



A Change Package to Increase Identification of Obesity in a Pediatric Clinic

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Rationale

Obesity has reached epidemic proportions in our country, almost 17% of the population of children from 2 to 19 years of age are obese. In the last two decades, the prevalence of obesity among children and adolescents has tripled, due to poor dietary choices and physical inactivity. Providers who care for children are observing an increasing frequency of the incidence of metabolic syndrome, diabetes mellitus and hyperlipidemia related to obesity.

In addition, there are noteworthy racial and ethnic disparities in obesity prevalence. Children from these groups that are already at risk for poor health outcomes are disproportionately represented. For example, Hispanic boys, ages 2 years to 19 years, are significantly more likely to be obese than non-Hispanic white boys, and non-Hispanic black girls are significantly more likely to be obese than non-Hispanic white girls. In North Carolina there is greater than 20% prevalence of obesity among low-income children 2-4 years of age.¹

The impact of obesity can be felt lifelong, with both social and physiologic consequences. The AAP and other organizations that direct the care of children have recommended that at every well child care visit, BMI and BMI percentile are evaluated and a treatment plan established. The annual cost related to childhood obesity is over \$3M, with an estimated overall cost of \$147B in 2008 related to obesity care across all payers in the U.S.² The evaluation and subsequent treatment of obesity in this vulnerable pediatric population could potentially save annual costs as well as future health care dollars. This at-risk population utilizes a greater proportion of resources and this intervention could influence the long term health effects of obesity as well as costs.

Team Members



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Since May 2011, this QI project has grown from faculty and resident involvement to include interdisciplinary team members. The team includes representatives from nursing, social work, interpreter staff, and a dietitian. Monthly meetings are held to review data and initiate PDSA cycles as well as analyze PDSA outcomes. Electronic huddles occur between the monthly meetings due to the offsite location for part of the team. The pediatric residents and QI Coach perform monthly medical record audits.

Aim Statement

The goal of this project is to impact childhood obesity among CMC - Myers Park Pediatric patients through prevention, monitoring, and management. Identification of those patients who are overweight and obese using BMI measurement is essential in managing the pediatric population. Both the identification of overweight/obesity, as well as counseling done in the clinic setting, are the project focus. The initial phase is the development of tools for identification and management of overweight and obese children. Subsequent phases will include evaluation of the presence of documentation of overweight and obesity in the medical record and evidence of provider counseling. These goals will be accomplished by didactics, decision support tools, one-on-one education, protocols and feedback from monthly audits. The methodology used for this improvement project is the Model for Improvement utilizing PDSA cycles to facilitate rapid cycle tests of change.

To facilitate identification of these patients, development of decision support tools and provider education will be the initial steps in this change package.

Goals:

- 90% Documented BMI in provider note
- 90% Documented BMI percentile in provider note
- 90% Physical/Nutrition Education on Visit Note
- 90% BMI >85% noted in problem list or EMR

Setting

CMC - Myers Park Pediatric Clinic is located in an urban area in Charlotte, N.C. The clinic provides a pediatric medical home for 10,000 patients totaling over 26,000 annual visits. Medical care is provided by 38 pediatric residents in addition to faculty physicians and mid-level providers. Medicaid is the primary insurance for over 75% of the population. The largest ethnic group served by the clinic is Hispanic, and comprises about 65% of the total population.

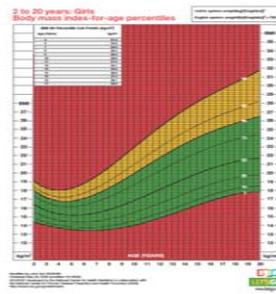
Methods

The plan for implementing this change package consists of didactics, decision support materials, provider and staff education and one-on-one teaching of the residents and staff by a member of the Obesity QI team. The didactics include a structured conference on obesity using evidence based literature and the introduction of decision support materials.

List of ideas tested:

- Use of EMR growth chart in exam room by providers. Not all computer terminals in exam rooms functioning. Not all terminals turned on, took too much time for provider to start during visit - Abandon
- Adopt Let's Go growth chart (Fig 1), placed in exam rooms, paper copies misplaced, unable to use same copy for multiple patients - Adapt
- Laminated Let's Go growth chart at provider work station - Adapt
- Laminated Let's Go growth chart carried by provider - Adapt
- Laminated Let's Go growth chart in each exam room - Adopt

Figure 1



Two PDSA cycles are shown below (Fig 2 and Fig 3). The first cycle captures testing of the EMR growth chart which was abandoned. The second cycle shows our current successful test cycle resulting in clinic wide adoption and implementation.

Figure 2

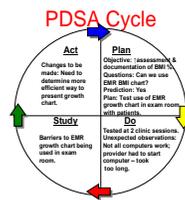
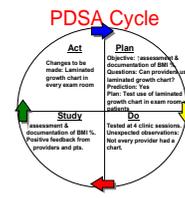


Figure 3



Results

Baseline chart reviews indicated that 75% of patient records reviewed had a BMI documented and 74% had a BMI percentile documented. Over the last six months, documentation of BMI has ranged from 62% to 82% with a median of 74%. Although there were months of improvement from baseline, the goal of 90% was not attained (Fig 4). The documentation of the BMI percentile over the last six months, ranged from 61% to 83%, with a median of 69%. Although the goal of 90% was not met, there is a trend of data points towards the goal (Fig 5). Clinic-wide implementation of the decision support tool was adopted in October with an increase to 83% in November.

Figure 4

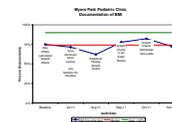
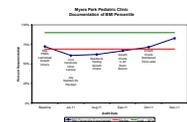


Figure 5



The baseline documentation of physical activity and/or nutrition was 72%. Over the next six months, results ranged from 71% to 100% with a median of 87% with two monthly audits exceeding goal (Fig 6). The baseline result for documentation of obese or overweight in the visit note or problem list in EMR was 76%, subsequent results ranged from 43% to 80% with a median of 66%. The goal of 90% was not attained.

Figure 6

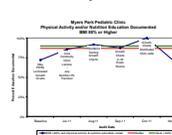


Figure 7



Overall, the results are positive with several months' data meeting goal. Furthermore, additional data is trending towards goal. However results have been difficult to consistently sustain on a month to month basis. This is evidence that the process is not adequately hardwired into the clinic. During the initial phase of the project, all testing occurred in resident continuity clinic yet audits represent patients in the entire clinic. The decision to include the whole clinic in the audit provides a better indicator of behavior spread with raising awareness a strategy to move toward goal attainment. As the project moves forward, other groups of providers will receive education and one-on-one training, and clinic-wide results are expected to improve.

Lessons Learned

- Interdisciplinary teams are an important component of QI work. The result of bringing multiple stakeholders to this QI group has enhanced our ability to improve patient care.
- Decision support tools are a necessary component of change and materials must be user friendly and easily available.
- Ongoing education is linked with continuous improvement as evidenced by our graphs. Single episodes of teaching, either didactic or one-on-one, are not effective in sustaining change.
- Currently aggregate clinic data is being shared with providers and staff. To further improvement individual feedback will need to be initiated.
- Identification of an appropriate balancing measure is required to evaluate if changes made are impacting our system.

Future Work

The next steps are focusing the efforts of identification and documentation of BMI and BMI percentile to reach and sustain goal by using data to provide both group and individual feedback. Further education of residents, faculty, and staff must continue to increase documentation of elevated BMI in the medical record on the problem list or visit note. An evaluation of the quantity and quality of counseling is necessary to judge its effectiveness. Often providers feel discomfort in documenting or discussing increased BMI with patients. Further discussion of this issue and education is required to train providers. Although the level of provider education to parents was high, this was not consistently at goal. Further emphasis on decision support materials must be made. After identification of the overweight/obese child, a cohesive management plan for the entire clinic must be established to standardize intervention for this vulnerable population. We continue to strive to meet and maintain our goals.

References

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2. Centers for Disease Control and Prevention. <http://www.cdc.gov/about/grand-returns/archives/201006-June.htm>
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