



30 November 2023 | Issue No. 28

## Second alert: 30 November 2023 | Update on Unknown Respiratory Illness in China

### SUB-LOCATIONS AFFECTED

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### FOLLOW-UP DESCRIPTION

ABVC provide update following the event of nationwide increase of respiratory diseases incidence, mostly affecting children since mid November 2023. As officially requested by WHO, The Chinese Center for Disease Control and Prevention, in collaboration with the Beijing

Children's Hospital and under the auspices of the National Health Commission and the National Administration of Disease Control and Prevention, has revealed that there was a surge in pediatric outpatient consultations and hospital admissions. The escalation in cases is occurring earlier in the season than historically observed. This trend is not surprising, given the relaxation of COVID-19 restrictions, a phenomenon similarly noted in other countries. Notably, Chinese health authorities have reported no changes in the presentation of the diseases.

Based on WHO risk assessment and data that available, the ongoing outbreak of respiratory illness in China presents symptoms commonly associated with various respiratory diseases, currently attributed to known pathogens circulating in the region's population. *Mycoplasma pneumoniae*, a prevalent respiratory pathogen causing pediatric pneumonia, is treatable with antibiotics and is among the identified causes. China has an established surveillance system monitoring influenza-like illness (ILI) and severe acute respiratory infections (SARI) since mid-October, which now includes enhanced surveillance for a wide range of respiratory viruses and bacteria, encompassing *Mycoplasma pneumoniae*. Although there's limited detailed information available, the winter season's onset is anticipated to escalate respiratory illnesses, potentially burdening healthcare facilities due to the co-circulation of multiple respiratory viruses. Surveillance data from WHO's FluNet and China's National Influenza Centre reveal elevated ILI levels, particularly in the northern provinces, with predominant detections of A(H3N2) and B/Victoria lineage influenza viruses.

Bluedot Intelligence stating that **there is no evidence to lend support to a novel pathogen** and the most likely explanation is that this surge in pediatric respiratory illness is due to the following overlapping causes:

1. ***Mycoplasma pneumoniae***: According to monitoring data from a number of healthcare centres and local media reports, the positive rate of *Mycoplasma pneumoniae* (MP) infection has risen from 7% in June to over 10% across different locations. MP is an important seasonal cause of community-acquired pneumonia in China, typically between October – January. Additionally, there is historical documentation on the cyclical nature MP infections in Asian and European countries, with increased detections in 2011, 2015 and 2019-2020. Global trends demonstrate that MP showed a delayed resurgence compared to respiratory viruses following the lifting of pandemic precautions among a number of countries. Since China lifted Zero-COVID-19 measures more recently and given its cyclical epidemic nature, the resurgence in MP is not unexpected. Lastly, while there is limited information available on the current situation, antibiotic resistance could be contributing to the current trends if macrolide

antibiotics are provided as first-line treatment, since over 90% of strains have shown macrolide antibiotic resistance in a study from Beijing between 2015-2020.

2. **Influenza:** Disease activity fell to very low levels between 2020-2022, with a notable surge following the lifting of Zero-COVID-19 measures in 2023.
3. **Respiratory Syncytial Virus (RSV) and adenoviruses:** While surveillance data on RSV, adenovirus, and other seasonal viruses in China are more limited than for seasonal influenza, these viruses may have also declined in the context of China's Zero-COVID-19 policy and may now be undergoing a resurgence among a more naïve pediatric population. There have been multiple reports in China about a range of presenting syndromes among those affected, including gastroenteritis (consistent with adenovirus) and a flu-like illness (consistent with common respiratory viruses including RSV). There are reports of children receiving IV fluids, presumably for dehydration as a result of gastroenteritis.
4. **COVID-19:** Health authorities in China have highlighted that SARS-CoV-2 is also part of the current observed trends. Additionally, recent large-scale epidemics of SARS-CoV-2 following the lifting of Zero-COVID-19 policy in China may have led to immune dysfunction and increased susceptibility to new respiratory infections in a proportion of the population. Recent research from the US has demonstrated that previous COVID-19 was associated with a significantly increased risk for RSV infection among children aged 0-5 years.
5. **Co-Infections:** While there is limited information on the current incidence of documented co-infections, given the epidemics of multiple respiratory pathogens occurring in China, a relatively high rate of co-infections may be a contributing cause to the surge in healthcare needs. A scientific review on SARS-CoV-2 and co-infections including MB demonstrates more severe outcomes and hospitalizations, and longer recovery times compared to infections with one underlying cause

The Chinese authorities have communicated that, starting from mid-October, they have implemented heightened surveillance for respiratory illnesses, encompassing a wide array of viruses and bacteria. Notably, this now includes *Mycoplasma pneumoniae* for the first time. This augmentation supplements the existing respiratory surveillance mechanisms and is likely a contributing factor to the observed uptick in the detection and reporting of respiratory illnesses in children.

The World Health Organization (WHO) does not endorse any particular precautions for travelers to China. As a general guideline, individuals should refrain from traveling if they are experiencing symptoms indicative of respiratory illness, if feasible. In the event of symptoms arising during or after travel, it is advised that travelers seek medical attention and disclose their travel history to their healthcare provider.

The ABVC team will continue monitoring this event and will provide updates if there is any new information.

Sources: *BlueDot* , *WHO*

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