salud America! (2013). Active Play and Latino Kids. The Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children. <http://www.communitycommons.org/wp-content/uploads/2013/08/Active-Play-Issue-Brief.pdf>
- 11 Salud America! (2013, August). Healthier Marketing and Latino Kids. The Robert Wood Johnson Foundation Research Network to Prevent Obesity Among Latino Children. <http://www.communitycommons.org/wp-content/uploads/2013/08/Healthier-Marketing-Issue-Brief.pdf>
- 12 United States Census Bureau. (2013). Age and Sex of All People, Family Members and Unrelated Individuals Iterated by Income-to-Poverty Ratio and Race: 2013: Below 100% of Poverty - Black Alone. Current Population Survey (CPS): Annual Social and Economic (ASEC) Supplement. [http://www.census.gov/hhes/www/cpstable/032014/pov/pov01\\_100.htm](http://www.census.gov/hhes/www/cpstable/032014/pov/pov01_100.htm)



- 13 United States Census Bureau. (2013). Age and Sex of All People, Family Members and Unrelated Individuals Iterated by Income-to-Poverty Ratio and Race: 2013: Below 100% of Poverty - Hispanic (any race). Current Population Survey (CPS): Annual Social and Economic (ASEC) Supplement. [http://www.census.gov/hhes/www/cpstables/032014/pov/povo1\\_100.htm](http://www.census.gov/hhes/www/cpstables/032014/pov/povo1_100.htm)
- 14 Marder, W. D., & Chang, S. (2005). Childhood Obesity: Costs, Treatment Patterns, Disparities in Care, and Prevalent Medical Conditions. Thomson Medstat. [http://www.nptinternal.org/productions/chcv2/healthupdates/pdf/Cost\\_of\\_childhood\\_obesity.pdf](http://www.nptinternal.org/productions/chcv2/healthupdates/pdf/Cost_of_childhood_obesity.pdf)
- 15 Institute of Medicine. (2009). Weigh Gain During Pregnancy: Reexamining the Guidelines. <http://www.nationalacademies.org/hmd/-/media/Files/Report%20Files/2009/Weight-Gain-During-Pregnancy-Reexamining-the-Guidelines/Report%20Brief%20-%20Weight%20Gain%20During%20Pregnancy.pdf>
- 16 Wojcicki, J. M., & Heyman, M. B. (2010, April 22). Let's Move - Childhood Obesity Prevention from Pregnancy and Infancy Onward. *The New England Journal of Medicine*, 362(16), pp. 1457-59. doi: 10.1056/NEJMp1001857
- 17 World Health Organization. (2016). Report of the Commission on Ending Childhood Obesity. [http://apps.who.int/iris/bitstream/10665/204176/1/9789241510066\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/204176/1/9789241510066_eng.pdf)
- 18 Child Health and Development Institute of Connecticut. (2014). Preventing Childhood Obesity: Maternal-Child Life Course Approach. [http://www.chdi.org/files/5214/1209/5014/preventing\\_childhood\\_obesity.pdf](http://www.chdi.org/files/5214/1209/5014/preventing_childhood_obesity.pdf)
- 19 Lau, E. Y., Liu, J., Archer, E., McDonald, S. M., & Liu, J. (2014, October 2). Maternal Weight Gain in Pregnancy and Risk of Obesity among Offspring: A Systematic Review. *Journal of Obesity*, 1-16. doi: 10.1155/2014/524939
- 20 Whitaker, R. C. (2004, July). Predicting Preschooler Obesity at Birth: The Role of Maternal Obesity in Early Pregnancy. *American Academy of Pediatrics*, 114(1), e29-36. doi: 10.1542/peds.114.1.e29
- 21 Kaar, J. L., Crume, T., Brinton, J. T., Bischoff, K. J., McDuffie, R., & Dabelea, D. (2014). Maternal Obesity, Gestational Weight Gain, and Offspring Adiposity: The Exploring Perinatal Outcomes among Children Study. *The Journal of Pediatrics*, 165(3), 509-15. doi:10.1016/j.jpeds.2014.05.050
- 22 Weng, S. F., Redsell, S. A., Swift, J. A., Yang, M., & Glazebrook, C. P. (2012). Systematic review and meta-analyses of risk factors for childhood overweight identifiable during infancy. *Archives of Disease in Childhood*, 97, 1019-26. doi: 10.1136/archdischild-2012-302263
- 23 Cunningham, S. A., Kramer, M. R., & Narayan, K. V. (2014, January 30). Incidence of Childhood Obesity in the United States. *The New England Journal of Medicine*, 370(5), 403-411. doi: 10.1056/NEJMoa1309753
- 24 Fontaine, K. R., Redden, D. T., Wang, C., Westfall, A. O., & Allison, D. B. (2003, January 8). Years of Life Lost Due to Obesity. *The Journal of the American Medical Association*, 289(2), 187-193. doi:10.1001/jama.289.2.187
- 25 Centers for Disease Control and Prevention. (2010, January 22). Prevalence of Abnormal Lipid Levels Among Youths - United States, 1999-2006. *Morbidity and Mortality Weekly Report*, 59(2), 29-33. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5902a1.htm>
- 26 Marcus, M. D., Foster, G. D., El ghormli, L., Baranowski, T., Goldberg, L., Jago, R., . . . Trevino, R. (2012). Shifts in BMI Category and Associated Cardiometabolic Risk: Prospective Results From HEALTHY Study. *Pediatrics*, 129(4), e983-991. doi:10.1542/peds.2011-2696
- 27 Cote, A. T., Harris, K. C., Panagiotopoulos, C., Sandor, G. G., & Devlin, A. M. (2013). Childhood Obesity and Cardiovascular Dysfunction. *Journal of the American College of Cardiology*, 62(15), 1309-1319. doi:10.1016/j.jacc.2013.07.042
- 28 Crowley, D. I., Khoury, P. R., Urbina, E. M., Ippisch, H. M., & Kimball, T. R. (2011). Cardiovascular Impact of the Pediatric Obesity Epidemic: Higher Left Ventricular Mass is Related to Higher Body Mass Index. *Journal of Pediatrics*, 158(5), 709-714.e1. doi:10.1016/j.jpeds.2010.10.016
- 29 Visness, C. M., London, S. J., Daniels, J. L., Kaufman, J. S., Yeatss, K. B., Siega-Riz, A.-M., . . . Zeldin, D. C. (2010). Association of Childhood Obesity with Atopic and Non-Atopic Asthma: Results from the National Health and Nutrition Examination Survey 1999-2006. *Journal of Asthma*, 47(7), 822-829. doi:10.3109/02770903.2010.489388
- 30 Velasquez-Mieyer, P., Perez-Faustinelli, S., & Cowan, P. A. (2005). Identifying Children at Risk for Obesity, Type 2 Diabetes, and Cardiovascular Disease. *Diabetes Spectrum*, 18(4), 213-220. doi: 10.2337/diaspect.18.4.213
- 31 Dablea, D., Mayer-Davis, E. J., Saydah, S., Imperatore, G., Linder, B., Divers, J., . . . Hamman, R. F. (2014, May 7). Prevalence of Type 1 and Type 2 Diabetes Among Children and Adolescents from 2001 to 2009. *The Journal of the American Medical Association*, 311(17), 1778-1786. doi:10.1001/jama.2014.3201
- 32 Manuel, D., & Schultz, S. E. (2004, February). Health-Related Quality of Life and Health-Adjusted Life Expectancy of People with Diabetes in Ontario, Canada, 1996-1997. *Diabetes Care*, 27(2), 407-414. doi: 10.2337/diacare.27.2.407
- 33 Wier, L. M., & Encinosa, W. (2012). Obesity in Children: Hospitalizations from 2000 to 2009. HCU Statistical Brief #138. Rockville, MD: Agency for Healthcare Research and Quality. <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb138.pdf>
- 34 Tanofsky-Kraff, M., Yanovski, S. Z., Wilfley, D. E., Marmarosh, C., Morgan, C. M., & Yanovski, J. A. (2004, February). Eating-Disordered Behaviors, Body Fact, and Psychopathology in Overweight and Normal-Weight Children. *The Journal of Consulting and Clinical Psychology*, 72(1), 53-61. doi:10.1037/0022-006X.72.1.53
- 35 Goldschmidt, A. B., Aspen, V. P., Sinton, M. M., Tanofsky-Kraff, M., & Wilfley, D. E. (2008, February). Disordered Eating Attitudes and Behaviors in Overweight Youth. *Obesity*, 16(2), 257-264. doi:10.1038/oby.2007.48



- 36 Kotler, L. A., Cohen, P., Davies, M., Pine, D. S., & Walsh, B. T. (2001, December). Longitudinal Relationships Between Childhood, Adolescent, and Adult Eating Disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 40(12), 1434-1440. doi: 10.1097/00004583-200112000-00014
- 37 Trasande, L., & Chatterjee, S. (2009, September). The Impact of Obesity on Health Service Utilization and Costs in Childhood. *Obesity*, 17(9), 1749-1754. doi:10.1038/oby.2009.671
- 38 Trasande, L., Liu, Y., Fryer, G., & Weitzman, M. (2009, July 9). Effects Of Childhood Obesity On Hospital Care And Costs, 1999–2005. *Health Affairs*, 28(4), w751-w760. doi: 10.1377/hlthaff.28.4.w751
- 39 Cawley, J., & Meyerhoefer, C. (2012, January). The Medical Care Costs of Obesity: An Instrumental Variables Approach. *Journal of Health Economics*, 31(1), 219-230. doi:10.1016/j.jhealeco.2011.10.003
- 40 Wang, Y., Beydoun, M. A., Liang, L., Caballero, B., & Kumanyika, S. K. (2008, October). Will All Americans Become Overweight or Obese? Estimating the Progression and Cost of the US Obesity Epidemic. *Obesity*, 16(10), 2323-2330. doi:10.1038/oby.2008.351
- 41 Geier, A. B., Foster, G. D., Womble, L. G., McLaughlin, J., Borradaile, K. E., Nachmani, J., . . . Shults, J. (2007). The Relationship Between Relative Weight and School Attendance Among Elementary Schoolchildren. 15(8), 2157-2161. Retrieved from 10.1038/oby.2007.256
- 42 Taras, H., & Potts-Datema, W. (2005). Obesity and Student Performance at School. *Journal of School Health*, 75(8), 291-295. doi:10.1111/j.1746-1561.2005.00040.x
- 43 Centers for Medicare and Medicaid Services. (2014). National Health Expenditures 2013 Highlights. Department of Health and Human Services. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/highlights.pdf>
- 44 Wang, Y., Wu, Y., Wilson, R. F., Bleich, S., Cheskin, L., Weston, C., . . . Segal, J. (2013). Childhood Obesity Prevention Programs: Comparative Effectiveness Review and Meta-Analysis. U.S. Department of Health and Human Services. Rockville, MD: Agency for Healthcare Research and Quality. <http://www.effectivehealthcare.ahrq.gov/ehc/products/330/1524/obesity-child-report-130610.pdf>
- 45 Gortmaker, S. L., Long, M. W., Resch, S. C., Ward, Z. J., Cradock, A. L., Barrett, J. L., . . . Wang, Y. C. (2015). Cost Effectiveness of Childhood Obesity Interventions: Evidence and Methods for CHOICES. *American Journal of Preventive Medicine*, 49(1), 102-111. doi:10.1016/j.amepre.2015.03.032
- 46 Gortmaker, S. L., Wang, Y. C., Long, M. W., Giles, C. M., Ward, Z. J., Barrett, J. L., . . . Cradock, A. L. (2015). Three Interventions That Reduce Childhood Obesity Are Projected to Save More Than They Cost to Implement. *Health Affairs*, 34(11), 1932-1939. doi:10.1377/hlthaff.2015.063
- 47 Sebelius, K. (2014). Report to Congress on Preventive Services and Obesity-related Services Available to Medicaid Enrollees. Department of Health and Human Services. <http://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-care/downloads/rtc-preventive-obesity-related-services2014.pdf>
- 48 Centers for Disease Control and Prevention. (2015, March 13). Division of Nutrition, Physical Activity, and Obesity. Childhood Obesity Research Demonstration Project (CORD): <http://www.cdc.gov/nccdphp/dnpao/division-information/programs/researchproject.html>
- 49 National Committee for Quality Assurance. (2016). The State of Health Care Quality Report 2015. Retrieved from <http://www.ncqa.org/report-cards/health-plans/state-of-health-care-quality/2015-table-of-contents/weight-assessment>
- 50 Institute of Medicine: Task Force on Community Preventive Services. (2002). Recommendations to Increase Physical Activity in Communities. *The American Journal of Preventive Medicine*, 22(4S), 67-72.
- 51 Lobstein, T., Jackson-Leach, R., Moodie, M. L., Hall, K. D., Gortmaker, S. L., Swinburn, B. A., . . . McPherson, K. (2015, June). Child and Adolescent Obesity: Part of a Bigger Picture. *The Lancet*, 385(9986), 2510-2520. doi: 10.1016/S0140-6736(14)61746-3
- 52 Institute of Medicine. (2012). Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation. [https://iom.nationalacademies.org/-/media/Files/Report%20Files/2012/APOP/APOP\\_rb.pdf](https://iom.nationalacademies.org/-/media/Files/Report%20Files/2012/APOP/APOP_rb.pdf)
- 53 Dietz, W., Lee, J., Wechsler, H., Malepati, S., & Sherry, B. (2007, March/April). Health Plans' Role In Preventing Overweight In Children And Adolescents. *Health Affairs*, 26(2), 430-440. doi: 10.1377/hlthaff.26.2.430
- 54 American Public Health Association. (2016, May 5). Community Health Workers. <https://www.apha.org/apha-communities/member-sections/community-health-workers>
- 55 U.S. Department of Health and Human Services. (2016, April). Disparities Action Statement. Centers for Medicare and Medicaid Services.
- 56 U.S. Department of Health and Human Services. (2010). Establishing a Holistic framework to Reduce Inequities in HIV, Viral Hepatitis, STDs, and Tuberculosis in the United States: An NCHSTP White Paper on Social Determinants of Health, 2010. Centers for Disease Control and Prevention, Atlanta, GA. <https://www.cdc.gov/socialdeterminants/docs/SDH-White-Paper-2010.pdf>



# Notes

A series of horizontal dotted lines for writing notes.

# Notes

A series of horizontal dotted lines for writing notes.

# Notes

A series of horizontal dotted lines for writing notes.

# Notes

A series of horizontal dotted lines for writing notes.

# Notes

A series of horizontal dotted lines for writing notes.





**CHOPT**  
*for*  
**Medicaid**

If you need assistance with implementation, contact the Institute for Medicaid Innovation  
at [info@medicaidinnovation.org](mailto:info@medicaidinnovation.org).