

Advocacy Considerations for the Pediatric Pulmonologist in the Era of the COVID-19 Pandemic

Devika R. Rao¹, Benjamin Kopp², Rory John Kamerman-Kretzmer³, Folashade Afolabi¹, Deborah R. Liptzin⁴, Vivek Balasubramaniam⁵, and S. Christy Sadreameli⁶

¹Division of Respiratory Medicine, Department of Pediatrics, University of Texas Southwestern Medical Center, Dallas, Texas; ²Division of Pulmonary Medicine, Nationwide Children's Hospital, Columbus, Ohio; ³Division of Pediatric Pulmonology, Department of Pediatrics, University of California, Davis, Sacramento, California; ⁴Section of Pulmonary Medicine, Department of Pediatrics, University of Colorado School of Medicine, Aurora, Colorado; ⁵Division of Pediatric Pulmonology and Sleep Medicine, University of Wisconsin–Madison, Madison, Wisconsin; and ⁶Eudowood Division of Pediatric Respiratory Sciences, Johns Hopkins University, School of Medicine, Baltimore, Maryland

ORCID IDs: 0000-0002-2021-7990 (B.K.); 0000-0002-3667-1856 (D.R.L.); 0000-0002-5566-9217 (V.B.); 0000-0001-9167-6994 (S.C.S.).

The outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease (COVID-19), was declared a global pandemic by the World Health Organization in March 2020. At the time of this writing, there have been more than 31 million cases and over 560,000 deaths in the United States (1). COVID-19 cases have been steadily rising in children (2, 3). Although the clinical effects are not entirely understood, children are experiencing education lags, food insecurity, child abuse, isolation, and financial stress, all of which disproportionately affect Black and Latinx children (4). The pandemic has far-reaching impacts on the field of pediatric pulmonology for both children and pediatric pulmonologists. In this editorial,

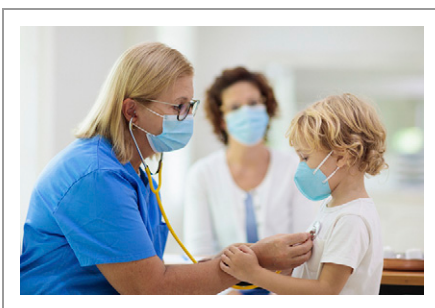
we describe how the pandemic has highlighted opportunities for advocacy with respect to the environment, financial aid, telemedicine, research, racial bias and disparities, and the future of our workforce.

Environment and Preventive Health Measures

Public health measures during the COVID-19 pandemic, including stay-at-home orders, the dismissal of in-person school, and mask legislation, have reduced respiratory illness in children with chronic respiratory disease. Both our collective experience and recent evidence suggest a reduction in pediatric inpatient and outpatient care during the COVID-19 pandemic (5), correlating with reduced prevalence of other common viral respiratory pathogens. This is consistent with early international data showing a decrease in pediatric emergency room visits and hospitalizations (6, 7). Given the extent to which these prevention measures have reduced pediatric respiratory morbidity from respiratory viruses, clinicians caring for children with chronic medical conditions should increase efforts to prevent common viral respiratory illnesses beyond the COVID-19 pandemic, emphasizing hygiene and immunization practices. It should also be

noted that there have been pandemic-related disruptions in care, in part due to families' fear of exposure to COVID-19, which may result in delayed health maintenance and diagnosis. Providers should encourage families to access routine and necessary care in a timely manner.

Not surprisingly, reductions in air and ground travel have led to decreases in emissions that correspond with improvements in air quality (8). High-quality evidence has demonstrated the association between air pollution and respiratory morbidity (9). Given the disproportionate burden that outdoor air pollution has on the respiratory health of Black and Latinx children (10), improving outdoor air quality can reduce racial disparities in children. Moreover, although providers have long recognized the importance of improved air quality in preventing respiratory morbidity, we urge pediatric pulmonologists and allied health professionals to redouble advocacy efforts aimed at improving air quality for all, for example, by engaging with the Better Breathing Alliance of the American Thoracic Society (ATS) and educating policymakers and the public regarding how Environmental Protection Agency regulations affect long-term health outcomes across the life course.



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Correspondence and requests for reprints should be addressed to Devika R. Rao, M.D., University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75390-9063. E-mail: devika.rao@utsouthwestern.edu.

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Financial Strain on Pediatric Practices and the Importance of Immunization

The pandemic has led to a loss of revenue for many medical practices, and telemedicine has been unable to compensate for this financial strain (11). Financial relief efforts of the Department of Human and Health Services have primarily applied to Medicare rather than Medicaid, the latter of which covers children. This has left pediatricians and pediatric subspecialists unable to rely on federal aid to support salaries, purchase personal protective equipment, and prevent furloughs and closures (11). Increased unemployment with resultant loss of parental employer-based insurance will further lead to reduced healthcare access (12), which will be accentuated in the 14 states that have not expanded Medicaid under the Affordable Care Act (ACA) despite evidence that Medicaid expansion does not strain state budgets (13). Additionally, the Trump Administration provided aid to 80 children's hospitals nationwide, whereas private practices have not received similar benefits (14).

Healthcare access is particularly important in the fall and winter months with increased exposure to respiratory viruses, including influenza. Primary care practices have noted a decrease in vaccination rates (15), which may cross over into the current influenza season, leaving many children with chronic respiratory disease susceptible to both COVID-19 and influenza. Providers should vigorously encourage adherence to the childhood immunization schedule, consider ways to maximize delivery of seasonal influenza vaccination, and increase accessibility to rapid COVID-19 testing for children. We encourage all clinicians to engage in discussions with elected officials to ensure financial rescue packages include pediatric practices and Medicaid.

Telemedicine Services

The rapid expansion of telehealth due to the COVID-19 pandemic has dramatically changed outpatient care delivery. Although the Centers for Medicare & Medicaid Services has expanded coverage to include telehealth provided across state lines, there

is no equivalent broad measure for children. Children, whether they receive Medicaid or private health insurance, suffer when payors restrict telehealth reimbursement. The approach to provider licensing for telehealth during the COVID-19 emergency varies widely between states. Some issue emergency licenses and allow out-of-state providers to provide virtual care with few to no restrictions, whereas other states enact more restrictive policies (16). The lack of uniform standards for reimbursement and the patchwork nature of state-based licensing regulations will limit access to telehealth for children with pulmonary conditions, many of whom cross state lines for specialty care. We recommend that state policies allow flexibility in licensing and that payors reimburse all telemedicine services. Universal health care, at minimum for children, would be optimal. However, within the current system, it is important to uphold the ACA, which has improved health outcomes and reduced the cost of treating respiratory disease. The ATS has filed an Amicus brief in support of the constitutionality of the ACA (*California vs. Texas*) in a pending Supreme Court case.

Telemedicine is well suited for those with stable symptoms in need of medication checks and for some mild disease exacerbations. Some challenges of virtual visits include the limitations of video physical exams, which rely on visual inspection without auscultation, and the lack of widespread access to home-based spirometry. However, telehealth can lead to less missed work and school and may be particularly helpful for families traveling long distances and those with technology-dependent children. Telehealth also can provide a lens into the home and awareness of environmental asthma triggers as well as medication adherence and technique. As pediatric pulmonologists continue to provide telehealth, we should identify which tools are most helpful (e.g., home spirometry) and set quality standards.

One downside of telehealth is its potential to worsen health disparities. Black and Latinx, low-income, or rural families may lack access to smart devices and laptops, may not have reliable access to high-speed internet or may need to use expensive data, and may lack technology skills to create accounts and log in to

platforms (17). When payors provide lower or no reimbursement for telehealth services provided by phone, disparities may be magnified—checking in by phone, taking a limited history, and providing refills are preferable to no service at all. In addition, if interpreter services are not well integrated into virtual visits, the quality of care for families with limited English proficiency may be compromised. Policies to improve internet connectivity and affordability in rural and low-income neighborhoods can reduce disparities in telehealth accessibility. Payors should reimburse video and telephone visits, and providers, practices (18), and institutions should work to accommodate patients and improve care delivery systems in a way that reduces technological, language, and other barriers to equitable care.

Research

In addition to the clinical and economic impacts of COVID-19 on children with chronic lung diseases, broad disruptions in medical research are occurring that impact this vulnerable population. Many pediatric respiratory disorders already suffer from limited funding and scholarship due to rarity and lower patient volumes compared with adult disorders. Approximately 95% of rare diseases (>50% that affect children [19]) do not have any U.S. Food and Drug Administration–approved treatments. With shifts in both local and national funding priorities toward resources to support COVID-19, discrepancies in funding for pediatric disorders may become accentuated. Furthermore, many pediatric scientists depend on funding from private foundations that suffered financial losses from the pandemic. Combined, reduced funding allocation and philanthropic donations foster a growing funding deficit for pediatric respiratory disorders (20). Pauses in research and clinical trials further delay new therapy availability for children. To compound these deficits, Black scientists already face a deficit in U.S. National Institutes of Health funding compared with their white peers, with topic choice (research at the community and population level) being the largest contributor to a funding gap (21). This is particularly relevant now, as Black and Latinx patients are disproportionately affected by pulmonary

diseases, including asthma and COVID-19 complications (22, 23). Implementation of strategies for pediatric pulmonologists to improve the health of Black communities through reduction of physician racial bias is an advocacy priority (24–26). Other research advocacy priorities include eliminating topic choice funding gaps, ensuring stable funding for pediatric respiratory disorders, and initiatives to preserve the community health of Black and Latinx children. Innovative methods are needed to improve safe access (on- and off-site) for research participation during current and future epidemics, especially for children of families with limited economic and technological resources.

Bias and Racism in Health Care

Racism has affected Black and Latinx communities for centuries in the United States, and the COVID-19 pandemic has only emphasized this unfortunate truth (27). The American Academy of Pediatrics has identified racism as a social determinant of health that has a “profound impact on the health status of children.” Policies to mitigate the effects of structural racism in Black and Latinx communities are imperative. Advocacy priorities include improved access to COVID-19 testing and personal protective equipment as well as dissemination of high-quality, reliable information from trusted sources. Pediatric pulmonologists are in a unique position to advocate for increased support for state and local initiatives to increase access to high-quality asthma care and general health maintenance (28).

Studies have shown physician racial bias leads to discordant treatment and health outcomes for Black, Asian, Native American, and Latinx people (29, 30). Pediatric pulmonologists must understand that bias is not limited to adult medicine (24) and it should be given as much weight in training and continuing education as physical exams and respiratory physiology. Data have shown that increased mentorship and exposure to Black and Latinx individuals can reduce and mitigate bias toward patients and colleagues (17). Academic pediatric leadership is not immune to bias (31), and stronger efforts to increase Black and Latinx leadership within faculty should be instituted.

Workforce

The impact of the pandemic on the pediatric pulmonary workforce remains to be seen, but there are several preexisting vulnerabilities. First, the average age of board-certified pediatric pulmonologists in the United States is 51.6 years, and more than 25% are older than 60 (32). Residency education has changed significantly (e.g., less family-centered rounds, decreased patient interaction) and may lead to decreased exposure to pulmonology and reduce applicants to an already strained field (in 2018, there were just 69 pediatric pulmonary fellows) (33). Conversely, increased financial stress on primary care practices compared with academic institutions may present an opportunity for recruitment. Fellowship programs have used creative recruitment tools such as virtual tours, and these methods should be considered for the postpandemic era. Student loan forgiveness and reducing the length of fellowship training for trainees on a clinician trajectory could improve the recruitment pool for pediatric pulmonary fellowships.

The pandemic has highlighted the importance of international medical graduates, who make up 48% of pediatric pulmonologists and 14.3% of pediatric pulmonary fellows in the United States. Unfortunately, the Department of Homeland Security in September proposed J-1 visa renewal requirements that would make it impossible for J-1 physicians to complete their training. This would be detrimental to the field, considering that states like Michigan, Texas, and Florida with a high concentration of J-1 physicians have been the hardest hit during the pandemic (32). Organizations like the Educational Commission for Foreign Medical Graduates, the American Academy of Pediatrics, and the ATS have highlighted the indispensable nature of international medical graduates. Pediatric pulmonologists should contact their elected government representatives to voice support for these organizations to curtail restrictive visa requirements for physicians.

All physicians were at high risk of burnout before the pandemic and this is likely worsening (34). In particular, female pulmonologists, who make up 58% of the workforce (35), may be at even more risk of

burnout. With virtual learning and limited childcare options, women are more likely to shoulder a majority of the childcare responsibility, leading to more stressful work-from-home conditions and less time for scholarship, which ultimately hinders promotion and tenure (36). An analysis of preprint submissions in Science, Technology, Engineering, and Math (STEM) fields in May 2020 revealed a 6.4% increase in submissions by male authors and only a 2.4% increase in female authors compared with the same time period 1 year prior (37). Male physicians who shoulder a significant amount of home responsibilities share similar challenges. Institutions should seek solutions such as in-hospital childcare facilities at hospitals, flexibility of work hours, improved family and medical leave, and loosened timelines for promotion and tenure to preserve and promote the success of all faculty, particularly female and young faculty members.

Conclusions

The COVID-19 pandemic highlights numerous advocacy opportunities for pediatric pulmonologists and clinicians caring for children with chronic respiratory conditions. Advocating for health policies that protect the environment, provide financial aid to practices, enhance telemedicine services, protect research funding, address racism in medicine, and diversify and protect the workforce have the potential to improve the respiratory health of children. Policymakers can influence nearly every aspect of patient care, and pediatric pulmonologists are uniquely poised to educate policymakers and center child respiratory health as vital to the health of our nation. Even as the pandemic weighs heavily on our field and on us as individuals, the authors call upon our fellow pediatric pulmonologists to seek out opportunities to advocate for our patients in their institutions, schools, and in government. The COVID-19 pandemic has emphasized the ways in which our patients depend on our skills in the exam room and beyond; through this experience, we will be better prepared the next time around. ■

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