Our Editor's Choice paper explores the impact of an electronic medical record screening tool and therapist-driven protocol on length of stay and hospital readmission for COPD. LaRoché and colleagues found that utilization of the electronic medical record to identify subjects with likely COPD combined with a protocol directed by respiratory therapist assessment was associated with a trend towards decreased length of stay and reduction in readmission rates. There was a significant reduction of respiratory-triggered rapid response calls in subjects with a primary diagnosis of COPD. As suggested by Kauffman, readers are encouraged to use the results of this study to position respiratory therapists as value-added members in the current health care system.

Soudorn et al evaluated the effect of heated humidification on CPAP adherence in subjects with obstructive sleep apnea (OSA) and nasopharyngeal symptoms. They found that, even in a tropical climate, CPAP adherence and quality of life were improved when heated humidification was employed in subjects with moderate to severe OSA and nasopharyngeal symptoms post split-night polysomnography. Karamanlı suggests that these results may not be applicable to the general population in a tropical climate. The research was performed in a small sample size and lasted only 4 weeks, and thus a study with a longer duration is required to confirm clinical efficacy. Nonetheless, a substantially greater benefit of heated humidification may be gained in patients with nasal complaints prior to initiating CPAP.

The study by Simon and colleagues compared high-flow nasal cannula (HFNC) to bag-valve-mask (BVM) for preoxygenation, and to assess oxygenation during intubation in subjects with hypoxemic respiratory failure. They found pre-oxygenation using HFNC prior to intubation was feasible and safe compared with BVM. There was a significant decrease in S_{pO_2} during the apnea phase prior to intubation in the BVM group, which was not seen in the HFNC group. Parotto and Cooper point out that the role of HFNC in this setting has yet to be clearly established. It remains to be determined whether patients at risk can be reliably predicted and whether HFNC or noninvasive ventilation (NIV) can provide protection against oxygen desaturation. Further data with high-risk patients optimizing the use of these techniques are warranted.

Dobrosielski et al estimated the prevalence of sleep-disordered breathing (SDB) among collegiate football players. Based on their sample, they estimate the prevalence of SDB among collegiate football players to be 8%, regardless of risk stratification. Given the strong link between SDB and cardiovascular disease, this underscores the importance of screening and subsequent treatment of SDB in this highly conditioned, yet potentially vulnerable, group of athletes.

Walsh et al assessed the feasibility and utility of a newly developed patient categorization and scoring system to objectively measure compliance with standards of care. They demonstrate the first patient categorization system utilizing a coordinated data-banking system and analytics to determine patient status and a surveillance of mechanical ventilation quality. Further research is needed to determine if interventions such as visual display of variance from goal and patient categorization summaries can improve patient outcomes.

The next 4 papers relate to management of COPD. Saraiva and colleagues evaluated predictors of 3 year mortality and factors associated with early (first year) and late (second and third year) mortality in subjects with severe COPD who completed a pulmonary rehabilitation program. They report a high mortality in subjects with late stage COPD. The most relevant factors associated with mortality were lung cancer, respiratory failure and NIV, severe exacerbations were associated with hospitalization, and lower functional exercise capacity.

Walterspacher et al assessed whether the Severe Respiratory Insufficiency (SRI) questionnaire tool is capable of assessing and discriminating health-related quality of life (HRQOL) in subjects receiving long-term oxygen therapy (LTOT). The SRI had a high reliability and validity in subjects with COPD receiving LTOT. Subjects receiving LTOT had lower SRI scores indicating a poorer HRQOL, compared to subjects receiving NIV and LTOT.

Fortis and colleagues tested the hypothesis that some patients carry a persistent empiric COPD diagnosis and receive treatment with bronchodilators and inhaled steroids after pulmonary function testing shows no obstruction. They found that persistent empiric COPD diagnosis was 7%, but persistent empiric treatment was common.

The prevalence of chronic renal failure in subjects with COPD was assessed by AbdelHalim et al, compared with that of a control group, to investigate the relationships of the clinical and functional data with subjects' renal conditions. Significantly worse renal function was observed in the COPD group compared to control subjects. They conclude that chronic renal failure should not be ignored or underestimated in patients with COPD.

The objective of the study by Wu and colleagues was to examine the relationship between OSA and inflammatory markers and quality of life in patients with acute coronary syndrome, especially in those undergoing percutaneous coronary intervention (PCI). Subjects with acute coronary syndrome undergoing PCI who had moderate to severe OSA showed higher levels of inflammatory mediators and lower treatment satisfaction and disease perception. These factors may increase the risk of adverse sequelae by increasing the systemic inflammatory response.

The objective of the study by Vazquez-García et al was to derive reference equations for single breath diffusing capacity of the lung (D_{LCO}) from healthy Hispanic adults, using the most recent guidelines and taking into account altitude above sea level and hemoglobin concentration. They recommend using these new single breath D_{LCO} reference equations to predict single breath D_{LCO} in Latin America.

To characterize the prevalence and outcome of patients receiving prolonged mechanical ventilation (PMV) in Chinese ICUs, Li and colleagues conducted a prospective one-day prevalence study at 55 ICUs, with a 28-d follow-up. The prevalence of PMV was high in this cross section of Chinese ICUs. After 28 ICU days, only a small proportion of subjects with PMV were liberated. Age and chronic heart dysfunction were risk factors for PMV.