Potential Barriers and Suggested Ideas for Change

Key Activity: Diagnosis and Testing

Rationale: Gastroesophageal reflux (GER) is common in pediatric patients and accounts for a large number of physician visits to both primary care and subspecialists. In fact, gastroesophageal reflux (GER) occurs in more than two thirds of otherwise healthy infants and is the topic of discussion with pediatricians at 1 quarter of all routine 6-month infant visits.[1,2] Proper management of these patients can only be accomplished if an accurate diagnosis is made; therefore, it is imperative that primary pediatricians become familiar with the resources that are available regarding pediatric reflux and feel comfortable diagnosing these patients. The subspecialist can expect to be consulted by primary care providers for help in managing such cases. A strong relationship with referring physicians provides an opportunity for the subspecialist to educate them on the difference between GER and GERD, which should help avoid testing and unnecessary treatment of infants with GER, while leading to a better understanding of the indications and limitations of specific types of investigative testing.

GER in infants is a benign condition that resolves completely in the majority of cases by 1 year of age.[3] Therefore, testing is not indicated in a majority of these patients. GERD in pediatric patients, on the other hand, is present when reflux of gastric contents is the cause of either troublesome symptoms or complications. The 2018 NASPGHAN Guidelines have identified symptoms and signs that require investigation. (Refer to 2009 A Global, Evidence-based Consensus on the Definition of Gastroesophageal Reflux Disease in the Pediatric Population and 2018 NASPGHAN Guidelines for the definition of GERD.)

[1]Nelson SP, Chen EH, Syniar GM, Christoffel KK; Pediatric Practice Research Group. Prevalence of symptoms of gastroesophageal reflux during childhood: a pediatric practice-based survey. *Arch Pediatr Adolesc Med.* 2000;154(2):150–154

[2] Campanozzi A, Boccia G, Pensabene L, et al. Prevalence and natural history of gastroesophageal reflux: pediatric prospective survey. *Pediatrics.* 2009;123(3):779–783

[3] Davies I, Burman-Roy S, Murphy MS; Guideline Development Group. Gastro-esophageal reflux disease in children: NICE guidance. *BMJ*. 2015;350:g7703

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Gap: GER is not appropriately diagnosed according to the 2018 NASPGHAN Guidelines criteria.		
Provider may misdiagnose GER as GERD due to poor understanding of criteria for GER diagnosis.	Review the following: ✓ 2018 Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendation of NASPGHAN and ESPGHAN ✓ 2013 AAP Clinical Report: Gastroesophageal Reflux: Management Guidance for the Pediatrician ✓ 2009 A Global, Evidence-based Consensus on the Definition of Gastroesophageal Reflux Disease	
Gap: GERD diagnosis is not appropriately established based on the presence of GERD symptoms/signs.		
NASPGHAN Guidelines are not	Become familiar with symptoms and signs, 'red flags' and differential	• In physician staff meetings, periodically

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consistently followed in practice.	diagnoses when considering alternative diagnoses. Establish a clear protocol for diagnosing GER and GERD that is consistent with the 2018 NASPGHAN Guidelines criteria for diagnosis. ✓ Create a GER/GERD encounter form (or drop down "Smart Phrase" or "Smart Form" for the electronic medical record) to document symptoms, signs, and warning signals consistent with reflux. Complete a detailed medical history and physical examination to help establish the diagnosis. Structured algorithms as illustrated in the 2018 Pediatric Gastroesophageal Reflux Clinical Practice Guidelines can aid in this effort: • Algorithm 1: The diagnostic and therapeutic work-up in infants with a suspicion of GERD • Algorithm 2: The diagnostic and therapeutic work-up in children with a suspicion of GERD (typical symptoms) Also helpful are the Decision Trees created for this course: • Approach to infant with recurrent regurgitation and vomiting • Approach to child with GERD symptoms	review and discuss charts of patients diagnosed with GERD to confirm that appropriate criteria were present. • Use the EQIPP Data Collection Tool to identify gaps.
Gap: GER diagnosis is not always documented in the patient chart.		
The provider is not able to distinguish between GER vs GERD diagnosis, and thereby give the appropriate diagnosis, or is confused by diagnosis codes.	Establish a policy for committing to and documenting all diagnoses on a patient's chart. ✓ Review GER/GERD diagnosis criteria mentioned above. ✓ Create an encounter form to document diagnosis criteria. ✓ Become familiar with GERD coding, See Coding at the AAP at AAP.org.	• Consider having a lunch-and-learn session with physicians of the practice to be sure everyone understands the importance of appropriate documentation of diagnoses.
Staff is reluctant to label the diagnosis as GER if the parent is	Suggest nonpharmacological (lifestyle) strategies as a treatment solution (conservative therapies, see *Treatment,* Lifestyle Strategies in the Clinical	• Direct parents to GIKids.org for reliable patient education materials.

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requesting medications.	Guide), and educate the family about unnecessary medication exposure and possible side effects. Review Influence of "GERD" Label on Parents' Decision to Medicate Infants. Provide family with educational materials regarding GER in infants and children. Remember to stress that GER is a benign condition.	
Gap: Tests are ordered for pediatric patients with GER, which is inconsistent with 2018 NASPGHAN Guidelines.		
2018 NASPGHAN Guidelines are not consistently followed for pediatric patients with GER—unnecessary testing is done.	Establish a policy that outlines how to use the 2018 NASPGHAN Guidelines for pediatric patients with GER. Testing is not required. Review the natural history of GER in children. See *Diagnosis and Testing* Clinical Guide and *Education* Clinical Guide.	Conduct an in-service program for all staff to review the policy and 2018 NASPGHAN Guidelines for pediatric patients with GER and to inform them that testing is not required.
GER may be misdiagnosed as GERD. • The natural history and benign nature of GER in infants and children is not clearly understood. • Clinical manifestations of GER are not clearly understood. • Manifestations that constitute GERD are not clearly understood.	Establish a clear protocol that addresses clinical manifestations of GER and GERD and is consistent with the 2018 NASPGHAN Guidelines. ✓ Complete a detailed medical history and physical examination to help establish the diagnosis. Use symptoms and signs and 'red flags' as a guide to consider an alternative diagnosis.	Provide training that reviews the 2018 NASPGHAN Guidelines targeting the benign nature of GER in infants and how to make a positive clinical diagnosis based on patient history and physical examination findings. Also see 2009 Global Definition of GER.
Standards of care for testing to diagnose and treat GERD in pediatric patients are not clearly understood.	Consider benefits and limitations of all diagnostic modalities for GERD in infants and children, specifically the following: ✓ Barium contrast radiography ✓ pH/Impedance ✓ Upper gastrointestinal endoscopy ✓ Abdominal ultrasound ✓ Scintigraphy For additional information, see 2018 NASPGHAN Guidelines, *Diagnosis*	

	and Testing Clinical Guide, and the *Treatment* Clinical Guide.	
Staff is unaware of recommended criteria for testing of patients based on GERD or GER diagnosis.	Provide training that reviews the 2018 NASPGHAN Guidelines targeting how to differentiate between GER and GERD in children and appropriate testing based on diagnosis criteria. Also see 2009 Global Definition of GERD. Review the 2013 AAP Clinical Report: Gastroesophageal Reflux: Management Guidance for the Pediatrician. Develop a policy that references the *2018 NASPGHAN Guidelines* to emphasize that children with GER *should not* be tested.	Periodically review and discuss in physician staff meetings charts of patients diagnosed with GER/GERD for whom testing was ordered to confirm appropriate testing recommendations were followed. Use the EQIPP Data Collection Tool to identify gaps. Create an encounter form (or Smart Phrases, Smart Form for those practices that use an EMR) for use in your practice.
The practice is unaware of when and what tests to perform to rule out alternative diagnoses.	Develop a protocol that outlines consulting with a pediatric gastroenterologist when further evaluation is needed. Consideration will be given in the protocol for those investigations that can be done by the pediatrician prior to referral, eg, upper GI series. Consider generating an appropriate referral list of subspecialists for referrals and consultations.	
Staff is reluctant to label diagnosis as GER if a parent wants a treatment solution.	Suggest nonpharmacological (lifestyle) strategies as a treatment solution (conservative therapies, see *Treatment*, Lifestyle Strategies in the Clinical Guide), and educate the family about unnecessary medication exposure and possible side effects. Review Influence of "GERD" Label on Parents' Decision to Medicate Infants. Provide family with educational materials regarding GER in infants and children. Remember to stress that GER is a benign condition.	Conduct an in-service program for all staff to review the protocol and 2018 NASPGHAN Guidelines for staff who are reluctant to label a diagnosis as GER if a parent wants a treatment solution. Be sure to cover why there is potential harm in labeling a patient as having a disease.