

2014 - 2021

CHANGING MISSOURI'S LANDSCAPE

To support children's health—focus on healthy weight.



Abstract

In 2014, transformative and multi-sector approaches to address childhood obesity were endorsed by the Missouri Children's Services Commission. A wide array of partners united to implement the recommendations. Their collective efforts and accomplishments to date are highlighted in this report.



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Executive Summary

Seriously alarmed by the epidemic number of children impacted by obesity and lack of effective prevention and treatment options in Missouri, partners and experts worked diligently to craft five statewide recommendations to address this problem and presented these to the Missouri Children's Service Commission in 2014. Their commitment launched extensive efforts to implement the recommendations, which has resulted in impressive changes in Missouri's landscape to prevent and treat obesity in children. The higher number of COVID deaths

experienced by those patients with obesity, along with concern that significant weight gain occurring during the pandemic among youth may become a widespread pattern (1), has further intensified the need for these system changes to lessen the impact of obesity.

This report describes the process to develop recommendations made to the Commission, subsequent implementation actions, and resulting outcomes between January 2014 and August 2021. Partners from the child care, school, health care, academic research, and government sectors have worked persistently to achieve the following:

Child Care Sector

- Improved cohesion and collaborative planning between statewide agencies to support the child care community.
- Enhanced training and technical assistance for the child care work force to improve practices related to obesity prevention, including healthy infant feeding, assuring adequate food and nutrition, and supporting adequate physical activity and screen time limits. Leveraged existing resources and secured new supports to make this possible.
- Maintained core standards in Missouri licensing standards and set stage for future enhancements.

School Sector

- Improved capacity and resources at the Missouri Department of Elementary and Secondary Education to support local schools' implementation of health curriculum, policies, environments, and practices.
- Developed K-12 model curriculum framework and curriculum units of instruction aligned to national and state standards and health behavior outcomes.
- Increased training and technical assistance for school personnel over 200% from the 2019-20 school year to the 2020-2021 school year.
- Created new robust website and expanded use of social media channels to support local schools' efforts.
- Serves as a valued conduit for helping schools manage health practices and policies imposed by COVID and for equipping teachers with strategies and tools to support students' healthy practices in challenging pandemic times.
- Tracked outcomes of select relevant measures for long-term evaluation and planning.

Health Care Sector-Treatment

- Expanded Medicaid coverage for comprehensive weight management services for children and adults to become effective in 2021.
- Completed baseline Medicaid claims data evaluation.
- Increased trainings for eligible providers to deliver comprehensive treatments.
- Expanding access and availability of efficacious weight management services within Missouri with focus on pediatric primary care settings.
- Launched statewide ECHO on weight management for medical and health care providers.
- Developed and delivered communication resources to enhance uptake of weight management treatment.

Ongoing Oversight and Academic Supports

- Created the Healthy Weight Advisory Committee in 2018 with operational procedures and updated strategic plan.
- Enhanced achievements through planning, resource attainment and integration between sectors.
- Secured CDC grant supporting Missouri as one of the Childhood Obesity Research Demonstration sites.

Missouri's journey to prevent and treat the complexities of childhood obesity is evolving and gains are being driven by the perseverance, commitment, and willingness of partners to work collaboratively on better approaches. The oversight structure created by the Healthy Weight Advisory Committee provides a means to assure that future investments will build on the rich base established by the wide array of statewide partners.

Impetus for Action

In 2013, the limited options for effectively treating children diagnosed with obesity concerned researcher, Denise Wilfley, PhD, Washington University-St. Louis, and pediatrician, Sarah Hampl, MD, Children's Mercy- Kansas City, and their colleagues. A review of supports and barriers for the children and families they served, prompted them to explore viable policy options to improve treatment.

Discussions began with a Kansas City area legislator who had personal interest in the issue of childhood obesity. Representative Jeff Grisamore, chair of the Missouri Children's Services Commission at the time, believed the magnitude of the issue warranted a more comprehensive review. In 2013, he authorized the creation of the Subcommittee for Childhood Obesity to formulate recommendations on the prevention and treatment of childhood obesity to be presented to the Commission.

That action created a viable avenue to explore best approaches which resulted in a set of recommendations and a fruitful journey. Ultimately, their concern sparked a statewide, multi-sector collaboration resulting in systemic improvements for Missouri's children.

Methods

This report recounts the process to develop recommendations made to the Commission, subsequent implementation actions, and resulting outcomes between 2014 and early 2021. The Subcommittee's report (2) and annual updates on actions taken, served as an important foundation for this document. In addition, relevant documents and reports produced by partners were cited where appropriate. Input and review were sought from key leaders for each track to assure accurate and complete information.



Given the breadth of Missouri's actions related to the Subcommittee recommendations, the organic nature of some of the work, and the many people involved, the collective efforts are wide-reaching. This report reflects actions directly related to the recommendations, as well as others more peripherally connected to reflect a fuller picture of investments contributing to the results. Care was taken to gather varying perspectives to fairly depict the actions and outcomes most directly related to and resulting from the Subcommittee's recommendations.

The Problems

There is clear evidence that childhood obesity is a chronic disease of epidemic proportions with devastating consequences that warrants serious attention. The Subcommittee was challenged by the multitude of contributing variables and began their efforts with a detailed review of the evidence.

Magnitude of the problem, 2014

- Nationally, adults rated childhood obesity as the leading health concern for kids in their communities. (3)
- One in three children had obesity or were overweight. Obesity rates had more than doubled for children and quadrupled for adolescents over the preceding 30 years. (4)
- By the time children reached school age, the rates of overweight and obesity increased. Rates for 6-11-year-olds (34.5%) and 12-19-year-olds (34.5%) were much higher compared to 2-5-year-olds (22.8%). (4)

Contributing factors

- There have been major changes in Americans' lifestyles over the last 30 years, as childhood obesity rates rose. (5) These changes have resulted in an imbalance of children's energy expenditures when compared to increased daily consumption of calories. As this imbalance continues over time, the risk for overweight and obesity increases. (6)
- This energy imbalance is also affected by a multitude of genetic, epigenetic, hormonal, and physiologic factors in addition to environmental influencers of children's weight.

Food

- Children are prime targets for over-consumption of high-calorie, nutrient-poor foods that increase risks for obesity.
- Multiple factors, including demographic, personal, and environmental, influence the eating behaviors of children and adolescents. (7) Children have a limited capacity to make informed choices about what is healthful and what is not. (8)
- Given the pace of modern life, Americans now consume more fast-food and sugar-sweetened beverages, eat outside the home more frequently, (9) and spend less time enjoying family meals. In addition, prepared and processed food is easily accessible and inexpensive. These items are also heavily promoted, as evidenced in a Federal Trade Commission (FTC) report revealing that at least \$1.6 billion is spent annually on food advertising directed to children and adolescents. (10)

Activity

- Children continue to fall below recommended activity levels at home, child care (11), and school with limited recess time and active play time available each week. There are dramatic activity declines in adolescence (12), in part due to limited amounts of daily physical education in schools (only 4% of elementary schools, 8% of middle schools, and 2% of high schools) (13).

State policy and supports

- Over 100,000 Missouri children spend their time in licensed child care facilities. (14) Their home away from home lays the foundation for long-term health behaviors. Child care licensing rules pertaining to food and physical activity standards had not been updated since 1993. Missouri rules were rated only 49 out of 100 for the 47 child care standards for healthy weight as recommended by the American Academy of Pediatrics and other experts. (15)
- The state education agency was committed to top quality education, but there was limited capacity to address student health and wellness as it related to academic achievement. There was no full-time dedicated staff to provide supports to local schools and community-based efforts to improve environments, policies, and services to prevent and treat obesity.

Resulting health problems

- Obesity can affect nearly every body system and the organs within those systems—the brain, heart, lungs, kidneys, pancreas, liver, gall bladder, muscles, and bones. (16)
- Children with obesity were being diagnosed with serious diseases, conditions that had previously been diseases of adulthood, such as heart disease (17), and type 2 diabetes. (18)

Treatment challenges

- There was limited diagnosis, referrals for treatment, and actual treatment occurring. Variables contributing to this problem included limited health care coverage for treatment, lack of providers trained to provide behavioral interventions for weight management and lack of awareness of emerging successful treatments. (19), (20) (21).
- There is value to earlier diagnosis and treatment before co-morbid conditions develop. (21), (22)

Resulting psychosocial and lifelong problems

- Many studies have demonstrated that children with obesity perform poorer academically when compared to their normal weight peers. Clearly, there are mediating variables between having obesity and poorer school performance that contribute to this problem. These include physical inactivity, inadequate nutrition, poor socioeconomic status, and others, all of which underscores the need for comprehensive approaches. (23) (24) (25) (26) (27)
- Obesity in children tracks to adulthood.
 - There is a 70-80 % likelihood that children who have obesity will have obesity as adults. (28)
 - An adult with obesity that has tracked from childhood, experience subsequently worsening problems. Individuals in one study were found to have completed less school, earned less money, were less likely to be married and had higher rates of household poverty. (29)
- The high and rising prevalence of obesity in the United States represents a substantial obstacle for military recruitment. Obesity is one of the leading medical reasons that young adults are disqualified from joining the military and has been an issue for military recruitment for over 30 years. (30)
- Individuals with overweight and obesity are highly stigmatized and face multiple forms of discrimination because of their weight, which leads to both psychological and physical health costs to the individual, above and beyond the effects of excessive weight itself. (31)

Health care costs

Untreated obesity leads to higher risk for developing other health conditions, and the costs of treating these co-morbidities is

significant. In Missouri alone, it was projected that \$12 billion annually would be spend on obesity-related health care by 2030. (32) The average health care 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. (33)

Process to Compile Recommendations

The Missouri Children's Services Commission was comprised of representation from state agencies and elected officials that informed the policy agenda for children's services in Missouri. The Subcommittee for Childhood Obesity was established at the end of 2013 to compile prevention and treatment recommendations. The Subcommittee was co-chaired by Dr. Wilfley, Washington University-St. Louis, and Dr. Hampl, Children's Mercy-Kansas City. Sub-committee members appointed in 2014, included expert researchers and clinicians, and representatives from state agencies (health, education, and social services). In addition, representation from health care foundations, a private insurer, select health care professional organizations, a private state child care resource and referral agency, and the Missouri Council for Activity and Nutrition (MOCAN), broadened the input. The Subcommittee engaged in a process to define which strategies and actions would most effectively contribute to desired prevention and treatment

outcomes. The Subcommittee members critically analyzed the evidence, identified key gaps and barriers in Missouri, and defined recommendations to address those problems.

A core working team was formed with the chairs and selected staff from their respective institutions. From early investments from the foundations, the core team secured a facilitator

There is a 70-80 % likelihood that children who have obesity will have obesity as adults.

to manage the meetings and the decision-making process, and a science writer to support meeting input and compile a comprehensive report. At the onset, the core working team compiled a formal planning agenda that was organically tweaked throughout the process. Given the magnitude of the evidence and the complexities of this issue, it was clear efforts had to be focused to define and select manageable recommendations.

To that end, the Subcommittee formulated the following guiding principles:

- Be actionable by the state legislature or governmental agencies.
- Be reasonable to achieve in the next two years.
- Be impactful as supported by the evidence.
- Have the potential to be statewide in reach.

While acknowledging that a wide array of strategies and actions are essential at the state, community, program, and family levels to impact childhood obesity, the Subcommittee focused on state level actions directly impacting children. This approach aligned with the priorities of the Subcommittee’s co-chairs and the scope of the Missouri Children’s Services Commission. The Subcommittee knew that while it was ambitious to believe state systems were changeable within a two-year time frame, it was a helpful target at the onset of the discussion. Meetings were held monthly for approximately 10 months during 2014 to determine priority recommendations.

Through this discussion five tracks emerged: 1) prevention in early childhood, 2) school-based prevention strategies, 3) reimbursement for treatment for high-risk populations, 4) establishment of academic centers to support community-based capacity building for prevention and treatment, and 5) creation of a Commission on Child Health and Wellness to align actions and oversee implementation of the recommendations. (Figure 1)

A series of four public hearings in Columbia, Kansas City, St. Louis, and Springfield were

held across the state to gather input on the draft recommendations from a wide range of individuals. These hearings were promoted locally by local public health agencies and statewide through the Subcommittee members’ networks, (e.g., MOCAN, MO Chapter of the American Academy of Pediatrics). Broad and valuable input was received from the public as well as professionals engaged in this work from a variety of community settings. This input was then analyzed and considered by the Subcommittee to finalize the draft recommendations.

The recommendations were presented to the Missouri Children’s Services Commission at the end of 2014. This presentation offered not only opportunities to gain valuable input from Commission members that resulted in additional recommendation improvements, but also provided early opportunities to inform and influence these key stakeholders. The recommendations were subsequently published in 2015, *Critical to the Health of Our Children*:

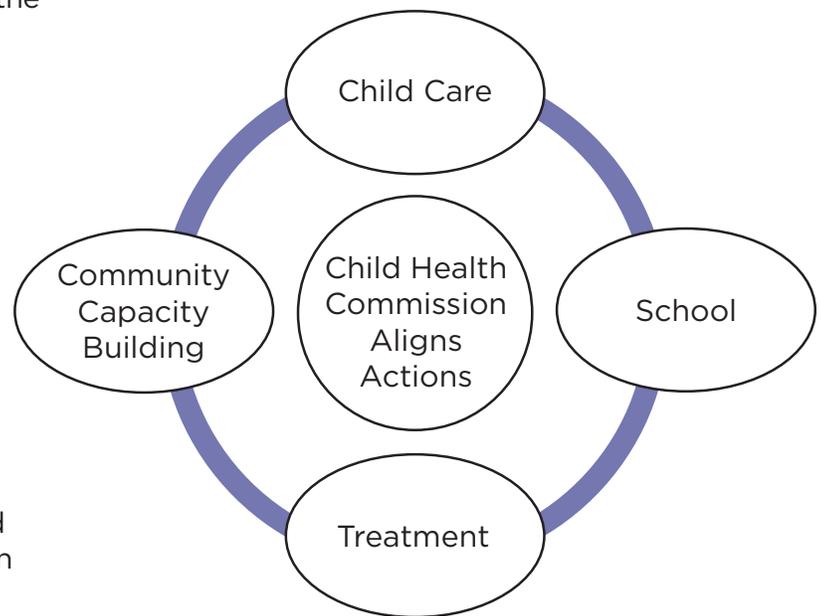


Figure 1. Recommendation Tracks

Missouri's Actions for Addressing Childhood Obesity (2). The document included evidence, rationale, how each recommendation would work, and key next steps for implementation. The full report can be found here: <https://extension.missouri.edu/media/wysiwyg/Extensiondata/Pro/MOCAN/Docs/ChildhoodObesityReportCSC.pdf>

Mobilizing Support

The recommendations were promoted at a statewide conference hosted by key partners in 2015 in Columbia. MOCAN, through the administrative supports of the University of MO-Columbia, was the lead organizer. Those planning the conference used it as a platform to launch mobilization strategies that included: 1) educating those attending about the rationale of the recommendations, 2) building buy-in across four sectors (child care, schools, health care and academia), and 3) modeling a collaborative approach to advance work to the

implementation stage. These early strategies set the stage for coordinated proposals that subsequently funded four of the five recommendations.

While the recommendations provided transformative and multisector approaches, it was clear their true value would only be realized through implementation. Efforts by MOCAN staff and work group members, and the core team staffing, led to the detailed implementation plans for four of the respective recommendations. Several MOCAN meetings were dedicated to gathering broader input to leverage existing resources, identifying where new resources were needed, and aligning efforts. Subsequently, key leaders for each track were identified, plans were finalized, and funding proposals submitted for child care, school, treatment, and oversight recommendations. Actions on each has moved at varying paces, and the key actions and outcomes are highlighted below.





Focus on Child Care

2015 COMMISSION RECOMMENDATION: *The Missouri Department of Health and Senior Services (DHSS) updates child care center and home licensing rules to align with the latest evidence on standards for feeding practices, nutrition, physical activity, and screen time limitations to prevent obesity and support long-term health. Through a network of collaborating partners, the department assures training and support services are available for child care professionals to achieve full compliance with new standards.*

Missouri Child Care Actions (2015-2021)

There are an estimated 426,258 children under six in Missouri, of which approximately two-thirds (279,727) have working parents. (34) The licensed child care capacity in Missouri has decreased from 145,339 in 2017 to 129,887 in 2020 (35). At the time recommendations were formulated in 2014, the Subcommittee considered relevant events and successful initiatives happening within the State for those children within child care settings. Overlapping the work of the Subcommittee was guiding work done by Child Care Aware®

of Missouri (CCAMO). In 2013, CCAMO was selected to partner with Nemours and the Centers for Disease Control and Prevention (CDC) to implement the National Early Care and Education (ECE) Learning Collaborative project called *Taking Steps for Healthy Success-Missouri*. As one of just six states that piloted the national project, *Taking Steps to Healthy Success-Missouri*, promoted healthy environments and policies (focus on nutrition, physical activity, and breastfeeding) in early child care centers across the state. (36) CCAMO staff had rich insights they shared with the Subcommittee.

Child care efforts were also reinforced by the Missouri Convergence Partnership that assisted and funded efforts to support enhancement of child care standards. (37) The Missouri Convergence Partnership is a collaboration of funders and allies committed to improving equitable access to healthy eating and active living across Missouri. The Missouri YMCA Collaborative and CCAMO hosted a summit with a range of child care stakeholders to

identify implementable changes needed in child care licensing standards with a focus on those within the healthy eating-active living domain. Subsequently, CCAMO conducted an in-depth survey of key health, child care and other experts to inform priorities. Those findings were

A three year collaboration has resulted in the positive influence of more than 2,000 children.

presented to MOCAN in 2016 and were a basis for subsequent actions such as MOve Smart state recognitions and the Go NAPSACC project. (38) A similar survey was repeated in 2020 by DHSS to update priorities. In 2017, the newly elected Governor issued an Executive Order to review all rules and regulations, including the child care licensing rules. This action reflected a desire for less regulation. Based on this political climate, the child care leaders shifted focus from updating the child care licensing rules related to nutrition and physical activity to improving professional development supports for the child care community. These leaders promoted the value of health and wellness standards and assisted providers to define select actions for change within their operations. This step built supports for child care settings to meet evidence-based standards and positioned collective efforts for eventual changes in the rules as norms and practices evolved. To that end, CCAMO hosted listening sessions with business leaders, directors, staff, and parents regarding their thoughts about wellness issues in child care to fine-tune needed actions.

DHSS contributed efforts across the licensing unit, Child and Adult Care Food Program, and community health bureau. The licensing unit advised on rule options and offered regular communications to child care providers through the *Healthy Child Care Newsletters* from

2016-2019 with more than 25 articles on food, nutrition, and physical activity topics.

In 2018, DHSS was awarded a five-year CDC cooperative agreement that included funding for early childhood education (ECE) nutrition and physical activity strategies. In collaboration with DHSS, the University of Missouri-Extension, forged a contract with the University of North Carolina to train trainers of child care providers to implement their evidence-based, online Go Nutrition and Physical Activity Self-Assessment in Child Care (Go NAPSACC) system. (39) Go NAPSACC is used by DHSS contracted technical assistance providers from CCAMO, DHSS Child Care Health Consultants, and University of Missouri-Extension to assist child care providers with completing self-assessments, setting goals and developing and implementing improvement plans. This process is designed to help child care providers adopt best-practice nutrition and physical activity policies and procedures into their operations. Currently 111 child care providers have enrolled in the coaching and the NAPSACC program impacting more than 4,600 children.

CCAMO continued offering *Taking Steps to Healthy Success across Missouri* from 2013 – 2018, serving 210 child care programs statewide. *Taking Steps to Healthy Success-Missouri* was also awarded a contract with the DHSS, community health bureau for 2017 – 2018. This pilot work was focused on supporting healthy lifestyles for children in family child care programs in rural areas of the state. The continued collaboration between key child care partners assured integration, complementary efforts, and reinforcement of consistent approaches and messages to the child care community.

Taking Steps to Healthy Success-Missouri advanced further through a partnership with the Missouri Foundation for Health's *Healthy Schools Healthy Communities* initiative for 2018 – 2020. Through this three-year collaboration, 135 child care educators from 61 licensed and license-exempt child care programs, center-based and family-based, across Missouri participated in the

program positively influencing more than 2,000 children in their care. (36)

In 2018, DHSS fully revised and promoted the updated MOVE Smart program, which recognizes childcare providers who implement physical activity best practices and policies for the children in their care. This program is part of a series of programs, including *Breastfeeding Friendly Child Care* and *Eat Smart Child Care*, that recognize child care providers who meet standards based on national best practices for those respective areas.

The Office of Childhood was created by the Governor in 2021 to consolidate the State's array of early childhood services and programs into one agency, the Missouri Department of Elementary and Secondary Education. The Governor recognized the critical importance of strengthening Missouri's early childhood system for workforce development and the long-term success of Missouri's children and families. A single governance system and alignment will promote effectiveness, excellence, and equity for Missouri children. This new structure is focused on ensuring Missouri's children are safe, healthy, and successful learners. (40) It provides new opportunities for child care partners to continue advancing health-based standards for child care, a critical element in a comprehensive early childhood development and education system.

Child Care Summary

There have been improvements in the network of supports for the child care community to advance health-based child care practices. Early stakeholder listening sessions and formal assessments helped inform collaborative planning to address priorities, leverage existing supports, and acquire new supports for priorities. Efforts focused on enhancing professional development opportunities with learning collaboratives, tailored technical



assistance, and recognition for facilities that met higher standards in physical activity and nutrition. This collaborative work resulted in an improved infrastructure of supports for child care providers, who in turn, voluntarily adopted and implemented higher standards of care.

Due to the political climate, child care licensing rules for health-based standards did not change in these areas: 1) healthy infant feeding, 2) nutrition, 3) physical activity, and screen time limits. At the onset of these collective efforts, Missouri licensing regulations scored 49 on a scale of 100 (2010) and that score increased to 51 in the 2019 scoring of 47 high-impact obesity prevention standards. Missouri's score change was based on a minor 2016 licensing change. (41) Compared to the national average score of 64 for state ratings of high-impact obesity prevention standards embedded in the licensing rules, Missouri has abundant opportunities to continue to improve standards for licensing child care providers. Missouri's multiple tracks of evidence-based programs, the impressive collaboration between those program efforts, and the supports made available for child care providers strengthens the foundation for further improvements and eventual changes in the child care rules. These successes coupled with the creation of the Office of Childhood promises established and new avenues to continue to improve care for children.

Goals

- Strengthen impact of collaborating agencies supporting child care practices.
- Increase professional development supports for child care agencies.
- Improve child care licensing rules for high impact obesity prevention regulations.

Active Partners

- Child Care Aware of Missouri
- Department of Health and Senior Services (DHSS)
- University of Missouri Extension
- Missouri Council on Activity and Nutrition
- Children’s Mercy-Kansas City, Weighing In

Supports and Resources

- CDC Funding-DHSS Cooperative Agreement
- CCAMO funding
- Missouri Foundation for Health
- Health Forward Foundation
- Missouri Convergence Partnership
- Actions (2014-2021)
- Engagement of partners from child care community, state health department (licensing, CACFP, Training/TA), universities, university extension, and local public health agencies, facilitated through CCAMO and MOCAN child care work group
- Formal study of child care healthy weight standards and Missouri priorities
- Document on food, nutrition, physical activity, screen time priorities compiled by Child Care Aware/University of Mo/KC MO Expert Panel and stakeholder groups (2016)
- CCAMO 2017 Listening Sessions.
- MOve Smart, Eat Smart, Breastfeeding Certifications (DHSS)
- *Healthy Child Care Newsletters* (42) 26 articles on food, nutrition, physical activity in 9 issues of newsletter (DHSS)
- Taking Steps to Healthy Success, CCAMO
- *Taking Steps to Healthy Success-Missouri*—expansion to licensed and license-exempt center-based and family child care programs in 11 urban and rural school districts throughout the state (MFH, CCAMO)
- Training and coaching services for child care providers (DHSS)
- Creation of Office of Childhood (Governor Executive Order)

Outputs and Short-Term Outcomes (2015-2021)

- 4 funding streams of support
- Approximately 400 programs and over 9,000 children reached in settings improving care

Long Term Outcomes 2021

Improvement in the network of supports for the child care community has focused on collaborative planning and leveraging existing and new supports for advocacy, professional development, learning collaboratives, and advancing child care practices.

At the onset of these collective efforts, Missouri licensing regulations met only 49% of the 47 high-impact obesity prevention standards across four early care and education licensing subdomains: 1) healthy infant feeding, 2) nutrition, 3) physical activity, and screen time limits. Based on a review of Missouri’s 2019 licensing data this rating shifted slightly to 51%, although rules specific to the obesity prevention standards did not change. (41)

Compared to the national average score of 64%, Missouri has abundant opportunities to improve standards for licensing child care providers. Based on the reach of Missouri’s multiple tracks of evidence-based programs and supports for child care providers, improvements have occurred that set the stage for eventual changes in child care licensing rules.



Focus on Schools

2015 COMMISSION RECOMMENDATION: The Missouri Department of Elementary and Secondary Education (DESE) establishes an Office of Student Wellness with staff dedicated to maintaining up-to-date grade level expectations for health and physical education curricula. In addition, DESE modifies the school accreditation scoring guide by creating and maintaining a health and wellness component that provides an incentive for schools to voluntarily implement obesity prevention strategies. Working in collaboration with the Department of Health and Senior Services (DHSS), the Office of Student Wellness provides training and technical assistance for educators and school administrators to implement best practices and school wellness policies related to family engagement, nutrition, physical activity, and physical education.

Missouri School Actions (2015-2021)

DESE oversees curriculum and instruction for 889,213 K-12 students attending 2,456 public schools. DESE did not have dedicated full-time staff related to this recommendation in 2015 but fortunately had an employee actively engaged in first-round planning efforts while

she managed other duties and responsibilities. A draft plan was compiled to expand state capacity for leadership and support of local school districts' wellness efforts. Input was gathered from MOCAN's School Work Group and those that managed related programs. In 2016, DESE fleshed the draft into a proposal, submitted it and received funding from Missouri's two principal health foundations—Missouri Foundation for Health and Health Forward Foundation.

With funding, one of the first actions DESE took to implement the proposal in 2017 was establishing and filling the position of the Director for Health, Physical Education (PE) and School Wellness. An advisory group was formally begun to guide and jump-start DESE's health and wellness capacity to support local school districts. This group merged with the MOCAN School Work Group in subsequent years.

A timely national reinforcement for these efforts was the US Department of Agriculture's (USDA's) July 2016 issuance of the final rule

that strengthened the requirements on public involvement, transparency, implementation, and evaluation of school wellness policies. (43) The Missouri School Boards' Association (MSBA) updated and posted its corresponding model school wellness policies and procedures on their website. (44) Collaboratively, MSBA with MOCAN's school work group, developed and promoted a resource guide for establishment and implementation of those policies during 2017. DESE's Food and Nutrition Services Section reviews compliance with these requirements every three years for each school district participating in USDA's Child Nutrition programs.

Through the leadership and work of the new Director, DESE, in partnership with DHSS, became one of 17 state education agencies awarded a 5-year CDC Healthy Schools Grant, *Improving Student Health and Academic Achievement Through Nutrition, Physical Activity and the Management of Chronic Conditions in Schools*, in 2018. Through this grant, Missouri provided infrastructure support, professional development and training, and technical assistance to education professionals for all 560 local education agencies with a special focus on seven school districts (Bayless, Charleston, Jennings, Kennett, Ritenour, Senath, and University) to build capacity through support of district wellness councils and school health advisory committees. The overarching goals were to:

- Prevent obesity and reduce the risk of children and adolescents developing chronic disease in adulthood.
- Manage chronic health conditions prevalent in student populations including poor health, asthma, food allergies, seizure disorders, diabetes, other diseases, and disabilities of conditions.

Activities to achieve these goals focused on improving access and opportunities for healthier nutrition options and education (45), comprehensive school physical activity (PA) programs (46), improved processes and better training to help students manage chronic health

conditions (including obesity) (47), health education that instills life-long healthy habits and health literacy, practices that improve school health services (48), and links to clinical and community resources.

With the CDC supports, DESE added another new program and position, Director of Missouri Healthy Schools in 2018. This unit's goals included: 1) improve health knowledge, attitudes, and skills; 2) improve health behaviors and health outcomes; 3) improve educational outcomes; and 4) improve social outcomes. The existing Health, PE, and School Wellness unit coordinated with the newly added unit which further enriched DESE's capacity to support local school districts with professional development, training, and technical assistance to enhance school health policies, environments, and practices. Efforts aligned with the CDC's Whole School, Whole Community, Whole Child (WSCC) model that emphasizes a system approach, which strives to integrate health services and programs more deeply into the day-to-day life of schools and students to raise academic achievement and improve learning. (49) This model served as the unifying framework for all Missouri Healthy Schools' strategies and activities.

Through 2019, DESE collaborated with the Missouri Society of Health and Physical Education to develop a K-12 model curriculum framework and curriculum units of instruction aligned to national and state standards and health behavior outcomes. DESE was also awarded a 5-year continuation grant to continue student health surveillance through the School Health Profiles (SHP) and Youth Risk Behavior Survey (YRBS). DESE enhanced their web-based resources with CDC resources and technical assistance.

A total of 2,834 participants were reached through trainings on a wide range of issues including nutrition, chronic disease management, out-of-school time, and health education during the 2019-2020 school year. Progress also included the creation of a survey for the District Wellness Committees to assess out-of-school time programs' adherence to

national healthy eating and physical activity standards. The survey was completed by 24 programs from six priority Local Education Agencies. In addition, the training cadres, added 23 new trainers to 18 trained in the prior year. Other successes included leveraging state partners' funding to support school districts' worksite wellness efforts. In 2019, three school districts were awarded recognition for meeting the gold level standards for creating a working environment that supported their staff's healthy behaviors that was part of their school improvement plan (50).

When school closures began in March 2020 due to the COVID-19 pandemic, Missouri Healthy Schools was at the forefront of the pandemic response at the state level. It adapted its supports and communications for teachers, school nurses, and administrators due to the necessary precautions and expanded supports required to address COVID 19 related issues. During the 2020-2021 school year more than 6,000 people participated in online training sessions that addressed nutrition, physical education, school health services, employee wellness, facilities management, and epidemiology during this challenging time when schools shifted to virtual learning. Missouri Healthy Schools experts also provided hundreds of individualized consultations via phone, email, and videoconference to address unique needs and issues as they arose.

Missouri Healthy Schools expanded its followers on digital media by offering practical, bite-size content and promoting up-to-date guidance from state and national authorities. The program launched a new website and expanded digital media channels to better support school staffs' needs. School staff had easy access to a library of professional development courses, resources, calendar of upcoming events, success highlights, and



other information to support school health and wellness practices (51). Missouri Healthy Schools continuously updates the website and digital media channels to address needs of the schools.

Currently, DESE in collaboration with other statewide partners in MOCAN, have developed supports for Farm to School efforts that include a website and rubric that will be actively promoted. (52) With additional funding, Missouri Healthy Schools is addressing COVID-19 needs of school districts related to antigen testing; vaccine confidence; out of school time providers; and social, emotional, and mental health needs of school personnel and students.

DHSS's School Health Program worked in collaboration with DESE efforts. The DHSS State School Nurse Consultant supports an expansive network of school health nurses by tracking and sharing key data related to school health services, providing educational opportunities and technical assistance, maintaining up-to-date school health services guidelines, and facilitating collaborations with agencies and organizations related to school health. This was an important network and one that was tapped into for support of the collaborative efforts. (53)

The Missouri Foundation for Health invested in state capacity in 2017 and made a 5-year investment in strengthening local school capacity. The *Healthy Schools Healthy Communities* (HSHC) initiative worked at the

school district level, and school districts in turn reached out to K-8 schools. Schools conducted wellness assessments and created action plans to meet intermediate outcomes and the long-term goal of reducing the incidence of childhood obesity in their districts. School wellness committee action plans addressed school foods, physical education/activity, health education, school policy, and family engagement. MFH provided a resource guide of approaches and programs to assist in the development of concrete action steps for funding consideration. Key to these efforts was MFH's support for a school district wellness coordinator, who developed and organized committees and offered expert technical assistance. As of 2018, there were 32 two school districts (with a total of nearly 30,000 students), and 13 partner organizations participating in the HSHC program. (54)

Participating *Healthy Schools Healthy Communities'* schools received technical assistance and support from the Alliance for a Healthier Generation. The Alliance was an important existing resource that supported school districts, including those that were part of DESE's targeted efforts. The Missouri Foundation for Health leveraged this established resource to support those local schools participating in HSHC efforts. The Alliance used evidenced-based approaches to help schools and districts adopt health and wellness policies and practices. Since 2007, they have worked with more than 760 Missouri schools serving over 360,000 students across the state that joined the Healthier Generation's Healthy Schools Program. (55)

The Missouri Coordinated School Health Coalition (MCSHC) is a collaborative of organizations and individuals whose primary responsibility is to assist schools in their student health and wellness initiatives. The coalition uses the WSCC model and provides professional development and resources to support schools' work in this area. (56)

The *Healthy Lifestyles Initiative* which aims to strengthen community capacity for policy,

systems and environmental approaches to healthy eating and active living among children and families expanded specific supports for schools during this time. Primary goals of the initiative were to promote five core implementation strategies to increase uptake and penetration of coordinated policy, systems, and environmental activities for childhood obesity prevention among community organizations and disseminate a consistent message on family healthy lifestyles, *12345 Fit-Tastic* (www.fittastic.org). Information on the strategies tailored for the school setting were promoted along with the website link. (57) This effort was developed through a collaborative process and facilitated by community organizers at Children's Mercy Hospital. The initiative started in the Kansas City area with partners in Missouri and Kansas. As of 2016, it supported 218 partners from 170 community organizations through training, action planning, coalition support, one-on-one support, and the dissemination of materials and sharing of resources. A total of 19% of the partners were from school settings (N=42) and 12% were from child care settings. Other major partners that reinforced the strategies at the community level included public health departments (24.8%), health care providers (11.5%), and nonprofit community organizations (17.4%). (58)

School Evaluations

DESE's Missouri Healthy Schools program collected extensive data on program efforts and results. Early outcomes and select impacts of these efforts were impressive for the 2019-2020 school year:

- 90% of participants attending professional development events reported improved skills to implement school health strategies related to quality PE/PA, use of the School Health Index, a wellness policy evaluation tool-WELLSAT, and the WSCC model. The level of skill improvement was nine points above the 5-year program target of 80%.
- Priority Local Education Agencies developed 150 SMART goals as part of their School Health Improvement Plans, and 50% of



SMART goals were achieved, exceeding the 33% goal.

- All targeted schools in priority Local Education Agencies completed the School Health Profile survey; and achieved 70% participation rate from statewide random sample.
- School Health Advisory Councils were developed in 30 of the 33 targeted schools, and in six of seven priority Local Education Agencies met monthly to monitor progress towards SMART goals.

DESE's Food and Nutrition Services Section administers the state Child Nutrition Programs. Staff completes an administrative review of the school districts compliance with meal and local wellness policy requirements every three years. (59) As of 2020, only 29% of school districts, both public and charter sites, are fully in compliance with implementation of all required local wellness policy components.

Evaluation of the place-based solutions, community-wide strategies, and multisector engagement in the *Healthy Schools Healthy*

Communities initiative suggested that these efforts generated awareness and support and may help garner ongoing support for the initiative within the community. However, the evaluation of the effort revealed that individuals and families are still perceived as primarily responsible for addressing childhood obesity. The evaluators concluded that streamlined messaging regarding the issue and associated solutions, enhanced skills, and capacity to implement these efforts, and citizen engagement to garner support for place-based initiatives are important. (60)

The *Healthy Lifestyle Initiative's* evaluation used an implementation science framework to investigate which strategies delivered were related to uptake and penetration of evidence-based practices. Findings suggest that community capacity-building efforts can support community organizations in implementing policy, systems, and environmental changes but that multiple implementation strategies are likely needed, particularly activities that require a relatively high level of engagement, such as educational training and creating action plans. (58)

Synopsis of School Actions and Outcomes

Table 2

Partners and Resources-Beginning Infrastructure (2015)

Key Partner Actions and Outputs (2016-2021)

- | | |
|--|---|
| <ul style="list-style-type: none"> • DESE-fraction of staff | <ul style="list-style-type: none"> • Successful proposal awarded funding from Missouri Foundations • DESE added 2 full-time Director positions • Successful proposal awarded from CDC • CDC support continued for YRBS and SHP • Extensive trainings offered to local school districts • In collaboration with MOSHAPE, developed K-12 Model Curriculum Framework and Curriculum Units of Instruction • More than 2,800 reached through trainings on school health and wellness and health curriculums (2019-2020 school year) • More than 6,000 reached through trainings on school health, expanded to address COVID-19 related issues (2020-2021 school year) • New robust website and expanded use of social media channels to support local schools • New funds awarded to expand supports for health elements of pandemic response in schools |
| <ul style="list-style-type: none"> • DHSS-School Health Program • DHSS & University Extension-Worksite Wellness • DHSS-Farm to School | <ul style="list-style-type: none"> • Provided professional development and resources related to collective program efforts • Did periodic needs assessments of school nurses to guide supports provided • Expanded related chronic disease supports, i.e., support for students with diabetes • Supports for schools' worksite wellness efforts, three schools met gold standard as part of school improvement plan |
| <ul style="list-style-type: none"> • Missouri Foundation for Health-<i>Healthy Schools Healthy Communities</i> | <ul style="list-style-type: none"> • Showcased school successes • Shared initiative experiences to inform broader planning efforts • Provided funding for local school districts and DESE • Added supports for early childhood education and development through school districts |
| <ul style="list-style-type: none"> • Alliance for a Healthier Generation | <ul style="list-style-type: none"> • Training and technical assistance |
| <ul style="list-style-type: none"> • MO Coordinated School Health Council • MOCAN-Schools Working Group • Children's Mercy Hospital | <ul style="list-style-type: none"> • Offered and promoted training • Informed plans and promoted implementation • Expanded schools participating in <i>Healthy Lifestyles Initiative</i> |

School Summary

The primary goal of school efforts was to increase capacity at state education agency to:

- Support health, PE, and wellness curriculum improvements
- Increase training and technical assistance for local schools to implement best practices and school wellness policies related to family engagement, nutrition, physical activity, and physical education
- Modify school accreditation scoring guide to embrace health and wellness component.

Impressive gains were made. The staffing capacity at DESE increased from a fraction of a person's time to two full-time directors overseeing curriculum improvements as well as providing training and supports for schools to implement best practices and school wellness policies related to the issues defined in the recommendation. As capacity grew, so did funding and coordination of supports to achieve targeted actions. Missouri's efforts reflect solid collaboration among the partners summarized in Table 2. An unanticipated outcome of DESE's capacity expansion was the critical role that Missouri Healthy Schools played for training and communications related to the pandemic. This infrastructure expansion was an asset for DESE's response. While the original goal was a focus on school wellness, nutrition, and physical activity, the efforts encompassed social-emotional environment and chronic condition management. While Missouri's school accreditation scoring was not modified, there is an increased awareness of the role health and wellness play in academic achievement and shifts in culture and practices resulting from DESE's, local schools', and partners' actions.

Select intermediate and long-term measures are highlighted from the rich data available on Missouri schools' policies and youths' behaviors through School Health Profiles (SHP) and the Youth Risk Behavior Survey (YRBS). These data showcase gains made and further opportunities for improvement resulting from this work.

Long-term Outcome Measures

School Health Profiles

The measures reflected from the School Health Profiles are shown in Table 3. Trend data shows that there is an impressively high percentage of schools that have someone who oversees school health and safety programs starting in 2016 and it was significantly increased to 94.7% in 2020. Several measures showed significant trend increases from 2016 to 2020, including 1) the percentage of schools that placed fruits and vegetables near the cafeteria cashier, where they are easy to access, (from 65.2% to 77.6%); the percentage of schools that encouraged students to drink plain water (from 76.4% to 87.2%); the percentage of schools in which health education staff worked collaboratively with school health councils on health education activities (from 38.3% to 51.9%); and percentage of schools that provided parents and families health information designed to increase their knowledge of the nutrition and healthy eating topic (from 36.1% to 46.2%).

These measures also show further opportunities to direct future actions to make policy and practice improvements, such as on advertising on school grounds, as there was little change in this ban, noting that in 2016 only 46.7% of schools prohibited advertisements for candy, fast food restaurants, or soft drinks on school grounds and this was essentially unchanged in 2020. An important cornerstone evaluation and planning tool, the School Health Index, was promoted extensively during this time frame but is only used by about half of schools for nutrition and PE/PA and there were no significant changes in its use. It is also important to note that there was a significant trend decrease in the number of schools that prohibited less nutritious foods and beverages (e.g. candy, baked goods) from being sold for fundraising purposes (from 42.2% to 33.5%).

Select Measures on Intermediate and Long-term Outcomes from School Health Profiles for Missouri, 2016-2020

Table 3

School Measure	Percentage of schools by year (%)		
	2016	2018	2020
Ever used the School Health Index or other self-assessment tool to assess school policies, activities, and programs in the following areas:			
PE and PA		51.4	52.2
Nutrition	55.8	49.7	53.4
Chronic health conditions (e.g. asthma, food allergies)		41.6	41.9
Currently have someone who oversees or coordinates school health and safety programs and activities.	93.9	89.4	94.7*
Taught required physical education in the following grades:			
6th grade	96.6	98.5	99.1
9th Grade	92.0	92.0	95.5
12th Grade	42.5	47.2	48.3
Students participate in physical activity in classrooms during the school day outside of physical education.	47.5	49.7	51.6
Placed fruits and vegetables near the cafeteria cashier, where they are easy to access.	65.2	74.9	77.5
Used attractive displays for fruits and vegetables in the cafeteria.	63.6	70.2	75.1
Encouraged students to drink plain water.	76.4	83.9	87.2
Prohibited less nutritious foods and beverages (e.g. candy, baked goods) from being sold for fundraising purposes.	42.2	44.7	33.5 ^B
Prohibit advertisements for candy, fast food restaurants, or soft drinks in:			
School building	56.3	58.7	54.6
On school grounds	46.7	50.5	46.8
Health education staff worked with school health council on health education activities during the current school year.	38.3	46.5	51.9
Provided parents and families with health information designed to increase parent and family knowledge of the following topics during the current school year:			
Physical Activity	38.2	41.9	40.6
Nutrition and Healthy Eating	36.1	41.9	46.2 ^X

*Significant increase, p<0.05
^X Significant trend increase, p<0.05.
^B Significant trend decrease, p<0.05.
 (61)

Youth Risk Behavior Survey (YRBS)

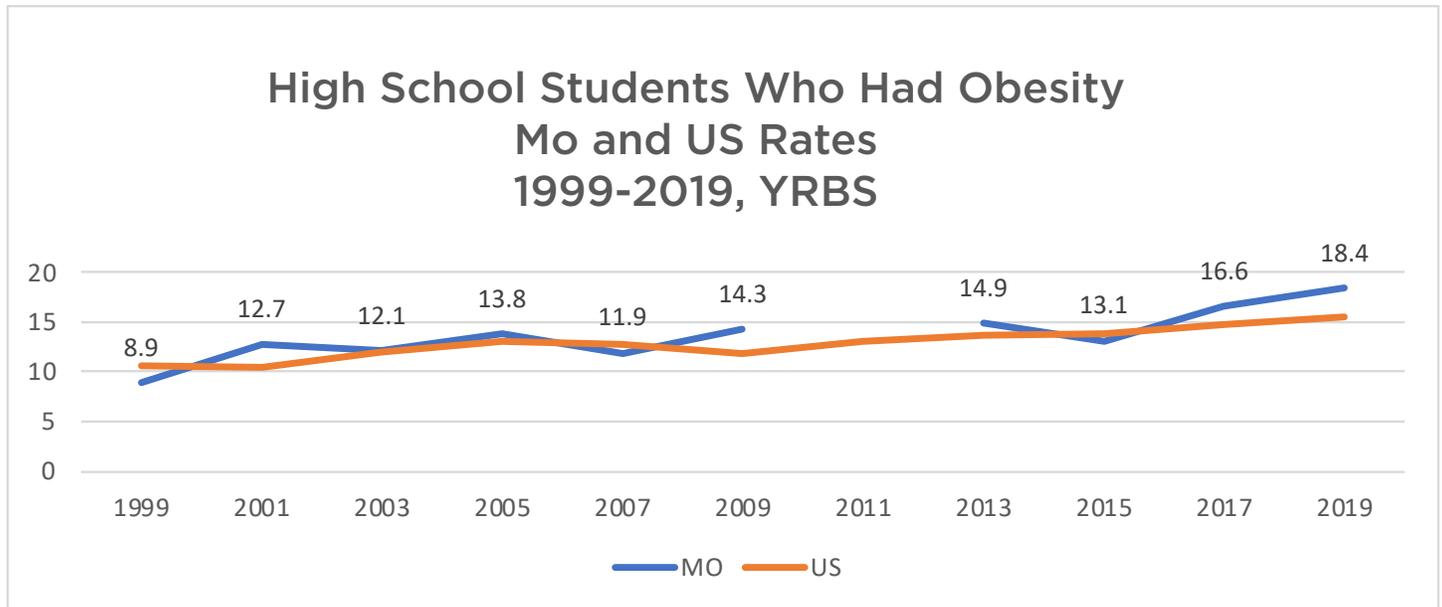
Long-term measures are available from the rich array of data collected as part of the YRBS managed by CDC. (62), (63) While there are many variables that impact these long-term measures, the actions taken in school settings contribute toward lowering risks for obesity and other health concerns.

Presented are data on obesity and a few select modifiable risk factors associated with obesity. One study found that the combination of all modifiable unhealthy dietary, physical activity, and other lifestyle risk factors is associated with 34.8% of obesity in this population. This finding is striking because it shows that if all students became physically active, ate healthy foods, and adopted healthy lifestyles, the prevalence of obesity in this

population could be substantially reduced. (64)

Obesity Prevalence

The percentage of Missouri high school students with obesity increased significantly between 1999 (8.9%) and 2019 (18.4%) as shown on Figure 2. The US trend line was similar but lower in 2017 (14.8%) and 2019 (15.5%). Clearly, additional strategies are needed to bend this curve in Missouri. Missouri gains made in modifiable risks is encouraging. Those gains along with improvements in prevention strategies being made in the child care settings and expansion of treatment options, detailed in a subsequent section, will contribute to improvements with the highest risk groups. Larger gains will require better approaches to address health inequities experienced by those groups at higher risk for obesity.



*Students who were \geq 95th percentile for body mass index, based on sex- and age-specific reference data from the 2000 CDC growth charts. (62)

Figure 2. Percentage of High School Students who had obesity, 1999-2019

Relevant modifiable risks for Obesity

Physical Activity (62)

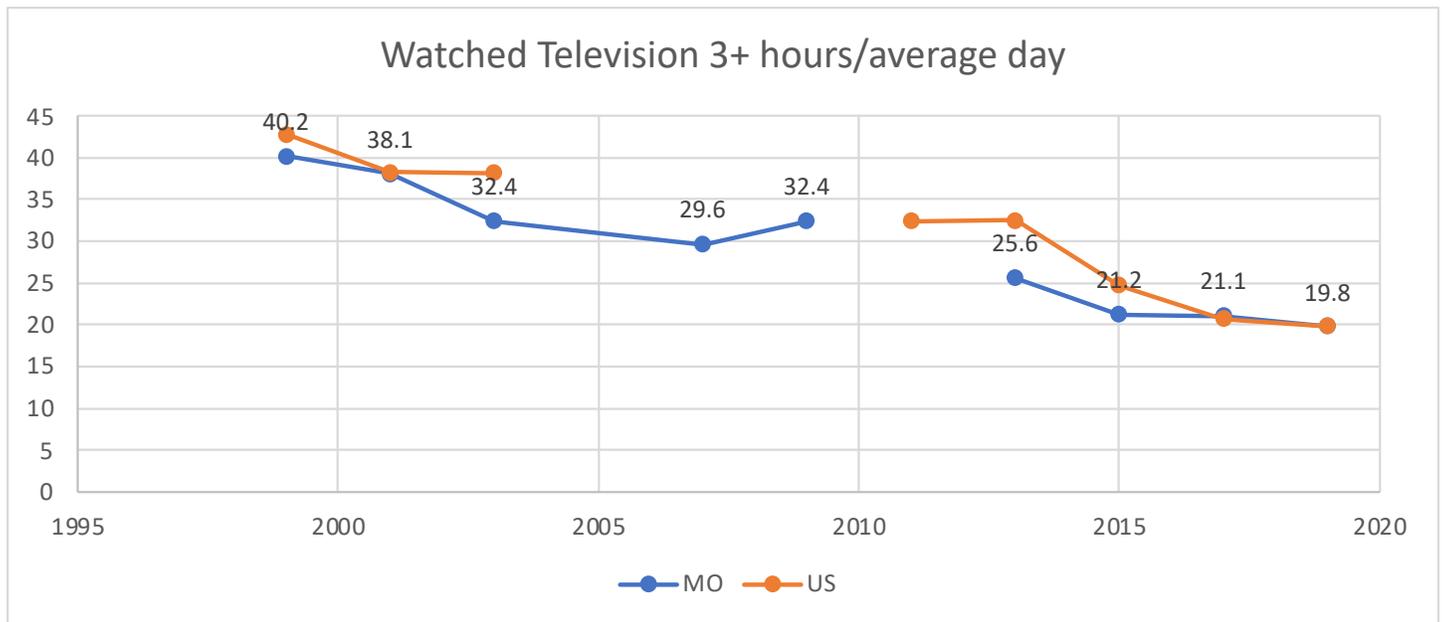


Figure 3. TV Viewing Time, MO & US

TV TIME: The percentage of Missouri high school students that viewed television three or more hours per day on an average day significantly decreased from 40.2 percent in 1999 to 19.8 percent in 2019 as shown in Figure 3. The US trend line was similar. Viewing time plateaued beginning in 2009 (32.4%) but the rates again started declining in 2013 and by 2019 only 1 of five students reported they watched more than three hours of TV per day.

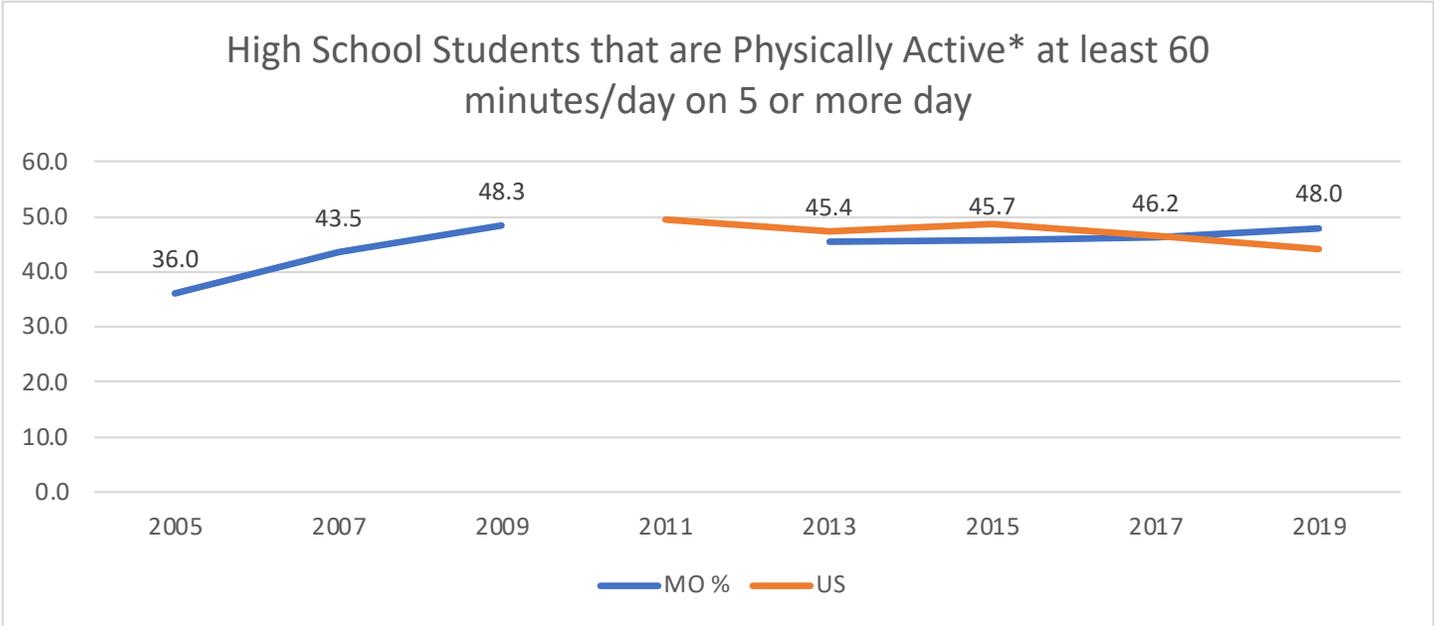


Figure 4. Physical Activity levels, MO & US

OVERALL PA level: The percentage of high school students physically active at least 60 minutes per day on five or more days remained stable from 2013 (45.4%) to 2019 (48.0%) but does reflect a higher percent when compared to 2005 (Figure 4). The US rates statistically decreased.



Focus on Treatment

2015 COMMISSION RECOMMENDATION: The Missouri Department of Social Services and MoHealthNet assures that all Medicaid plans, both fee-for-service and managed care, provide reimbursement for family-centered services provided by licensed professionals (e.g., physicians, psychologists, social workers, registered dietitians, etc.) with specialized training in Medicaid-approved evidence-based multi-component (EBMC) weight reduction programs. Children with a body mass index (BMI) at or above the 85th percentile with or without co-morbid conditions shall be eligible for reimbursed services. EBMC services may be provided in health care or community settings.

Missouri Treatment Actions (2015-2021)

Childhood obesity results in significant physical and psychosocial consequences, which early diagnosis and treatment can prevent. Given the advances over the last 20 years in the effectiveness of family-based treatment to ameliorate this disease, leaders wanted to

create a robust family-based treatment network to increase access to care for children with obesity. To build this network many more programs would be needed than just the few high-quality programs available when efforts started. The recommendation focused on assuring reimbursement for this treatment for individuals from low-income families for which Medicaid offers health coverage. Efforts also focused on expanding workforce capacity for the delivery of comprehensive, evidence-based weight management treatment.

Early leadership and commitment from the Medical Director of the Missouri HealthNet (Medicaid) Division (MHD) resulted in exploration of expanding Medicaid coverage for weight management for children and adults. Given the work already underway at MHD to review and update obesity and weight-management related services, convergence of evidence, and the recommendation made by

the Subcommittee, MHD conducted a multi-step modeling process to analyze potential frameworks, and costs and benefits for covering obesity treatment. Based on its modeling, MHD concluded that it would be cost effective to provide this coverage for Missouri's Medicaid recipients. Their fiscal analysis revealed that the state would realize cost savings earlier for adults and that these savings could offset costs prior to the modeled realization of savings for children and youth served through Medicaid.

As MHD reviewed the multiple administrative and operational issues to make this coverage possible (e.g., state plan amendment to the Centers of Medicare and Medicaid (CMS), regulation promulgation, pre-authorization processes, billing codes, and systems work), they convened a subject matter expert work group. This group, consisting of individuals from pediatric hospitals, academic centers, and MHD staff, provided input into crafting the rules to assure that critical elements needed for delivery of effective treatment were included. MHD managed this consensus process, and the following elements were included in the draft rules: 1) specific treatment services to be covered, 2) timeframe for coverage and continuation of treatment, 3) eligibility criteria for both youth and adult participants, 4) eligible licensed providers to deliver treatment services, 5) special training requirements for eligible providers, 6) documentation requirements, and 7) MHD's reimbursement methods.

While MHD was managing the rule-making process to expand coverage, planning began for increasing health care workforce capacity to provide these treatments in anticipation of this coverage. The Subcommittee co-chairs, faculty and staff from their respective teams, and other partners explored best approaches for training and certifying eligible licensed behavioral intervention therapists and registered dietitian/nutritionists in Missouri, with an outlook for informing and aligning with provider requirements to deliver the anticipated new covered services. At the beginning of this process there were limited training sessions

and no certification process established for providers of family-based behavioral treatment (FBT), an evidence-based approach for addressing and treating obesity in youth and their families. This treatment approach consists of the provision of family-based multicomponent behavioral interventions, with a minimum of 26 contact hours, initiated at the earliest age possible. (65) The core components of this treatment include specific dietary and physical activity recommendations, the use of behavioral strategies, and targeting parents and families directly in treatment. (66) (67) It was essential to prepare the workforce to deliver this high-dose extended care treatment for children, using a family-based socio-environmental approach that research demonstrated produced superior rates of clinically significant outcomes and maintenance of relative body weight.

Washington University took the lead to establish the training curriculum for weight management behavioral intervention, building off programs that they had developed and evaluated. (68), (69), (70), (71), (21) They have been engaged in a multi-site study to test the effectiveness of this treatment translated into primary care pediatric practice in several US States. (72) Insights regarding the challenges for practical application of this treatment in these settings are informing Missouri's approaches.

Children's Mercy Hospital, a tertiary care leader for weight management services, took the lead to develop trainings for medical providers. This focused on how to identify and refer patients diagnosed with obesity as well as follow-up with those who were referred and received FBT and medical nutrition therapy (MNT), another component of expanded treatment coverage considered and included by MHD. Children's Mercy Hospital also took the lead to determine best approaches for training registered dietitians/nutritionists to deliver MNT. To inform this plan they conducted a needs assessment of Missouri's registered dietitians in 2017 in collaboration with the MO Academy of Nutrition and Dietetics.

To support the development of a preparatory

Figure 5

Sample social media post tailored for Missouri

Forward-thinking states like Missouri can lead the charge on ensuring that we have a fit and ready military to answer the call of duty. Currently 72% of Missourians age 17-24 are ineligible for military services-their failure to meet fitness standards is a leading cause. (30)

workforce training and education program, in 2016 the Health Forward Foundation supported a proposal to conduct a Kansas City regional pilot on training and education for select health care provider groups (behavioral health, medical, dietetic) to improve access and quality of care for children experiencing obesity. A Missouri health care advisory group was formally convened from 2017-2019 to guide the actions of this pilot.

During this period, investments were made in communication efforts to broaden the awareness of obesity concerns, effective treatments, and anticipated expanded MHD coverage among the health care and legislative communities. To facilitate telling the story in a consistent and informative manner for both audiences, funding from MOCAN and the Health Forward Foundation was invested in a contract with the Health Communications Research Center at the University of Missouri-Columbia, School of Journalism. They conducted extensive research and stakeholder interviews to design effective messaging to facilitate understanding the complexities of obesity and the prevalent weight bias. They compiled a toolkit of resources for these two audiences and conducted several webinars for partner groups on the use of the resources and communication strategies. (73) Additional research was done in 2019 (74) in collaboration with the University of Missouri-Kansas City School of Nursing and Health Studies faculty. As part of this study, over 60% of Missouri legislators were surveyed to better understand

which messages best resonated with them. The insights from the survey were shared at MOCAN's January 2020 meeting held at the Missouri Capitol with members across the state sharing messages with elected officials. Social media posts were generated from the research and shared with MOCAN members in 2019-2020 through updates. A sample post written based on legislator research insights is highlighted in Figure 7. More detailed communication with health care providers during this period focused on increasing the awareness of the problem and resources available to address it. Dr. Hampl and others presented sessions on obesity screening, diagnosis, and treatment at numerous regional and statewide medical conferences. An article on intensive behavioral interventions as well as pharmacologic and surgical therapies for obesity in children was published in Missouri Medicine in 2019 authored by Dr. Hampl and her colleagues. (75) This journal has regular contributors from Missouri's six medical schools on eight campuses. In addition, periodic updates were published in professional associations' online newsletters, including the Missouri Chapter of American Academy of Pediatrics and the Missouri Academy of Nutrition and Dietetics.

Completed in 2019, the workforce development project touched 5,000 medical, behavioral health and dietetic providers through statewide and Kansas City regional recruitment efforts. A total of 146 health care professionals from various settings including safety net clinics and pediatric primary care groups completed trainings. Select outcomes for this pilot included: 1) development of curriculum, resources, and trainings (2-hour total content), for medical providers on obesity assessments and referrals for treatments; 2) multiple presentations at medical provider conferences and meetings to increase awareness of efforts; 3) development and delivery of trainings to registered dietitians/nutritionists on MNT (2-hour content); 4) development and delivery of trainings (2-day content) for behavioral

interventions to provide FBT; and 5) creation of a statewide plan for replication. (76)

Continuing its parallel track, MHD promulgated proposed rules for expanded coverage for obesity treatments with the inclusion of intensive behavioral treatment (IBT) for adults, FBT for children and youth, and medical nutrition therapy (MNT) for all population groups. The updated USPSTF recommendations (22) guided delineation of treatment parameters proposed in the rule. MHD hosted periodic calls with the health care experts to continue crafting the rules throughout 2017-2018. The first proposed rule was published in the Missouri Register in 2018. (77) However, the rule was withdrawn in early 2019 to allow time for MHD to make needed system modifications to accommodate expanded coverage.

During the period between withdrawal and resubmission of the proposed rule, MHD consulted further with the subject matter expert work group to enhance the rule before refiling. This resulted in a more understandable rule that maintained the integrity of the standards for services within the expanded obesity coverage. In addition, MHD added relevant licensed providers that could provide IBT and FBT if they met the certification standards. This expanded the pool of behavioral interventionists to deliver this treatment in a manner consistent with other MHD regulations addressing behavioral interventions. MHD refiled the proposed rule on October 1, 2020 (78). MHD revised the final rule based on 11 comments formally received on the proposed rule that were detailed in the Order of Rulemaking published in the Missouri Register on February 16, 2021 (79) The final rule was published in the MO Secretary of State: Code of State Regulations on February 28, 2021 (80) and became effective March 30, 2021. ([https://](https://www.sos.mo.gov/CMSImages/AdRules/csr/previous/13csr/13csr0721/13c70-25.pdf)



www.sos.mo.gov/CMSImages/AdRules/csr/previous/13csr/13csr0721/13c70-25.pdf).

Highlights on the services covered, participant criteria, and eligible providers is provided in figure 7. Payments are anticipated to start by the fall of 2021 when MHD's state plan amendment has been approved by the CMS.

Under the leadership of Washington University, a comprehensive proposal, "Packaging and Spreading Proven Pediatric Weight Management Interventions for Use by Low-Income Families" was one of five Childhood Obesity Research Demonstration 3.0 (CORD) projects funded by the CDC for 2019-2024. The MO-CORD project addresses the critical need to increase access to obesity treatment for children from low-income households and establishes a platform for future large-scale dissemination of pediatric weight-management interventions. The digital package of FBT that can be implemented within real world settings is crucial to creating a system by which children with obesity and their families can be effectively treated in primary care settings in both rural and urban areas. Freeman Health Systems in Joplin provided evaluation access in a rural setting and Children's Mercy Hospital in an urban setting. The resulting digital training package is a cost-and time-effective method to advance approaches in training FBT providers. (81)

Timeline for Missouri's Medicaid Rule for Coverage of Obesity Treatments

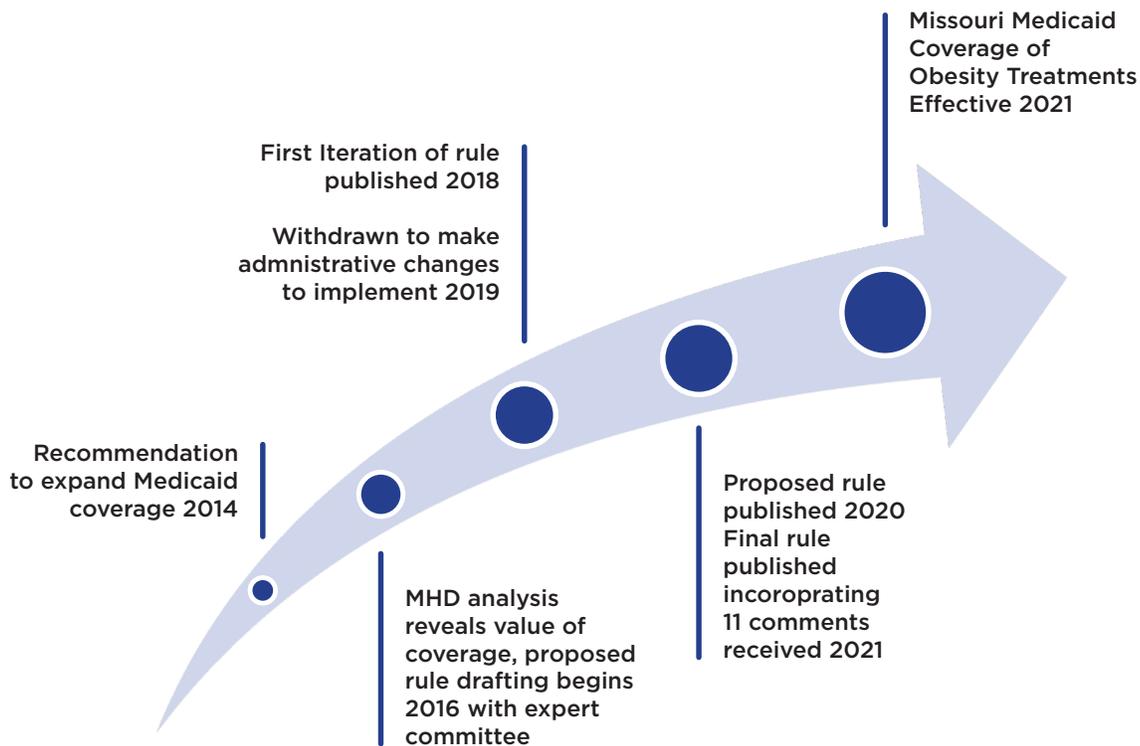


Figure 6

The workforce training plan updated in 2019 (76) guided the search for additional funding resources to advance implementation efforts. In addition to the funded CORD project, partners collaborated with Missouri Telehealth Network to explore the feasibility of conducting a webinar series through the network at the University of Missouri. The launch of the Show-Me ECHO (Extension for Community Healthcare Outcomes) for Pediatric Weight Management is scheduled for fall 2021. (82) The ECHO will use videoconferencing to connect expert clinicians and researchers with primary care providers, behavioral health specialists, dietitians, and other professionals to facilitate collaboration through interactive case-based learning. These sessions will cover a wide array of topics related to obesity treatment to develop and advance skills and practices. Continuing education credits will be offered. Based on success of this effort, future ECHOs may be replicated for other

provider groups delivering obesity treatment. This training makes use of an extensive base that the University has built over the last seven years that reaches 105 counties and 790 organizations. (83) With coverage becoming a reality in 2021, relevant trainings developed to date will be made available online, while a new round of awareness building will be done.

The workforce training plan also identified a priority for next steps to create a certification process for eligible providers who complete FBT and IBT training and renewal requirements. Next phase efforts will need to include detailed planning and resource attainment to create this process that will include a registry. A certification registry allows for formal recognition of providers that meet training requirements and serves as a tool to guide expansion of Missouri's capacity to deliver behavioral treatment, enhance training and guide provider recruitment. The

Highlights of the Obesity Treatment Rule



Services

- **Youth:** Family Based Behavioral Therapy (FBT)-26 hours
- **Adults:** Intensive Behavioral Therapy (IBT)-12 hours
- **Medical Nutrition Therapy (MNT):** All participants-1 hour and 45 minutes
- Delivered through mix of individual, family (child), and group sessions
- **6 month intervention period** with continuation criteria



Participant Criteria

- **Medical provider** diagnosis of obesity and referral for FBT/IBT & MNT
- **Youth,** ages 0 through 20, with age- and gender-specific BMI $\geq 95^{\text{th}}$ %
- **Adults,** 21 years and older with BMI ≥ 30



Providers

- **FBT & IBT:** Individual and group sessions: psychiatrist, clinical social worker, psychologist, professional counselor, marriage and family therapist, and psychiatric advanced practice registered nurse. Group sessions only: registered dietitian/nutritionist
- **MNT:** Registered dietitian/nutritionist
- **All providers** must be licensed and have specialist certificate or meet experience & training criteria

Figure 7 Highlights from Biopsychosocial Treatment of Obesity. Provider Bulletin 9/8/21
<https://dss.mo.gov/mhd/providers/pdf/bulletin44-12.pdf>

registry will allow planners to know 1) which types of providers are currently eligible, 2) providers' location to build referral networks, 3) which provider types are most likely to pursue certification, and 4) geographic gaps in availability of certified providers.

Finally, in 2021, the Missouri Academy of Nutrition and Dietetics leadership, with support from St. Louis University, updated information on their membership's eligibility, availability, and training needs to deliver MNT and FBT/IBT in group settings. The new Medicaid benefit allows licensed registered dietitians/nutritionists that meet training and certification standards to deliver IBT/IBT in group settings. The information collected will inform subsequent plans to better equip this association to support its membership for delivery of the treatments newly covered by Medicaid.

Treatment Evaluation

Evaluation efforts included an analysis of 2016 and 2017 Medicaid claims data that was completed in 2020. This was made possible with MHD approval to access claims data, funding from Health Forward Foundation, and the University of Missouri-Center for Health Policy's analysis work. This data serves as a baseline for applying claims data in evaluating the uptake of obesity treatment in future years. The data shown in Table 4 for both years (2.6% in 2016 and 5.3% in 2017) likely reflects both underreporting and underdiagnosis of the condition when comparing these rates to the national obesity rate of 18.5 percent. (84) The 2017 Medicaid data revealed that—while still under- representative of the true incidence and prevalence—the number of claims with an obesity or related complication was slightly higher compared to the prior year. The

Missouri Medicaid Claims Data

	2016	2017
Number of unique children	519,361	551,119
% Claims w/Obesity Diagnosis	2.6%	5.3%
<i>Obesity rates for different ages/race/ethnic groups</i>		
2-4 years old	3.2%	2.3%
5-11 years old	4.3%	4.7%
12-19 years old	7.3%	9.8%
Hispanic children	7.6%	11.1%
Non-Hispanic children	5.2%	5.9%
African American children	6.1%	8.1%

obesity rate was higher among older children and Hispanic children. The most common co-occurring diagnoses were hypertension, followed by disorders of glucose and lipid metabolism. The evaluators concluded that this data underscores the challenge for medical providers to submit claims data for a disease for which there are limited reimbursable treatment options. It also reinforced the need to enhance capacity to recognize the impact of this disease, identify and diagnose the disease, and assure viable, needed, and reimbursable treatment options to address it. (85) This reinforces the value of communications with health care providers to increase awareness of the impact of obesity, the new Medicaid coverage and resources available for treatment, and the importance of reporting obesity diagnosis as part of the claim information.

Treatment Discoveries and Outcomes

In summary, Missouri's collective work reveals a multitude of challenges inherent to attaining the established goals. These challenges include determining the best ways to increase the number of medical providers screening for and diagnosing obesity and referring for treatment. One of the goals articulated within the original treatment recommendation, namely expanding

the Medicaid coverage for family-centered services, has been achieved. Coverage by Medicaid addresses part of this challenge for screening, diagnosing, and referring higher risk populations to treatment. However, while there are gains on the second goal to expand workforce capacity (see Table 5) there is still much to do here. To this end, an additional challenge entails securing adequate time and funding to prepare sufficient behavioral interventionists to deliver treatments. It will also be important to assure delivery and follow-up in a coordinated fashion amongst a patient's clinical team that can be tracked in the health care delivery system and that meets the needs of families served.

Lessons learned from the activities over the last six years to advance screening, diagnosis, and treatment for obesity underscore the need to build a pragmatic plan with achievable timelines. The next phase will focus on bringing the training pilot program to scale in a manner that is aligned with children and their families' needs and realities of the health care marketplace. The CDC CORD project resources will be invested in 2021-2023 in that endeavor. Another priority for the next phase of efforts is defining key strategies to engage and support families with children with obesity. Plans for this engagement must address health inequities experienced by those served by Medicaid. The COVID pandemic has underscored that existing health inequities contribute not just to worse day-to-day individual and societal outcomes, but also community-specific heightened morbidity and mortality, accompanied by critical levels of stress on health care systems, during public health emergencies.

Synopsis of Treatment Actions and Outcomes

Table 5

GOALS

- Expand Medicaid coverage for family-centered services provided by licensed professionals
- Expand workforce capacity equipped to deliver evidence-based treatments

Active Partners

- MO HealthNet Division (MO Medicaid)
- Washington University-St. Louis
- Children’s Mercy-Kansas City
- University of Missouri-Columbia
 - University Extension-MOCAN
 - Center for Health Policy
 - Health Communications Research Center
 - Missouri Telehealth Network
- Freeman Health Systems, Joplin
- MO Academy of Nutrition and Dietetics
- St. Louis University

Supports

- Health Forward Foundation-Training pilot, evaluation, advisory group, and communication research
- CDC Funding-CORD 3.0 grant to support FBT expansion and replication
- University of Missouri-Columbia-SNAP ED, advisory committee staff support

Actions (2014-2021)

- MHD fiscal analysis of coverage expansion
- MHD drafts and final rules.
- Multiple meetings with clinical experts to inform proposed rules
- 4 funding proposals
- Health Care Advisory Committee Guidance
- Communications research
- Promotion of updated weight management approaches and Medicaid coverage
- CDC CORD 3.0 proposal
- MOAND dietitian needs assessment
- Plan for ECHO for medical providers

Outputs and Short-Term Outcomes (2017-2021)

- Medicaid claims data evaluation
- Curricula development and regional training pilot
 - Pediatric medical providers
 - Behavioral interventionists
 - Registered dietitians/ nutritionists (tailored to survey findings)
- Statewide training plan
- Launch of ECHO for medical providers.
- 3 communication webinars, resource kit

Outputs and Short-Term Outcomes (2017-2021)

- Expanded Medicaid coverage for obesity for children and adults (13 CSR 70-25.140) published February 28, 2021



Focus on Oversight Commission

2015 COMMISSION RECOMMENDATION: Establish a Commission on Child Health and Wellness, supported by the Missouri Department of Health and Senior Services (DHSS), to oversee implementation of the subcommittee's recommended actions, study effectiveness of obesity prevention strategies, and provide an ongoing forum for the education and future actions. The commission will include delegates from state agencies and others representing health care professionals, scientists, community-based prevention specialists, and families.

Supports for implementing this recommendation were requested and received from the Health Forward Foundation in 2017 by Children's Mercy-Kansas City. An ad hoc advisory group was convened by the core team that supported the Subcommittee and through facilitated

planning the advisory group reviewed pros and cons of various options for creating a viable structure. They concluded that creating the advisory body within MOCAN would best position it for success. Subsequently the concept was formally presented to MOCAN's steering committee, approved, and work began to make it operational. The University of Missouri Extension that supports MOCAN established a new position with significant time devoted to the newly established group, named the Healthy Weight Advisory Committee (HWAC). Membership included many of the ad hoc members establishing the committee, members of the Health Care Advisory Group from the treatment pilot, and other interested parties. It also includes representation from MOCAN's other working groups, e.g., child care and schools to aid integration of efforts. Regular meetings of this

group began in 2018. The Committee developed and documented operational procedures in an overview document (86), and compiled an updated strategic plan. (87)

The overarching goal of HWAC is to improve collaborative actions by providing expertise and advice to advance and monitor sustainable, evidence-based strategies for increasing the number of children at a healthy weight in Missouri. HWAC embraces the dual strategies of prevention and treatment and strives to implement changes in policy, system, and environmental levels of influence. The HWAC efforts are informed by current evidence, current programs and efforts, and thoughtful discussion to compile plans and approaches. To pursue that goal, HWAC performs the following functions:

- Planning to determine priorities, measurable goals, and implementation plans that are updated periodically.
- Resource attainment to align and build on existing resources and attain necessary funds to achieve priority objectives.
- Evaluation to determine impact of actions implemented.
- Communications to assure MOCAN members and other interested parties are regularly updated concerning progress and opportunities. Annual updates were distributed to a broad range of partners on actions and progress.

Membership is open and interested individuals are asked to enroll through the website portal and participate in regular meetings that are held approximately eight times per year. See <https://extension.missouri.edu/programs/mocan/mocan-hwac> for more information.

The goal of this recommendation was to create an oversight body to facilitate integration between sectors to improve prevention and treatment of obesity. This has been achieved. Work continues assuring adequate resources to staff this group and carry out their functions.

Focus on Academic/ Training Centers

2015 RECOMMENDATION: *The Department of Health and Senior Services (DHSS) establishes at least three Centers of Excellence across Missouri that carry out the following functions: 1) assure regional, coordinated access to treatment in health care and community settings through a network of affiliated partners; 2) meet standards to provide evidence-based, multi-component weight reduction programs; 3) provide training for health care providers, school staff, and others in their region about accurate and standardized screening, treatment options, prevention strategies and referral coordination; and 4) conduct research to evolve prevention and treatment best practice approaches. DHSS will create these centers through a contract with university-based institutions that are able to perform all the Centers of Excellence functions.*

This recommendation focused on creating regional centers to support prevention and treatment actions at the community level. The University of Missouri at both the Columbia and Kansas City campuses and Washington University in St. Louis have been actively engaged in obesity prevention and treatment. While not formally branded or receiving specific funds as “Centers” they serve in that capacity as independent centers created within their academic institutions. Leadership from these “Centers” have maintained communications with select state agency representatives and participated in relevant statewide groups to apprise key influencers about collective efforts to address obesity.

A specific example is the Center for Children’s Healthy Lifestyles & Nutrition, based in Kansas City, a leader in the local, regional, national, and international movement to prevent and treat childhood obesity and to foster healthy lifestyles in all children and families. Its primary goal is to contribute new knowledge regarding pediatric healthy lifestyles, ranging in scope from its biological origins to its societal impact. (88) The Center invested considerable resources in the health care workforce training. In addition, the *Healthy Lifestyles Initiative* efforts

showcased the contributions this Center made to develop and expand community capacity on the prevention front. They demonstrated through their formal evaluation of these efforts that the research function is critical to improve insights and meaningful translation of evidence into actual practice. (58)

The Center for Healthy Weight and Wellness in St. Louis is also a recognized leader of a programmatic line of research examining the etiology, prevention, and treatment of obesity and eating disorders in children and adults. Research conducted under the leadership of Dr. Denise Wilfley has made substantial contributions to this field, including the classification, characterization, assessment, and risk factors of eating and weight-related disorders; the development of effective treatments for individuals suffering from such disorders; and the development of innovative and cost-effective methods for early intervention and prevention of eating- and weight-related disorders. (89)

In 2019-2020 HWAC members interviewed key personnel from several of Missouri’s seven autism spectrum disorder centers. These centers serve as models for further evolution of academic centers to support prevention and treatment of obesity. These centers have been a significant source of support for health care providers serving families affected by autism and other neurodevelopmental disorders. They provide expert diagnostics, evidence-

based clinical care, groundbreaking research, and compassionate support for families and training opportunities for health care providers throughout the state. There are striking similarities between autism and obesity that reinforce these efforts, namely:

- Chronic and stigmatizing conditions
- Complex etiology
- Multi-faceted approach required for prevention and treatment service delivery, which cuts across care and community settings
- Growing public awareness of unmet needs of children and families
- Effective behavioral treatments
- Family involvement is critical
- Early intervention as a best practice, but children are often not identified in a timely way
- Inadequate number of providers equipped to deliver evidence-based treatment
- Readiness for systems change through collaborative partnerships

Insights being gleaned from the autism center interviews, coupled with current healthy lifestyle/obesity “centers” experiences, will help HWAC inform best approaches to formalize and broaden a network of regional centers at locations throughout the state. This will help build the capacity to support training, clinical care, research, and evaluation efforts for obesity prevention and treatment activities.





Discussion

Childhood obesity is one of the most common and significant health conditions in the U.S. and yet is the least understood. (90) Missouri's journey to prevent and treat the complexities of childhood obesity is evolving and gains are being driven by the perseverance, commitment, and willingness of partners to work collaboratively on better approaches.

Missouri's five recommendations embraced the importance of the dual strategies of prevention and treatment of childhood obesity. Past analysis had indicated that a focus solely on prevention is not sufficient. The heavy burden of obesity in current pediatric populations, particularly for low income and minority children, underscores the urgent need to effectively deliver obesity treatment to lower rates of obesity in children. (91) On

that front, Missouri's expansion of its Medicaid coverage for IBT/FBT is a critical step forward.

Progress on obtaining treatment coverage has resulted in the other barriers becoming more prominent. Barriers remaining include insufficient health care workforce capacity to deliver treatment and families' reservations and difficulties to access treatment and needed supports. The magnitude of the need for obesity treatment, the proven effectiveness of comprehensive treatment, and the passion of individuals drove early efforts. Now that reimbursement is available for the highest risk population, this additional incentive spurs continued efforts. Through the CDC-CORD supports, partners are building new insights and realistic plans to certify and train the workforce. It is equally critical to understand and help families overcome the barriers that they experience with their children's path to a healthier weight.

Child Care Priorities

- Reinforce the essential importance of children’s play and healthy eating as cornerstone to health and development.
- Leverage interest in early childhood prompted by the Governor’s consolidation of state level early childhood education programs to build support for nutrition and physical activity licensing changes and continued child care provider supports.
- Expand participation in the Go NAPSACC and MOve Smart programs, identifying best approaches to engage providers, link efforts among partners, and increase number of facilities that meet nutrition and physical activity standards.
- Re-examine best approach currently for updating licensing standards to assure the wellness of children.

School Priorities

- Assure sufficient funding to support local school health and wellness actions from existing or new sources, e.g., local, state, and federal supports, and private foundations.
- Evaluate barriers schools experienced when using School Health Index and their compliance with USDA’s model local wellness policy. Define best strategies to target supports and technical assistance to increase use of School Health Index and compliance with local wellness policy requirements.
- Broaden communication and demonstration of the value of school health practices in relation to students’ academic achievement and long-term success.
- Identify and promote 5 to 10 select health and wellness policies and take action to increase the number of schools that have implemented those policies as measured in the School Health Profile.

Healthy Weight Advisory Committee (HWAC) Priorities

- Define consumer messaging to help families understand value and benefits of obesity prevention and treatment, identify best communication channels and tactics, and secure resources to disseminate and evaluate.
- Package successful approaches in a manner that engages key partners and is motivational to spark broader uptake of effective prevention and treatment actions in Missouri.
- Scale up HWAC’s ability to perform key functions (planning, evaluation, resource attainment, and communication). Establish evaluation plan and secure funding to track uptake of covered treatment through Medicaid.
- Analyze actions and results in manner to identify better ways to integrate across sectors and leverage respective sectors progress to help improve achievements in all sectors.

Treatment Priorities

- Promote Medicaid’s new coverage of “Biopsychosocial Treatment of Obesity for Youth and Adults” among public and health care providers.
- Secure funding to establish certification process for eligible providers completing IBT/FBT training.
- Develop referral network for IBT/FBT/MNT eligible providers.
- Promote existing training options, expand online options, and update content as needed.
- Develop more intensive plan to increase the reach and scale of trainings to expand workforce capacity to deliver treatment.
- Host meeting with private insurers to explore opportunities for broadening coverage.

On the prevention front, child care stakeholders enhanced and coordinated supports that enabled child care providers to improve the targeted nutrition and physical activity standards within their facilities. While Missouri did not update these standards in child care rules, which may have prompted further improvements, they importantly did not lose any ground. Since 2016, elected officials prompted efforts for fewer regulations. The national assessment of child care regulation revealed that 26% of all 2019 state ratings had lowered supports for



nutrition and physical activity standards when compared to prior years. (15) This underscores the usefulness of building solid supports and promoting the value of these standards within the child care community. Missouri moved from coordination to true collaboration between multiple partners on best approaches to support the child care community. Partners' efforts are supporting a shift in the norms of care that align with proven health-based standards. These actions set the stage for eventual improvements in Missouri's child care licensing rules.

DESE's leadership facilitated integration and uptake of recommended approaches by schools for health and wellness and were guided by the WSCC system-based model framework. DESE's increased capacity resulted in important improvements in supports for health, PE, and wellness curriculum and a doubling of those reached through trainings during the last two years. In addition, Missouri's collaborative culture furthered gains particularly in terms of new funding and leveraging existing supports to maximize impact of efforts.

The Missouri's School Health Profiles data shows positive trend lines in several policy areas, and it also shows areas for improvement. While Missouri embraces local autonomy, school partners want to select a few key policies on which to focus efforts during the next phase of action. An important cornerstone evaluation

and planning tool, the School Health Index, was promoted during this time frame but is only used by about half of schools for nutrition and PE/PA and there was no significant change in its use during this time. Partners want to determine the barriers experienced by local schools for the use of this key evaluation and planning tool and further tailor their supports and technical assistance to help schools make substantive gains in practices.

An unanticipated and valuable outcome of DESE's capacity expansion was the critical role that Missouri Healthy Schools played for training, tailored technical assistance, and communications regarding COVID-19 related issues. In addition to providing considerable training on this topic to guide practices, they also helped local schools address the health and mental health repercussions resulting from the shift from classroom to virtual learning during the height of the pandemic.

Missouri partners successfully established an oversight body, HWAC, to take the long view in planning and evaluation, attain resources, and update partners through regular communication on actions taken on the five recommendations during this period. A core leadership team was consistent throughout this time which supported continuity of efforts. Dedicated administrative support staff was available for 18 months during which time significant progress was made. Securing sufficient funding to assure

stability of administrative support for the collective efforts is a priority for future years.

Several Missouri-based universities supported this work, which included input into the rule promulgation for Medicaid's treatment coverage, trainings for health care providers, education of key stakeholders on relevant research, and formal evaluations on select initiatives. While not officially defined or financially supported as "Centers of Excellence" outlined in the recommendation, they effectively served in that capacity.

Given the gains made in some of the sectors, there is now a rich opportunity to analyze actions and results in a manner to identify better ways to integrate across sectors and leverage the respective gains made in one sector to benefit the other. For example, the treatment capacity expansion provides referral options for children with obesity identified through school health services. Updating school health service protocols in view of the treatment capacity expansion anticipated with Medicaid coverage would lead to more options for those students and their families. Another example is the overlap in nutrition and physical activity resources used in all settings. Establishing a robust digital library platform that housed materials in an easily searchable manner could benefit families touched in the child care, school, and treatment sectors. Synthesizing existing resources would reduce duplication and improve links to healthy food sources, play and physical activity options and treatment sources; and provide this information at the community, school, and neighborhood level.

The respective work groups reviewed the achievements related to their recommendations and identified priorities to consider for the next phase of work. These priorities were then shared with the full

MOCAN membership to broaden input on which priorities should be included on the final listing. Table 6 highlights these priorities. Collaborators recognize the dynamic nature of our plans and the need to adjust this priority listing in accordance to shifting needs and resources but wanted to highlight top issues on the horizon during 2021. The next two years of activities sets the stage to inform whether Missouri will formalize and broaden a network of regional centers to support the collective efforts to prevent and treat childhood obesity.

Collective review of achievements and priorities for the next phase of work would be remiss if we did not also look at current challenges and lessons learned. A critical contributor to success is having dedicated staff whose primary responsibility is oversight of the efforts for planned actions related to the recommendation. During part of this period funding was sufficient to support expansion of staff at state agencies and collaborating agencies.

However, when funding and staffing support levels dropped, e.g., administrative support for HWAC, work couldn't continue at the same pace. While partners were eager to help, their primary job responsibilities curtailed the amount of time they could spend on these efforts. Dedicated project management is essential to keep collaborative efforts on track, especially when dedicated funding is small and individuals participating in efforts must juggle their time with other primary job duties.

Relationships with leadership in key state agencies is valuable to gain supports for efforts. During this time there was turnover in governors and key state agency leadership, i.e., DHSS, MHD, DESE. This turnover requires additional efforts to establish relationships with new key officials and maintain supports for the work. Fortunately, overall efforts continued in

...rich opportunity to...integrate across sectors and leverage the respective gains made in one sector to benefit the other.

these agencies due to dedicated staff and the progress started prior to turnovers.

Assuring a sufficient and proficient treatment network has many challenging tentacles. Transforming evidence-based weight management control interventions into market-ready products and services presents challenges the team initially underestimated. Key individuals participated in a CDC sponsored “boot-camp” for behavioral researchers (92), that will help create a plan grounded in current realities. This plan will require additional funding and a broader base of stakeholders to translate the plan into practice. Engaging sufficient IBT/FBT providers that meet eligibility and training requirements will continue to present challenges to assure a workforce prepared to effectively deliver this intervention to address this complex disease.

At the beginning of this time, the equity or health disparity lens was not a focus when planning actions. Given the new insights regarding health disparities and their impact on weight status of children, that lens now needs to be applied for the next phase of work. As we emerge from the pandemic to the new normal, attention will need to be focused on better engaging and mobilizing families and caregivers in our collective efforts to increase the number of children at a healthy weight. The pandemic reinforced the value of preventing and treating obesity in view of the higher risks of complications experienced by those with COVID who were also obese.

As stated earlier in this document, individuals with obesity are highly stigmatized and face multiple forms of discrimination because of their weight. (31) This not only leads to both

psychological and physical health costs to the individual, but it also makes it challenging to gather sufficient supports to implement interventions. Key messages were crafted, and need refreshed for use in strategic communication channels to continue to build more understanding and support for the next phase of the work to overcome weight discrimination.

Conclusions

Overall facilitators for our efforts included the original recommendations being “authorized” by the Missouri Children’s Services Commission, compiled by experts and vetted through a public hearing process. The early mobilization of partners to convert recommendations into implementation plans and subsequently secure modest funding was another key variable in success. The investment of our state Medicaid leadership to oversee the long process of rule promulgation to expand coverage for treatment was instrumental in achieving this priority recommendation. Having consistent and passionate leadership for tracks of efforts was also an asset to assure continuity and achieve select objectives. Early investments by Missouri foundations in plans jump-started efforts, which in turn, helped partners secure more sizeable funding from CDC. Providing annual updates to MOCAN members kept them informed and engaged in maintaining forward progress. Missouri partners also demonstrated commitment to addressing needs of Missouri families and a true collaborative spirit that helped align efforts across multiple partners. The progress and insights gained since 2014 sets the stage for advancing the next phase of work.

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