# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>St. Joseph Pediatrics</td>
<td>4</td>
</tr>
<tr>
<td>Tendercare Pediatrics</td>
<td>9</td>
</tr>
<tr>
<td>Day One Family Healthcare</td>
<td>13</td>
</tr>
<tr>
<td>Hackley Community Care Center</td>
<td>17</td>
</tr>
<tr>
<td>Dr. John Bartlett and the Blueprint 4 Health Center</td>
<td>23</td>
</tr>
<tr>
<td>Forest Hills Pediatrics</td>
<td>31</td>
</tr>
<tr>
<td>Project Healthy Schools</td>
<td>40</td>
</tr>
<tr>
<td>Attachment: FitKids 360 Goal Worksheet</td>
<td>45</td>
</tr>
</tbody>
</table>
Introduction

This series of case studies profiles pediatric and family practitioner physician practices, school-based programs, and other settings to capture the actual experience of Michigan physicians and their partners as they assess and manage children with obesity. We hope that these case studies are rich and varied enough for a physician to say of at least one, “Yes, that’s like my practice or community, and I think I can begin to implement these strategies to help my patients.”

Each case study describes

- the practice size and location,
- how the practice assesses children for obesity,
- how the practice manages prevention and weight management in children (including addressing barriers and utilization of staff),
- the level of community involvement,
- how physicians and their staff are reimbursed and the challenges involved in getting payment to treat cases of obesity, and
- the lessons learned by practitioners to help children manage their weight.

Public Sector Consultants Inc. (PSC), a Lansing-based public policy research firm that has worked with the Michigan State Medical Society (MSMS) on numerous projects, including a series of case studies on the implementation of electronic medical records in physician practices and on patient-centered medical homes, was commissioned to prepare these case studies. PSC consultants visited practices and spoke with physicians and non-physicians to hear their perspectives on assessing and managing children who are or are at risk of becoming overweight or obese. Practices were recruited by the Michigan State Medical Society with help from the American Academy of Pediatrics—Michigan Chapter. Recruitment aimed to obtain a diverse group of physicians, with varied practice size, practice location (urban, rural, suburban, regions of the state), successes, and struggles.

MAJOR THEMES

Although the purpose of this report is to convey the valuable details of physicians’ experiences in assessing and managing children who are overweight or obese, this introduction highlights themes that came up frequently during the site visits or seem particularly useful for physicians considering or seeking ways to improve patient care. It is important to note, however, that this is not a statistically significant research study. While we attempted to present varied practices that reflect the pediatric and family practitioner practice environment in Michigan, these case studies are not a representative sample.

Every child is screened at every visit

All of the practices interviewed screen all of their pediatric patients for overweight and obesity during well-child and other office visits. All of them calculate BMI and use charts to show parents where their children fall on the growth curve. Some of the practices take it a step further and calculate the BMI Z-score, which shows any deviation from the curve, believed by those who use it to show a more accurate picture over time. As children grow the BMI Z-score should move closer to the average of children the same age. Even though physicians are not focused on obesity in infants, a few of the physicians have prevention protocols in place to help parents begin to think about how their infants will grow into healthy toddlers and how to reduce risk for obesity. For example, physicians promote breastfeeding, which research shows to decrease risk of obesity. In addition, practitioners advise parents not to introduce solid foods too early with infants and to start them out with pureed vegetables instead of rice cereal.
Comprehensive screening for both mental and physical health co-morbidities
Some of the practices interviewed conduct more comprehensive screenings to determine if there are any mental or physical health co-morbidities that could influence a child being overweight or obese. Those who conduct these screenings look for developmental issues, depression and/or anxiety, ADHD or other learning disabilities, musculoskeletal issues, or other medical conditions, such as asthma. These co-morbidities could either inhibit a child’s ability to be more physically active, or could cause the child to eat more.

Child obesity is a very sensitive topic with parents and children alike
Everyone interviewed mentioned at some point that addressing overweight or obesity with children is an extremely “delicate” or “sensitive” issue. A number of practitioners have experienced defensiveness from parents when discussing their child’s weight, often because parents feel they are to blame and may themselves be overweight or obese. Practitioners try to reinforce that they are only trying to help children become healthy adults, and most parents are interested in discussing their children less defensively within that frame. Several practitioners also said that some parents are more resistant to change in diet and exercise than their children. Most often, practitioners hear more excuses from parents, while the children are eager to learn and try new things. In addition, several practitioners talked about being sensitive to the emotions and feelings of children, especially adolescents. Overweight or obese adolescents are often bullied, according to those interviewed, and may be suffering from low self-esteem, depression, or anxiety. Practitioners said they continuously try to reinforce positivity with these children, not only to keep them motivated but also to be sure their self-esteem does not suffer any further.

Focus on affordable, small steps children can take
Most of the practices interviewed said they help children and families to make one small change at a time. In addition, most families need help to find food and activities that are within their budget. For example, some practitioners recommend shopping for fresh fruits and vegetables at local farmers’ markets or buying canned, fresh, or frozen fruits and vegetables on sale at their local grocer. One physician is working with the local grocer to hold healthy eating events at the store, display “physician approved” shelf tags at healthy foods, and replace candy in a check-out lane with fresh fruits and vegetables. In addition, practitioners research and encourage inexpensive or free recreational opportunities for their patients, such as exercises children (and their family members) can do at home without expensive equipment, visits to city or county parks and trails, or participation in free or inexpensive school- or community-based sports teams. Most practitioners said they also encourage simple, outdoor play.

Use available resources and tools
Most of the practices interviewed use a number of tools for screening and treating obesity while helping parents navigate a plethora of free information available online and in their local community. Most of the practices interviewed use a food and activity log to help children and their parents document what the child is eating and the types of activities the child is doing. The Blue Cross Blue Shield of Michigan 5-2-1-0 program (five fruits and veggies per day; two hours or less of recreational screen time [keep TV or computer out of the bedroom]; one hour or more of physical activity; and zero sugary drinks, more water and low-fat milk) was mentioned by several interviewees as offering very useful tools for assessing behavior and environments. These tools are available for all providers contracting with BCBSM.

It takes a village, not just a physician
Several of those interviewed either developed a multidisciplinary team to work with children and their families or reached out to community agencies, organizations, and schools to help children become
healthier. Those who developed multidisciplinary teams engage nurses, dieticians, exercise specialists, and social workers or psychologists to help develop a system or curriculum to help children and their families make lifestyle changes. PSC interviewed one clinic-based and one community-based practice that both implement programs using multidisciplinary teams. Another practice in southeast Michigan envisions such a team and is working to get a clinic off the ground.

In addition to having teams in place to manage child obesity, there is also the question of the best environment to manage and address the issue from “all angles.” Some of those interviewed said that physicians have limited ability to address the issue themselves. Aside from engaging parents and families, those interviewed said it is important to foster community-level involvement. Some of those interviewed partner with community agencies, hospitals, and schools to develop and implement a curriculum in a school. One physician in a small community has been an advocate for her patients by seeking funding to engage local governmental agencies (such as WIC), community organizations, schools, and grocers in helping to focus attention on child obesity and improving children’s health.

**Lack of reimbursement for services**

Most of those interviewed said that it is hard to get insurance reimbursement for all of the services they provide, or would like to provide, to children and their families. Blue Cross Blue Shield of Michigan does accept an obesity diagnosis code and T-codes (Teaching Codes) for follow-up visits or visits with specialists like dieticians or exercise specialists. Even though some services given by social workers or psychologists are not covered, that does not stop practitioners from providing them. In fact, one psychologist who was interviewed volunteers his time in order to work at a clinic, while another clinic hires a social worker on staff. Most practices said that the majority of other insurance companies do not reimburse for all services, or may not even accept the obesity diagnosis code when billed.

One of the practices received federal funding from the National Initiative for Children’s Healthcare Quality (NICHQ) and the Health Resources and Services Administration (HRSA) to participate in the Collaborate for Healthy Weight initiative engaging primary care providers, public health professionals, and community-based organizations to implement best practices for quality improvement to reduce obesity. However, since this pilot project ended the practice was unable to sustain the processes they put in place due to lack of reimbursement from insurers. Another practice employs two grant writers who have been working to secure funding, but so far have been unsuccessful. Yet another practice is trying to figure out how to get services for a children’s clinic covered so that children can get the help they need in their community.

**Lack of outcome data**

Most of the practices interviewed do not have formal evaluation processes in place to monitor children’s health outcomes. However, one practice interviewed did obtain consent from parents to continue to review children’s health records for two years. Staff at this practice focus on measures to counteract factors that encourage obesity, such as mindless snacking while watching TV or dining at fast-food restaurants. Although this practice has seen success—for example, a seven-year-old maintains a BMI within the “normal” range two years after completing the program—both physicians at this practice spoke to the need for more evidence-based programs for child obesity interventions. They also said that finding funding is a challenge when there is no longitudinal data to demonstrate program success over time.
PRACTICE PROFILE

St. Joseph Pediatrics is located in Tawas City, Michigan. This practice serves not only families of Iosco County, but also sees patients in the surrounding seven counties (including Alcona, Arenac, Ogemaw, and Oscoda). St. Joseph Pediatrics employs four staff to serve its 2,800 children and adolescents: one full-time physician, a part-time nurse practitioner, and two part-time medical assistants. The practice has been a Blue Cross Blue Shield of Michigan (BCBSM) designated patient-centered medical home within the St. Joseph Health System since 2010.

PSC spoke with three people during its visit to St. Joseph Pediatrics: Dr. Joanna Studley, MD; nurse practitioner Tana McKulsky, RN, MSN; and medical assistant Debbie Finley.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY

Dr. Joanna Studley, called Dr. Jo by those in the community, began practicing in Tawas City six years ago upon finishing her residency in Columbus, Ohio. Dr. Jo was exposed to the issue of obesity throughout her residency. She and her staff began to notice the appearance of overweight and obesity among adolescent or tween patients and sought to focus on the issue. Ms. McKulsky began to look at patient data to confirm their speculation that their adolescent patients were getting heavier and to look for trends in their patients’ growth. As the physician and her staff had begun to address obesity with their older patients, they decided to start prevention efforts with their youngest patients.

Assessment

Dr. Jo and her staff assess all of their patients between 2 and 18 years of age for obesity during annual well-child or acute care visits. To assess a child’s risk for obesity they use information gleaned from the patient intake form, a risk assessment survey (BCBSM’s 5-2-1-0 brochure¹), and the standard child growth chart. The combination of information collected using these tools helps them to assess a child’s family history, physical health, lifestyle, and environment. In addition, Dr. Jo and Ms. McKulsky also assess a child or parent/caregiver’s readiness to make changes in their lifestyle and barriers to achieving a healthy lifestyle.

Family History

The child’s family history is captured on new patient intake forms and collected for all patients beginning with the practice. Patients are asked for any changes that need to be made to the family history during subsequent visits. Adolescent children complete a questionnaire asking for more detail about history of high blood pressure, diabetes, and cholesterol when they visit the office. The physician and nurse practitioner at this practice have found family history, especially related to obesity, a delicate topic to discuss with parents/caregivers. Ms. McKulsky said “It can be a touchy situation to address the risks of obesity with a parent who is obese to help their child not to become obese.”

¹ The BCBSM’s 5-2-1-0 program was adapted from best practices from the Centers for Disease Control and Prevention and Blue Cross Blue Shield companies by the Blue Cross and Blue Shield Association as part of the “Good Health Club Physician Tool Kit” (available online at www.bcbs.com/healthcare-partners/good-health-club-toolkit/good-health-club-physician.html).
**Physical Health**

A complete physical examination is conducted during each well-child visit. The standard child growth chart is used to measure a child’s height and weight to determine if a child falls within the 5th and 85th percentile range. According to the Centers for Disease Control, above the 90th percentile is considered overweight and above the 95th percentile is considered obese. They check the child’s heart, lungs, ears, nose, throat, and circulation, and how well a child is able to move. In addition, lab tests for diabetes and lipid profiles are conducted for children with a high-risk family history or if they are over the 97th percentile in height and weight. The information from the physical examination is used to present objective information to the child and parents/caregivers to help them understand what is happening with the child’s body and to encourage them to make changes in their lifestyle.

**Lifestyle and Environment**

A child and/or family’s lifestyle is assessed using the BCBSM’s 5-2-1-0 Program brochure. Parents complete the survey in the brochure and the physician or nurse practitioner discusses their responses with them during the office visit. Adolescents are asked to answer the survey themselves. “I find we get different answers from parents than we do children,” Ms. McKulsky said. For example, parents may feel that their child is getting five servings of fruits and vegetables a day, but when children as young as four or five years old are asked they cannot think of what fruits or vegetables they eat on a regular basis. Other questions on the brochure help to fuel discussion with the family and child about time spent watching television, playing video games, or on the computer; how many “screens” are in the home and where they are located (for example, whether any are in the bedroom or kitchen); participation in sports or gym class; whether a family eats meals together; and consumption of sugar-sweetened beverages. In addition to the BCBSM 5-2-1-0 survey, the physician and nurse practitioner talk to parents/caregivers about the kinds of activities and food the child gets while away from home, such as at school, child care, or the home of grandparents or other family caregivers. They help parents learn how they can be an advocate for their child’s health in the various environments the child is in during a day.

**Readiness to Change**

The nurse practitioner at St. Joseph Pediatrics assesses whether a child and/or family is ready to make changes to their lifestyle. Children are asked, based on a scale of 0–10, if they are happy about their weight. If they end up in the middle, the nurse practitioner encourages them to be more interested in their health by asking why they came in for the visit, or whether there is any one thing they might be able to change. She said, “Sometimes they may think they have to change a lot, more than just one thing. Often, they are willing to change one thing.”

**Managing Treatment**

Once a child is identified as obese or overweight the physician and nurse practitioner provide counseling and a variety of supports to help each child meet his/her goals. The nurse practitioner helps the child or family create one obtainable goal that the child feels ready to attempt. This could include eating more vegetables, not drinking sports drinks, beginning to take walks, or playing outside every day. The child returns a month later to be weighed, to talk about the progress toward meeting the goal, and to set additional goals. At each monthly visit the nurse practitioner or physician provides a variety of resources, depending on the goal the child will try to meet. For example, if a child sets a goal to eat more vegetables, the family will be given a ChopChop cooking magazine filled with healthy recipes that children can prepare with their parent or caregiver. Dr. Jo and Ms. McKulsky also hand out other informational...
brochures, booklets, and pamphlets on healthy cooking and physical activity from the BCBSM 5-2-1-0 program and the Michigan Nutrition Network.²

**Addressing Barriers**

Barriers to attaining healthy goals come out through discussions with the child and their parent/caregiver as the child’s goals are set. Dr. Jo said, “People feel limited in terms of what they could do.” For example, there may be fewer opportunities for outdoor activity during the winter, or purchasing healthier foods may be more expensive than less healthy choices. Dr. Jo and her staff keep abreast of various inexpensive or free activities offered in the area (for example, community center open gym night) or they talk with the family about what they could do together outside to increase physical activity. In addition, they talk about economical ways to purchase healthier food at a farmer’s market or by planting a garden at home.

The most common barriers that Dr. Jo and her nurse practitioner have had to help families overcome related to limited resources and the environment. For example, if patients with limited resources are unable to make follow-up visits to St. Joseph Pediatrics because they have to travel a long distance, the physician might encourage the parent/caregiver to get a scale to use at home to monitor the child’s weight and schedule fewer office visits. Environmental barriers they have had to address with their patients include brainstorming what children can do outside if their neighborhood isn’t safe, or during the cold, snowy, winter months. The physician and nurse practitioner talk with families about activities they could do at their home (such as playing ball outside in the yard) and classes offered at community facilities. They also encourage the parents to get outside and play with their children, to be positive role models and help encourage their children. Dr. Jo is also trying to work with some of the schools and area day care centers to educate them on the BCBSM 5-2-1-0 program to help address issues outside of the home environment.

Although St. Joseph Pediatrics patients are not diverse in race or ethnicity, the practice has had to deal with cultural barriers such as family traditions and generational differences. A number of children served by the practice come from farming families or are taken care of by grandparents. These families follow longstanding family traditions that include a lot of “meat and potato meals.” Parents/caregivers may require a child to “clean their plate” even if the child is full, or use food as a reward. Ms. McKulsky told a story about a boy who was well on his way to meeting his health goals but had a hard time when he stayed at his grandmother’s house. He told the nurse practitioner, “My mom helps me get frozen fruits and vegetables, but when I am at my grandma’s [house] she has frozen candy for me to eat.” To address these issues the physician and nurse practitioner provide objective health information to the families to show them how the family’s diet is affecting the child’s health, followed by counseling and information to make small changes in their lifestyle.

**Staff Utilization and Training**

In addition to the physician and nurse practitioners, there is a medical assistant who helps with patient care. She administers the obesity risk assessment, measures height and weight, and helps to encourage and support children and their families. Both the physician and the nurse practitioner have attended numerous conferences and training sessions. They also keep abreast of research in the health literature. Dr. Jo most recently attended a conference focusing on child obesity offered by PEW Research in Washington, D.C. That conference dealt with how to address school nutrition and provided information on the new school nutrition guidelines for competitive foods (such as vending machines) and the new nutrition standards for school lunches. The nurse practitioner at St. Joseph Pediatrics has received training

---

² The Michigan Nutrition Network “facilitates the development of effective, high-quality nutrition and physical activity initiatives and partnerships targeting people eligible for the Supplemental Nutrition Assistance Program (SNAP)” (www.michigannutritionnetwork.org/).
on self-management. This training has helped her to gain skills to assess a child’s readiness to make changes and help him/her set goals for health improvements.

**Office Culture and Environment**

Since Dr. Jo’s focus on obesity prevention, lollipops were replaced with stickers and other trinkets for children to receive after getting a shot. She also removed the TV from the waiting room and set an office policy not allowing staff to have soda and other sweetened beverages on the premises. Dr. Jo and her staff want to be role models for the families they treat. Posters and information hang in the waiting room and in each examination room displaying information on healthy eating and physical activity. One of the most popular resources provided to families is the *ChopChop* magazine. In addition to handing out this family-friendly, healthy cooking magazine during obesity counseling sessions, copies are available in the waiting room. Dr. Jo said that mothers will come into the office just to pick up the most recent copy. The physician and nurse practitioner both said that more often than not when they enter an examination room the parent and child are discussing the information on the posters. They said having that information posted makes it easier for the physician or nurse to begin a discussion about healthy lifestyles.

**Reimbursement**

St. Joseph Pediatrics is part of a Patient-Centered Medical Home through the St. Joseph Health System. The physician and nurse practitioner said that aside from the well-child visit code, they do have other codes they use to bill for services, including an obesity diagnosis code, and treatment codes for nutritional evaluation and surveillance, and counseling for initial and ongoing visits with a patient. The codes they use to bill have been provided by the various Medicaid HMOs, through which many of their patients are insured. They were not able to provide input on insurer incentives and payments, as that is monitored by the hospital billing department.

**COMMUNITY INVOLVEMENT**

The staff at St. Joseph Pediatrics is heavily involved in the community and has taken the initiative to engage community partners to help address child obesity. Two National Initiative for Children’s Healthcare Quality (NICHQ) programs, Collaborate for Healthy Weight and Be Our Voice, have helped prepare Dr. Jo and her staff through online training sessions to engage community partners in addressing child obesity. Dr. Jo has engaged school food service directors, early childhood organizations, and local government agencies (such as WIC, parks and recreation) to share information on child obesity and talk about how they can help respond by each sending families similar messages. In addition, Dr. Jo has partnered with a local grocer to provide signage for families to find healthier food options. Dr. Jo created a “Dr. Jo Approved” shelf tag to help children and families while shopping at this grocery store. Most recently, the grocer transformed one check-out lane by removing the candy from the shelves, replacing it with fresh fruits and vegetables and other healthy food options.

---

3 The Collaborate for Healthy Weight initiative encourages the engagement of primary care providers, public health professionals, and community-based organizations to implement best practices for quality improvement to reduce obesity ([www.nichq.org/our_projects/prevention_center_healthy_weight.html](http://www.nichq.org/our_projects/prevention_center_healthy_weight.html)). The Be Our Voice initiative of the NICHQ is supported by the Robert Wood Johnson Foundation. The initiative trains healthcare professionals to become advocates for improved policies in their communities to reverse the trends in child obesity ([www.nichq.org/advocacy/index.html](http://www.nichq.org/advocacy/index.html)).
In addition, Dr. Jo has written articles for the local newspaper and the hospital newsletter and participated in interviews on a local radio show and local library summer reading activities focused on healthy eating. She and her staff participate in community health fairs and school events, and pass out healthy lifestyle trinkets (like jump ropes) during local parades.

LESSONS LEARNED

Keeping things positive is the most valuable lesson St. Joseph Pediatrics has learned while staff work with families to address child obesity. Obesity is a delicate and sensitive issue for children and their families alike. The nurse practitioner said focusing on small steps that children and families can take to make changes and see positive outcomes quickly has helped to motivate them to make more changes. In addition, Dr. Jo said being seen outside of the office is important too. She said, “I think being involved in the community is huge. The practice is associated with healthy eating. People know when they come in we are going to talk about it.” The nurse practitioner said that the most challenging aspect of treating child obesity is getting people to eat fruits and vegetables. She said, “That itself is a culture change.”
Tendercare Pediatrics

PRACTICE PROFILE
Tendercare Pediatrics is located in New Haven, Michigan, a community set in a rural area between Detroit and Port Huron. There are farms and underdeveloped areas in the community, with families on state aid and a medically underserved population. Tendercare Pediatrics serves slightly more than 1,000 children in the community. There are two physicians, two medical assistants, and one receptionist/biller.

PSC interviewed Drs. Ann Vondrachek, MD, and Alexis Balomenos, MD, both pediatricians, during its visit to Tendercare.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY
Drs. Vondrachek and Balomenos opened Tendercare Pediatrics in October 2011 and have been practicing for 11 and 13 years, respectively. Dr. Vondrachek said that in her 11 years of practice she has noticed an increase in overweight and obesity, that it isn’t a new problem and that she wanted to focus on the issue when they opened Tendercare Pediatrics. Dr. Balomenos has a personal passion for helping kids overcome weight issues:

I was an obese child and I didn’t take my weight off until I was in my thirties after having my children. I know that information available to parents when I was young was minimal. My family doctor didn’t say much to my parents about my weight. Now the education for parents is much different and the ridicule that overweight kids encounter is terrible. It is worse than when I was a kid.

Since the practice is so young, the physicians don’t have quantitative data to support their suspicions of an increase of obesity in their patient load. Tendercare does use an electronic medical record (EMR) to track BMI and begin to gather data to support their efforts to treat obesity in their community. In addition, the physicians focus not only on the child, but the family as a whole. The processes that they have put in place since opening last year are described below.

Assessment
Drs. Vondrachek and Balomenos screen all of their patients for overweight and obesity at each well-child and office visit. Height and weight are taken at every office visit and a BMI is calculated. Dr. Balomenos said that she does not use BMI strictly to trigger discussions about weight; it is one tool among other factors. For example, she said, “There are really athletic kids with a high BMI.” The physicians said they talk to parents and the children to learn how they are eating and what kind of activity they do, if any. “It is eating and exercise together, you have to look at both,” said Dr. Balomenos.

In addition to assessing a child’s eating and activity, the physicians also ask the child questions geared to assess their self-image and self-esteem. Like other practices PSC has interviewed, Drs. Vondrachek and
Balomenos do not focus their counseling on a child losing weight, or “dieting,” but rather making small changes to improve their eating and activity as they grow. For example, they focus on reducing screen time or moderating how many chips they eat or how they eat (for example, putting a serving of chips into a bowl instead of eating out of a bag).

**Family History**

Tendercare Pediatrics has an initial patient questionnaire, modeled from the intake form developed by the American Academy of Pediatrics, which all new patients need to complete to report family medical history. The questionnaire lists 40 to 50 different medical conditions and asks who in the family has/had the condition and their relationship to the child. These conditions include asthma, heart disease, high blood pressure, high cholesterol, diabetes, and mental illness. Both physicians ask parents for updated (changes or new) family history at every office visit.

**Physical Health**

The EMR used in the office automatically calculates and plots the child’s BMI from their height and weight data. In addition, the physicians take all other standard vital information related to the child’s health and development. The physicians review the growth chart and vitals with the parents to begin any discussions related to a child’s weight, as necessary.

**Lifestyle and Environment**

To assess a child’s and family’s lifestyle habits the physicians ask questions at every well-child exam about how many meals and snacks the child eats a day and how much pop, juice, and water the child drinks. Dr. Balomenos said, “We know that a parent will underestimate how often a child eats fast food or drinks pop and will overestimate when reporting consumption of fruits and vegetables.” Dr. Vanderchek added, “Parents do that more than kids. The kids will ‘fess up.’”

In addition, the physicians ask how much time a child spends watching TV or playing video games and if he/she participates in a sport or other organized activity. Information about after-school activities also is requested on the initial patient questionnaire form.

**Readiness to Change**

The physicians said they can tell from how the parents react whether the parent is ready to help the child make changes. The physicians at Tendercare have experienced many parents giving excuses why their child cannot make changes to their diet or activity. For example, one parent said she didn’t think her child would be able to “survive on drinking water alone.” Another parent said that her husband “needs to have junk food in house” when the physicians suggested removing it to help the child eat less of it.

**Managing Treatment**

For children who have been identified as overweight or obese, the physicians at Tendercare schedule an hour-long office visit with the parent(s) and child to discuss the child’s weight and recommendations for lifestyle changes. The family is asked to complete a food log of what the child eats for three days to inform the conversation. During the visit, they review and discuss the food log, talk about the kinds of activities the child is currently involved in, and talk about issues related to self-esteem, including bullying. The physicians have mostly counseled children and families to eat three meals and three snacks spread out through the day, and advise children with a bedtime around 9:00 PM to stop eating after 7:00 PM. In addition, the physicians provide information to the parents about the food groups. To help the child get more active, the physicians recommend exercises he/she could do when they are home without their parents, such as doing push-ups and squats while watching TV, having races in the backyard with their siblings, or jumping rope. The physicians’ recommendations try to demonstrate to the parent that they do not need a gym membership or exercise equipment.
Dr. Balomenos said she is able to empathize with the kids who are overweight or obese. She speaks to them with the experience of being an overweight child. She said she shows them pictures of when she weighed over 200 pounds and talks about how she was bullied. She talks to kids about participating in school sports like swimming and softball when she was their age to give them a little confidence to think they could participate in sports, even while being overweight. She said:

> Just because they are heavier doesn’t mean they can’t play a sport, but once you [are experiencing] ridicule, you are in an emotional spiral down. The problem is giving them self-esteem and the feeling that they deserve to be happy and healthy. To say, “There’s nothing wrong with you.”

Sometimes the physicians at Tendercare have had to coordinate care for a child with specialists like endocrinologists to help children with or on the brink of having Type 2 diabetes, or a cardiologist if a child’s cholesterol is too high. On the advice of insurers, they have also referred families to obesity clinics at both St. Johns Hospital and William Beaumont Hospital, but none of the families they have referred have participated in these clinics because they cannot afford the cost. The physicians believe that these clinics are geared more towards adults, and are not sure these clinics are appropriate environments to help children manage their weight.

The physicians are working to get more involved within the community to coordinate community health events like a one-mile family walk. In addition, there is going to be a new park built in the village and the physicians hope that they can get families to utilize the park once it is built.

**Addressing Barriers**

The barriers that the physicians at Tendercare have found when managing treatment for child obesity are those related to family traditions and parents’ feeling of blame. The physicians try to stress with the parents that their child does not need to diet, but instead focus on the family eating healthy foods. However, many parents they have worked with tend to think in terms of “dieting.” The physicians tell parents that it is okay if a child eats poorly at family celebrations and holidays, especially if they are eating healthy the other 360 days of the year. Both physicians worry that emphasis on “treating obesity” could swing in the opposite direction towards an increase in eating disorders (e.g., bulimia, anorexia):

> We are trying to help [parents] and their child keep a healthy weight. People are focused on numbers and get focused that a 16 year old should not weight more than 120 pounds. We, as a society, have to get away from that and more towards eating as healthy as we can and exercising. Once we start moving in that direction we can set a goal weight. I think you are setting yourself up for failure if the focus is strictly on the scale.

**The Tendercare Vision**

As Drs. Vondrachek and Balomenos have been building their new practice, they have had a vision to improve care and services for their patients, especially those struggling with overweight or obesity. The physicians believe that overweight and obesity need to be “attacked from all angles.” That is why their office space includes a workout room, a full working kitchen, and a conference room large enough to host group visits and speakers. The physicians have a physical trainer in the community interested in working with them to teach families a variety of exercises they can do at home with little or no equipment. Workout classes for patients are also being considered, as the office houses a number of fitness machines that the physicians and their staff use for their own physical activity. In addition, the kitchen is large enough to hold cooking and nutrition classes. They know a culinary expert in the community attending school to become a registered nurse who is interested in teaching nutrition and cooking classes with
children and parents. The physicians envision holding weekend clinic sessions where children and parents would learn exercises from the physical trainer, learn to cook healthy meals and snacks, and participate in a seminar with an expert brought in to talk about a variety of topics related to healthy living, including emotional and/or social issues or athletes who have overcome obesity.

Reimbursement
The physicians at Tendercare said that they are trying to resolve a number of billing issues since they opened their doors a year ago. They have tried using an obesity diagnosis code but it would continually get rejected for payment by insurance companies, so they have stopped using it. One of the physicians said that “obesity” is a psychological diagnosis while “eating disorders” is a medical diagnosis, which seems backwards to her. They have had to bill follow-up visits for treatment as “office visit re-checks.” If they are seeing the child for another issue, they will bill for both reasons for the visit, using more than one diagnosis code.

As they develop their vision for a child obesity clinic, the physicians at Tendercare have reached out to insurance companies to talk about their options for getting reimbursement for the supplemental sessions with the nutritionist and trainer. These companies have advised the physicians to send their patients to the clinics at St. John or William Beaumont Hospitals. However, these are clinics for adults and don’t specialize in children. The physicians at Tendercare would like to provide such a clinic geared toward children in their community.

LESSONS LEARNED
The processes used by Drs. Vondrachek and Balomenos are similar to those of the other practices interviewed for this study. However, the physicians feel that more could be done to help children and their families be more successful at making their lifestyles healthier. Dr. Balomenos said, “They want to be shown what to do and how to do it. I can talk, talk, talk, but they say ‘Show me.’”

That is why they are creating an environment to conduct nutrition and cooking classes and physical activities to help families. Said Dr. Balomenos:

The scary part is that it is not just one child in the family; it is all of the kids in a family. Sometimes there is one thin one, but they aren’t necessarily healthy. They just have a better metabolism.

And Dr. Vondrachek added:

We are trying to give them new ways to introduce new foods to kids, but we hear a lot of: “He won’t eat that” or “I can’t make that.” There are ways to make it fun to introduce things to kid.
PRACTICE PROFILE
Day One Family Health Care, PC, is located in Battle Creek and consists of five physicians and ten midlevel providers; the practice has about 30,000 patients. In 2011, Day One Family Healthcare was funded by the National Initiative for Children’s Healthcare Quality (NICHQ) and the Health Resources and Services Administration (HRSA) to participate in the Collaborate for Healthy Weight initiative engaging primary care providers, public health professionals, and community-based organizations to implement best practices for quality improvement to reduce obesity. Dr. Rose Lovio, MD, of Day One Family Health Care led the pilot project for this practice, implementing best practices to assess and manage obesity. The pilot project was conducted for one year.

PSC spoke with Dr. Lovio and Andrea Cook, clinical supervisor, during the site visit.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY
Dr. Lovio estimated that half of her patients’ medical conditions are related to being overweight. She said she feels like she is always talking with her adult patients about getting their weight under control to help address their physical and mental conditions. Then Dr. Lovio began to see the same issues arise with her pediatric patients. In addition, there was an increase in hypertension, pre-diabetes and diabetes, mood disorders (such as depression), and knee and back pain in children. The physician said that just ten years ago she didn’t see these issues with children as much as with adults.

Patients aged 5 to 17 years old with height and weight at or above the 95th percentile were identified to participate in the pilot project. Day One Family Healthcare uses electronic medical records (EMRs), so the physician and clinical supervisor were able to easily pull a report of patients. The physician said she was surprised by how many pediatric patients were at or above the 95th percentile. The following components of the pilot’s “Healthy Individualized Program” (HIP) were used to assess and manage obesity in children:

- Calculating BMI at each visit
- Developing exercise or activity regimen
- Keeping a food and activity log
- Conducting a screening for depression
- Measuring body fat
- Conducting a fasting lipid panel (HDL, LDL, triglycerides, and cholesterol), liver function labs (AST (aspartate aminotransferase), ALT (alanine aminotransferase), and fasting blood sugar test
- Conducting follow-up visits with the physician or nurse every one to two months

More detail about each of these components is offered below.

Assessment
Children, no matter the age, have their height and weight taken to calculate BMI at each well-child visit. Dr. Lovio plotted the child’s BMI onto the growth curve chart for the parents to see where the BMI fell. In addition, during the pilot project, the physician would review the child’s family, physical, and medical history with each child and his/her parent to make sure their patient record was up to date and conduct a screening for depression.
Dr. Lovio continues to chart children’s BMI and counsel families on healthy lifestyle changes but is no longer able to schedule regular follow-up appointments due to lack of insurance reimbursement to cover such visits.

**Lifestyle and Environment**

A child’s lifestyle habits (consumption of fast food, sugar-sweetened beverages, and/or high-fat snacks; portion sizes; frequency of eating and patterns, etc.) and environment (such as social supports, barriers to physical activity, level of physical activity, sedentary behavior) were assessed during the pilot project using a journal-type notebook provided when the child entered the pilot. The notebook was reviewed at each visit with the physician or nurse and new goals were added.

**Readiness to Change**

Dr. Lovio assessed the child/family’s readiness to change their lifestyle by asking questions during the counseling discussion. She said:

> A couple of the kids were easy. They were sport driven. They have to make weight to play on the football team. That is an easier discussion because they had a goal. On the other hand, some kids were more motivated by the weight loss and wanted to know what else we could keep doing.

The physician did mention that it was hard to find things to help children stay motivated throughout the year of the project.

**Managing Treatment**

If any child seen by a physician at Day One Family Healthcare was identified to be at-risk (BMI indicates overweight, parents are overweight or obese) and/or overweight or obese, they were referred to Dr. Lovio for participation in the pilot project. Dr. Lovio would see the child and parent(s) for a counseling session to review a food log (food choices for breakfast, lunch, dinner, and snacks) and talk about how he/she could make just one change. Dr. Lovio said that she did not stress calorie counting, but instead helped the child determine a simple food goal—for example, eliminating one soda a day, packing a healthy lunch every day, not eating a late night snack, or eating one serving of baked potato chips instead of regular chips.

The physician would also talk with the child about activities and brainstorm how to make one change to improve his/her level of activity. For example, the physician conducted research to find simple exercises kids could do at home using things already around the house (such as using large soup cans as weights for lifting, or doing push-ups or jumping jacks). She also passed out jump ropes to children involved in the pilot project. Dr. Lovio stressed that she would try to keep goal setting as simple as possible for the children. Follow-up appointments with the children in the pilot project were conducted on a monthly basis.

Unfortunately, Dr. Lovio and the other physicians at Day One Family Healthcare have not been able to continue to follow all of the pilot protocols. During the project, Dr. Lovio saw all of the children in the practice who were identified as overweight or obese; now she sees only her own patients, so she suspects that there are inconsistencies throughout the practice on how weight is managed with children. In addition, Dr. Lovio has seen a lack of desire and motivation from her patients to address the issue. During the project she said it was easier to counsel families because they were seeing her for a visit to handle that specific issue. She is unsure why families are unmotivated, but she suspects it could be hard for families
to make time for additional office visits. During the pilot project, however, the additional visits did not seem to be a problem.

**Addressing Barriers**

The barriers that Dr. Lovio had to address during the pilot project were similar to those of other practices in this study. These included financial and environmental barriers for families who cannot afford a gym membership and parents concerned about their child’s safety while exercising outside. Surprisingly, she said that all the children in the pilot project gained weight during the summer months. She found out that a lot of her patients aged 10 to 15 years old were left at home with siblings and not allowed to leave the house while their parents were at work. “So, the children were sitting around at home playing video games and eating all day,” she said. To help with this issue, Dr. Lovio focused her recommendations for exercises on things the children could do at home. She would suggest creating a competition among siblings to see, for example, who could hold a “plank” position (a push-up with the body's weight borne on forearms, elbows, and toes) for the longest time. (This also engaged other family members to do physical activity and helped to alleviate some of the excuses she heard for why children were not exercising.)

Through her own research, Dr. Lovio also recommended home exercises to families who were unable to purchase a gym membership. She found exercises children (and their family members) could do on the floor. One family said they didn’t have enough space in their house to exercise, so she demonstrated within the cramped space of the examination room how little space was needed to perform the exercises. The physician found that most of the excuses not to do physical activity came from parents; kids seemed eager to get active.

In addition to environmental barriers, the physician helped some families address some cultural barriers. For example, Dr. Lovio worked with Hispanic families who eat rice and tortillas regularly. She did not want these families to feel deprived of their cultural food tradition, so she recommended substantially more exercise to balance the intake of food.

**Staff Utilization and Training**

Each physician at Day One Family Healthcare is staffed with a nurse. Dr. Lovio’s nurse assisted her with reviewing the food and activity logs in each child’s project notebook, and made sure the child’s height and weight were logged at each visit. In addition, the nurse made follow-up phone calls to see how the kids were doing between visits, conducted the screenings for depression, and facilitated follow-up visits once Dr. Lovio felt the kids were moving along the right track toward their goals.

**Office Culture and Environment**

During the pilot project, the physician and clinical supervisor said the culture of the office began to change. For example, the other physicians of the practice asked Dr. Lovio about the project and how she was approaching and counseling families. The physician said, “At some of the provider meetings, we talked about how to get the conversation started with families.” Blue Cross Blue Shield’s 5-2-1-0 program pamphlets were handed out during office visits and available in the waiting room. In addition, there was literature available to families from the American Academy of Family Practitioners (AAFP). Dr. Lovio was interviewed by a local newspaper during the pilot and the article was posted in the waiting room as well.

Dr. Lovio participates as a physician representative on the Calhoun County Healthy Lifestyles Committee, a collaborative body that includes representation from the local YMCA, the W.K. Kellogg Foundation, the Calhoun County Medical Society, and other community organizations. The collaborative meets every third month to discuss health issues in the community. In addition, Dr. Lovio, along with the
local hospital’s dietician, has presented information on healthy eating and physical activity at the local school to children in kindergarten through fourth grade.

**Reimbursement**

The clinical supervisor said that within the last few years, the obesity diagnosis is being accepted by insurance companies when billed. In the past, the practice would have to bill physician visits related to obesity as a regular office visit, outside of the well-child visit. She said, “Now, our billing staff have made [using the obesity diagnosis code] a part of our culture.” According to her, insurances are recognizing the diagnosis code more and more. She said that Blue Cross Blue Shield pays an additional $40 for an office visit if an individual’s BMI is included on claim information.

**LESSONS LEARNED**

Dr. Lovio thinks the following factors made the pilot project successful during the year the protocols were implemented:

- Finding the right motivation for each child (such as sport performance)
- Having the parents or other family members on board
- Regular follow-up appointments with the physician or nurse
- Nurse involvement with follow-up visits and phone calls to the children
- Incentives like jump ropes
- Community involvement such as the Health Lifestyles Coalition

Another tactic that worked well during the pilot and the physician continues to use with her patients is suggesting exercises for people to do at home without having to join a gym. She also thinks that a food and activity log was a useful tool to help the children succeed. Things that the physician found to be most challenging were getting the whole family on board and getting patients back to the office for follow-up visits. Dr. Lovio said, “It is going to take something else other than the physician to address this issue.” For example, she suggested, “someone going to the family’s home to better assess their environment and to check in on progress.” She also thinks a community-based summer program for children would be helpful, especially since they found during the pilot that children were gaining weight during the summer months because “a lot of kids are at home by themselves doing nothing; they can’t leave the house because it isn’t safe.”
PRACTICE PROFILE

The Hackley Community Care Center (HCCC) is a Federally Qualified Health Center (FQHC) located in Muskegon, Michigan. It serves about 18,000–19,000 patients and is a Level 3 patient-centered medical home, certified through NCQA and Blue Cross Blue Shield of Michigan.4 Because of its FQHC designation, most patients have Medicaid or no insurance, and most children qualify for free lunch at school. About half of the clinic patient panel is African American, 20–30 percent Hispanic, and the rest Caucasian. There are about 170 total employees at Hackley, including 16 medical providers (eight physicians and eight physician assistants). The clinic is open regularly from 8:00 AM to 5:00 PM, and two of the three pediatricians on staff work 8:00 AM to 8:00 PM one day a week. Each pediatrician sees on average about 30 patients per day. There is also a dental clinic at the lower level; a Teen Health Center at one of the local high schools; and a clinic at the local community mental health office.

PSC staff interviewed Dr. Kira Sieplinga, MD, the lead pediatrician at the practice; Dr. Jennifer Hultman, MD, physician in internal medicine and pediatrics; Tara Fries, RN, case manager for pediatrics; Victoria Wedgewood, quality improvement manager; Joanne Paprockly, billing manager; and Judy Pruim, LBSW, manager at the Teen Health Center located at Muskegon High School.

Dr. Sieplinga has been at HCCC for 2½ years, and was previously Program Director at Cincinnati Children’s Hospital. She works part-time at the clinic (25 hours per week) and her caseload is roughly 1,400 patients. There is no designated specialty within HCCC, but Dr. Sieplinga noted that the clinic has come to specialize in behavioral and psychiatric issues, and issues related to poverty.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY

In the past decade, clinic staff have seen an increase in childhood obesity, and estimate that just under half of the pediatric patients at HCCC are overweight or obese. Prior to the arrival of Dr. Sieplinga, HCCC was more of a general practice. Dr. Sieplinga identified the need to focus on childhood obesity when she came to Hackley since the topic didn’t receive any special attention. She grew the pediatric program within the clinic, while simultaneously launching the Teen Health Center.

Assessment

All HCCC pediatric patients are screened for obesity at well-visits. Dr. Sieplinga described how the physicians input patient height and weight into the clinic’s electronic medical records (EMRs) and then calculate the BMI. Once calculated, BMI is reported on a curve. If patients come in for a sick-visit and there is not enough time to address BMI, Dr. Sieplinga arranges a follow-up visit in one month to address the issue. For example, she explained, if a child comes to see the physician for asthma and ADHD, it may not be the best time to address their weight.

For children over the age of 12, the EMR well-child template screen uses Blue Cross Blue Shield’s 5-2-1-0 format; Dr. Sieplinga also uses the Rapid Assessment for Adolescent Preventive Services (RAAPS) tool for children in this age group. RAAPS is described as a “screening tool that identifies behaviors in adolescents that put them at highest risk for serious injury, premature death, and academic and social problems.”5

4 A Level 3 Patient-Centered Medical Home uses systematic processes and information technology to improve patient care quality, and meets specific requirements related to communication, prescriptions, management, and performance measurement.

5 See https://www.raaps.org/.
Family History

Family history is evaluated at well-visits by asking parents of pediatric patients about a history of heart disease, diabetes, cholesterol, thyroid problems, or obesity in their family. Dr. Sieplinga said discussing family history sometimes leads to discussions about readiness to change, especially for adolescents and older children. Discussing family risks, the physician has found, can help create youth buy-in to start making changes to their own lifestyle.

Physical Health

Most, if not all lab work is conducted on site at HCCC. Dr. Sieplinga admitted she is probably the pediatrician in the clinic who most consistently orders lab work for children with a high BMI to determine if there are any abnormalities in cholesterol, thyroid, or glucose. Lipid profiles are performed for all 9-to-11-year-olds and for children found to be overweight or obese. Dr. Sieplinga follows the Blue Cross Blue Shield recommendations for lipid testing: AST and ALT liver function tests, A1C levels, and vitamin D. Overweight children have similar tests performed. Dr. Sieplinga has conducted lab testing on children as early as age 2, especially if there are family risk factors. However, Dr. Sieplinga said that those protocols are not universally followed by pediatricians in the clinic.

Lifestyle and Environment

The 5-2-1-0 questionnaire aims to get at children’s lifestyles, including how often they engage in physical activity; what kinds of foods they eat; how much screen time they get; how much water they drink; who they are staying with and/or who they live with at home; and who prepares their meals. Questions asked during the “history of present illness” interview aim to obtain information about the past 24 to 48 hours, for example, what patients eat; when they eat and who they eat with; and what types of exercise they do. All of the responses to the 5-2-1-0 and history of present illness questions are recorded electronically.

Mental Health

Although mental health screening is not built into the EMR template, Dr. Sieplinga tries to screen for mental health and other co-morbidities during each well-child visit. She has a conversation with patients—especially adolescents—about reasons for eating and what drives them to eat. Sometimes she learns about other social stressors in their lives that can cause weight gain. She pointed out that this level of screening is provider-specific within the clinic and is not a standard among all the pediatricians.

Readiness to Change

Readiness to change is not a routine evaluation at the clinic. Dr. Sieplinga sometimes asks patients whether or not they think their weight is a problem. If they don’t, she may discuss potential consequences, but no official readiness scale is used. If they do, patients may meet with a case manager for a more in-depth conversation. Case managers make a record of their readiness. If patients do not meet with a case manager—which happens more often than not—then there is no record. Children usually see case managers only if they have a chronic health issue; are not complying with a medication or recommendation; or need education on a certain issue.

Managing Treatment

If children are identified as overweight or obese based on their BMI, physicians explain the different elements of 5-2-1-0 to their patients and provide written materials. They discuss how to address each of the topics, whether it is getting more daily exercise or changing their diet. Dr. Sieplinga helps her patients set one or two realistic goals to work on before their next visit. Children are typically brought back one to three months later to follow up and gauge their progress.
Children meet with case managers either alone or with the company of a parent depending on the child’s age and personal preference. Adolescents are more likely to meet without their parents, since they make most of their own decisions by that point. It can be a challenge if parents are not interested in helping children change their lifestyle, or if parents don’t want to have to change what they feed one child when there are other children in the family. For the most part, children and their parents respond positively to feedback, though they do not always experience success in improving their health or behaviors.

If patients were not successful in meeting goals with counseling from a physician alone, Dr. Sieplinga would refer patients to the STEAM program (which no longer exists in Muskegon and is described in more detail below) for further behavior modification intervention. Dr. Sieplinga said if a child is unsuccessful within a group modification program, such as the STEAM program, the final level of intervention is the Healthy Weight Management Clinic at Helen DeVos Children’s Hospital in Grand Rapids. Although she has not referred any patients there, Dr. Hultman has referred some that had other chronic conditions or organ damage as a result of their overweight or obesity. Unfortunately, the DeVos program does not usually accept public insurance, according to Dr. Hultman.

The STEAM Program

The STEAM program was designed for overweight and obese clinic patients who are willing and ready to make lifestyle changes to improve their health. The program was borrowed from Cherry Street Health Services in Grand Rapids, and was developed using evidence-based concepts from literature. STEAM stands for “Set Goals; Take Control; Eat Healthy; Accountability; and Move”, and is modeled after the FitKids360 program at Forest Hills Pediatrics. STEAM was not a medical intervention, but a behavior modification program lasting 8-weeks (including orientation and weekly meetings for children and their parents or support partners).

Pilot program

The first STEAM pilot program took place in the summer of 2011 at the Teen Health Center at Muskegon High School. Rose Rumball from Cherry Street Health Services came to Muskegon to train the Teen Health Center’s physician assistant and nurse, and have Dr. Sieplinga to administer the program. The first training session was scheduled in the morning before school, and the second training session took place after school. The first cohort of children started with 10 participants, but only 4 completed the program. The second had 8 families enrolled, and only 2 completed the program. The clinic attempted a third cohort, but no one showed up.

Community partners

The local YMCA would host some of the fitness classes for STEAM, and clinic staff said that the YMCA could be an integral partner should STEAM begin again. MSU-Extension staff provided nutrition education to STEAM participants, and a representative from Community Mental Health taught a class on mental health, depression, and the relationship between feelings and food choices.

Program referrals

Patients were referred to the STEAM program from physicians at the HCCC. Dr. Sieplinga referred patients that seemed ready to make lifestyle changes or showed up for their follow-up appointment regarding their weight. Unfortunately, other providers from the clinic referred patients without thorough readiness screening. As a result, most patients and their families that were referred had no genuine interest in participating and declined to participate during the pre-enrollment phone interviews conducted by a nurse. Despite Dr. Sieplinga’s efforts to educate other providers at the clinic on how to counsel patients and gauge readiness, STEAM enrollment numbers remained low with even lower retention rates. Families often cited transportation and time spent away from work as barriers to their participation in the program.
Moving forward

If the STEAM program is not the model HCCC decides to use going forward, Dr. Sieplinga said they still want to have a Tier 3 program or clinic setting to manage obesity in Muskegon. Drs. Sieplinga and Hultman agree that programs with multiple participants with similar goals are helpful in establishing accountability and keeping participants committed to their goals. The children and families that have successfully completed the STEAM program have benefitted a lot, according to Dr. Sieplinga. Ms. Pruim at the Teen Health Center does not foresee STEAM restarting, stating that it was not a good fit for the community.

Clinic Challenges

Interviewees at the HCCC talked about the following challenges in assessing and managing child obesity:

- **Patient reluctance.** Some patients and/or their parents are not very receptive to discussions about their weight or are reluctant to set goals, according to clinic staff. Dr. Sieplinga noted that sometimes she feels her patients agree to set goals just to satisfy her, though they may not really be serious or ready to make a change. As Ms. Pruim said, “there is a culture in Muskegon such that people do not see obesity as the major problem that it really is.”

- **Costs.** The case manager has heard many parents say they do not have money to buy a gym membership, or that it is too expensive to buy fresh produce. She counsels them to offer physical activity alternatives that don’t cost money and are more simple changes in daily living, like taking a walk around the block, or parking further from the entrance at the grocery store.

- **Environment challenges.** The manager at the Teen Health Center said the unhealthy food environments make it hard for people to be healthy. She explained how many of the grocery stores in Muskegon have moved to the suburbs, leaving inner city families to rely on convenience stores. All of the interviewees agreed that Muskegon is a difficult place to find fresh, healthy foods. Grocery stores typically offer an abundance of low-cost sweets, breads, and processed foods, while providing a limited produce selection. Ms. Pruim encourages patients to use farmers’ markets, or to drink one can less of soda each day as a start toward more healthful eating.

- **Lack of education.** Providers have seen many children and their parents who do not know what is considered healthy food or the nutritional value of different foods. According to interviewees, parents are not always able to teach their children how to prepare meals. For example, parents may work long hours and feel they do not have time to cook meals at home; children with teenaged parents are often left in the care of their grandparents and will eat whatever they are served; and parents themselves may not know how to prepare vegetables and healthful foods.

- **Cultural barriers.** Cultural differences with Hispanic and African American patients have presented challenges for clinic staff when suggesting behavior modifications. Clinic staff say their Hispanic families eat a different diet than most Caucasians, and African American families deep-fry many foods. In addition, cultural perceptions of what a healthy weight is and what men or women consider an attractive build can influence the ability of health care providers to encourage adults to lose weight, let alone change what children will perceive as healthy and attractive for themselves. Language barriers also have been an issue at HCCC. The clinic does have interpreters, but case managers said they feel uncertain sometimes that their messages are coming across the way they want them to. These communication issues and cultural differences have created an atmosphere of distrust between minority populations and their providers.

Staff Utilization and Training

HCCC is currently shifting to a team-based model of care. Each five-person team consists of a physician, a registered nurse (or case manager), two medical assistants, a full-time equivalent splitting their time between referrals and other administrative support, and a half-time licensed nurse practitioner for
scheduling appointments. When patients first enter the clinic, a medical assistant takes their height and weight before taking them to an exam room. In the exam room, physicians perform the initial screening of patients, calculating the BMI, and making diagnoses. Case managers meet with patients for further counseling, education, and to schedule follow-up visits. Depending on their insurance, children might be referred to a dietician at Mercy Hospital for a one-time appointment.

Dr. Sieplinga described how the clinic has recently focused on more effectively using their case managers to meet with patients when meeting with a pediatrician is not necessary. There are seven case managers at the clinic to proactively call patients to schedule follow-ups, check patient motivation, and progress toward goals. Each provider at HCCC has a referral specialist responsible for arranging appointments with specialists or other providers in the community.

**Clinic Culture**

Drs. Sieplinga and Hultman said the center conducts a bi-annual Healthy Living Program for clinic staff that runs for 6 months. The program offers financial incentives for staff to earn points toward a financial award when they make positive changes to their blood pressure or other health measures. All staff participate and payouts at the end of the program average around $60 per participant. Within the six-month period, there are six-to-nine-week cycles with challenges such as drinking enough water, getting enough sleep, and flossing teeth.

Apart from the program above, there have not been major changes to the internal clinic environment since focusing on childhood obesity, according to staff. Providers have become more consistent in recording BMI and have become increasingly aware of the trend in child obesity, and there is a TV in the waiting room that streams health information. Clinic staff members said there is not much at the clinic or in the area to promote healthy eating or active living, as there are no healthy lunch options nearby and the building’s vending machine is stocked with high-fat and high-calorie options.

**Reimbursement**

According to clinic staff, HCCC is not reimbursed for many of its costs to manage obesity. There is a patient education code used for most patient meetings with case managers, but the clinic cannot bill for “patient education” with the 15-minute well-child visit code because of its FQHC status. Billing and payment vary by payer—even if a nurse or pediatrician bills for education counseling, it is not necessarily accepted or paid. Most Medicaid HMOs cover nurse visits as long as there is sufficient documentation. As an FQHC, reimbursement for specific services is predetermined. There are not yet any incentives from insurers to code or treat obesity diagnoses.

There were three insurers that participated in the STEAM program: Meridian (formerly Health Plan of Michigan), Priority Health, and Molina—all were Medicaid products. There were 7 classes total (apart from the orientation), each at a cost of $28.50. STEAM participants were required to go through at least three classes in order for HCCC to be able to bill insurers; if they did not meet the 3-class minimum, Hackley was not able to bill for the classes.

**COMMUNITY INVOLVEMENT**

Dr. Sieplinga and Ms. Pruim described the following efforts by HCCC to grow its presence as well as community-wide efforts to improve child health in Muskegon:

- HCCC has a Community Outreach Coordinator who manages health screenings in the community three to four times a year at low-cost housing complexes, schools, churches, and other similar settings. In addition, the Teen Health Center provides services to students during the school day.
■ Teen Health Center staff aim to develop relationships with students in schools and are currently considering implementing Planet Health, an interdisciplinary program that integrates nutrition and physical activity education into school curricula.

■ Girls on the Run (http://www.everywomansplace.org/GOTRindex.html) is one of the strongest programs in the Muskegon community, according to Dr. Sieplinga. The program targets 8-to-13-year-old girls and is designed to teach life skills and build self-confidence while incorporating physical training. It culminates in a celebratory 5K run. Ms. Pruim confirmed that Muskegon has the largest Girls on the Run program in the country.

■ Ramona M. Kwapiszewski, DO, a physician at Muskegon Family Care (a separate FQHC), has initiated her own pilot program to screen and counsel overweight and obese child patients and has seen positive results compared to her control population.

■ Growing Goods (http://www.muskegonhealth.net/programs/educational/growinggoods.htm) is another program in the area that is engaging middle school children in community gardens to learn about growing food and other life skills using the “Show Me Nutrition” curriculum from MSU Extension. Partners and funders of the initiative include HCCC, community mental health, the Muskegon County Health Department, MSU Extension, the Muskegon Department of Human Services, Muskegon Public Schools, Muskegon County Family Court, Muskegon Career Tech Center, and Barry’s Nursery. According to Judy, it appears to be a promising approach in the community.

LESSONS LEARNED
The greatest challenge, according to clinic and health center staff, is patient and family buy-in—especially among adolescent patients. Buy-in on the part of patients and their families is critical before any meaningful change can happen. Dr. Sieplinga has found that use of growth charts helps make the discussion about weight less accusatory or uncomfortable for children and their parents. Looking at the numbers and seeing a visual representation of where kids fall along the height and weight spectrum helps objectify the problem and put the issue into the context of a medical risk. Even receptive patients, however, have a hard time changing habits and even motivated families struggle to meet their goals.

In addition, sensitivity in approaching this topic is critical because families do not always recognize there is a problem with their child’s weight. Parents of young children are often surprised when their child’s weight is addressed; at the same time, some families are thankful for the “wake-up call” so they can help their child make changes. Dr. Sieplinga has learned to reinforce that she is only trying to help children become healthy adults.
PRACTICE PROFILE

Dr. John Bartlett, a pediatric internist, is one of two pediatricians practicing at Marquette Internal Medicine and Pediatrics in Marquette, Michigan. The pediatricians serve about 2,500 pediatric patients. PSC spoke with two people during its visit to Marquette Internal Medicine and Pediatrics: Dr. Bartlett and staff nurse, Vicki Demboski, LPN.

Dr. Bartlett began practicing in 2003 after completing his residency and graduating from medical school at Michigan State University. He has always been interested in overweight and obesity and monitored these issues with his patients. He said there was a big increase in the rate of obesity about 10 years ago in the Upper Peninsula, and feels the increase in overweight and obesity is threefold when compared with 20 years ago. Ms. Demboski said, “Dr. Bartlett is very up front right away. If he sees parents or siblings who are overweight, he is talking to the parents about what they need to be aware of and is introducing healthy habits. It is the boss’s passion to keep obesity at bay.”

The Blueprint 4 Health Center was created in 2010 after Dr. Bartlett spent time researching best practices to address the issue of obesity with children. While developing the center, Dr. Bartlett sought expertise from colleagues in Marquette and Houghton, and at Yale University and the University of Michigan. The Blueprint 4 Health Center team consists of three clinic physicians, four physicians available for consultation with the clinic physicians (a family practitioner specializing in sports medicine, a colorectal surgeon, a family practitioner and public health director, and a bariatric surgeon), two psychologists (one who specializes in children and another who specializes in chronic disease), three dieticians, two exercise specialists, a nurse, and administrative staff. The clinic is housed within Marquette General Hospital’s Specialty Clinic. The clinic is open two days per month and staff are scheduled on a rotation.

PSC spoke with the following team members during its visit to the clinic: Erica Griffin, MD, family practitioner and board certified in bariatrics; Cori Steede, LPN; Sheri Rule, RD; Christina Bennett, YMCA of Marquette County; and Greg Jones, PhD, health psychologist.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY

Dr. Bartlett assesses all of his pediatric patients at Marquette Internal Medicine and Pediatrics for overweight or obesity during each office visit, referring patients with a height/weight ratio measuring above the 95th percentile to the Blueprint 4 Health Center for treatment. Described below are the processes for screening, assessment, and initial treatment through his physician practice, and treatment and monitoring through the Blueprint 4 Health Center.

Assessment

All children are screened for overweight and obesity at every office visit to Marquette Internal Medicine and Pediatrics. Height and weight are taken to determine a child’s BMI. Dr. Bartlett says that the advantage to monitoring a child’s height and weight at each visit is to catch something before it becomes a real issue. In addition to calculating a child’s BMI, Dr. Bartlett also calculates the BMI Z-score to see changes in deviation from the average. As children grow the BMI Z-score helps to demonstrate the changes in their physical development compared to their BMI over time. Dr. Bartlett says this is a more accurate reflection of obesity because a child’s height and weight can change quickly as they grow. If a
child is identified to be “at risk” (if the BMI indicates overweight, or parents are overweight or obese), the physician screens him/her every three months.

In addition, Dr. Bartlett asks parents (and the child) about what they eat, how much time is spent watching TV, and the child’s participation in activities. He then provides some recommendations to both parents and children to help them make better decisions. The nurse says, “Surprisingly enough, they listen to him. I call him the baby whisperer.”

**Family history**

A child/family’s health history (for example, parental obesity, type 2 diabetes, cardiovascular disease, hypertension, depression) is assessed using a patient medical and family history form. Sometimes, Dr. Bartlett is able to optimize the advantage of seeing multiple family members in his practice; for example, many of the parents of his pediatric patients are also patients. “We’ve got four or five families [that] we see the entire family: grandparents, parents, and kids.” As a result, he is able to address issues related to overweight and obesity with the parents as well as the children.

**Physical health**

In addition to looking at the velocity of a child’s growth on the curve, Dr. Bartlett looks for any medical signs that a child could be obese, such as the following conditions:

- skin changes like purple striae (stretch marks) around the abdomen or reddening of the face that could be a sign of Cushing’s syndrome (a condition of high cortisol levels)
- low muscle tone that could also be the sign of developmental concerns
- Prader-Willy syndrome, a genetic disorder that causes kids to eat uncontrollably
- dark discoloration around the neck that is a sign of a metabolic syndrome or type 2 diabetes that can be treated by a dermatologist

Dr. Bartlett also looks for a variety of physical conditions that could limit a child’s ability to exercise or improve their activity level. For example, he said a lot of kids have asthma that has not been adequately treated, so they are not able to run and keep up with other kids. Children with musculoskeletal problems can work with a physical therapist to build strength or obtain orthotics to help to align their knees so they can walk and run more easily. He also looks for heart murmurs and other heart or lung problems that could be a barrier to exercise.

**Lifestyle and environment**

Dr. Bartlett says that parents are very forthcoming with information about their lifestyle (such as consumption of fast food, sugar-sweetened beverages, and/or high-fat snacks; portion sizes; frequency of eating and patterns), and adds that if the parents aren’t forthcoming, the kids will tell him. He says:

> Just ask. Ask, what are ways in which we can help your child get healthier? People want to talk about these things.

An environmental assessment is tougher, according to the nurse. She said that Dr. Bartlett has conversations with the kids and they will tell him that they just like to play video games. He also has a casual conversation with the parents to find out a little more about their barriers to activity. Grandparents will add their opinion too, she said. The physician will listen to all of the generations to figure out the whole story to offer a recommendation.
**Readiness to change**

The nurse said that they ask the child and parent or caregiver if they are ready to make changes to their diet and level of physical activity. “Some people are ready to go to the Blueprint 4 Health Center right away,” she said, “while some want to try things at home and come back in three months. Some kids have improved doing things at home while others have not.”

Dr. Bartlett says that most of the children he sees are ready to change their lifestyle:

> It is amazing how many kids know that they are heavier; kids can be mean to each other. Most families are willing to make changes because they don’t want their children ostracized. There are families that I would have never believed would get on board with it, but who have and have done a wonderful job with their kids.

**Managing Treatment**

Dr. Bartlett begins to address and prevent overweight and obesity as soon as he sees a child progressing in the wrong direction. He said, “As a pediatrician you start with breastfeeding and talk about prevention and healthy habits from day one. For example, breastfeeding is shown to reduce risk, or if a child is feeding from a bottle I advise on how much they should be feeding.” In addition, Dr. Bartlett talks with parents about not starting solid foods with a child before four months and not to start complex carbohydrates before six months. When he begins to address overweight or obesity in his office, he talks about simple things the child or family can do to improve what they are eating or drinking, such as how many meals and snacks to eat, what they could eat at school, what type of milk to drink, and avoiding sugar-sweetened beverages like soda pop, juice, energy drinks, and vitamin water. He also talks with children about ways they can become more active and tries to get them interested in sports or other activities such as dance, karate, or skating. He suggests safe places to play, such as parks or the local YMCA, and he recommends activities to get the child’s heart rate up, such as playing tag, jumping rope, sledding, and skiing. He said, “Never tell a kid to go run on treadmill for an hour.” Dr. Bartlett refers all of his patients who are above the 90th percentile to the Blueprint 4 Health Center to learn to manage their weight and make lifestyle changes. The Blueprint 4 Health Center also accepts self-referrals and referrals from other physicians and school nurses throughout the Upper Peninsula.

**The Blueprint 4 Health Center**

At each visit a child and his or her parent/caregiver meet with a nurse, physician, dietician, exercise specialist, and health or child psychologist. Prior to their first visit, the family receives an intake form to provide information on the child’s health, diet, and level of exercise. They also are asked to complete a three-day food diary to bring to their first visit. In addition, clinic staff obtain past growth charts and lab information from the child’s primary care provider. A fasting blood sample is requested either before or after the child’s first appointment at the center to obtain measurements for cholesterol, blood sugar (Hba1c), insulin, kidney and liver function, a complete blood count, and thyroid health (TSH and FT4). Children are scheduled to return for their second visit to the clinic the following month; subsequent visits are at one- to three-month intervals, depending on the child.

At the initial visit and at each check-in, the nurse takes the child’s height, weight, blood pressure, and pulse. She calculates the child’s BMI and BMI Z-score to include in their record. The nurse also reviews the information and history form to help the child and parent complete it. The nurse then facilitates the transition of the child and parent from team member to team member during their visit.
Meeting with the Dietician

The dietician assesses the individual nutritional needs of each child. She said, “Not every child is going to be in the same place when they come to the center. Some children are very motivated, but some don’t want to be here at all.” Counseling is not “cookie cutter” or the same for each child but is based on where the child is and moving forward from there. “Really,” the dietician said, “you try to encourage them, and interview the child so that they develop their own goals. We use a lot of the wellness coaching to accomplish that.” The goal is to help them discover for themselves how they can make changes. She added, “A lot of times they know how they can be healthier and we try to coach them into deciding how to make the changes they want to make.”

The dietician tries to dig deeper to understand the child’s social environment: how and where they are eating, what types of foods they choose, and how fast they eat. She discusses with the child where he/she thinks they need to make changes to be healthier—focusing on being healthier, not weight loss per se. The dietician reviews the completed food log with the child. If a child doesn’t bring his/her food log, she asks what they have been eating for the past few days. The dietician said that sometimes a child’s recollection of what they normally eat is accurate, but often it is not.

When lab results are available the dietician will tailor her interview s based on the child’s cholesterol, triglycerides, insulin, hemoglobin (liver function) and electrolyte levels, if any of those are out of balance. For example, she explains to the child what his/her lab results mean and provides nutritional recommendations to improve any of the measurements. Finally, the dietician will ask the child if he/she take any supplements. She said sometimes a child can start with one step in the right direction; if they are eating poorly, they can begin to improve by taking a multi-vitamin.

The dietician also tailors her interview questions to the child’s interests, such as athletics or academics. She talks with the child about what certain food groups can do to enhance their ability:

So, if you have a child who is very academically oriented but they are eating poorly they are not going to be able to achieve their academic potential by eating junk foods. These other foods give us certain vitamins, minerals, and nutrients that will enhance their ability to perform the way they want to perform in school. Or if you have a child who is very athletic, what kinds of nutrients do they need to perform to their fullest potential in their sport. Hockey is a big thing up here. If they are eating junk foods, or not eating all day, then going to practice, and then coming home and mowing down anything in sight at night—that’s not going to enhance performance. Rather than saying “this is how many calories you need,” we look at how we can enhance their lifestyle in the areas they would like to pursue.

The dietician warned, “When you start playing with people’s food it becomes territorial and possessive. You have to find a way to be gentle. Sometimes in a clinic setting, when you are first meeting with a child, the dietician is often perceived as the food police.” To help ease defensiveness, the dietician works with the child to see what can be added to their meals to make them healthier, such as a glass of milk, a piece of fruit, or vegetables on the side. Instead of taking food away, the dietician helps them discover what can be incorporated to make their meals healthier. She said once a child develops confidence in choosing healthier options and a trust in her, she can then start moving the child in a different direction. For example, instead of pizza and French fries for lunch, she will ask the child to try a salad with some protein and some fruit on the side.
Meeting with the Exercise Specialist

Two fitness experts from the local YMCA of Marquette conduct fitness assessments and counsel the children who visit the Blueprint 4 Health Center. The physical fitness assessment includes a:

- three-minute step test to measure a child’s heart rate recovery following three minutes of exercise,
- wall sit (for children under the age of nine) or a long jump (nine or older),
- push-ups to fatigue (full length or off wall depending on form),
- one-minute crunch (core) test,
- flexibility test, and
- circumference measurements of the neck, waist, hips, arms, and thighs

The physical fitness assessment is conducted with each child every three months to measure their progress.

To assess a child’s environment and address any barriers to physical activity, the fitness experts talk with the child (and/or parent) to find out what the child likes to do. For example, one child recently seen by the exercise specialist interviewed told her he likes to ride his bike to his grandmother’s house when he visits her. The fitness expert helped the child figure out more opportunities to ride his bike since he enjoys that activity. The fitness expert also sets goals with the child using a progress tracker designed by the YMCA. The goals are made as specific as possible. Two goals are set with the exercise specialist, one in each of the habit categories outlined in the tracker related to physical activity (play every day and go outside). For example, “going outside to play for 30 minutes” is a specific goal. Each day the child goes outside to play for 30 minutes he/she fills in a gold star on the progress tracker. At the next visit to the clinic the fitness expert reviews the progress tracker and goals with the child to see if any adjustments should be made or new goals set, and she also offer tips on exercise. For example, the fitness expert will send exercise recommendations home with the child, such as exercises that use their own body weight (and don’t require any equipment).

Meeting with the Child or Health Psychologist

The Blueprint 4 Health Center has a health psychologist and a child psychologist who work at the clinic on an alternating schedule. During clinic visits, children meet with one of the psychologists to review their intake form to check the results of prior testing or the need for psychological testing for attention deficit disorder, learning disabilities, depression, anxiety, or other psychological disorders that could be contributing to their obesity. The psychologist also talks with the child about bullying or teasing that he or she may be experiencing. In addition, the psychologist asks the parent(s) if the child is having behavioral problems at school and/or at home.

The psychologist tries to identify any needs outside of the dietary, fitness, and medical needs already being addressed by the other providers at the clinic. For example, the psychologist can help to identify stressors that may be contributing to the child’s obesity. Dr. Jones, the psychologist interviewed during this site visit, gave the following example:

We had one young lady whose parent had been deployed for a second time to Afghanistan. She was especially close to this parent. For her, when daddy gets notice to deploy, then leaves with his unit, and then she sees daddy on Skype—she gains 15 pounds. Clearly food was her comfort. Identifying that as the trigger for her weight gain, we were able to talk about what we could put in place for her. What therapist could we refer her to in her community so that she had that additional emotional support while he was gone?
In addition, the psychologist will determine how motivated the child and family are to make changes to their lifestyle. To do this, Dr. Jones said he will say to the child, “Tell me how you felt when you had to get in the car and come here today.” Dr. Jones said he has been able to identify a number of barriers or factors that could impede a child’s progress when he talks to the child about how they feel coming to the center.

**Meeting with the Physician**

The Blueprint 4 Health Center has three rotating physicians who cover the monthly clinic hours. The physician reviews the child’s vital information, checking their BMI percentile and their BMI Z-score and the initial history form, including birth history, developmental history, nutritional questions, behavioral questions, how much the child sleeps, and past medical and surgical history. A physical exam is conducted, focusing on the child’s mobility (feet, knees, and ankles), to make sure there are no issues that could inhibit physical activity, such as flat feet or knock knees. The physician also checks for signs of insulin resistance, looking for a dark line found around the base of the neck, and any signs of thyroid issues. In addition, the physician reviews the labs completed since the child’s first visit (CBC, CNP, insulin, hemoglobin, A1c, and TSHNT [thyroid]).

Dr. Griffin, the physician interviewed during this site visit, said she also asks children how they feel about coming to the clinic and the changes they are making with eating and activity, what they would like to see happen as an outcome of coming to the clinic, and how they would like to meet their goals. For example, she will review the dietician’s recommendations to see if there is anything she can do to help the family implement them.

**Addressing Barriers**

The team at the Blueprint 4 Health Center has had to address a variety of barriers, including obstacles related to family culture or routine, lack of awareness or knowledge of healthy behaviors, and medical conditions. Each of the providers develops strategies—related to food or fitness—with each child (and family) to overcome such barriers.

The dietician said that sweets are a big problem because children seem to use sweets to comfort themselves, and because the area’s Scandinavian cultural roots traditionally includes enjoying a lot of sweets and desserts. The dietician said many families also still follow the “finish everything on your plate” rule. She helps children learn how to politely tell the “food pusher” in their family that they have finished eating. The dietician said that families can have busy schedules and rushed routines for many reasons (such as parents’ work schedules or the child’s after-school activities). She said, “If there is a child who goes all day without eating or a child who skips breakfast or has a junky lunch and comes home to an empty house with lots of sweets, treats, and ice cream—of course that is what they are going to gravitate towards because there is no one there to stop them, it tastes good, goes down well, and comforts them.” She said she helps a lot of children plan when they will eat and to incorporate breakfast into their morning routine. These strategies help children eat fewer unhealthy snacks throughout the day and perform better in school and athletics. She also encourages parents to prepare more home-cooked meals by suggesting they prepare three or four different meals once a month to freeze them. “Then all they need to do is pop them in the oven to heat up while they are getting ready to do what they need to do,” she said.

The fitness expert interviewed said most inactive families she has worked with at the center do not know how much time they need to spend being physically active and what constitutes physical activity. She talks with them about the kinds of activities they like to do, such as gardening or other yard work, walking, ice skating, or sledding, to help them find ways to increase the amount and level of activity.
Other barriers the physicians at the Blueprint 4 Health Center have helped children overcome have been medical in nature, for example, children with asthma that has not been optimally treated or children who have issues with mobility. Dr. Griffin said she refers a child with asthma back to his/her primary care physician to discuss new treatment options so the child can begin to exercise without asthma being an obstacle. Children with limited mobility may be referred to a specialist to be fitted for orthotics or to a physical therapist to improve range of motion.

The biggest challenges the practitioners interviewed at the Blueprint 4 Health Center have had to overcome in treating child obesity include cultivating support for children; helping children come up with strategies to cope with stressors; and getting pre-teens and teenagers excited about exercise. The exercise specialist said,

The biggest challenge is trying to get the whole family on board. There are some [parents] that totally get it and are on board with what you want to do. Then there are those where it is like talking to a brick wall. My heart just goes out to those kids when the family is not on board.

The dietician said:

If the child doesn’t have support to be here they are not going to want to be here...the most challenging aspect is if we look at the home environment and whatever the social or psychological issues going on in the home. Food [is] the common denominator for comfort, not just physiological but an emotional need to fulfill that requirement. When a child is in a situation where there is more of an emotional component that they need to fulfill, how do you help them?

Dr. Griffin said getting the pre-teens and teenagers excited about exercising is the most challenging. She has learned that she can help reiterate the exercise specialist’s recommendations and talk to the child about how the exercise will help their physical health. However, she said, “It is difficult to get the 10–15-year-olds excited about making changes because they don’t think [their eating habits] will catch up to them [when they get older].”

**Staff Utilization and Training**

At the end of a clinic day, all of the providers working at that clinic session gather for a “team meeting” to discuss the day’s cases. The team meetings allow each of the practitioners to share their visit with each child to “help put all of the pieces of the puzzle together.” The nurse said, “It is interesting that some things you would think a child would tell the dietician, they tell the psychologist. Some things they should be telling the exercise specialist they are telling the dietician.” The dietician said, “The team meetings allow us an opportunity to get a better picture of the child to provide the best care.” All of the practitioners interviewed find the team meetings very useful. The physician said, “I really think the multidisciplinary way is the way to go.” The psychologist noted, “I think the thing that makes it exciting is being a part of a multidisciplinary team. I just like taking a team approach because of what it does. I have felt for a long time that in our healthcare system we de-compartmentalize the human.” Following the team meetings, the physician or nurse writes a letter to the child and family to remind them of the recommendations from each practitioner and their next scheduled appointment.

Staff at the Blueprint 4 Health Center have been trained and attend other training opportunities to improve the services they provide at the center. For example, the nurse will be trained to use a new piece of equipment that measures not only a child’s BMI but also the percentage of body fat and mass (muscle). This machine will help the team show children how their body is changing as they improve their diet and increase their level of fitness. In addition, some staff already have specialized training to work with
individuals who are overweight or obese to improve their health. The dietician interviewed during the site visit has certification for pediatric and adolescent weight management through the American Dietetic Association. The psychologist interviewed specializes in health psychology, helping people manage their emotions and behaviors while dealing with a health issue such as cancer or chronic disease. The physician interviewed at this site visit has a specialty in bariatrics, which she is able to adapt to children at the center.

Reimbursement
The physician interviewed at this site visit said not all services are reimbursed by insurance companies. In fact, the psychologist said he volunteers his time once a month at the clinic. The physician added that, “Usually the physician portion is payable. We can use obesity with another diagnosis code and then obesity is covered.” She also said that lab work is normally covered by insurance if it is considered “medically necessary.” The service provided by the dieticians and exercise specialists can be reimbursed by Blue Cross Blue Shield when billed using T-codes (Teaching Codes). However, other insurance companies will not reimburse for those services.

LESSONS LEARNED
Dr. Griffin said that learning how to calculate and explain the BMI Z-score to children and their parents has been very helpful to frame weight management for children who are still growing. The Z-score can show progress children have made toward fitness, even if they have gained weight. The dietician said that she enjoys working with children, getting to know them and what they are interested in, and helping them to overcome their barriers. She has appreciated the opportunities to “think outside the box” to help kids come up with strategies that may not even be related to food to meet their health goals and see them succeed.

Other lessons learned by those interviewed are to not focus on the scale, but to help children understand how their body is gaining muscle and how they are growing. The nurse said, “I’m pulling away from focusing on the numbers. I tell the kids we take your height and weight every time because we need to see what kind of direction we are heading in. I want the emphasis to be on making better choices.” The psychologist, Dr. Griffin, said, “Sometimes my only goal is just getting the child/family to come back. Just come back for one more visit.” He said then, after they go home and think about their time at the clinic, they will realize how it can help improve the child’s health. He added, “We need to learn how to meet the child where they are by not making them feel like they are a failure [because they come to the clinic].”
PRACTICE PROFILE

Forest Hills Pediatrics is located in a suburban community near Grand Rapids and serves 10,000-12,000 active patients (patients they have seen in the past two years). Most of the children and families that come to Forest Hills are upper-middle-class Caucasians who are privately insured. Forest Hills employs ten physicians (each has a nurse), and a licensed social worker.

During our visit, PSC staff spoke with Kathleen Howard, MD, a practicing pediatrician with a special interest in obesity, and head of the FitKids360 program, a level-two obesity treatment program for children and their families; and Susan Wakefield, MD, her administrative partner. Dr. Wakefield does not see patients, but is responsible for managing the clinic and is medical director of We Are for Children, a pediatric physician organization in Grand Rapids with 42 physicians across six practices. Formed in 2010, We Are for Children encourages collaboration between pediatric primary care physicians, pediatric subspecialists, Helen DeVos Children’s Hospital, and health plans in west Michigan to improve the care of children and create operational efficiencies.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY

Dr. Howard began her medical career in 1998 in Chicago (one year) and the San Francisco area (three years) working in hospitalist, urgent care, and pediatric clinic settings. She has been working in primary care in Michigan for ten years. In her first few years as a pediatrician, she recognized a need for an emphasis on childhood obesity. While there are still many children at a healthy weight in the Forest Hills’ patient panel, the number of children that are overweight or obese is growing.

Given the alarmingly high and growing rate of overweight and obesity in children at the national level (about 25-30 percent of children), Dr. Wakefield decided to find out how many children were being diagnosed as overweight within their own clinic. After reviewing the data in their electronic medical records (EMR), she discovered that the rate of patients with a Body Mass Index (BMI) above the 85th percentile was higher among their patients than in the general population: about 2,800 kids (roughly 28 percent of patients) were above the 85th percentile, and about 1,200 (12 percent) above the 95th percentile.

This finding led Dr. Howard to begin researching free and for-purchase programs from across the country aiming to combat the obesity trend through weight reduction or prevention. Most programs were expensive, so Dr. Howard decided to create a new program specifically for her patients and children in the surrounding area. In 2009, Drs. Howard and Wakefield convened community stakeholders to determine what actions they could take to help their patients. Roundtable partners included Dr. Tom Peterson, MD, medical director of the Helen DeVos Children’s Hospital; area hospitals; insurers; and other community stakeholders interested in this issue. The result of this collaboration was the founding of FitKids360.

In addition to FitKids360, Drs. Howard and Wakefield transformed the way they managed childhood obesity in their practice—including screening, motivational interviewing, and counseling patients to modify their behaviors. As part of that transformation, they will be adding a full-time nutritionist to their

---

6 A level-two program is a structured weight management program where a physician develops diet plan and planned supervised activity, increases structured daily meals, limits screen time, uses logs to monitor, and follows-up as often as necessary.
staff to provide more opportunities for consistent messaging and to be a point-person for overweight or obese patients and their families.

**Assessment**

Dr. Howard and the other Forest Hills pediatricians screen all of their patients for obesity and its risk factors. Physicians track weight-for-height using the World Health Organization child growth standards for each of their patients under two years of age. At age two and beyond, they record BMI at each well-visit. BMI and weight data are tracked using electronic medical records, which were introduced in the clinic about two years ago. Forest Hills uses the Michigan Care Improvement Registry (MCIR) to input immunization data, but the BMI function is not yet operational. Dr. Howard said it is unlikely that adding BMI to MCIR would change what she and her practice do on a daily basis, though she believes that the records could be helpful for surveillance at the statewide level. Forest Hills physicians are required to enter a V-code in the electronic medical records to categorize the patient’s BMI percentile. V-codes are used in the EMR to document patient encounters other than disease or injury (such as birth status for newborns, dressing changes, or risk of exposure to an infectious disease).

Forest Hills Pediatrics’ in-office assessment corresponds to Stage 1 of the four-stage approach to prevention, assessment, and treatment for obesity recommended by the American Academy of Pediatrics. At-risk patients are scheduled to have monthly visits for three to six months to monitor changes in weight while being counseled to encourage behavior change. If patients are not successful with Stage 1, children are considered “Stage 2” and are referred to the FitKids360 program to obtain help making healthy lifestyle changes (including logging eating and physical activity behaviors), and receive guidance from one or more health professionals. The Healthy Weight Center at the DeVos Children’s Hospital offers a more clinical, or Stage 3, intervention. There is no Stage 4 intervention provided at Forest Hills Pediatrics. They have yet to refer patients for Stage 4 tertiary care (surgery) to treat their obesity.

**Physical Health**

Forest Hills patients at or above the 85th percentile for BMI have blood drawn on-site for the lab tests needed for screening, including lipid panels, glucose, and liver function. In the past, cholesterol levels were also collected, but this is no longer reimbursed by insurance and thus has been dropped from the regular screening process. According to Dr. Howard, the new recommendation from the American Academy of Pediatrics calls for cholesterol tests in all children over the age of ten, but Forest Hills does not have the capacity to test all of their ten- and eleven-year-old patients. Instead, they test those with an elevated BMI. Dr. Howard stressed the importance of performing blood draws within their clinic setting because patients rarely comply when they are sent elsewhere for lab work.

**Lifestyle**

All patients are required to fill out a Family Nutrition and Physical Activity survey (FNPA) via the online patient portal or using the paper form onsite. The survey aims to assess risk factors including screen time; amount of physical activity; consumption of fruits and vegetables, sugar-sweetened beverages, and dairy products; whether children have a TV in their bedroom; the number of meals eaten outside the home; and how many hours of sleep children get each night. The FNPA survey is completed by patients (or parent) and recorded electronically at every other well-child visit. Prior to the introduction of electronic medical records, patients were not regularly screened for these health behaviors.

Forest Hills has the “Healthy Habits, Healthy Weight” poster from the Helen DeVos Children’s Hospital in every exam room (see Exhibit 1). “I talk about it at every well-visit,” Dr. Howard said. She asks

---

patients—regardless of weight status—“Have you been healthy this year?” If they respond, “yes.” She says, “You must be doing a good job with your healthy behaviors!”

EXHIBIT 1. Healthy Habits Poster

Healthy Habits, Healthy Weight

7  Breakfasts every week
6  Home-cooked meals per week
5  Servings of fruits and vegetables each day
4  Ounces of 100% juice per day or less
3  Servings of low fat dairy each day
2  Hours or less of screen time each day
1  Hour or more of physical activity each day

Mental Health

Unlike many pediatric providers and lifestyle modification programs, Forest Hills and the FitKids360 program emphasize the mental health component to achieving success in reducing and preventing overweight and obesity. Dr. Howard explained that low self-esteem is a major issue for overweight and obese children. “It’s likely they are sad, don’t have many friends, and are bullied at school,” she said. The Healthy Weight Center requires each of its patients to receive mental health counseling. Although it is not a requirement for FitKids360, a social worker or psychologist is made available to children and their parents who wish to see one. According to Dr. Howard, after an informational session on self-esteem in the FitKids360 program, many parents realize their child has symptoms of depression or anxiety and set up counseling appointments for them.

One aspect of the FitKids360 protocol that Dr. Howard and her staff have modified from the Healthy Habits Healthy Weight message is substituting healthy behavior number four with positive mental health messaging; instead of “4 ounces of 100% juice per day or less,” they promote “4 positive self-messages per day.”

Family History

The FNPA survey completed at well-child visits also asks about family history of obesity. Dr. Howard stressed the importance of speaking to visibly obese parents about nutrition when their children are infants, since these children are at a greater risk for also becoming obese. She has found these parents often have unhealthy relationships with food themselves, or deny a history of obesity. Dr. Howard also said that a history of mental health issues found in parents, such as depression or anxiety, can influence their family’s eating habits. Many parents also do not recognize depression or sadness in their children.

Readiness to Change

When a patient is identified as at-risk or already overweight or obese, his or her physician reviews a goal worksheet with them outlining healthy habits for a healthy weight. The family goal statement worksheet asks children to pick one of the listed healthy goals that he or she would like to try over the next month [see the Attachment]. Then patients are asked to think about a time when they were successful in changing something in their life, what made that effort successful, and how will it help them make this change. There is space for patients to write down their goal, and identify challenges and solutions for achieving the goal. Finally, the worksheet asks patients to identify their level of confidence in their ability to change, and their readiness to change on a scale of 0 (not ready) to 10 (very ready).

Patients who select a readiness level between 8 and 10 are encouraged to return in 30 days to discuss progress on one goal they set for themselves. Patients who are not as ready to change are not encouraged to schedule a follow-up visit with a physician since it is unlikely they will come and will waste the limited time of the clinic professionals. In the future, a nutritionist will be responsible for conducting these follow-up visits.

Assessment Challenges

Dr. Wakefield described how not all staff (physicians, nurses) are very well-versed in how to talk to patients and/or their parents about obesity. Labeling children as obese can cause parents to become very protective and defensive of their child and less likely to take a proactive approach. Dr. Wakefield described how Dr. Howard can handle these sensitive conversations better than most physicians and care providers, largely because she recognizes the relationship between overweight and obesity with an individual’s low self-esteem.
**Managing Treatment**

Overweight and obese patients of Forest Hills Pediatrics who are not successful in reducing their weight through counseling alone are referred to the FitKids360 program for personalized behavior modification. The FitKids360 program (www.fitkids360.org) is a seven-week program designed for children 5–16 years old with a BMI at or above the 85th percentile. Dr. Wakefield and Dr. Howard were both adamant that it is not a weight loss program, but rather a behavior modification program consisting of four major components:

- Nutrition
- Physical activity
- Behavioral/mental health
- Group exercise

The first enrollees in FitKids360 were Dr. Howard’s patients. Since then, the program has grown to serve patients at St. Mary’s Hospital, the Children’s Hospital residency clinic, and other physician practices around the Grand Rapids area. Typically 10–25 children and one or more of their support partners (parents and siblings), are enrolled for a total of about 60 participants per cohort. Program participants who are not patients at the Forest Hills Pediatric Clinic have “report cards” sent to their primary care provider to update them on their progress in the program. These report cards include bar graphs and check marks for each of the eight health behaviors the program addresses, with the aim of helping physicians focus on problem areas for their patients.

A physical assessment and family lifestyle assessment is conducted before and after the program, and a researcher at Michigan State University compiles the results.

**FitKids360 Curriculum**

The curriculum was designed by Dr. Howard and several other health professionals with backgrounds in nutrition, exercise physiology, social work, and psychology. The program staff includes a social worker/psychologist, exercise physiologist/movement scientist, a nutritionist, and a program director (usually Dr. Howard or Megan Murphy, the FitKids360 Program Manager).

The program includes a weekly two-hour meeting covering topics related to each of the four FitKids360 components, such as eating out, school lunches, self-esteem, bullying, and facts about food, fitness, and appropriate amounts of physical activity. Each meeting is held at a different facility based on the topic and activities to be conducted (for example, cooking demonstrations and classes at a community center, walk-to-run initiative at a local park or recreation center). Children have the option of receiving counseling services throughout the program and many families seek continued counseling beyond the program’s end date. The Facebook page and website for the program provide participants with general information on the program, including brochures for parents and families.

**FitKids360 Training**

Since the program has expanded to include groups of children beyond the walls of the Forest Hills clinic, other groups and organizations in the community are interested in running their own FitKids360 program. The Forest Hills team now provides trainings and program manuals for groups of social workers, physiologists, nutritionists, program directors, and volunteers to learn about specific physical health metrics and obtain surveys and the seven-week curriculum. Trainings are a full-day event on a weekday (8:00 AM–4:00 PM) and usually serve 20–30 people. Four trainings have taken place as of September 2012, and have thus far been either free for participants within Kent County or with a nominal fee to cover administrative costs.
FitKids360 Funding

Funding FitKids360 has been a challenge from its start in 2009. At first, the program was strictly volunteer-based and, to a large extent, still is. Instructors from exercise programs or local athletic teams offer their time to teach Zumba classes, aerobic kickboxing, yoga, swimming, gymnastics, or other activities. For some children and their families, this is their first exposure to such activities. Some of the children and families decide to pursue these or similar activities beyond the seven-week program.

The Michigan State Medical Society provides $2,000 in grants for medical students to participate in the program. Students are paired with families to help them meet their physical activity and nutrition goals. In previous years, students have designed an obstacle course and a jeopardy game to test participants’ health and fitness knowledge. Unfortunately, most students are not involved with the program long enough to follow participant progress over time. Spectrum Health System has provided some funding to hire the program director, Megan Murphy. FitKids360 also has two grant writers who have been working to secure additional grant funding, but so far have been unsuccessful.

FitKids360 Success

Because FitKids360 is a relatively new program, it is difficult to evaluate the impact it has had on children and their families. Forest Hills gathered consent from parents of one of the first cohorts of children to complete the seven-week program to look at their health records for two years following program completion. Program staff focused on the measures that contribute to an obesogenic environment, such as mindless snacking while watching TV, or dining at fast-food restaurants. Dr. Howard recalled how one of her seven-year-old patients participated in the FitKids360 program at age five. The child not only experienced success improving her health measures during the program, but has now lowered her BMI to the normal range.

Participants earn points by tracking all of their health behaviors or meeting their own health and fitness goals. An office manager is responsible for collecting participant paperwork and logs, compiling the results, and tallying points. Children who earn the most points get their first choice of prizes, which are usually sport or fitness related (a jump rope, football, etc.). Program staff informally survey participants to know what prizes they would like.

Cultural Barriers

Cultural barriers in the FitKids360 program have not been a major issue as most of the children and families that come to Forest Hills are upper-middle class and there are few minority children. Dr. Howard estimated that less than 15 percent of FitKids360 enrollees have Medicaid. She has observed, however, a high number of divorced parents among FitKids360 enrollees. Many families require two sets of paperwork for two different households. According to Dr. Howard, children experiencing inconsistency in their home environment and parenting style can find it more challenging to modify health behaviors.

As FitKids360 expands to other communities in the Greater Grand Rapids area, the need for cultural sensitivity is likely to grow. Inner city settings typically have a high number of African American participants, and the St. Mary’s program has a high number of Hispanics. St. Mary’s has used translators for its program, and the curriculum for FitKids360 has been translated into Spanish.

Program Challenges

Drs. Howard and Wakefield identified challenges both within the FitKids360 program and in the community. It is difficult to track the progress of a child and family who participate in the FitKids360 program who are not regular patients of the Forest Hills clinic. In addition, there are conflicting messages about healthy behaviors from different community agencies and organizations or even within the same agency. For example, WIC encourages breastfeeding, but WIC programs still give families juice boxes and/or formula without guidance on moderation or feeding schedules. And as elsewhere, the availability
of convenience foods and restaurants, as well as advertisements targeting children, makes it difficult for parents to make healthier choices for themselves and their children. And according to Dr. Wakefield, parents are not persistent enough in encouraging kids to try healthful foods again and again.

**Organizational Culture**

The emphasis on childhood overweight and obesity has had an impact not only on Forest Hills Pediatrics patients, but also among its staff. Forest Hills has run a number of Weight Watchers programs for its employees at zero cost for the first program session, and a reduced cost for the second. In recent years, the clinic entered its first 5K race as a team and offered lunchtime Weight Watchers meetings. Other organizational changes have included guidelines for birthday treats and office snacks (for example, no cakes, donuts, or other foods high in fat and sugar). The practice even decided to refuse pharmaceutical sales representative meetings in the office since they typically cater meetings with unhealthy foods.

Dr. Wakefield noted, however, that these changes have not been easy even among clinic staff and physicians. Birthday treats are often still unhealthy. As she noted, “Donuts are cheaper than fruit. We start a healthy routine, then slide back to the old way of doing things, then fix it, and so on.”

**Reimbursement**

Forest Hills Pediatrics uses two billing codes for obesity: one between the 85th and 95th percentiles, and another for patients with a BMI higher than the 95th percentile. Typically, billing depends on the amount of time spent with patients and the complexity of the diagnosis. At first, physicians struggled to remember to enter codes, but it is now a requirement in the EMR system.

- V85.51 is for a BMI less below the 5th percentile (underweight)
- V85.52 is for a BMI between the 5th and 85th percentiles (healthy weight)
- V85.53 is for a BMI between the 86th and 95th percentiles (overweight)
- V85.54 is for a BMI over the 95th percentile (obese)

Payment for patient counseling and funding for needed interventions are issues both Drs. Howard and Wakefield discussed. They said that insurers are not encouraged to cover early interventions since they are likely to only cover children for short periods of time and will not see the long-term pay-off of keeping them healthy. Parents’ insurance plans change when their jobs change, and there is a lack of evidence-based programs that produce both short- and long-term results. The risk in not covering certain tests and interventions, according to Dr. Wakefield, is that “overweight and obesity are proven to contribute to Type II diabetes, heart disease, joint damage, and other health conditions. The costs are greater in the future.” There are too few or no incentives among insurers to help people achieve a healthy weight.

As for reimbursement for follow-up visits for existing patients identified as overweight or obese, Dr. Wakefield said they are billed just like any other sick visit, but the time spent is coded as counseling versus diagnosis. Once a nutritionist is hired full-time, they will use a nutrition-counseling code. In the meantime, most social worker visits are not reimbursed, so their social worker is paid a salary to enable a stable presence within the clinic.

**COMMUNITY INVOLVEMENT**

The Salvation Army Kroc Centers and the Grand Rapids YMCA have been generous in providing space for FitKids360 programming, though the YMCA is not interested in running a FitKids360 program, as they have their own programming. Priority Health and Grand Rapids Public Schools are also interested in learning how they can support this programming. For schools to get more involved, Dr. Howard believes that parent involvement is essential. Camp O’Malley offered a summer health week for FitKids360
enrollees so that children could attend camp with fees based on a sliding scale. Claystone Clinical Associates, First Steps Kent County, and the Children’s Health Access Program have all helped to offer nutrition and fitness classes or have contributed prizes for the FitKids360 program.

Dr. Howard aims to encourage discussions in her community about healthy foods and active living among parents and their families. From Girl Scout meetings to soccer practices, she brings fresh fruits and vegetables, yogurt parfaits, or edamame for children to snack on. Parents often comment on the food choices and it stimulates conversation and raises their awareness of healthy alternatives.

LESSONS LEARNED

Drs. Howard and Wakefield cited several lessons based on their experience within their clinic and from the FitKids360 program assessing and treating child obesity. They identified the need for

- prevention efforts to start at an early age
- a personal relationship between patients and their health promotion professionals
- an accurate motivational assessment, and
- more evidence-based programs to effectively impact childhood obesity.

Start Prevention Early

Obesity prevention programs should begin at age two-and-a-half, according to Dr. Howard. If children are already overweight or obese by time they are five or six years old, it can be very difficult to reverse that trend. Eating patterns are established by age three, so the earlier you intervene, the better; even 50–100 extra calories per day in a toddler’s diet can be the trigger that causes them to become overweight. “It’s very hard to get real change at age 12 versus two,” Dr. Howard said. “If you educate families to make small changes early on, it makes a huge difference in the long term.”

Develop Personal Relationships

Dr. Howard attributes FitKids360 retention rate (97 percent) to the practitioners building personal relationships with the patients and their families. FitKids360 participants and their families know the health professionals involved in and running the program, which fosters strong rapport and a sense of trust. According to Dr. Howard, if an insurer were to try to implement this type of program without building such relationships, they would have little or no success. Big incentives are not enough—personal and ongoing relationships are what count.

Gauge Patient Motivation

Participation in the FitKids360 program is a significant commitment, making motivational assessment critical to the success of the program. Dr. Howard described how she and FitKids360 staff are up front with parents from the beginning—there is a lot of paperwork and a lot of logging behaviors (like diet and exercise). If someone scores a “2” or less on a motivation scale of 1 to 10, staff consider it not the right time for the child/family to participate.

Develop the Evidence Base

Finally, Drs. Wakefield and Howard both spoke to the need for more evidence-based programs for child obesity interventions. Finding funding is a challenge when there is no longitudinal data to demonstrate program success over time. Lap-band surgery has more evidence behind it to reverse obesity than do school interventions, for example. In addition, both doctors said that more people than physicians must address this issue. Pediatric providers have very little contact with patients over the course of a year. As Dr. Wakefield said, “Before kids have an emotional attachment to aspects of their lifestyle, of course you
have to change the parents.” She sees more promise in preventing future generations from becoming obese than in treating those that already are obese.
Project Healthy Schools

PRACTICE PROFILE

Project Healthy Schools (PHS), a growing program within the University of Michigan’s MHealthy Program for Health & Well-Being Services, “offers wellness and risk reduction services for U-M faculty, staff, dependents, and retirees, as well as for the general public and Michigan businesses.” It operates programs in 27 elementary schools (as of fall 2012). Since community health is part of the University Health System’s mission, it made sense to Kim Eagle, MD, the founder of the program, to develop the PHS program within the MHealthy arm of the health system. The program is the result of his recognition that health practitioners in traditional care settings have limited ability to effectively reach children and change behaviors related to risk factors that lead to overweight and obesity. Both community prevention initiatives (such as afterschool programming) and in-school initiatives were considered in the development of this project, but Dr. Eagle decided that a school-based approach targeting 6th graders during the school day had the most promise to impact children. Schools would provide a more captive audience, have a greater reach, and allow researchers to influence children at a teachable moment in their lives.

Member schools are located in a variety of urban and suburban settings throughout southeast Michigan and in Shiawassee County. In Detroit, the program currently is present only in selected charter schools, but PHS hopes to enter Detroit Public Schools in the near future. As of the 2011-2012 school year, PHS has reached 8,687 students. This is a significant increase from an initial 764 students at its start in 2004 at Clague Middle School in Ann Arbor.

During the site visit, PSC staff spoke with three PHS program staff, as well as the founder of the research project: LaVaughn Palma-Davis, Senior Director of University Health and Wellbeing Services; Jean DuRussel-Weston, Program Manager under MHealthy; Susan Aaronson, RD, Wellness Coordinator; and founder, Kim Eagle, MD, cardiologist at the University of Michigan’s Cardiovascular Center.

ASSESSING AND MANAGING TREATMENT OF CHILD OBESITY

Unlike other clinical settings in this series of case studies, Project Healthy Schools is a school-based program aimed at promoting healthy lifestyles and behavior modification to prevent childhood obesity. The program is usually offered in schools that have a need and have expressed an interest in having the PHS program come to the school.

Assessment

PHS staff emphasized the fact that this is not a weight loss program and does not screen children for obesity. Instead, PHS is a behavior modification program that aims to prevent cardiac disease and focuses on promoting positive healthy behaviors. There are programs in elementary schools, but the PHS program staff recognized a gap in programs focused on middle school students. They decided to target 6th grade students because this age bracket is one of the most influential stages as young people move toward making more decisions independently. Students participate in a pre- and post-program screening that includes physical and behavioral health measures, as well as lifestyle behaviors. When measuring program results, PHS reports on risk factors versus weight status and BMI.

8 See www.hr.umich.edu/mhealthy/, accessed 11/15/12.
Physical Health
All students participating in PHS screening activities sign an informed consent form required by the University of Michigan’s Institutional Review Board to ensure confidentiality of their results and describe the voluntary nature of participation. Students participating in the program are screened at both the beginning and end of the school year for risk factors for cardiac disease, including: total cholesterol, high-density lipoprotein (HDL) and low-density lipoprotein (LDL), triglycerides, non-fasting glucose, three blood-pressure measurements, resting and recovery heart rate for a three-minute step test, and height and weight for conversion to BMI. Results are recorded and sent home to parents following each health screening. For research purposes, data are recorded anonymously with the PHS staff to monitor change in health measures over the course of the year.

Lifestyle
In addition to the physical health screening, students complete a comprehensive 37-question health behavior survey. All students complete this survey before and after the program, regardless of whether they volunteered to complete the physical health screening. Survey questions address exercise and eating habits, self-esteem, screen-time, and similar topics. Although there are no survey questions related to family history of obesity, the survey aims to learn about family habits (for example, what meals children eat at home, activities done as a family).

Because of the growing evidence base linking breakfast to education outcomes, principals in some of the Detroit charter schools were interested in learning if there was a need for a universal breakfast program. PHS sent breakfast surveys to parents in Detroit to determine whether the PHS curriculum should include a breakfast class. The survey aimed to learn whether kids were eating breakfast and obstacles to children eating breakfast. Susan Aaronson said, “In our physical screening we do ask if they have been fasting and that usually provides some insight as to how many children are eating breakfast.”

Environment
At each school, PHS staff form a Wellness Team including teachers, parents, and food service staff. This team performs an in-school assessment and environmental scan to evaluate the cafeteria (including participation in farm-to-school initiatives), vending machines, school stores, food services, and extracurricular activities. Each school has a unique environment and culture related to health. PHS works with the Wellness Teams to help schools obtain local produce through farm-to-school initiatives or support after-school programs in collaboration with the Detroit YMCA. PHS offers after-school programs and clubs or activities for kids. PHS guides the Wellness Team towards the development of a tailored approach to improve the school environment and increase physical activities for children.

Readiness to Change
Because the PHS screening, curriculum, and activities are designed to be part of the school day and regular programming, no motivational evaluation is conducted with students. Students and parents have responded very positively toward the PHS program. Teachers, school boards, and principals have also expressed their appreciation and support for the program, though PHS staff noted not all teachers buy in at first. By engaging with parents early in the program, PHS staff establish strong relationships. Schools rely heavily on PHS staff and over time the program has become a very “well-run machine,” according to Dr. Eagle. Parents get to know the program staff personally through meetings at the beginning of the school year and the presence of staff at Wellness Team meetings and events throughout the year.

Managing Treatment
All parents are sent the results of their child’s health and lifestyle screening and explanations for each measure. Physician Caren Goldberg, a pediatric cardiologist at C.S. Mott Children’s Hospital, follows up
via phone with parents of children with measurements beyond the acceptable range for any risk factor. This call is intended to help schedule an appointment with a pediatrician or answer parent questions about the risks of being obese. PHS also coordinates with school-based health centers to share screening results for students with a BMI above the 85th percentile. School-based health centers can help since they often provide primary medical care, health and nutrition education, and mental and behavioral health care. Interviewees estimated that about 80 percent of students are usually enrolled in health clinics in the schools that have them. After parents are contacted, PHS staff notify the school-based health center staff of measurements that fall outside a normal range.

The five goals of Project Healthy Schools are to help children

- Eat more fruits and vegetables
- Make better beverage choices
- Be active
- Eat less fast and fatty foods
- Spend less time in front of a screen

The ten-week curriculum that all 6th grade students receive includes the following lessons:

1. Healthy Habits
2. MyPlate! My Lunch!
3. Get the Beat!
4. Better Beverages
5. A Rainbow of Color
6. Assessing Advertising
7. Supersized!
8. Facts on Fat
9. MOVE!
10. PHS Party!

Program Challenges

Some of the greatest challenges program staff have encountered are engaging parents effectively and communication during case management and follow-up phone calls to parents. Due to the nature of some school settings and the socioeconomic factors in those communities, some families do not have a permanent residence. Ms. DuRussel-Weston said, “We send results home and kids have moved. Parents aren’t living where we thought they lived.” In addition, phone numbers given at the beginning of the school year might be canceled or outdated when staff need to contact parents or guardians.

Staff Utilization

The number of PHS program staff has grown significantly over the years. At its start, PHS was staffed by just Susan Aaronson and Jean DuRussel-Weston. The staff currently consists of eight full-time employees, with some staff working part-time. PHS uses a variety of health professionals and volunteers in its various activities. There are nurses present at each of the screenings to conduct the finger prick blood test to determine cholesterol and glucose measurements. Physicians, dieticians, and exercise physiologists contributed in the development of the PHS curriculum, and PHS staff located in schools have health backgrounds. Volunteer Health Ambassadors are University of Michigan students in the health professions and undergraduate students without a declared major. Volunteers for other activities, such as the 5K Fun Run, can include parents and any other interested community members.
**Program Culture**

The University’s MHealthy program focus is to encourage healthy behaviors, including diet and exercise, among faculty, staff, and patients at the university and its health system. By having PHS as a program within MHealthy, abundant resources directed toward encouraging healthy lifestyles and behaviors are already established and readily available. MHealthy provides brochures and materials to clinics and across the university with information on a variety of health topics and phone numbers for people to call to learn more. MHealthy also sends mass e-mails to university employees, staff, and students to promote classes it offers, such as cooking, fitness, and stress management. With the growth of PHS over the past eight years, MHealthy has made an effort to expand awareness of the PHS program via e-mail blasts to pediatricians, as well as Dr. Eagle’s grand round discussions⁹ and conference presentations across the country.

**Funding**

The University of Michigan Health System, private donors, and grants all contribute to funding Project Healthy Schools. Other health systems that have adopted the PHS program and administer it themselves cover their own operating costs. For example, the Memorial Foundation funds PHS programs within the Memorial Health System service area in Shiawassee County and Beaumont Hospitals do the same in their area in southeast Michigan. Blue Cross Blue Shield of Michigan is planning to contribute funding in the near future that would potentially enable the program to expand statewide. Sustainable funding has presented itself as one of the greatest challenges for PHS programming, despite the support from the university.

**Program Sustainability**

A three-year sustainability plan was developed as part of PHS to ensure that schools will continue to maintain their Wellness Teams and use PHS screening and curriculum. In the first year of implementation, PHS program staff and volunteers run the program entirely. They designate a Wellness Champion (a teacher or counselor) to lead the school’s Wellness Team. Over the course of three years, more and more responsibility is given to the champions to manage PHS activities, while also offering them modest compensation for their time and efforts. A memorandum of understanding is established at the beginning of each relationship with a new school, outlining roles, responsibilities, and expectations for all parties. Having a supportive administration and principal helps prevent turnover among school staff.

In the future, Dr. Eagle hopes that this model of educating youth and changing school environments will spread across all grades in K–12 education. He pointed out that young children would rather hear from teenagers or their peers—not adults. Staff are planning to further develop the program to engage high school students that received the screening and curriculum when they were 6th graders to become the health ambassadors to educate new 6th graders.

**Cultural Barriers**

The PHS staff has worked diligently to ensure that each PHS program is tailored to the school and community it serves. In certain urban settings, such as Detroit, research from external communities has been stigmatized for a long time. There is a long-standing mistrust between African-American populations and university researchers. PHS has worked hard to overcome those barriers by hiring a PhD student from the U-M School of Education to incorporate cultural competencies into the curriculum. Depending on the setting, students will be enrolled via mail or in person. Allowing for face-to-face interaction with parents of students before the program begins has fostered relationships among program staff and families.

---

⁹ Grand Rounds are medical/health related talks held at hospitals and universities.
COMMUNITY INVOLVEMENT

Project Healthy Schools engages with a variety of donors, schools, partner programs, volunteers, and community organizations. A comprehensive list and diagram of PHS partners is illustrated below (see Exhibit 2). The Steering Committee has representation from the University of Michigan School Of Public Health, Ypsilanti’s Growing Hope, Mott Children’s Hospital, Washtenaw County Public Health Department, the YMCA, and similar organizations.

EXHIBIT 2. Project Healthy Schools Participating Entities


LESSONS LEARNED

According to program staff and Dr. Eagle, the major lessons they have learned since the creation of Project Healthy Schools are the importance of creating tailored programs and approaches for each school and developing sustainability plans for program growth after PHS staff have left the school. With each school having a different administrative team, level of parent involvement, and norms around food and physical activity, PHS staff aim to be very deliberate in how they establish and grow the program while taking these variations into consideration.
Attachment: FitKids 360 Goal Worksheet
Our Family Goal Statement – Week 1

Name: ______________________________________________ Date: ____________________

Check one healthy goal that you would like to try over the next week:

___ 8 to 11 hours of sleep each night this week
___ 7 breakfasts this week
___ 6 home-cooked meals around the table this week
___ 5 servings of fruits and vegetables each day
___ 4 positive self-messages each day
___ 3 servings of low fat dairy each day
___ 2 hours or less of screen time each day
___ 1 hour or more of physical activity each day
___ 0 sugar sweetened beverages each day

Reflect: Think about a time when you were successful with changing something in your life. What made you successful, and how will it help you make this change?

______________________________________________________________

______________________________________________________________

Write it down: I / we will

______________________________________________________________

______________________________________________________________ times (day/week).

Identify: What might get in your way as you make this change?

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Rate:** Today, how confident are you that you will make this change?

1 2 3 4 5 6 7 8 9 10

I do not think I will achieve my goal.  
I have a 50% chance of meeting my goal.  
I think I will definitely achieve my goal.

**Evaluate:** What did you learn? What went well?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________