

Streptococcus pneumoniae

2018-2022 Perspective

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IPD

(INVASIVE PNEUMOCOCCAL DISEASE) IMPACTS ADULTS ACROSS DIVERSE AGE GROUPS, PARTICULARLY THOSE WITH PREDISPOSING FACTORS OR UNDERLYING HEALTH CONDITIONS

TWO PNEUMOCOCCAL VACCINES ARE CURRENTLY LICENSED FOR USE IN ARGENTINA: A 13-VALENT PNEUMOCOCCAL CONJUGATE VACCINE (PCV13) AND A 23-VALENT PNEUMOCOCCAL POLYSACCHARIDE VACCINE (PPSV23). A NEW GENERATION OF PCVS HAVE BEEN UNDER DEVELOPMENT IN THE LAST FEW YEARS.

OBJECTIVE: TO EVALUATE THE CIRCULATION OF SEROTYPES CAUSING IPD IN THE ADULT POPULATION FROM ARGENTINA AND ITS ACCOMPANYING RESISTANCE, DURING THE PERIOD 2018-2022

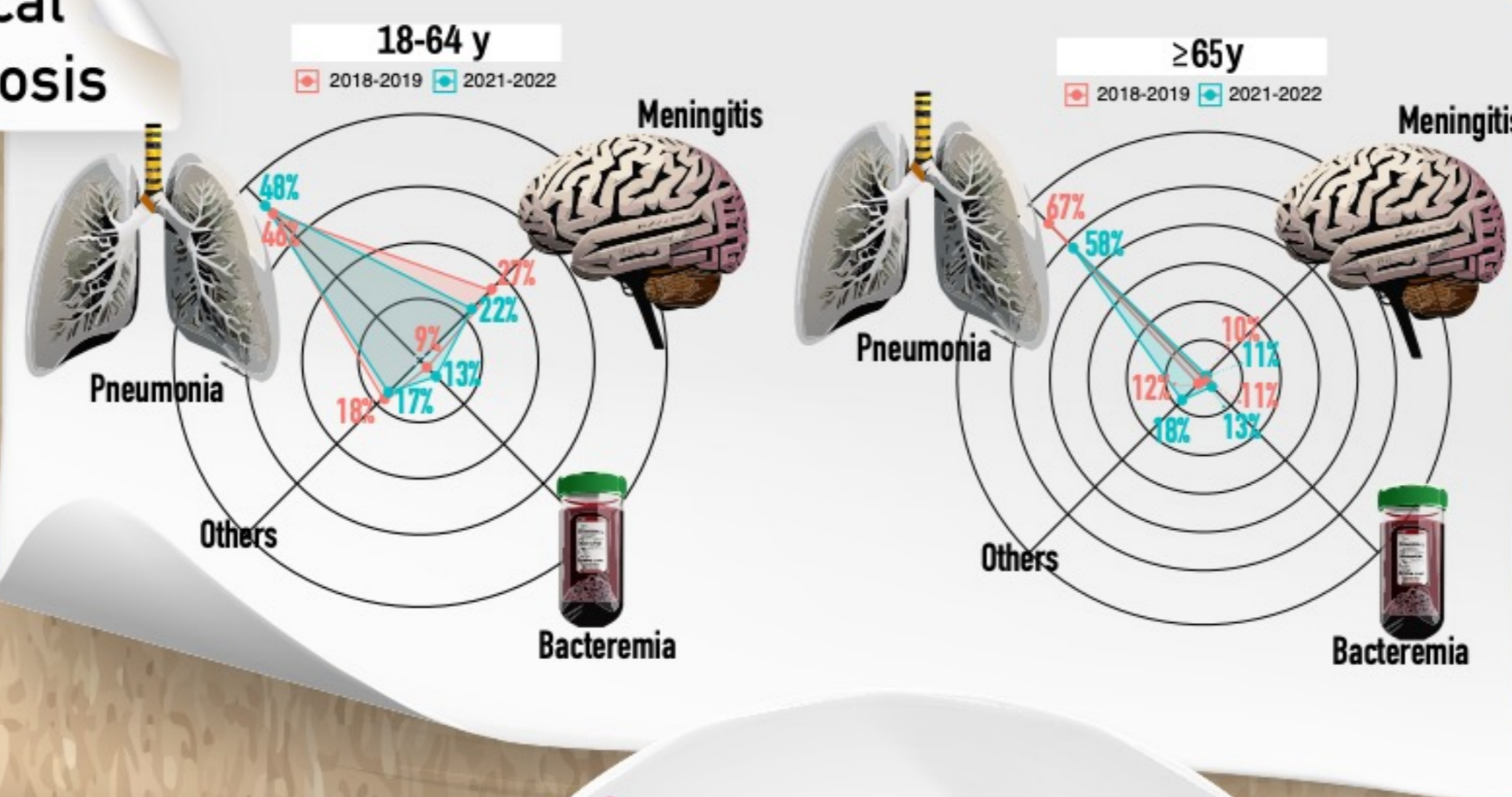
BACKGROUND

METHODS

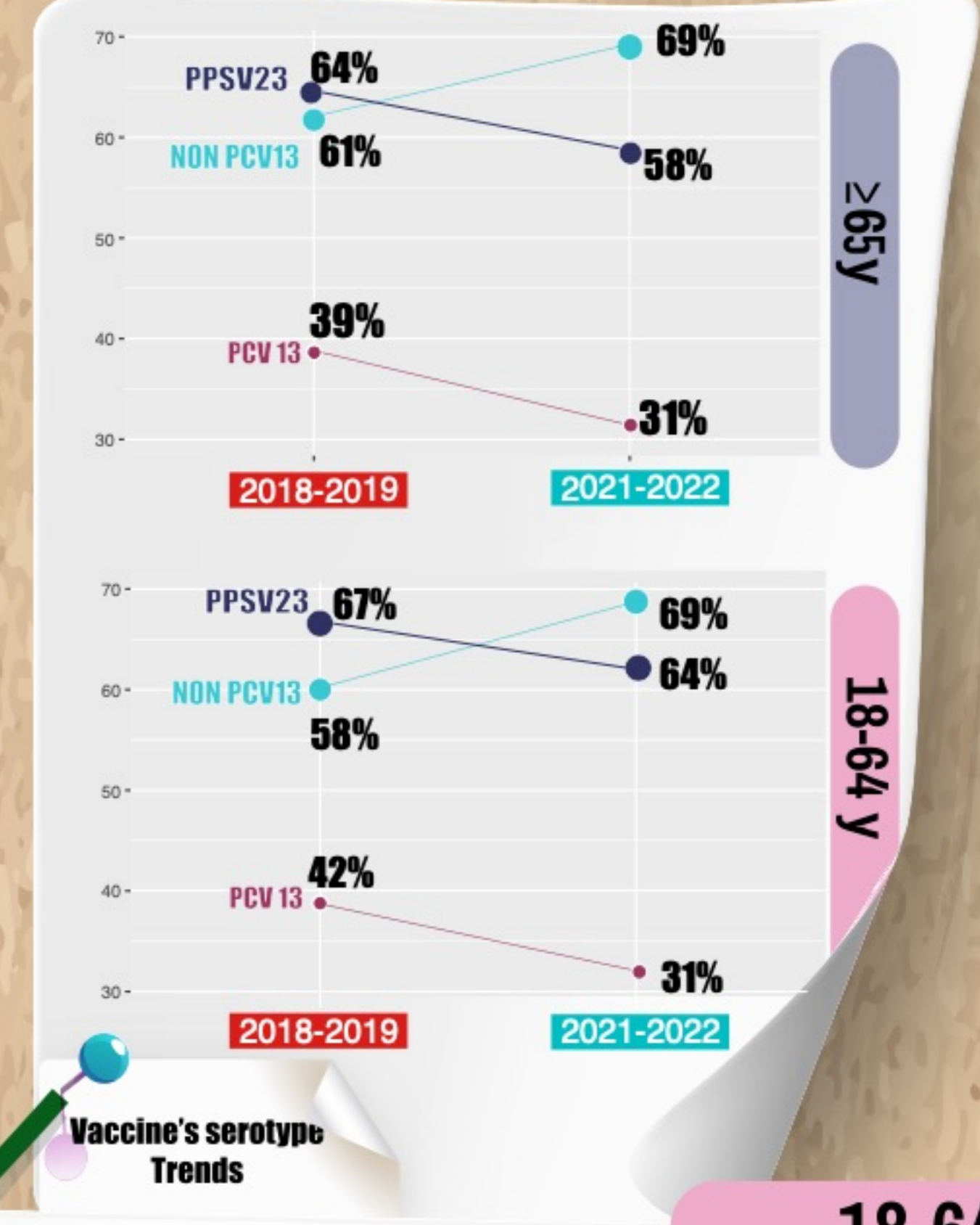
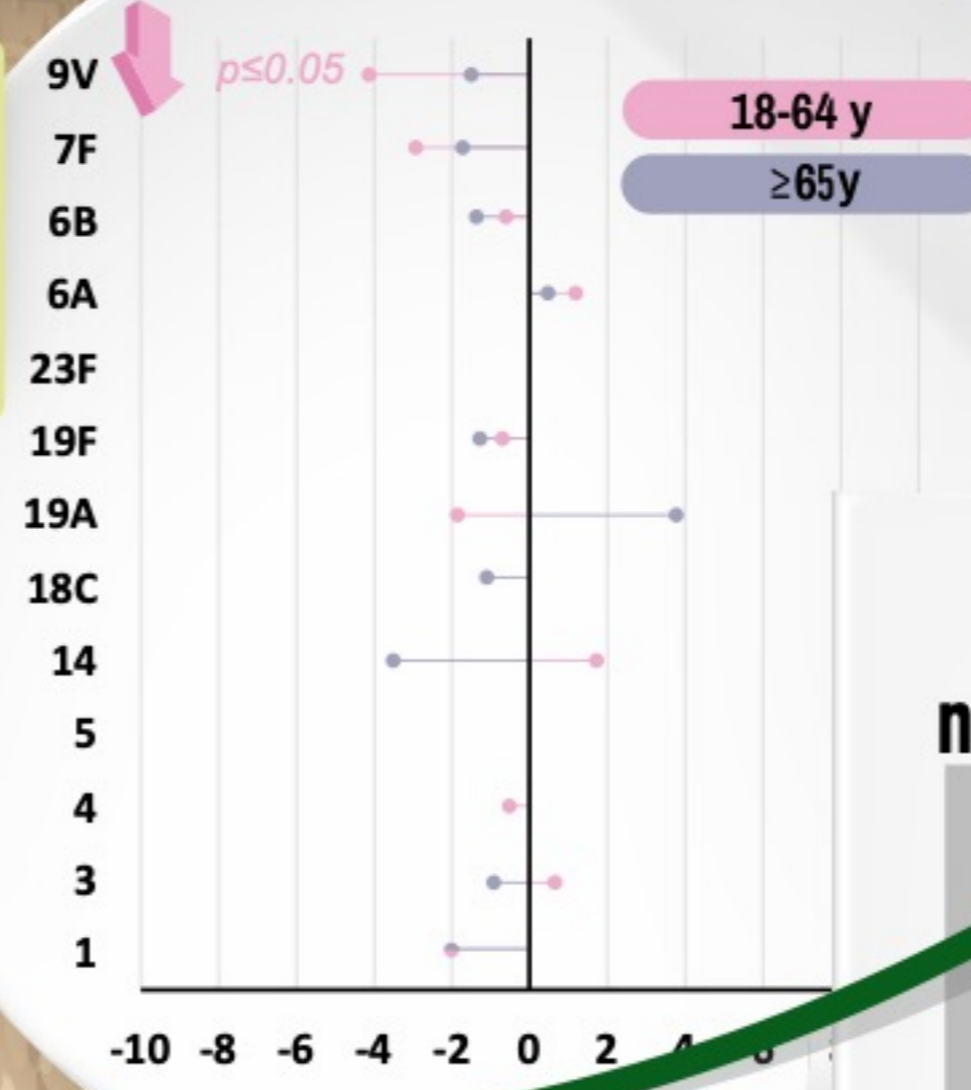
FROM 2018 TO 2022, THE NATIONAL REFERENCE LABORATORIES RECEIVED 1288 S. PNEUMONIAE ISOLATES CAUSING IPD FROM 153 HOSPITALS OF 20 PROVINCES AS PART OF THE NATIONAL SURVEILLANCE IN SEROTYPES AND ANTIMICROBIAL RESISTANCE. COMPARATIVE ANALYSIS WAS CONDUCTED FOR TWO DISTINCT PERIODS: 2018-2019 (PRE) AND 2021-2022 (POST), FOCUSING ON AGE GROUPS 18-64 YEARS (N=144 PRE, N=198 POST) AND ≥65 YEARS (N=102 PRE, N=84 POST). SEROTYPING WAS PERFORMED BY QUELLUNG METHOD, AND MICs BY AGAR DILUTION (CLSI 2023).

RESULTS

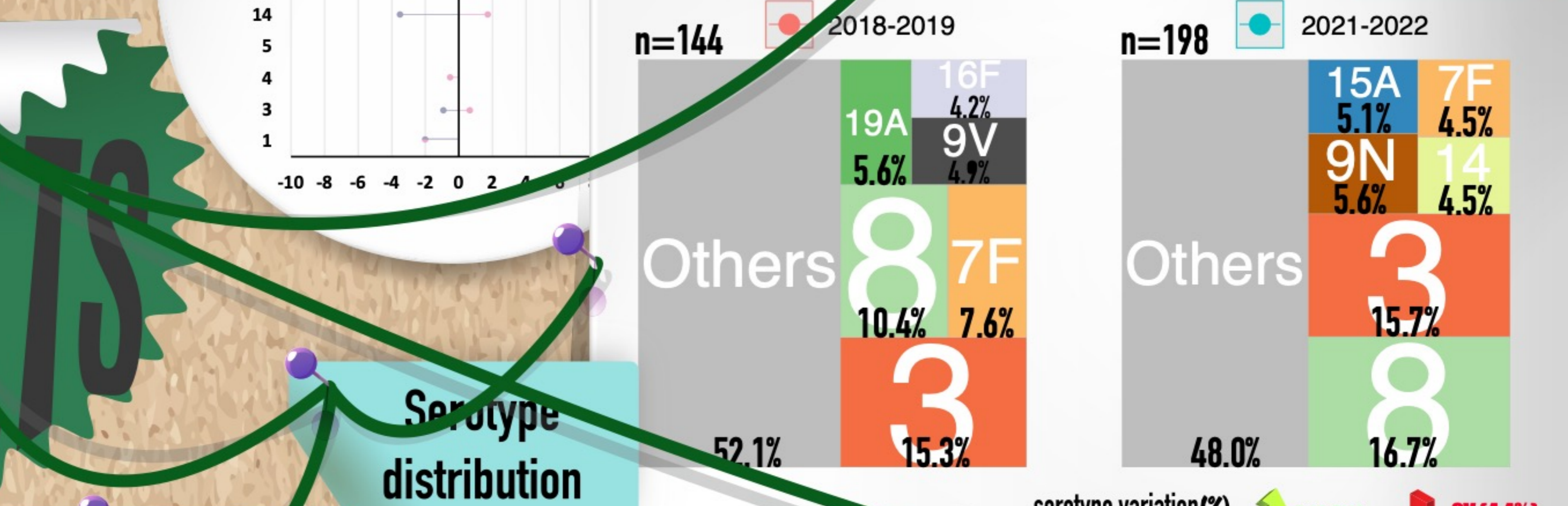
Clinical Diagnosis



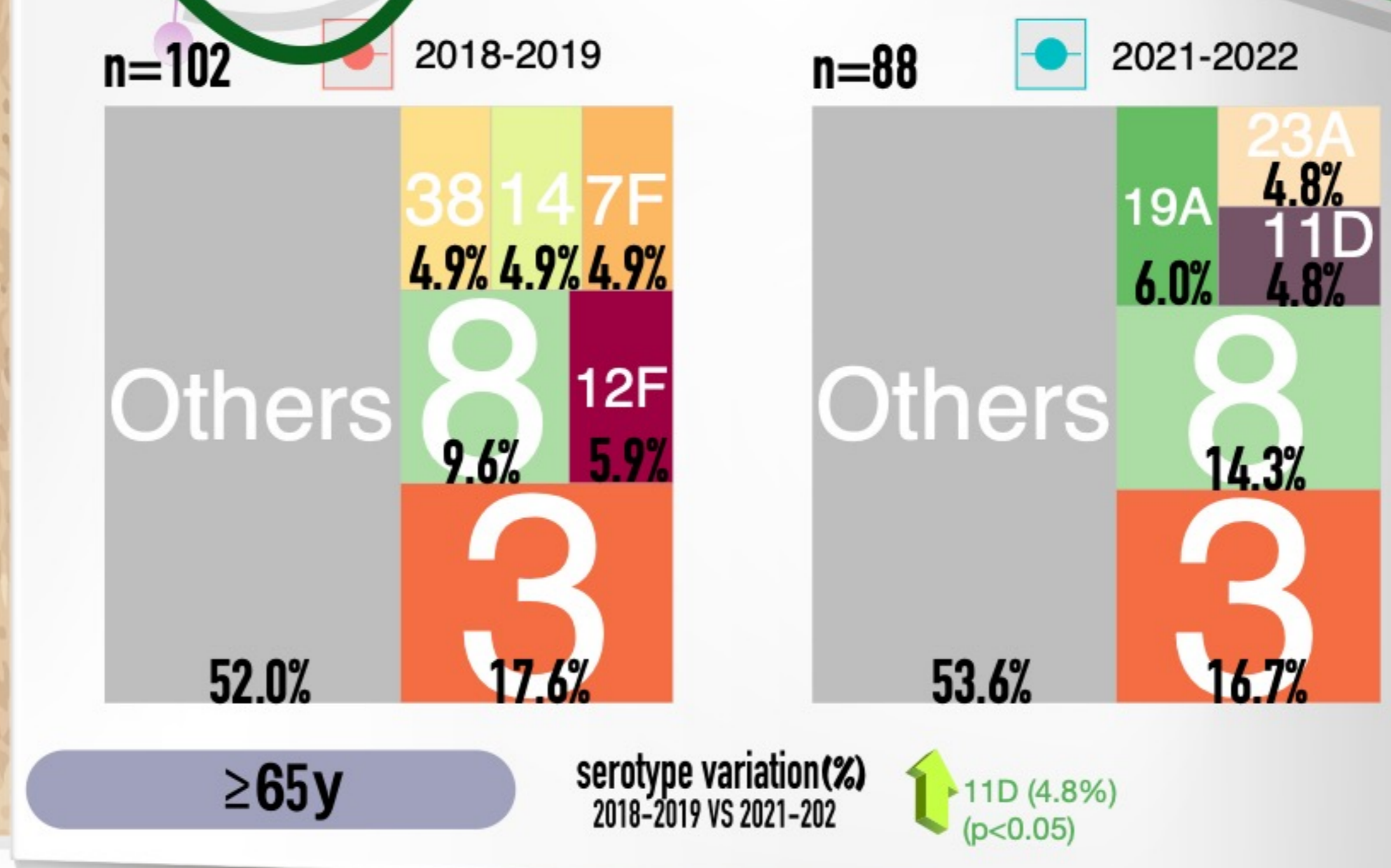
PCV13 serotype variation%



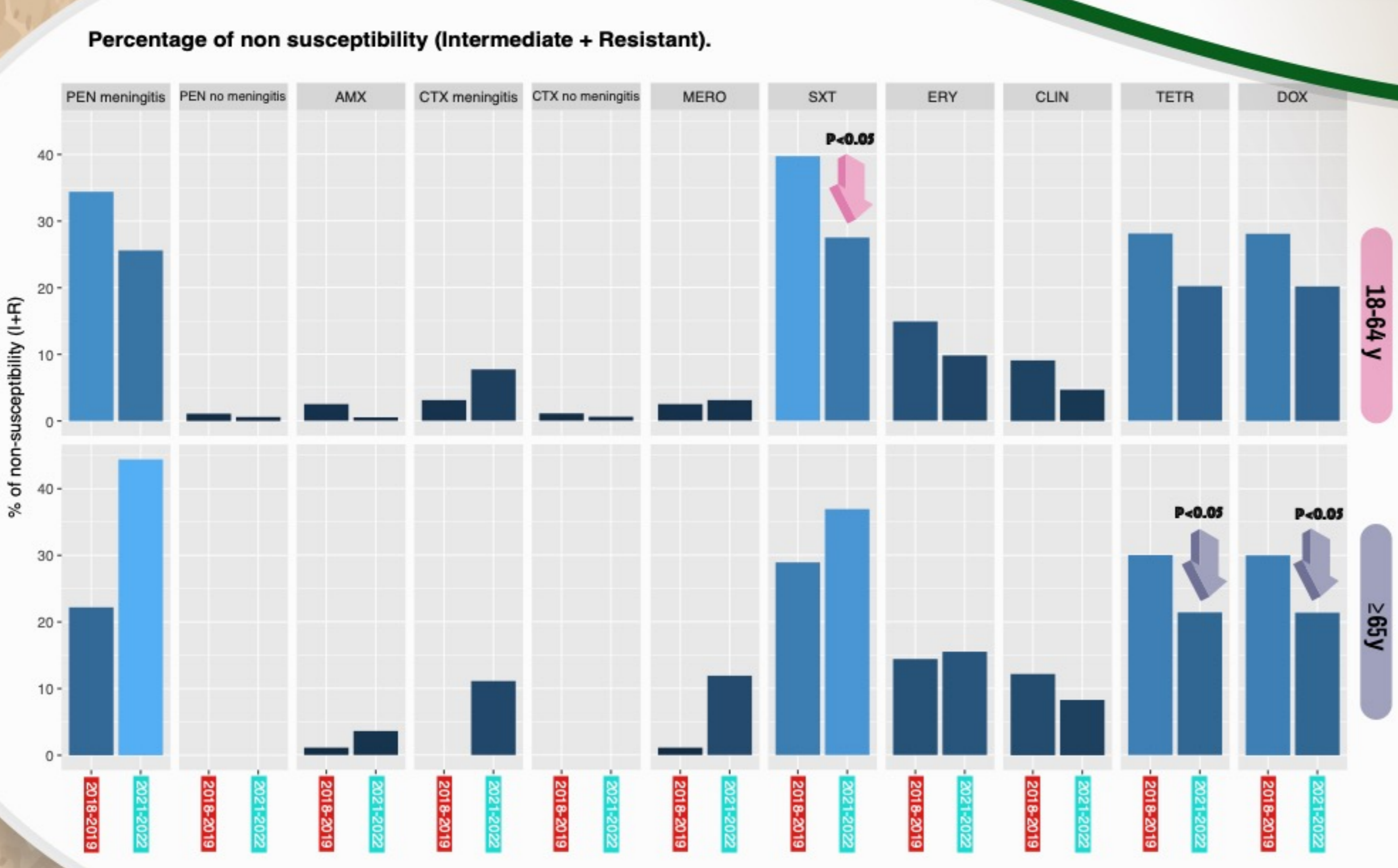
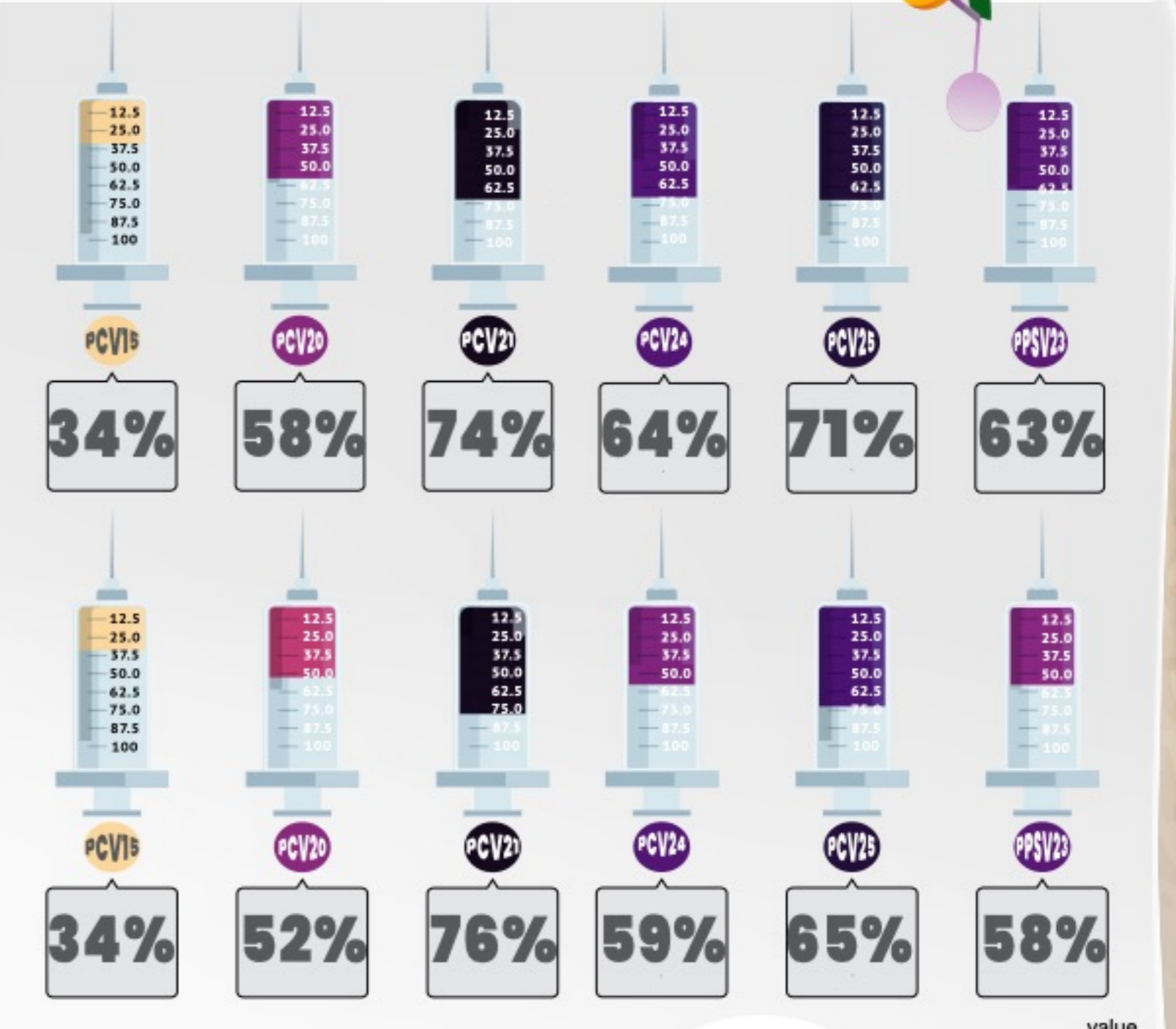
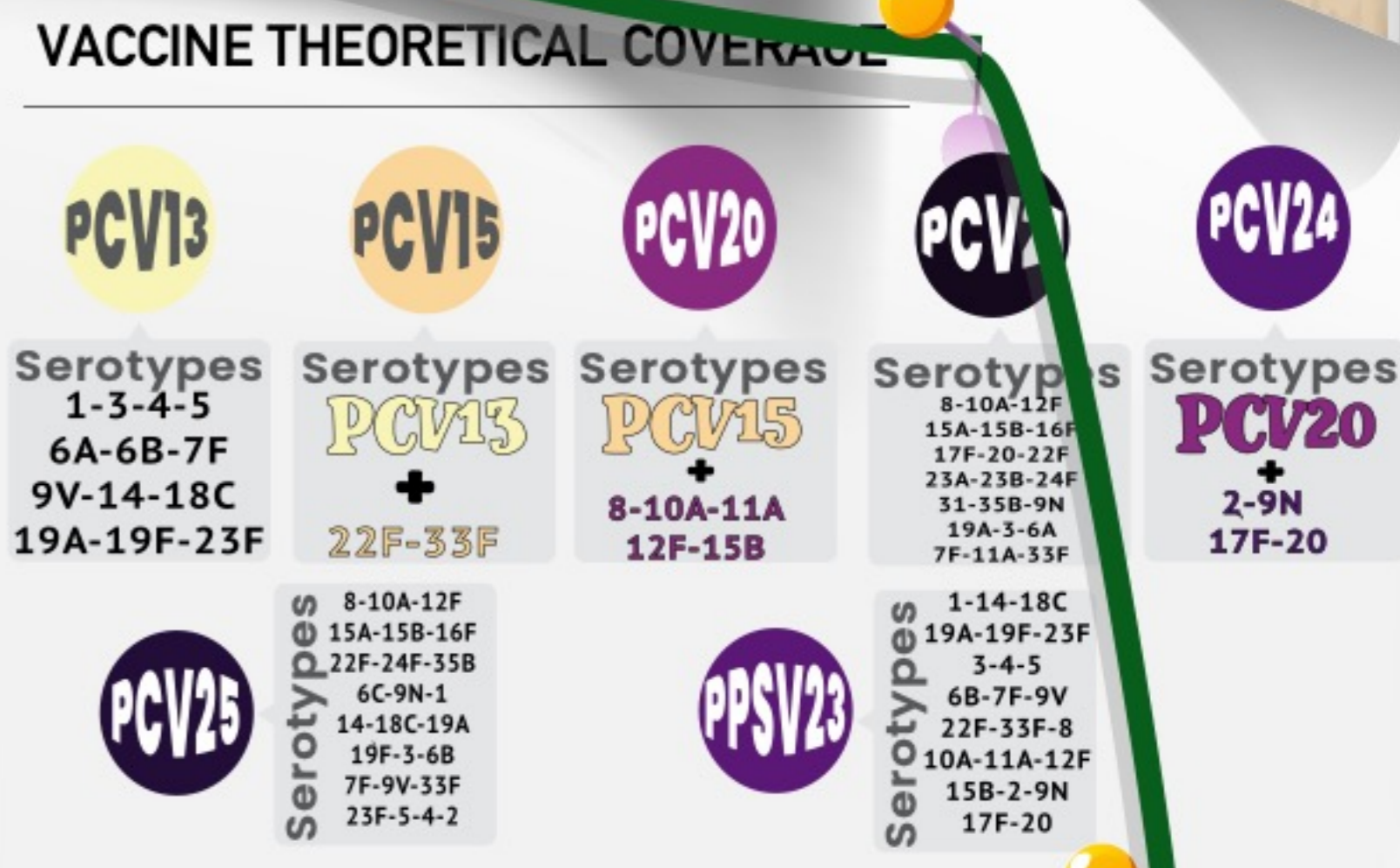
Serotype distribution



serotype variation (%) 2018-2019 VS 2021-2022: 8 (6.3%) (p=0.1) and 9V (4.4%) (p<0.05)



serotype variation (%) 2018-2019 VS 2021-2022: 11D (4.8%) (p<0.05)



Multidrug-resistant (≥18y, 2018-2022) N=488
6.4% NS TO PEN + TET+ERY/TMS
71% 19A-24A-14-24F

PEN meningitis=Penicillin R ≥ 0.12 ug/ml
PEN no meningitis=Penicillin R ≥ 4 ug/ml
AMX=Amoxicillin
CTX no meningitis= Cefotaxime R ≥ 2 ug/ml
CTX meningitis= Cefotaxime R ≥ 1 ug/ml
MER=Meropenem
SXT=Cotrimoxazole
ERY= Erythromycin
CLIN=Clindamycin
DOX= Doxicycline

Conclusions

The prevalence of Serotypes 3 and 8 remained consistent across both periods and all age groups. Notably, there was a significant decrease in serotype 9V proportion in the 18-64 age group, while serotype 11D experienced an increase in the ≥65 age group. The theoretical coverage for PCV20, PCV24, and PPSV23 were similar. Conversely, PCV21 exhibited higher values. The National Surveillance of IPD in adults plays a critical role in assessing shift in epidemiology, vaccine impact and guiding empirical treatment strategies.