Although United States health care costs are significantly higher than any other industrialized country, we still lag behind many countries in health care equity and quality metrics. One feature of the Affordable Care Act that intended to address this was the establishment of Accountable Care Organizations (ACO). ACOs create a network of physicians that ostensibly will enhance care coordination among providers, improve patient experience and health outcomes, and lower overall costs. ACOs emphasize prevention and management of chronic diseases, and reward quality and cost-effective care, while attempting to move away from fee-for-service medicine. Unfortunately, although not always responsible for many of the metrics that determine cost or quality of care, physicians are largely held accountable for the delivery of high-quality and low-cost care. With otolaryngology having been slow to transition to this new payment model, it is imperative that we stay engaged and take a proactive role in this process because it has great implications on our patients’ outcomes and our own practices. Several articles in this issue of American Journal of Rhinology & Allergy contain themes relevant to this type of change.

First is an intriguing article by Barry et al., who examined what the contemporary literature shows about early versus aggressive management of chronic rhinosinusitis (CRS) as it relates to patient experience, health outcomes, and overall cost burden. Their review demonstrated that early intervention with endoscopic sinus surgery in appropriately selected patients has the potential to improve outcomes and reduce the long-term cost burden of CRS.

Besides early surgical intervention, medical management is another area that is likely to be affected by the ACO model. Aggressive medical management as a first-line therapy option may potentially improve clinical outcomes and reduce health care costs. Novel topical medicines in the treatment of CRS provide targeted therapy and reduce the adverse effects associated with systemic use of certain medications. Sodium hyaluronate has been described to promote wound and mucosal healing, but it has not been described in its use in CRS therapy. Cantonone and leng evaluated it use in combination with topical steroids and found improvement in symptoms, endoscopic examinations, and discomfort associated with CRS with nasal polyps (CRSvNP) compared with steroids alone.

The impact that the quality metrics will have on physician reimbursements makes it imperative that otolaryngologists provide input into what specialty-specific performance measures are used. Dorresteijn et al. reported on a newly developed severity metric, the Nasal Mucus Index. They studied the association of various inflammatory biomarkers and self-reported severity measures with the newly developed Nasal Mucus Index. The Nasal Mucus Index was found to correlate significantly with same-day interleukin-8 levels, polymorphonuclear neutrophils count, and Wisconsin Upper Respiratory Symptom Survey-21 scores. It is proposed that this method of measuring acute respiratory infection severity is an affordable, nonbiased, validated, and easy-to-administer tool that can be used in settings in which costs and laboratory facilities are limited.

Another focus of ACOs is preventative health care and at-risk populations. With the increasing rates of obesity among youth, rheumatologists must be vigilant in detecting breathing abnormalities in children. Leal et al. conducted a cross-sectional study in children ages 9 and 10 years to determine the impact of mouth breathing on quality of life (QOL) in school children. Sociodemographic data and the Mouth Breather QOL questionnaire was used. The prevalence of mouth breathers was 54.81%. In addition, mouth breathing had a greater negative impact on QOL in comparison with the children who were nose breathers.

Over the past 3 decades, the extent of endoscopic surgery has continued to expand to realms outside of the sinonasal cavity and to also include resection of both benign and malignant tumors. As these innovative techniques become common place, it is imperative that we establish improved QOL and other metrics that demonstrate that these are good treatment options. Endoscopic dacryocystorhinostomy is becoming increasingly popular in the surgical management of nasolacrimal blockage and dacryocystitis; however, little is known on how it affects sinonasal QOL measures. Miyake et al. performed a retrospective review of patients who had an endoscopic dacryocystorhinostomy and measured pre- and postprocedure 22-item Sino-Nasal Outcome Test scores. Although there was an increase in the 22-item Sino-Nasal Outcome Test scores immediately after surgery, these scores returned to baseline levels within 30–60 days.

Ference et al. studied the rates of endoscopic versus open orbital decompression in various geographic regions and found that endoscopic medial orbital decompression was performed in 22.9% of cases and was more likely to be performed in cases of infection compared with other diagnoses. In addition, open procedures were 33 minutes shorter on bivariate analysis but were not significantly different after controlling for covariables.

Next, Roxbury et al. performed a retrospective review of the endoscopic sellar tumor resections and reconstructions closed with avascular free grafts. In their analysis, demographic factors and comorbidities that contribute to graft failure were identified. High-flow leaks were a significant predictor of reconstructive failure.

Although a rare entity, sinonasal lymphoma can have a dramatic impact on patients’ QOL and survival. The presenting symptoms often mimic chronic sinusitis, but the clinical outcomes differ greatly. Steele et al. performed a retrospective review and described their patients with sinonasal lymphoma. Clinical presentations, patient demographics, imaging finding, treatment modalities, and survival rates were presented. Sinonasal lymphoma was found to have an overall 2- and 5-year survival rate of 67% and 57%, respectively. In addition, combined chemotherapy and radiation treatment resulted in significantly higher survival rate than chemotherapy alone.
As practice styles adjust over time and there is a push for lower health care costs, more and more procedures will be done in the office under local anesthesia. As a result, patient pain control during and after the procedure is paramount to ensure a good patient experience. Yu et al. performed a systematic review and meta-analysis that compared local anesthesia with bupivacaine and with lidocaine in patients after nasal surgery and during transnasal endoscopic examinations. Bupivacaine was found to have better postoperative pain control. In contrast, pain was much better controlled during transnasal endoscopic examinations with lidocaine. In addition to selecting the appropriate local anesthetic for pain relief and hemostasis, surgeons must also consider potential complications (i.e., blindness) from infiltrating local anesthetics with epinephrine. Etiologies of such complications include reductions in ocular blood flow. Dogan et al. conducted a randomized study in which ocular blood flow was measured by optical coherence tomography in patients who were undergoing inferior turbinate radiofrequency tissue ablation while under local anesthesia. There was a significant transient reduction in choroid circulation after local anesthetic with epinephrine infiltration into the inferior turbinate. This highlights the fact that maximizing patient’s experience must be balanced with the associated risks of infiltrating local anesthesia into the nasal cavity.

Although novel technologies continue to improve the patient experience and surgical outcomes, the frontal sinus continues to be a surgical challenge. One of the most common causes of failure is restenosis. Rotenberg et al. described a novel T-tube frontal sinus stent that helped prevent stenosis and that could be used as a conduit for frontal sinus irrigations. Postoperative frontal stenosis and mucocele formation was also described by Verillaud et al. In their experience with resections of frontal sinus inverted papilloma, the local control rate was 92.6%, whereas the frontal mucocele rate was 37%. Of note, in all four patients who had the exposed bone covered by a nasoseptal flap, no stenosis or mucocele formation was found, which indicated that such reconstructive strategies may be beneficial in reducing this iatrogenic complication.

Another major theme of this issue involves discussing the myriad of presentations, and treatments for allergic rhinitis (AR) and CRS, and understanding their pathophysiology. AR is another condition in which some symptoms may mimic those of acute rhinosinusitis. However, findings of allergy and atopy are usually distinguishing factors. Interestingly, several studies focused on a newly described phenotype of rhinitis in which patients possess the symptoms classic for AR, but their cutaneous and serum tests for atopy are negative, local AR. Although most of the studies involved adults, little has been described in children. Zicari et al. examined children exposed to nasal allergen provocation and saw a rise in biomarkers (interleukin 5 and thymic stromal lymphopoietin).

Although AR is widespread, the most common etiology is variable and depends on several factors, including geographic location. As a result, Coskun et al. set out to determine the most common aeroallergens in patients with AR in the eastern Black Sea region of Turkey. The most common allergens were house-dust mites, Dermatophagoides pteronyssinus, and Dermatophagoides farinae. Although the benefits from probiotics have been greatly demonstrated in areas outside of the gastrointestinal tract, there are emerging numbers of publications that demonstrate effects in AR. Güvenç et al. performed a systematic review of the literature to determine their effects on nasal and ocular symptoms, QOL scores, and immunologic parameters. It was demonstrated that there was significant evidence to demonstrate beneficial clinical and immunologic effects of probiotics in the treatment of AR.

Despite the fact that CRS affects both old and young, there is little information on the prognosis of CRS after surgical resection in the geriatric population. Brescia et al. compared demographic, clinical, laboratory, histologic, and prognostic characteristics of CRSwNP in elderly versus young adult patients. Although there was an overall lower recurrence rate after FESS in elderly patients than in young adult patients, both elderly and young adult patients had an association between CRSwNP recurrence and asthma and ASA intolerance. In addition, in contrast to the young adult patients, the elderly group had no association of CRS recurrence with serum eosinophil count and eosinophilic-type CRSwNP (≥10 eosinophils per high-powered field).

Lastly, another topic discussed is the role the innate immune system and its role in development of CRS and cystic fibrosis. Hariri and Cohen conducted a literature review, which revealed that dysfunction of the epithelial cell barrier, mucociliary clearance, and antimicrobial compound secretion play pivotal roles in the development of CRS and cystic fibrosis. In addition, new insights into bitter and sweet taste receptors have been implicated in pathogen detection and initiation of the innate immune response to counteract infection. On behalf of the editorial board of the American Journal of Rhinology & Allergy, we hope that you will find this rich collection of diverse articles as thought provoking and educational as we have.

REFERENCES
1. Barry JY, McCrary HC, Kent S, et al. The Triple Aim and its implications on the management of chronic rhinosinusitis. Am J Rhinol Allergy 30:344–350, 2016.
2. Cantone E, and Iengo M. Effect of sodium hyaluronate added to topical corticosteroids in chronic rhinosinusitis with nasal polyposis. Am J Rhinol Allergy 30:340–343, 2016.
3. Dorrestein PM, Muller D, Xie Y, et al. Validation of the Nasal Mucus Index, a novel measurement of acute respiratory infection severity. Am J Rhinol Allergy 30:324–328, 2016.
4. Leal RB, Gomes MC, Granville-Garcia AF, et al. Impact of breathing patterns on the quality of life of 9- to 10-year-old schoolchildren. Am J Rhinol Allergy 30:e147–e152, 2016.
5. Miyake MM, Gregorio LL, Freitag SK, et al. Impact of endoscopic dacryocystorhinostomy on sinonasal quality of life. Am J Rhinol Allergy 30:e189–e191, 2016.
6. Ference EH, Sindiwani R, Tan BK, et al. Open versus endoscopic medial orbital decompression: Utilization, cost, and operating room time. Am J Rhinol Allergy 30:360–366, 2016.
7. Roxbury CR, Saavedra T, Ramanathan M Jr, et al. Layered skull base reconstruction with avascular free grafts: Acceptable alternative to the nasoseptal flap for repair of low-volume intraoperative cerebrospinal fluid leak. Am J Rhinol Allergy 30:367–371, 2016.
8. Steele TO, Buniel MC, Mace J, et al. Lymphoma of the nasal cavity and paranasal sinuses: A case series. Am J Rhinol Allergy 30:335–339, 2016.
9. Yu X, Wang J, Huang L, et al. Efficacy and safety of bupivacaine versus lidocaine in local anesthesia of the nasopharynx: A meta-analysis. Am J Rhinol Allergy 30:e176–e180, 2016.
10. Doğan S, Simşek A, Bayraktar C, et al. Ocular blood flow alterations during inferior turbinate radiofrequency reduction under local anesthesia. Am J Rhinol Allergy 30:e185–e188, 2016.
11. Rotenberg BW, Ioanidis KD, and Sowerby LJ. Development of a novel T-tube frontal sinus irrigation catheter. Am J Rhinol Allergy 30:355–359, 2016.
12. Verillaud B, Le Clerc N, Blancal JP, et al. Mucocele formation after surgical treatment of inverted papilloma of the frontal sinus drainage pathway. Am J Rhinol Allergy 30:e181–e184, 2016.
13. Zicari ÂM, Occasi F, Di Fraia M, et al. Local allergic rhinitis in children: Novel diagnostic features and potential biomarkers. Am J Rhinol Allergy 30:329–334, 2016.
14. Coskun ZO, ErdivanÇ OC, Kazakdas KC, et al. High sensitization to Dermatophagoides farina. Am J Rhinol Allergy 30:351–355, 2016.
15. Güvenç IA, Muluk NB, Mutlu FS, et al. Do probiotics have a role in the treatment of allergic rhinitis? A comprehensive systematic review and meta-analysis. Am J Rhinol Allergy 30, e157–e175, 2016.
16. Brescia G, Barion U, Pedruzzi B, et al. Sinonasal polyposis in the elderly. Am J Rhinol Allergy 30:e153–e156, 2016.
17. Hariri BM, and Cohen NA. New insights into upper airway innate immunity. Am J Rhinol Allergy 30:319–323, 2016.