



# Serotype transmission dynamics and reduced incidence of invasive pneumococcal disease caused by different serotypes after implementation of non-pharmaceutical interventions during COVID-19 pandemic

Rajendra Prasad Janapatla <sup>1</sup>, Chyi-Liang Chen <sup>1</sup>, Anna Dudek <sup>1</sup>, Hsin-Chieh Li <sup>1</sup>, Hsin-Ping Yang <sup>1</sup>, Lin-Hui Su <sup>1</sup> and Cheng-Hsun Chiu <sup>1,2</sup>

<sup>1</sup>Molecular Infectious Disease Research Center, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taoyuan, Taiwan. <sup>2</sup>Division of Pediatric Infectious Diseases, Dept of Pediatrics, Chang Gung Memorial Hospital, Chang Gung University College of Medicine, Taoyuan, Taiwan.

Corresponding author: Cheng-Hsun Chiu ([chchiu@adm.cgmh.org.tw](mailto:chchiu@adm.cgmh.org.tw))



Shareable abstract (@ERSpublications)

**Significant reduction in the incidence rates of both vaccine and non-vaccine serotype invasive pneumococcal disease among children and adults during the COVID-19 pandemic were observed after the implementation of non-pharmaceutical interventions** <https://bit.ly/36CAute>

**Cite this article as:** Janapatla RP, Chen C-L, Dudek A, *et al.* Serotype transmission dynamics and reduced incidence of invasive pneumococcal disease caused by different serotypes after implementation of non-pharmaceutical interventions during COVID-19 pandemic. *Eur Respir J* 2021; 58: 2100978 [DOI: 10.1183/13993003.00978-2021].

This single-page version can be shared freely online.

Copyright ©The authors 2021.

This version is distributed under the terms of the Creative Commons Attribution Non-Commercial Licence 4.0. For commercial reproduction rights and permissions contact [permissions@ersnet.org](mailto:permissions@ersnet.org)

Received: 2 April 2021  
Accepted: 7 July 2021

*To the Editor:*

To block the transmission of severe acute respiratory syndrome coronavirus 2 (SARS-COV-2), a number of non-pharmaceutical interventions (NPIs) are being implemented. Taiwan successfully controlled coronavirus disease 2019 (COVID-19) mainly through NPIs that were centred on facial masking, enhanced hand hygiene, social distancing, international travel controls, effective quarantine and contact-tracing policy [1, 2]. After the first case of COVID-19 was detected on 21 January, 2020, a rise in local demand for surgical masks and N95 respirators was observed and at least 50% of people spontaneously wore a facemask in public places from early February 2020 [3, 4]. Among the total of 799 COVID-19 cases reported in 2020, annual incidence rate of COVID-19 in Taiwan was remarkably low (0.238 per 100 000; n=56) for locally acquired (local) cases and high (3.153 per 100 000; n=743) for internationally acquired (imported) cases (Taiwan CDC, <https://data.cdc.gov.tw/en/dataset>). It is perceived that NPIs that are currently being implemented to reduce COVID-19 should also prevent both acquisition and transmission of other viral and bacterial respiratory tract infections [5–9]. In this observational study we examined the monthly incidence rates of invasive pneumococcal disease (IPD) and serotype distribution in age groups at high risk and from high pneumococcal transmission settings between January 2020 and February 2021. The differential serotype transmission dynamics revealed by various levels of reduction in IPD caused by different serotypes was discussed.

