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Editorial

Calling for improved pulmonary and critical care medicine in China and beyond

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Infectious and chronic respiratory diseases place a high burden on both individual patients and the health system. For instance, lower respiratory infections count among the leading causes of death worldwide.[1] The emergence within the past two decades of several newly identified coronaviruses, such as severe acute respiratory syndrome coronavirus (SARS-CoV) in 2003,[1,2] Middle Eastern respiratory syndrome coronavirus (MERS-CoV) in 2012,[2] and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in 2019—along with new strains of influenza, such as H1N1 in 2009[3]—is particularly alarming. In addition, tuberculosis (TB) remains a significant threat to global respiratory health; according to a 2020 World Health Organization (WHO) report, TB was responsible for more deaths worldwide than any other infectious disease.[4]

Meanwhile, chronic respiratory diseases, such as chronic obstructive pulmonary disease (COPD), asthma, and lung cancer, present an increasing challenge to population health and overall societal wellbeing. In 2015, an estimated 174.5 million adults suffered from COPD globally, and 99.9 million Chinese adults were found to have spirometry-defined COPD.[5] Moreover, approximately 39.8% of COPD patients reported daily COPD symptoms such as dyspnoea and wheezing.[5] According to a study conducted in 2012–2015, 45.7 million Chinese adults were found to have asthma, of whom 13.1 million experienced airflow limitation.[6] Finally, lung cancer is the leading cause of cancer mortality both globally[7] and in China.[8]

Beyond their toll on human health and longevity, respiratory diseases also impose a substantial burden on the economy. According to a 2023 study, COPD is projected to inflict a total cost of 4.3 trillion international dollars (in constant 2017 prices) on the global population between 2020 and 2050.[9] China's anticipated economic impact from COPD is the greatest among all countries, accounting for roughly 32% of the total global loss.[9] In addition, tracheal, bronchus, and lung (TBL) cancer imposes the highest economic cost of all cancers at 3.9 trillion international dollars, accounting for 15.4% of the global economic cost of cancers.[10] Unsurprisingly, given its high health burden of lung cancer, China faces a larger economic burden from TBL cancer than from any other cancer type.[10]

To mitigate the health and economic burdens of respiratory diseases, it is critical to address existing risk factors. Smoking is a major risk factor for respiratory diseases, and China has the largest smoking population worldwide, with a smoking prevalence of 26.6% for people aged 15 years and above in 2018.[11] In fact, chronic respiratory diseases are the leading cause of tobacco-related morbidity (measured by disability-adjusted life-years) and mortality in China.[12] Air pollution is another significant risk factor. During 2006–2010, the mean annual particulate matter concentration in China was five times the WHO-recommended level of 20 μg/m^3.[13] In 2015, 33.6% of deaths in China due to air pollution were from chronic respiratory diseases.[13] China's rapid population aging represents an additional, non-modifiable source of risk for respiratory diseases since aging causes impairment to the lungs and respiratory tracts.[14,15]

Clearly, there are numerous challenges to adequately addressing the burden of respiratory diseases in China. Yet, insufficient attention has been paid to this pressing issue. Despite the high prevalence of COPD in China, recent literature has shown that fewer than 3% of Chinese patients with spirometry-defined COPD were aware of their conditions[5]—a drastically lower figure than the 44.7% of hypertensive Chinese adults and 36.7% of diabetic Chinese adults who were found to be aware of their conditions in similar studies.[16–18] Additionally, an important literature gap exists with respect to examining COPD care cascade outcomes in China. Both this gap and the underdiagnosis of COPD reflect insufficient attention to COPD generally and unsatisfactory coordination of care for COPD patients within the health system.

In response to the high global incidence of respiratory failure and infectious respiratory diseases as well as increasing demand for intensive care associated with population aging, pulmonary and critical care medicine (PCCM) has been introduced as a subspecialty.[19] As a relatively recent discipline itself, critical care medicine grew out of innovation during the 1952 polio epidemic in Copenhagen, when the mortality rate of patients with respiratory paralysis was significantly decreased

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through careful airway management and the use of positive pressure ventilation.[20] It has become necessary to integrate critical care medicine with pulmonary medicine to address the increasing frequency of acute respiratory illnesses among hospitalized patients.

There are several well-established journals on PCCM in developed countries, such as the *American Journal of Respiratory and Critical Care Medicine* in the United States. However, developing countries, such as China, need their own platforms for disseminating research and discussing healthcare problems related to PCCM. Established in 1887, *Chinese Medical Journal* (CMJ) publishes peer-reviewed articles on the latest research and technological advances in the field of medicine in China and beyond. *Chinese Medical Journal Pulmonary and Critical Care Medicine* (CMJ-PCCM) would be the first specialty journal of CMJ and demonstrates our commitment to improving PCCM and related health outcomes. We are proud to be involved in the establishment of this journal, and we hope to create a platform for constructive academic exchange among scholars in respiratory medicine and related fields, ultimately contributing to improved care.

Conflicts of interest

None.

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