From its humble beginnings in the 1970s, pediatric pulmonology now has a considerable presence at all major children’s hospitals worldwide. As the body of medical information grows and the field of pediatric pulmonology continues to expand, it has become increasingly evident that even those conditions not primarily associated with the lung will often have significant ramifications on lung structure and function.

It is upon these interactions and effects that this special issue of Pediatric Clinics of North America is focused. As such, we have attempted to compile in a series of articles many of the more intriguing pulmonary manifestations of many pediatric diseases. Genetic disorders discussed herein may help health practitioners recognize the underlying genetic cause for an apparently isolated pulmonary abnormality to better manage the patient, while providing the patients and their families with long-term prognostic and future reproductive information. In addition, this special issue spotlights the variety of ways in which congenital heart disease impacts the lung anatomically and pathophysiologically as well as the effects that cardiac surgery may have on pulmonary structure and function.

Pulmonary manifestations of different gastrointestinal, pancreatic, and liver diseases in children and adolescents are also reviewed. Respiratory complications are commonplace in pediatric hematologic and oncologic disorders, and these frequently present as pulmonary manifestations.

The section on the fields of both endocrinology and inborn errors of metabolism updates clinicians on lung involvement in these disorders. The respiratory complications in children and adolescents infected with the human immunodeficiency virus as well as those of other immunodeficiency and immunosuppressive disorders are also considered in depth.

The articles on rheumatic disease and systemic vasculitis examine the pulmonary manifestations in each subtype of pediatric rheumatic disease and the different forms
of small vessel vasculitis that affect the lung. The section on respiratory complications of neuromuscular disorders reviews pathophysiologic issues, common congenital myopathies, and interventions, including novel medications that may help prevent respiratory complications and improve quality of life.

The large spectrum of parasitic infestations linked to respiratory illnesses is illustrated in the related section. Pulmonary complications of renal diseases provide an understanding of the relationship between the kidney and fetal lung growth and how renal disease may disrupt pulmonary function. Many pediatric conditions with prominent dermatologic findings also have significant pulmonary manifestations, as described on pulmonary involvement of skin disorders.

The article on adverse environmental exposure and respiratory health in children highlights the vital importance of addressing air pollution in decreasing childhood lung disease and improving long-term lung health outcomes and climate change and the adverse impacts on human health as well.

Functional respiratory disorders characterized by persistent respiratory symptoms lacking an identifiable organic basis are examined, followed by a discussion of health care inequality and inequity on pediatric respiratory diseases, the challenges confronted, and the strategies needed, including redesigning medical education to mitigate these disparities.

The section on the pulmonary implications of primary structural spinal deformities describes the impact of developing surgical devices and procedures on respiratory function in affected pediatric patients. The writing on high-altitude illnesses and air travel reviews the expected physiological responses and the most relevant acute high-altitude illnesses, their prevention, and treatment and presents an overview of the most up-to-date recommendations to ensure the safety of children during air travel.

This special issue concludes with a timely comprehensive review that offers the clinician a balanced analysis of the literature on what is known from the cases reported to date on the risk factors for the progression and severity of coronavirus infection in infants and children. It also discusses the possible mechanisms underlying the unusual clinical features of coronavirus infection in children.

Although these outstanding clinical reviews have been contributed by some of the most prominent physicians from many of the world’s most eminent institutions of higher learning, this special issue is notable in that many of these authors are not, in fact, pediatric pulmonologists. Thus, both pulmonologists and other health care practitioners whose patients have nonpulmonary diagnoses but also exhibit acute or chronic respiratory symptoms might welcome these contributors’ perspectives.

Pulmonary manifestations of pediatric diseases are common but often undiagnosed or misdiagnosed. As such, the authors hope that their efforts lead to early recognition and prompt treatment of this very variable, but important, group of respiratory manifestations.

We hope that this special issue will become an invaluable source of information for medical students, pediatric residents, fellows, pediatricians, family practitioners,
pediatric subspecialists, and other health professionals—to not only educate but also improve patient care, for this is and has always been our most important endeavor.

Nelson L. Turcios, MD
Hackensack Meridian School of Medicine
Nutley, NJ 07110, USA

E-mail address:
nelson.turcios@shu.edu