The first certifying examination in pediatric pulmonology was administered by the American Board of Pediatrics in 1986, 2 years before I entered my pediatric pulmonology fellowship at the Johns Hopkins Children’s Center. The field of pediatric pulmonology developed from multiple advances in neonatology, respiratory physiology, and other fields that led to a need for specialists who would focus on lung disease in children. The first board-certified pediatric pulmonologists, many of whom are still in practice, advanced diverse areas of child health, including care of children with bronchopulmonary dysplasia, asthma, sleep-disordered breathing, and chronic respiratory failure. Improved nutritional care of children with cystic fibrosis has led to increases in survival, leaving lung disease the major cause of premature death.

Pediatric pulmonologists became necessary members of the Cystic Fibrosis (CF) Center Team and have assisted in the development of many new therapies for CF. Technological advances in pediatric pulmonary function testing, which now extends to infants and preschoolers, advances in flexible fiberoptic bronchoscopy, and new imaging procedures, have aided diagnosis and understanding of many forms of childhood respiratory disease.

In this issue of Pediatric Annals, we celebrate 25 years of pediatric pulmonology by presenting recent advances in childhood respiratory disease. Newborn screening for CF became universal and mandatory throughout the US at the end of 2009. The CF newborn screening process is complex and requires sweat chloride testing in all infants with a positive screen. Some methods of CF newborn screening identify asymptomatic carriers of the CF transmembrane conductance regulator gene, requiring genetic counseling for families of such infants. Furthermore, infants in whom CF can neither be firmly diagnosed nor excluded, sometimes for extended periods of time, are considered to have “CF-related metabolic syndrome,” requiring specific follow-up and careful monitoring by the primary care physician. The approach to CF newborn screening and considerations for care of infants with CF, and infants with these other findings stemming from newborn screening, are reviewed in the article by Michael Rock and Jack Sharp (see page 759).

Neuromuscular diseases in children have significant effects on the respiratory system, and respiratory failure is a major cause of death in these disorders, most notably Duchenne muscular dystrophy and spinal muscular atrophy. Advances in care of children with these disorders have markedly improved their longevity and quality of life; however, early evaluation and management of respiratory disease is critical to achieve the best outcomes. In this issue, Zoran Danov and Mary Schroth review the physiology, complications, and appropriate testing and therapy (see page 769).

For many years, interstitial lung disease (ILD) in children was diagnosed, and often managed, using the same strategies used in adults. It became evident over time...
that these disorders in adults and children are distinctly different in important ways, including pathologic findings on lung biopsies and the clinical course of patients. As a result, ILD has been reclassified under the umbrella of “ChILD syndrome.” The diverse diagnoses in this syndrome, and the approach to diagnosis and treatment, are reviewed by Adrienne Prestridge and Robin Deterding (see page 777).

Sleep-disordered breathing also is a common syndrome with diverse clinical findings. The earliest studies on pediatric sleep disordered breathing came from pediatric cardiologists who described right heart failure in children with severe sleep-disordered breathing. Pediatric pulmonologists were instrumental in defining obstructive sleep apnea syndrome, characterizing important clinical differences in the diagnosis and management in children, compared with adults, and in defining its many complications. The field of sleep medicine has evolved markedly, leading to the need for specific training programs and special qualifying certificates for sleep medicine specialists. Advances in our understanding of pediatric sleep-disordered breathing are presented here by Darius Loghmanee and Stephen Sheldon (see page 784).

Two special articles in this issue focus on broadly important child health issues that are of special interest to those who care for children with respiratory diseases. The first, by Kim Watts and Michael Schechter (see page 793), reviews the marked and sobering disparities in outcomes for two disorders, asthma and CF. Poor and ethnic minority children with these disorders have worse disease and a higher risk of death than wealthier and non-Hispanic white children. The authors discuss contributing etiologies and possible approaches to reducing the gap in health outcomes.

The second, by Stacy Vanden-Branden (see page 800), addresses one solution to the shortage of pediatric pulmonologists. Nurse practitioners (NP) are ideally suited to assist with the diagnosis and management of patients with chronic diseases, including pediatric respiratory diseases, and play an important role in direct patient care, care coordination, and family support. In our practice at Children’s Memorial Hospital, and at many other centers in the US and other countries, NPs are an invaluable part of the care team.

I am very fortunate to have worked with the contributors to this issue, and thank them not only for their articles but also for their friendship and for the dedication they show to their patients, and to advancing our field further. Finally, I thank the reader for your interest in advances in pediatric respiratory disease.

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about the guest editor

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After serving on the faculty of Johns Hopkins University School of Medicine for 3 years, she returned to Chicago to join the newly formed Division of Pulmonary and Critical Care Medicine at Children’s Memorial. During the ensuing years, she participated in the development of a separate Division of Pulmonary Medicine, where she oversees a busy and growing program of clinical care, research, and education.

Dr. McColley has had numerous leadership roles in national organizations. She was a member of the American Academy of Pediatrics Section of Pediatric Pulmonology Executive Committee from 1996-2002. A long-term member of the American Thoracic Society, she has served on its International Conference Committee and Board of Directors, and participated in the ATS strategic plan as Chair of the Planning Committee. She received two Presidential Commendations from the ATS for this work. She served on the Cystic Fibrosis Foundation Center Committee from 1997-2005; she was Chair of this committee from 2001-2005. She was co-chair of the 2005 North American Cystic Fibrosis Conference. She served on the Sub-Board of Pediatric Pulmonology of the American Board of Pediatrics from 2005-2010.

Dr. McColley’s academic interests include Pseudomonas aeruginosa virulence factors, early cystic fibrosis lung disease, health disparities in cystic fibrosis, and quality improvement. She is the Pediatric Principal Investigator of the Cystic Fibrosis Foundation Therapeutics Development Network Translational Center at Children’s Memorial Hospital and Northwestern University and has grant funding from the National Heart, Lung and Blood Institute. She has published more than 50 book chapters, review articles, and research papers. She lives in Chicago with her husband and two sons.