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Creation of a Pediatric Obesity Comorbidity Screening Sheet to be Implemented into EPIC

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Intro/Background

The prevalence of obesity in the United States has been steadily increasing and pediatric obesity has become a common problem seen in the primary care setting. A study that looked at obesity trends in US children and adolescents from 1999-2010 found that nationally in 2009-2010 16.9% of children were obese and 31.8% were either overweight or obese, with 12.3% of children falling above the 97th percentile of BMI for age.¹ Clinical care pathways can improve the quality of clinical decision making by offering specific and detailed guidelines for clinicians, provide authoritative recommendations that reassure practitioners about the appropriateness of their treatment plans, and improve the consistency and effectiveness of medical care thereby optimizing patient outcomes.²

Problem Statement

We sought to standardize the way Lehigh Valley Health Network's primary care physicians manage and assess the comorbidities associated with pediatric obesity.

Methods

This project was done for internal quality improvement, thus was exempt from IRB. All LVHN primary care patients between the ages of 2 and 18 years old with a BMI greater than or equal to the 85th percentile are eligible, with no exclusions placed on gender or ethnicity. The LVHN Pediatric Obesity Prevention and Management Pathway was used as a guideline for inclusion of comorbidities to be incorporated in the screening template. The comorbidity screening template consists of 25 common comorbidities seen in pediatric patients with obesity.³ Information was gathered by conducting literature searches of specific comorbidities within the systems of cardiovascular, gastrointestinal, nutrition, endocrine, respiratory, neurologic, orthopaedic, genetic, and mental health (Appendix, Table 1). Comorbidities were included in the template based on recommendations from LVHN's Pediatric department, as well as prominence in the literature. Patients are deemed to have a comorbid condition if the condition was diagnosed either contemporaneously with or following the initial documentation of the patient being overweight or obese.

Results

The CDC estimates that presently one-third of children and adolescents are overweight or obese in the United States. Chart reviews conducted in 2014 of two LVHN pediatric practices of over 100 patient charts from each revealed the prevalence of pediatric obesity in LVHN practices ranged from 30-36% of patients. A comorbidity screening sheet was constructed and designed to be used by physicians and other healthcare professionals to help manage pediatric patients whose BMIs classify them as overweight or obese. 25 comorbidities were selected for inclusion in the screening template (Appendix, Figure 1). This tool aims to standardize and streamline screening for and treatment of comorbidities that can be associated with obesity.

Figure 1: LVHN Comorbidity Screening Template

Table 1: Comorbidities by System	
Cardiovascular	Hypertension; Hyperlipidemia
Gastrointestinal	Non-alcoholic fatty liver disease/Non-alcoholic Steatohepatitis; Gallbladder disease; GERD
Nutrition	Iron deficiency; Vitamin D deficiency
Endocrine	Diabetes; PCOS; Hypothyroidism; Cushing's Disease
Respiratory	Asthma; Obstructive Sleep Apnea
Neurologic	Pseudotumor Cerebri Syndrome; Disc disease
Orthopaedic	SCFE, Blount's disease; Spondylolysis; Spondylolisthesis
Genetic	Prader-Willi, Bardet-Biedl; Down Syndrome; Fragile X
Mental Health	Mood disorder; Anxiety; Eating disorder behavior; Bullying/Abuse/Violence

The figure displays a grid of 12 boxes, each representing a different comorbidity screening category. Each box contains a list of screening questions and criteria for that specific condition. The categories include Cardiovascular, Gastrointestinal, Nutrition, Endocrine, Respiratory, Neurologic, Orthopaedic, Genetic, and Mental Health. The questions are designed to be used by healthcare professionals to assess pediatric patients for these conditions.

Conclusions and Future Implications

Standardizing patient care and the use of clinical care pathways has been shown to improve patient outcomes and may improve efficiency and optimize value for the healthcare system by reducing unnecessary testing, procedures, and prescriptions.² The comorbidity screening sheet was developed to be implemented into the EPIC electronic medical record and applied to the care of overweight and obese pediatric patients at LVHN. The goal of this standardized process is to properly diagnose and treat the multiple complications that are associated with the growing epidemic of pediatric obesity. The template will do this by providing specific recommendations about frequency of screenings, how to address abnormal laboratory results, and when and whom to make referrals to. Further study includes assessing patient outcomes and the cost effectiveness of this process. The process of developing this screening template may be applied to other areas of both pediatric and adult care to optimize the use of electronic medical record at LVHN.

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