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Improving Access and Systems of Care for Evidence-Based Childhood Obesity Treatment: Conference Key Findings and Next Steps

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The Improving Access and Systems of Care for Evidence-Based Childhood Obesity Treatment Conference Workgroup*

Abstract

Objectives—To improve systems of care to advance implementation of the U.S. Preventive Services Task Force recommendations for childhood obesity treatment (i.e. clinicians offer/refer children with obesity to intensive, multicomponent behavioral interventions of >25 hours over 6–12 months to improve weight status) and to expand payment for these services.

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Methods—In July 2015, forty-three cross-sector stakeholders attended a conference supported by the Agency for Healthcare Research and Quality, American Academy of Pediatrics Institute for Healthy Childhood Weight, and The Obesity Society. Plenary sessions presenting scientific evidence and clinical and payment practices were interspersed with breakout sessions to identify consensus recommendations.

Results—Consensus recommendations for childhood obesity treatment included: family-based multicomponent behavioral therapy; integrated care model; and multi-disciplinary care team. The use of evidence-based protocols, a well-trained healthcare team, medical oversight, and treatment at or above the minimum dose (e.g. >25 hours) are critical components to ensure effective delivery of high-quality care and to achieve clinically meaningful weight loss. Approaches to secure reimbursement for evidence-based obesity treatment within payment models were recommended.

Conclusion—Continued cross-sector collaboration is crucial to ensure a unified approach to increase payment and access for childhood obesity treatment and to scale-up training to ensure quality of care.

Keywords

childhood obesity; reimbursement; evidence-based treatment

Childhood obesity in the US has reached epidemic levels; nearly one in three children is overweight or has obesity.[1,2] Obesity is a serious public health issue and is associated with immediate and long-term health problems for children.[3–9] Childhood obesity incurs significant healthcare costs,[10–12] and costs increase with the persistence of obesity into adolescence and adulthood.[13–15] For example, children with obesity have more emergency room visits, higher prescription drug costs, and attend more specialist visits than peers who have normal weight.[11,16] Indeed, childhood obesity appears to be driving increases in Medicaid spending.[17]

Most US children with obesity do not receive evidence-based care for obesity.[18–23] In response to this problem, the United States Preventive Services Task Force (USPSTF), convened by the Agency for Healthcare Research and Quality (AHRQ) as authorized by Congress, conducted a rigorous literature review on childhood obesity screening (see Supplement 1) and recommended clinicians screen children aged 6 years and older for obesity and offer or refer them to comprehensive, intensive, behavioral interventions to promote improvements in weight status.[24,25] This recommendation received a B grade from the USPSTF.[26] As a result patients with obesity pay no deductibles or co-payments and do not participate in cost-sharing for these services as mandated by the Affordable Care Act (ACA) with the exception of grandfathered plans.[27] Grandfathered plans are those that were in place as of March 23, 2010 and have remained in compliance with the criteria to maintain their grandfathered status. However, several barriers persist and impede widespread implementation of USPSTF-recommended care to treat childhood obesity. Improved care coordination, clinical-community integration, and inter-professional education to support care delivery within the healthcare system and community are needed to provide high-integrity, comprehensive, multicomponent treatment to the many children in need.[19,20,22,28,29] Another important barrier to the implementation of recommended care is

inadequate reimbursement for treatment.[22,30] Despite substantial evidence that obesity warrants early and comprehensive treatment and is mandated by the ACA, many insurers do not provide coverage for childhood obesity treatment.[21,23] When coverage is offered, it is often limited in scope and does not support treatments of adequate duration or breadth to effectively impact childhood obesity.[21,23]

To reduce barriers and realize the impact of effective treatment for childhood obesity, efforts are needed to accelerate implementation of the USPSTF recommendations and translate evidence into practice.[24] To achieve this goal, multidisciplinary stakeholders in the fields of childhood obesity, policy, advocacy, and reimbursement must work collaboratively to: 1) develop feasible, acceptable, effective, and sustainable care delivery models supporting USPSTF recommendations and 2) create a unified strategy for policy change regarding reimbursement.

To this end, on July 9–10, 2015, the American Academy of Pediatrics (AAP) Institute for Healthy Childhood Weight, the Pediatric Obesity Section of The Obesity Society, and members of the Institute of Medicine's Innovation Collaborative on Integrated Clinical and Social Systems for the Prevention and Treatment of Obesity hosted forty-three multidisciplinary, cross-sector stakeholders (clinicians, scientists, policy makers, representatives from advocacy organizations, and insurance industry leaders), plus a patient advocate and her parent at a meeting titled "Evidence-based childhood obesity treatment: Improving access and systems of care" (R13HS02281601). This working conference pursued the following aims: 1) advance the translation of evidence-based treatment for childhood obesity into routine clinical practice and 2) provide a forum in which key stakeholders could work collaboratively and partner with payers, foundations, professional organizations, and advocacy groups committed to forging a unified strategy for childhood obesity treatment reimbursement and disseminating the conference outcomes. The conference entailed pre-work (e.g., survey, webinar, state-of-the-field reading), a two-day meeting, and post-meeting synthesis.

Figure 1 provides a case example from the conference's patient advocate, Maria, illustrating the consequences of not receiving evidence-based care consistent with the USPSTF recommendations. Such consequences include psychosocial effects of bullying by peers and the experience of weight stigma from under-trained educational and healthcare professionals. Although Maria eventually advocated successfully for bariatric surgery, she and her mother describe how useful they found a multicomponent, family-based, behavioral intervention that they participated in when Maria was 9 years old. Unfortunately, program time limits prevented them from receiving the full dose of this intervention, and Maria continued to gain weight as illustrated by the growth chart reproduced in Figure 1.

This report presents a model for childhood obesity treatment consistent with USPSTF recommendations as envisioned by the stakeholders at the conference and a review of payment models and systems discussed at the conference. Areas of consensus and major themes that emerged during the conference are discussed, as well as relevant background evidence and future directions to improve access and systems of care for children with obesity and their families. For the purposes of this conference "consensus" was defined as

the “absence of strong dissent.” Additionally, the meeting organizers and attendees adopted the Chatham House Rule to allow speakers and participants anonymity and to serve as an aid to free discussion. The Chatham House Rule stipulates that “participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed”.[31]

Consensus on Effective Implementation of Childhood Obesity Treatment into Clinical Practice

The first part of the conference established consensus on the components and structure of evidence-based childhood obesity intervention. The attendees agreed that multicomponent interventions including dietary modifications, physical activity changes, behavioral strategies, and active parental involvement should be made routinely available to children with obesity. Attendees further agreed that these interventions should be delivered at the intensity and in a format consistent with USPSTF recommendations. Specifically, the USPSTF recommends that clinicians screen children aged 6 years and older for obesity and offer or refer children to an intensive, comprehensive behavioral intervention to promote improvement in weight status.[24] Early intervention is important because less weight change is needed at younger ages to achieve a healthy weight compared to the amount of weight loss necessary at older ages.[32] Interventions should be of moderate-to-high intensity and include dietary, physical activity, and behavioral counseling components. Moderate intensity is defined as = 26–75 contact hours, and high intensity >75 hours over at least 6- to 12-months.[24] Reviews conducted since the publication of the USPSTF recommendation support the effectiveness of multicomponent treatments for overweight/obesity in children and the positive impact of treatment intensity on outcomes,[33–35] including the positive impact of these interventions on cardiometabolic outcomes.[33] These reviews, and the 2010 USPSTF report, note the importance of parental involvement in the efficacy of children’s weight loss interventions. Conference attendees explored ways to improve systems for care delivery to implement these recommendations by examining patient perspectives and reviewing evidence around existing treatment models. Important observations and recommendations were made during the conference regarding treatment approach, measurements of success, setting, and team composition and team members’ roles and training, as summarized below.

Family-Based Behavioral Treatment

Conference attendees reached consensus on the critical components of a family-based treatment model for children with obesity. Because of the effectiveness of family-based therapy (FBT) and its consistency with USPSTF recommendations, FBT was more closely examined as a promising multicomponent, moderate-to-high intensity childhood obesity treatment for translation into clinical settings. FBT has been studied for over 30 years and has repeatedly been shown to be effective in treating childhood obesity despite increases in both the severity and prevalence of obesity in children in an increasingly obesogenic environment.[36] FBT takes a family-centered, comprehensive approach to behavior change to improve nutrition/dietary behaviors, promote physical activity, and reduce sedentary behaviors.[36–44] In FBT, parents who are overweight or have obesity are assisted in achieving their own weight-loss goals in addition to all parents being taught positive parenting

techniques such as contingency management (e.g., praise and reinforcement of the child's behavioral change successes) and environmental control (e.g. modification of the home environment to increase access to healthy food and activity choices and decrease access to unhealthy options) to support their child in achieving and maintaining a healthy weight.[35–37,45,46] FBT is designed to help parents and their children build and establish lasting changes in these behaviors through the application of self-regulatory skills (e.g., self-monitoring), behavioral economics, and social and learning theory principles to the practice of weight maintenance behaviors across multiple socio-environmental contexts (home, school, community, work, etc.).[35–38,47–51] Programs such as FBT, in which parents are active participants in the intervention, result in superior child weight outcomes compared to interventions in which the parent is not encouraged to make their own behavioral changes. In a seminal study of FBT, children who were treated together with their parents showed significant decreases in relative weight at 10-year follow up, whereas children treated separately from their parents increased their weights.[37] Parental weight loss is a robust predictor of child success in FBT, with evidence suggesting that parental influences on child weight outcomes occur through parental modeling of healthy behaviors and changes to the home environment.[52] Treating children together with their parents is a more cost-effective approach than treating the parent or child separately.[53]

Integrated Chronic Care Model

While the evidence reviewed for the USPSTF recommendations shows treatment consisting of > 25 contact hours over at least 6–12 months can effectively yield improvements in weight status, conference attendees agreed that the treatment of obesity does not occur as an acute episode of care, and as such, the chronic care model should frame treatment given the impact obesity has across the lifespan.[54] The chronic care model allows for the integration of follow-up visits for medical monitoring and maintenance of behavior change as needed, facilitates the provision of an intensity and frequency of treatment sufficient to achieve meaningful outcomes,[24,25] and calls for clinic-community linkages.[54,55]

Treatment Format

Individual family or mixed-format approaches (i.e., some time with individual families and some group time) produce better treatment effects than group-only approaches,[34,37,45,56] perhaps because the behavioral change components of treatment are better implemented when working with individual families. Therefore, conference attendees reached consensus on the need for taking an individualized approach to care that allows for the tailoring of treatment to patient or family needs and preferences. However, it was noted that including some group sessions may offer the opportunity for social support with and amongst children, families, and parents, and may improve cost-effectiveness.[57]

Outcome Measures

Conference attendees recommended that a menu of evidence-based individual and system-level measures be considered for tracking success, with the treatment team choosing the best measures based on the individualized plan for the patient. The primary indicator of success should be stabilization or reduction of relative weight measures (e.g., body mass index [BMI], BMI z-score, % weight above the 95th percentile), depending on the child's age and

obesity status, with a focus on achieving clinically significant weight changes. Cut-offs for clinically significant changes have been proposed (e.g., 0.25 or 0.5 BMI z-score decrease[56,58,59]) because weight changes of this magnitude have been associated with improvements in indicators of cardiometabolic functioning such as blood pressure, cholesterol levels, and HbA1c values, and improved psychosocial health.[33,60,61] However, additional research is needed to further establish the degree of weight change necessary in children to achieve sustainable clinical benefits. In addition to weight stabilization, the consensus of the conference stakeholders was that other relevant treatment outcomes should be assessed and monitored to provide feedback on treatment progress for the clinician and family including measures assessing psychosocial functioning, biomedical outcomes, behavioral change, systems-level variables, and patient perspectives or attitudes (see examples in Table 1).

Treatment Setting

There was a consensus that obesity treatment is ideally provided within an integrated system of care, which can be housed within a primary care practice medical home, a tertiary care center, or a community setting as part of the medical neighborhood.[62] In 2011, the Centers for Medicare and Medicaid Services issued a Decision Memo for Intensive Behavioral Therapy for Obesity (CAG-00423N) which covers telephone-based counseling.[63] Thus, virtual or telehealth technology may also be used to reach families who cannot easily travel for care as evidence emerges for its adherence and efficacy.[54]

Composition of the Care Delivery Team

A team approach should be adopted to facilitate an integrated system of care. Table 2 describes the team composition and roles of team members as envisioned by conference stakeholders. The core team members are a primary care provider with medical credentials who provides medical oversight, partnered with a behavioral interventionist trained in childhood obesity management who provides weight loss counseling. Access to sub-specialty care is critical,[64] and sub-specialists can follow the AAP recommendations for monitoring comorbidities.[65] Importantly, the sub-specialist interaction can be virtual to facilitate access to those geographically distant from the sub-specialty clinic so as not to widen health disparities.[66] Conference attendees suggested that a care coordinator could facilitate the integration of care and communication from the referring primary care provider to the behavioral interventionist and sub-specialists as well as reduce fragmentation that can occur when multiple providers are involved in a patient's care. Effective training practices are available for treatment teams, particularly behavioral interventionists, to deliver family-based childhood obesity treatments in a consistent and robust manner, but these must be scaled-up to increase access to evidence-based care.

Provider Training

A lack of providers trained in evidence-based care for childhood obesity was listed in the pre-conference survey as a major barrier to the implementation of treatment consistent with USPSTF recommendations. Therefore, there was general agreement that comprehensive and consistent training should be made widely available to obesity treatment teams, with training specialized based on role (see Table 2). Although educational backgrounds for the

behavioral interventionists were not explicitly detailed, cultural and developmental competencies were highlighted as requisites. Because effective methods for training interventionists have been employed in clinical research trials resulting in a reliable and reproducible intervention,[35,36,46,67] the development of a standardized training, certification, and monitoring system to deliver evidence-based treatment in multiple settings was discussed. A number of dissemination and implementation studies have demonstrated that training novice providers to competency combined with ongoing consultation or supervision and coaching from experts can result in treatment outcomes consistent with those obtained in carefully controlled clinical trials.[68–76]

Consensus on the Access to and Payment for Effective Childhood Obesity Treatment

The second part of the conference established a consensus that despite the USPSTF recommendations, access to and reimbursement for evidence-based childhood obesity treatment is inconsistent and/or insufficient. Lack of reimbursement for childhood obesity treatment services was noted as a significant barrier to widespread implementation of childhood obesity treatment that complies with USPSTF recommendations. Conference attendees agreed that action-oriented dialog on the topic of childhood obesity treatment and reimbursement was long overdue. Indeed, one conference participant noted: “We feel and know that our children and families need better care – we need to push the field.” In response to the pre-conference survey, stakeholders agreed that the current reimbursement/insurance system, available financial resources and operating costs of the organization, and limited availability of quality training in USPSTF-recommended care are the most significant barriers to implementation (see Supplement 2), highlighting the need to create a unified strategy for policy change regarding payment for childhood obesity services, a primary focus of the conference.

Evidence for the Current Provision of Childhood Obesity Services

Evidence regarding the current provision and reimbursement of childhood obesity treatment services was reviewed during the conference. Despite the Affordable Care Act’s focus on prevention,[77] obesity treatment services for children and adolescents remain scattered with little uniformity in the healthcare system. The lack of uptake or provision of such services by appropriate pediatric centers parallels the un-reimbursed or under-reimbursed financial history of services.[22,23,78] Conference attendees reviewed data that examined the current landscape of childhood obesity treatment delivery. Specifically, the Children’s Hospital Association conducted a survey of children’s hospitals and pediatric departments in 2013 to assess the availability of comprehensive, multidisciplinary weight management services.[78] Surveys were returned by 54% of the 218 children’s hospitals contacted, and of these, only 52 reported providing comprehensive, multidisciplinary weight management services for children consistent with USPSTF recommendations. However, there was little uniformity in program length. For example, 52% of programs reported treatment length of less than 20 weeks,[78] illustrating the challenges to deliver the recommended duration of care. A major barrier highlighted by the survey was lack of payment for these services. For example,

physicians were fully reimbursed by Medicaid 58% of the time and by commercial insurance 41% of the time. Other childhood obesity care team members (e.g., registered dietitians, behavioral counselors, exercise specialists) were reimbursed at significantly lower rates.[78] Indeed, 84% of respondents reported that their weight management services ran at a financial loss, leading to the conclusion that weight management services are not financially self-sustaining.[78]

Reimbursement for behavioral health services affects both access to care and effectiveness, as illustrated by a study comparing different forms of coverage for smoking cessation.[79] Full insurance coverage, including removal of copayments except those required for prescriptions, improved both access to smoking cessation programs and quit rates. These results highlight the importance of securing adequate payment for childhood obesity services to facilitate widespread and sustainable access to effective care. Accordingly, the remainder of the conference focused on: 1) understanding current payment models and their implications for childhood obesity services; 2) examining novel payment and treatment delivery systems from adult obesity and analogous childhood chronic conditions; 3) describing current and emerging payers; and 4) understanding how to advocate for payment for evidence-based care for childhood obesity through current payer systems.

Payment Models

In an effort to contain healthcare costs while improving quality of care, payment systems are evolving.[20] Payment systems are moving from fee-for-service (FFS) models, which incentivize providers to perform more services leaving payers to shoulder financial risks, to payment models that emphasize quality over quantity of services and shift some financial risk to the provider[80] (see Table 3). The evolution from FFS to shared risk payment models is illustrated by Medicare's decision to boost the percentage of its payments devoted to alternative payment models from 20% in 2014 to 50% in 2018 while also increasing the proportion of FFS payments tied to quality or value (85% in 2016 and 90% in 2018).[81]

During the conference, rich discussions among participants were facilitated in multiple small breakout groups (see Supplement 3 for discussions guides). Conference attendees concluded that alternative payment models could better support the integration of behavioral health and medical care related to childhood obesity treatment than traditional FFS models.[82] Conference stakeholders explored the design and implementation of new payment models conducive to reimbursement for evidence-based obesity treatment for children within a chronic care model. However, multiple challenges to designing and implementing new payment systems were identified at the conference. These include how best to bundle payments, settle the payment amount, assure quality healthcare for patients, and align incentives through multiple payers,[83] all of which will need to be addressed as they apply to childhood obesity.

Relevant Examples of Current and Future Delivery Models

Whereas conference attendees noted that alternative payment models would best facilitate the routine delivery of USPSTF-recommended care for childhood obesity, it was acknowledged that such changes require concomitant shifts in care delivery systems. Thus,

during the conference, attendees discussed recent innovations in payment models and systems of care from adult obesity and analogous conditions that can be applied to the evidence-based intervention for childhood obesity. Three examples were highlighted at the conference, as follows.

Centers of Excellence

The treatment of autism spectrum disorders (ASD) provides an analog condition because the need for ongoing, dedicated, specialized interdisciplinary services is similar to the needs required to successfully address childhood obesity. For instance, significant strides have been made to improve access to care for children living in Missouri with ASD through a state-level model of collaborative care using a Centers of Excellence (COE) approach. Developing a COE for the treatment of childhood obesity could be an important next step to improving availability of high-quality care. The expansion of current regional centers and creation of new centers for childhood obesity could tailor care to include more intensive services for complex cases of childhood obesity while possibly containing costs, as was illustrated in the treatment of ASD in Missouri.[84] The development of the COE for ASD involved state leaders targeting legislative action to improve funding for ASD services in part due to advocacy from parents/caregivers and healthcare professionals. The conference attendees discussed the importance of securing similarly comprehensive, integrated services for childhood obesity that will require parents, providers, and other advocates working to counter societal weight bias and stigma and other barriers to these services.

Integrating Community-Based Services with Healthcare

A promising example of incorporating chronic disease prevention into routine practice is the effort to adapt the Diabetes Prevention Program (DPP) for use in YMCAs[85] and other settings. The DPP is an intensive lifestyle intervention for adults at risk of developing diabetes. DPP has demonstrated efficacy[86]; however, its intensity makes it difficult to implement in busy healthcare settings. Investigators thus examined the feasibility of implementing the program in YMCAs, and a pilot program demonstrated its feasibility and effectiveness,[87] which led to an expansion of the program to more than 70 YMCA organizations as well as a partnership between the YMCA and the UnitedHealthcare group. The partnership in turn created a system of payment for participants in the YMCA's program to help ensure program sustainability.[87–89] Importantly, in this adult prevention program, care is delivered by trained instructors who receive on-going supervision. Conference attendees identified this training model as an extension of care that holds promise for childhood obesity services as long as interventionists are trained by experts in the treatment and have on-going treatment oversight. Additionally, the value-based payment from some insurers may be successfully applied with a key to reimbursement being patients meeting weight loss goals.

Integrated Behavioral and Physical Healthcare

An example of an innovative payment model comes from New York State's Medicaid Waiver.[90] In April 2014, the Centers for Medicare and Medicaid Services (CMS) and New York created a groundbreaking waiver allowing the State to reinvest eight billion dollars generated by Medicaid Redesign Team reforms into a Delivery System Reform Incentive

Payment program. The intention of this Medicaid redesign was to create a Value-Based Payment system. The Roadmap for this plan presents a model for three types of integrated care: Integrated Primary Care (e.g., Patient-Centered Medical Home, behavioral health primary care, management of chronic illness); Episodic Care Services (specialized services for a particular condition and time such as maternity care, hip replacement); and Specialized Continuous Care Services for individuals needing ongoing, dedicated, specialized multidisciplinary services for a health problem/condition. Supplement 4 illustrates how the New York Medicaid program will implement value-based payment and offers a population health focus. The model depicted in the supplement includes specific areas where childhood obesity care could be implemented and be eligible for payment. Because the conference consensus was that evidence-based obesity treatment services for children/adolescents could be both episodic and chronic, these services could be delivered and reimbursed the same way as other chronic diseases.

Current Payer Systems

Payers for healthcare services fall into four broad categories: government-sponsored such as Medicaid; commercial plans such as those offered through employers; Accountable Care Organizations (ACOs); and large employer groups. Each is defined in Table 4. The potential capacity or motivation of each healthcare service to address childhood obesity is described in more detail below. Addressing obesity is imperative for the health and well-being of all children with obesity and their families. Importantly, minority populations are disproportionately affected with obesity (i.e., for 6–11 year-old children, Latinos have a 25.0% obesity prevalence, African Americans, 21.4%, and Whites, 13.6%,[91] thus confronting these disparities could help contain the increasing healthcare costs associated with obesity.

Medicaid

Medicaid pays for some treatment services for children with obesity, but the amount or frequency of those payments is historically lower than that of commercial plans.[80,92] Also, Medicaid programs vary across states with respect to benefit coverage, delivery systems, and administration.[93] The Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit represents a viable means to cover most, if not all, of childhood obesity treatment services[94] (see Supplement 5). Ultimately, the goal of EPSDT is to deliver the right care to the right child at the right time in the right setting. Many states are not leveraging EPSDT programs to treat childhood overweight and obesity[95] and exclude some sub-specialists (e.g., registered dietitians) and settings from coverage.

Children’s Health Insurance Program (CHIP)

CMS administers the Children’s Health Insurance Program (CHIP), which provides low-cost healthcare to children in households that earn too much to qualify for regular Medicaid. The income levels vary by state, and care can be paid directly by state Medicaid or by a private insurer’s managed care organization. Both Medicaid and CHIP programs cover a range of services to prevent and reduce obesity, including behavioral counseling, medication, and surgery.[96,97] CHIP and Medicaid Managed Care plans typically have a more narrow scope

of coverage than the EPSDT services defined under Medicaid. Medicaid and CHIP represent the payers covering the greatest number of underserved and minority children, who are also the children with the highest obesity prevalence. Therefore, it was acknowledged that these programs would have more challenges providing the full amount of reimbursement for delivery of the level of care that has been associated with the most robust weight loss outcomes (i.e., intensive, family-based behavioral interventions).

Commercial Plans

Approximately 50% of children nationwide are covered as dependents by employer-sponsored health insurance.[98] Basic services including well-child visits are covered under these plans. Diet and nutrition counseling services for weight management are typically covered as routine visits; however, these visits may be reimbursed only at routine physician visit rates. Nutrition counseling and weight loss services are sometimes excluded from coverage, and multispecialty comprehensive programs still face barriers to coverage. For example, currently only 48% of large firms and 18% of small firms provide weight loss services for employees.[98] These services are often provided as an add-on benefit outside of regular coverage (e.g., through contract with a health plan or third party). Offering services to children is rare. Conference attendees discussed that to facilitate payment for childhood obesity services from commercial payers, it is necessary to explain that childhood obesity treatment is an important family health intervention to reduce childhood morbidity and chronic adult disease.

Accountable Care Organizations

Accountable Care Organizations (ACOs) are groups of doctors, hospitals, and other healthcare providers who come together voluntarily and accept shared accountability for the cost and quality of care provided to a population of patients.[99] Accordingly, the focus of ACOs is on containing high-cost services, such as emergency room visits, especially among chronically ill patients.[100] Because untreated or undertreated childhood obesity is associated with increased short-term medical costs (e.g., medications, specialty care),[10] and because these costs continue to rise as obesity tracks into adulthood for these children,[101] reimbursing for childhood obesity treatment presents an opportunity for ACOs to invest in care that would potentially lead to lower lifetime medical costs. Moreover, the demonstrated cost savings of treating both the child with obesity and adults in the child's family[52] could provide financial incentive for ACOs to provide payment for evidence-based childhood obesity treatment.

Large Employer Groups

Large employer groups represent companies or collections of businesses that choose to self-insure with or without the use of a commercial plan as a third party administrator of their health benefit. Therefore, similar to commercial plans, they typically cover children as dependents. Employer groups are interested in a more productive work force; thus, it may be helpful to frame obesity treatment as an opportunity to target parents' weight loss in treatment along with their children[37,53] and thus employees will likely experience health benefits as well.

Summary of Payment Discussion

Access to and reimbursement for evidence-based childhood obesity treatment is inconsistent and/or insufficient despite the fact that the USPSTF has endorsed obesity screening and either offering or referring intensive behavioral interventions for the treatment of childhood obesity with a grade B recommendation. The ACA specifically states that all services designated with a grade A or B MUST be covered without copayment by private health insurance plans,[26] with exception to grandfathered plans. Healthcare reform is creating opportunities for moving rapidly toward payment models and care delivery systems conducive to the provision of evidence-based childhood obesity treatment, and all payers have a stake in this discussion. Demonstration projects involving full fee-for-service payment of the USPSTF recommended level of care should be conducted by all payers (Medicaid and private) in a region or state to allow for the determination of baseline costs from which to build alternative payment models. At the meeting, the parent advocate noted that all of the programs were paid for out-of-pocket and “at times I stopped looking for programs due to the expense.”

Advocacy Recommendations and Next Steps for the Field

The synergy of multiple stakeholders across the continuum of research, clinical care, policy, payment, and patients was clearly evident at the conference and produced consensus on the steps needed to operationalize the USPSTF treatment recommendations. Our parent advocate stated she often felt medical professionals did not discuss obesity because of discomfort with parental obesity. However, it will be important for parents/caregivers, employers, and policy makers to overcome the weight stigma and bias that can interfere with the vigorous advocacy needed to improve access to evidence-based care for childhood obesity.[102,103] An important outcome of this conference was the development of advocacy strategies that can be developed into tools to support efforts for improved reimbursement for evidence-based childhood obesity treatment (see Table 5). When advocating for greater access to care, key talking points will need to be adjusted to fit the payer being approached,[104,105] especially in the case of Medicaid because coverage varies across states. However, some general critical points to highlight across payers when advocating for greater access to care include: 1) the adverse effects of childhood obesity on health and healthcare costs; 2) existence of an evidence-based, effective behavioral intervention for childhood obesity; 3) treatment results that produce clinically significant weight change and other patient-centered improvements, such as physical functioning and quality of life; and 4) parents are actively targeted in family-based treatment and therefore the parent who is overweight or has obesity also may lose weight,[106] expanding the reach of the intervention beyond the target child and likely further improving the cost-effectiveness of treatment.

As evidence-based care is translated and implemented in clinical settings, it is critical to use systematic methods including the use of standardized curricula, training of interventionists, and ongoing fidelity checks and medical oversight to ensure effective delivery of high quality care. Healthcare providers play an important role in engaging parents and patients in advocating for better access to and reimbursement for childhood obesity treatment. Providers must first engage the healthcare system (e.g. pediatric departments, children’s

hospitals) to advocate for assembling the appropriate obesity management resources needed to develop and offer these services to their pediatric patients. Advocates (i.e. patients/families, providers, private and public payers, and health systems) must work together to encourage full coverage of these required services. Clinical care needs to be delivered by a well-trained team which includes supervised, and perhaps certified, behavioral interventionists to achieve clinically significant weight outcomes. To this end, conference consensus identified the skills needed to deliver the treatment and suggested types of providers (see Table 2), with training to competency being the most critical component for providers. Finally, in discussions with payers, it is critical to highlight the long-term payoff of providing treatment to children to prevent obesity tracking into adulthood, the prevention of which benefits both population health and cost savings. Advocating for the inclusion of an evaluative component to any payment or healthcare system innovation should also be considered to better understand and document the impact and effectiveness of these innovations on childhood obesity treatment.[20]

Conclusion

This conference and the present report represent an important first step in assuring that children and their families have access to evidence-based behavioral treatment for obesity. As one participant noted during discussion, the primary reason for attending this conference was to bring forward the passion and drive for translating what we know into what we do and forging the link between health and clinical medicine. Continued collaboration between stakeholders will be crucial to create a unified approach to payment for childhood obesity treatment that is of sufficient intensity and to scale-up training in the delivery of treatment with competency and consistency. Advancing efforts to secure payment for USPSTF-recommended childhood obesity care is critical, and this conference report provides a necessary first step towards achieving this goal. The AAP and many of the organizations participating in this conference have expressed commitment to continuing the implementation, dissemination, training, and advocacy needed to improve access to effective care for childhood obesity.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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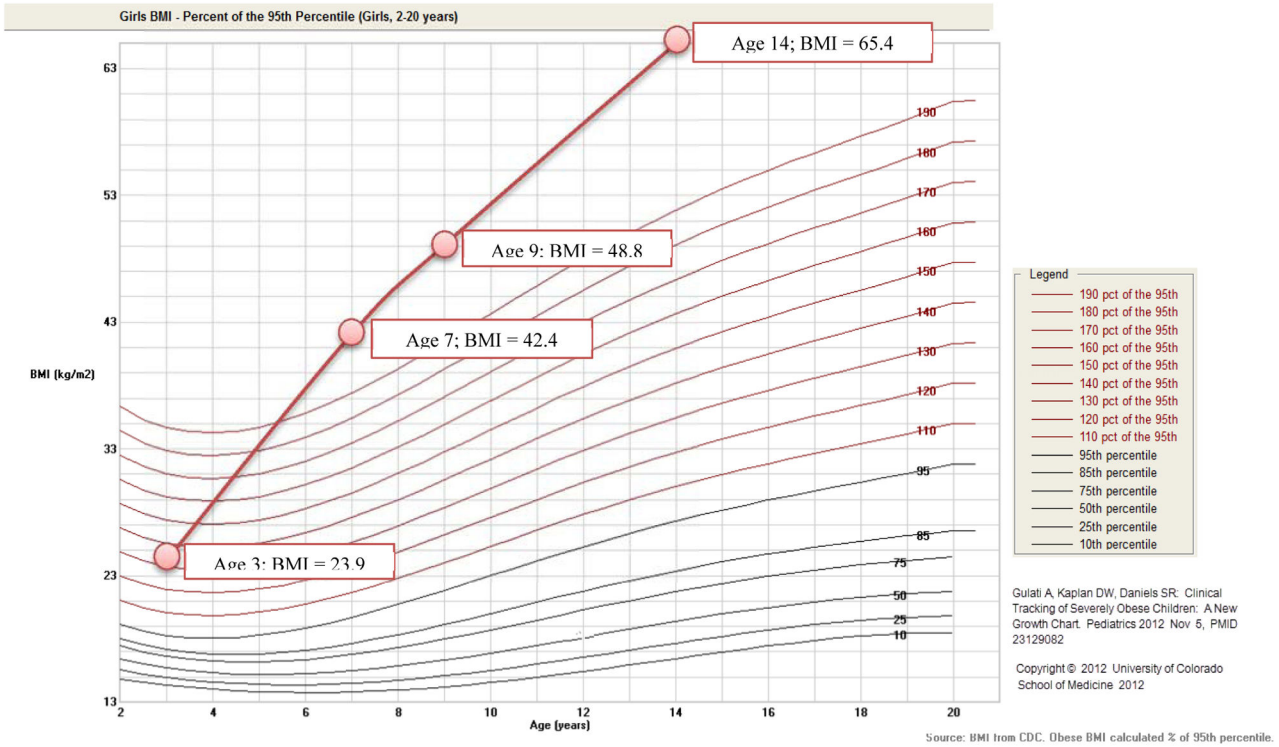

Figure 1. The patient and parent perspective

At 12 years old, Maria Caprigno* was told she would not live to see her 18th birthday because of her weight.

Maria's story begins at 4 years old when she was told she had a "growth spurt" and was the size of a 7-year-old in her pediatrician's office. This was the first notation in her medical record she was designated as "overweight." Maria remembers feeling proud that day in her doctor's office; at the time she did not understand "growth spurt" was the pediatrician's positive spin on saying she was overweight. The figure below summarizes Maria's childhood weight record graphed onto a BMI growth chart; all heights and weights were recorded at the pediatrician's office.

Maria recalled the advice from her pediatrician and office staff being "nice and well-meaning" but provided no real guidance for weight management.

They would tell her to ride a bike, take a walk, and eat healthier, but Maria and her mother did not know how to implement that advice into their daily lives. At 4 years old, Maria and her mother started their pursuit of effective weight loss programs. During the next 7 years, Maria and her mother sought out treatment through four different hospital programs, two commercial programs, and one adult-centered gym, and all had limited results. All of Maria's treatment was paid for out-of-pocket; none of the programs or interventions were reimbursable. The majority of programs she received were not evidence-based, and none were effective for Maria in maintaining weight loss long-term. Maria and her mother did complete one multicomponent, group- and family-based program for 12 weeks, which she and her mother found to be the most useful for making changes to their eating, exercise, and self-monitoring behaviors; however, they wished the program would have lasted longer. They participated in this program when Maria was 9 years old.

As a 12-year-old, Maria suffered unbearable weight-based stigma. She was shamed by her school's administration. After a difficult encounter with the school nurse, she went home crying and became inspired to find a bariatric surgeon. Within a short period of time, she was in touch with a bariatric surgeon who agreed to meet with her. Over the next two years, Maria continued her journey to leading a healthier life. She was followed closely by a medical center in Boston, MA but was unable to have a surgical intervention there. After insurance denied coverage of her surgical case because she was deemed a high risk, Maria appealed to her insurance company saying she was willing to be a "guinea pig" since the several programs she tried previously were unable to help her achieve successful weight loss. On February 9, 2010, at 14 years old, Maria weighed 443 pounds. Grateful that the insurance company had approved the bariatric surgery, Maria underwent a sleeve gastrectomy. Maria is now 21 years old and is excitedly preparing for graduation from college as a Communications major and hopes to continue as a strong patient advocate for other suffering with obesity and its related stigma. Her bariatric surgery was five years ago, and she has lost more than 140 pounds.

Maria's story illustrated the numerous barriers faced by pediatric patients with obesity in the healthcare system. Whereas effective behavioral interventions for childhood obesity exist, none of these were made available to Maria and her mother, or they did not last long enough create sustainable weight loss. Furthermore, even if they had been offered effective intervention, they would likely have had to pay for it out-of-pocket. Without effective interventions offered or provided when she was first identified with overweight at 4 years old, Maria continued to gain weight rapidly until bariatric surgery became her only option. She also experienced devastating bullying and stigma, which are both common psychosocial consequences in children with obesity. This story illustrates the necessity to provide evidence-based intervention to all children with obesity as early as possible to prevent additional weight gain and associated comorbidities and costs.

* Note that the patient and parent gave permission to be identified.

Source: Gulati AK, Kaplan DW, Daniels SR. Clinical tracking of severely obese children: A new growth chart. Pediatrics. 2012;130(6):1136–40. PubMed PMID: 23129082.

Table 1

Examples of outcome measures for evidence-based childhood obesity treatment.

Outcome	Outcome Examples
Patient-level Metrics	
Psychosocial Functioning	• Quality of life • Body image • Psychological well-being • Mental health (e.g., depression, anxiety)
Biomedical Outcomes	• Change in relative weight • Change in lipids and insulin • Halting or delay of comorbidities
Behavior Change	• Attaining behavioral goals – Dietary intake – Physical activity – Sleep • Improvements in self-efficacy
Family Metrics	
Family-level	• Parent/caregiver change in relative weight • Sibling change in relative weight
Process Metrics	
Systems-level	• Patient/family retention • Engagement of the provider, hospital, or community organization • Financial sustainability and cost effectiveness • Percentage of the population reached
Patient Experience of Treatment	• Patient and/or family readiness • Engagement/attendance • Satisfaction

Outcome	Outcome Examples
	• Trust in the care system and providers

Outcomes listed are for illustrative purposes; measurements should not be limited to only those listed above. It was further recommended that measures of treatment response or success should be collected regularly and shared with the patient and treatment team members throughout the course of treatment.

Table 2

Identified team roles for delivering family-based obesity treatment for children and adolescents.

Team Member	Role	Suggested Types of Providers**
Pediatrician or primary care provider *	• Screens for obesity • Refers/provides treatment services • Provides ongoing medical oversight • Oversees care coordination in the medical home	• Physician • Nurse practitioner • Physician assistant
Behavioral interventionist *	• Delivers the family-based behavioral treatment program • Location/site of delivery can vary • Could be done virtually pending evidence of efficacy	• Behavioral/mental health specialist (e.g., psychologist, social worker, master's level counselor) • Registered dietitian • Exercise physiologist • Health coach/educator
Sub-specialist(s) *	• Provides treatment oversight as needed depending on patient's comorbidities – Support can be provided virtually or in-person to providers or patients	• Medical sub-specialist • Mental health specialist • Exercise physiologist • Registered dietitian
Care coordinator	• Facilitates patient's linkages with the referring primary care provider, the behavioral interventionist, and sub-specialists • Ensures ongoing communication among the healthcare team	• Behavioral interventionist • Navigator • Case worker • Office staff • Registered nurse

*Although required roles for treatment delivery are not explicitly stated in the USPSTF recommendations, these roles were identified among treatments deemed successful (i.e., >25 contact hours within 6 to 12 months, multicomponent, comprehensive).

**Supervision or ongoing consultation might not be needed for all providers; however, implementation of evidence-based interventions in clinical settings have resulted in better treatment outcomes with implementation plans that include training to competency with ongoing supervision or consultation with an expert in the intervention. Additional roles that are not required but may be helpful include community outreach liaison, parent/patient advisory committee, and a business manager.

Table 3

Post-conference synthesis on payment models and their application to childhood obesity.

	Category 1: Fee-For-Service (No Link to Quality)	Category 2: Fee-For-Service (Linked to Quality)	Category 3: Alternate Payment Models on Fee-For-Service Architecture (e.g., Bundled Payment)	Category 4: Population-Based Payment (e.g., Comprehensive Care Payment)
Description	• A predetermined amount is paid for each service provided • Payments are based on volume of services and not linked to quality, efficiency, or the patient experience • This incentivizes delivery of more services, leading to increased costs	• At least a portion of payments vary based on the quality or efficiency of healthcare delivery • Is already being used in some chronic conditions	• Bundled payment: a single price is paid for all services needed by the patient during a defined care episode • Some payment is linked to the management of a population or an episode of care delivered with a disease event (e.g., heart attack) – Services related to the event are determined by the provider based on severity • Payments still triggered by delivery of services, but opportunities exist for shared savings or two-sided risk	• Comprehensive Care Payment: providers are paid a global amount to cover all medical care provided in a particular timeframe for a particular population and are paid more for taking care of sicker patients • Payment is not directly triggered by service delivery so volume is not linked to payment • Providers are paid and responsible for providing care for a long time period (e.g., >1 year) • Emphasizes high value care at lower costs through prevention efforts and more efficient use of resources
Application to Childhood Obesity	• Current national data shows childhood obesity services not being covered • Potential high volume and overutilization presents higher risk for insurers • Each session related to treatment would be billed separately • The payer and provider type would be limited • Full payment at this level is needed to set the bar for alternative payment approaches	• Increased reliance on appropriately prescribed specialty care may allow for greater collaboration between primary care and behavioral health providers • Some payments for care in Centers of Excellence would require showing some process and outcome measures	• Treatment requires flexibility in duration and intensity depending on severity of the disease as determined by the provider • Possibility for coordinated care between providers but may encourage treatment during a defined episode and not in chronic care model for longer-term management • Encourages coordination and innovation in care delivery • Incentivizes high-quality and efficiency	• Systems can invest in innovative programs rather than traditional acute care, thereby supporting collaborative, ongoing care for patients with obesity, along with other patients with chronic conditions • Most of the care for children with obesity (e.g., behavioral treatment, management of comorbidities) would be covered for a specified time period (e.g., 2 years), allowing for greater continuity and collaborative care • Some Fee-for-Service will still exist

Adapted from “Center for Medicaid Innovation Center Update”; Rajkumar R, Conway PH, Tavenner M. The CMS – Engaging Multiple Payers in Risk-Sharing Models. JAMA. Doi:10.1001/jama.2014.3703).

Table 4

Defining payer or payment systems involved with child healthcare.

Payer or System	Definition
Medicaid	• Medicaid is a joint federal and state program that helps low-income individuals or families pay for the costs associated with long-term medical and custodial care. • The range of Medicaid income eligibility level is 133–375% of the Federal Poverty Level. • Although largely funded by the federal government, Medicaid is run by the state where coverage, delivery systems, and administration may vary. • All children enrolled in Medicaid are entitled to the comprehensive set of healthcare services known as Early, Periodic Screening, Diagnosis and Treatment (EPSDT)—see supplemental information.
Children's Health Insurance Program (CHIP) & Medicaid Managed Care	• The income eligibility level is determined by the individual state, and the range of CHIP income eligibility level for children is 170–400% of the Federal Poverty Level. • CHIP provides for the delivery of Medicaid health benefits and additional services that are paid directly by state Medicaid or through contracted arrangements between state Medicaid agencies and managed care organizations (MCOs). • The MCOs agree to accept a set per member per month (capitation) payment for these services. • These services are typically narrower in scope of coverage because insurers are given discretion to define medical necessity and the terms of coverage exclusion. • Families can incur co-payments and monthly premiums but these premiums can't exceed 5% of family's annual income. • By contracting with various types of MCOs to deliver healthcare services to their beneficiaries, states can reduce Medicaid program costs and better manage utilization of health services. • Improvement in health plan performance, healthcare quality, and outcomes are key objectives of CHIP.
Commercial	• Commercial health insurance is any type of health insurance that is not offered and managed by a government entity. • Companies that sell this type of insurance are for-profit corporations and offer their insurance services through group insurance plans as well as individual or personal plans. • In all situations, a commercial insurance of this type is available only to those who are willing to pay premiums in exchange for the coverage. • These plans also have coverage that is narrower than the benefits available under Medicaid. • Many people have access to commercial health insurance purchased for them by their employer. – Dependents (e.g., children) of employees are included in their health insurance benefits.
Accountable Care Organizations (ACO)	• An ACO is a healthcare organization characterized by a payment and care delivery model that seeks to tie provider reimbursements to quality metrics and reductions in the total cost of care for an assigned population of patients. • A group of coordinated healthcare providers forms an ACO, which then provides care to a group of patients. • They may use a range of payment models (e.g., capitation, fee-for-service with asymmetric or symmetric shared savings). • They are accountable to the patients and the third-party payer for the quality, appropriateness and efficiency of the healthcare provided.

Payer or System	Definition
	• Pediatric ACOs should develop relationships with community resources and schools to achieve the best health outcomes for children.
Large Employer Groups	• Large employers or groups of large businesses may partner together and decide to self-insure their employees. • They may use a commercial insurance plan to serve as a third party administrator but it may be leadership at the business that will determine the breadth and depth of coverage and benefits. • They may also participate in ACOs at a regional level. • They typically include the coverage of children as dependents. • Employee wellness benefits may be covered separately, using separate contracts for lifestyle or wellness benefits that might include in-house commercial weight loss programs or separate carve outs for behavioral health.

Table 5

Key points for use when advocating for the reimbursement of childhood obesity treatment with payers.

	Key Advocacy Points
Efficacy	• Scientific evidence exists supporting the efficacy of treatment for childhood obesity. – Biomedical and psychosocial improvements in the child and immediate family reduce the likelihood of comorbidities. – If applied on a population level, there is potential for a significant impact on the public health of children and parents.
Patient-Related Variables	• This treatment would be valued by families and could boost enrollment since childhood obesity is a top health concern for parents. • Patient-reported outcomes have been found, including improvements in: – Physical functioning, quality of life, self-esteem, depression, academic performance, and important cognitive skills like executive function.
Return on Investment	• Childhood obesity incurs direct medical costs that include, but are not limited to: emergency department visits, prescription medications, and medical specialty care. – Reimbursing for childhood obesity treatment thus presents an opportunity to invest in treatment potentially leading to lower lifetime medical costs. • Costs of childhood obesity treatment may be offset in adulthood through the prevention of obesity-related comorbidities like heart disease and diabetes. • Positive weight outcomes extend to the caregivers, siblings, and community. – Children could experience fewer school absences, resulting in academic improvements, thus providing the country with a more prepared work force. – Adults could reduce absenteeism and presenteeism thereby creating a more productive work force and reduce productivity-related costs due to fewer child sick days.
Mandate	• The American Medical Association has designated obesity as a disease, and as such, medical necessity will arise for those children and adolescents suffering from severe obesity with co-morbid physical and mental health conditions. • The USPSTF have endorsed moderate to high intensity, multicomponent, behavioral interventions for the treatment of childhood obesity with a grade B recommendation. The ACA has specifically stated that all services designated with a grade A or B from USPSTF MUST be covered without copayment. Therefore, childhood obesity treatment services consistent with USPSTF recommendations must be covered by private insurers. • EPSDT amendments establish new coverage requirements under Medicaid, to cover “early and periodic” screening and diagnostic services to ascertain “defects” and “chronic conditions” in children, as well as healthcare and treatment needed to “correct or ameliorate” such defects and conditions discovered during the screening examinations (see Supplement 4). • The EPSDT benefit bars limitations and exclusions used by commercial insurers to exclude otherwise-covered treatments that promote the health of children with serious physical and mental health conditions that delay development.

USPSTF = United States Preventive Services Task Force; EPSDT = Early and Periodic Screening, Diagnostic and Treatment