

## SUPPLEMENTARY MATERIAL

Pérez-García C, Sempere J, de Miguel S et al. Surveillance of Invasive Pneumococcal Disease in Spain Exploring the Impact of the COVID-19 Pandemic (2019-2023)

**Supplementary Figure 1.** Distribution of serotypes in the different anti-pneumococcal vaccines for paediatric (A) and adult (B) populations. PCV13 (13-valent pneumococcal conjugate vaccine), PCV15 (15-valent pneumococcal conjugate vaccine), PCV20 (20-valent pneumococcal conjugate vaccine), PCV21 (21-valent pneumococcal conjugate vaccine), PCV24 (24-valent pneumococcal conjugate vaccine), PPV23 (23-valent pneumococcal polysaccharide vaccine).

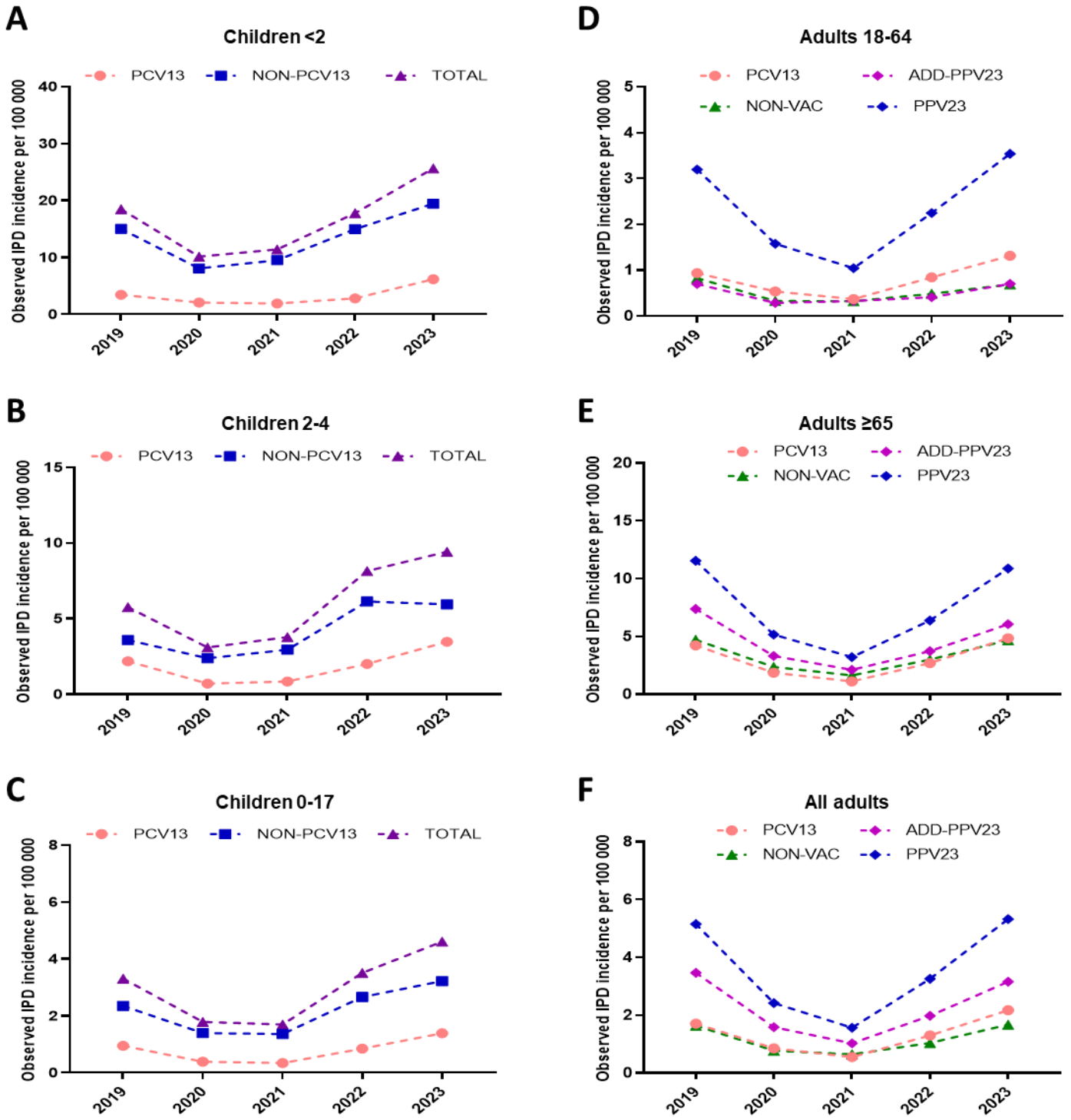
**Supplementary Figure 2.** Observed annual incidence of IPD in Spain in paediatric and adult populations including pre-COVID-19 and COVID-19 periods (2019-23). Data show IPD cases and incidence rates for <2 years (A) 2-4 years (B) 0-17 years (C) 18-64 years (D)  $\geq 65$  years (E) and all adults  $\geq 18$  years (F). PCV13 represents the IPD cases by serotypes included in the 13-valent conjugate vaccine (pink line with dots). NON-PCV13 represents the IPD cases by serotypes that are not included in the 13-valent conjugate vaccine (blue dotted line with squares). Total represents all the IPD cases in the correspondent age group (purple line with triangles). Add-PPV23 (2, 8, 9N, 10A, 11A, 12F, 15B, 17F, 20, 22F, and 33F) represent the IPD cases by additional serotypes included in PPV23 but not in PCV13 (purple dotted line with diamonds). NON-VAC represents all the IPD cases by serotypes that are not included in PCV13 and PPV23 (green line with triangles).

**Supplementary Table 1.** The most prevalent serotypes to cause invasive pneumococcal disease in the paediatric (<5 years old) and adult population ( $\geq 65$  years old) by age group during 2020-21 in Spain.

This supplementary material has been provided by the authors to give readers additional information about their work.



Supplementary Figure 2



Supplementary Table 1

2020		2021		2022		2023	
<b>&lt;5 years old</b>							
Serotype	Case count (%)	Serotype	Case count (%)	Serotype	Case count (%)	Serotype	Case count (%)
24F	18(16.07)	24F	19(15.45)	24F	31(14.55)	3	47(17.22)
19A	11(9.82)	10A	12(9.76)	3	28(13.15)	24F	44(16.12)
15B	10(8.93)	23B	10(8.13)	10A	21(9.86)	22F	20(7.33)
12F	9(8.04)	15B	9(7.32)	15A	18(8.45)	8	17(6.23)
8	7(6.25)	11A	8(6.50)	23B	15(7.04)	15B	15(5.49)
33F	6(5.36)	8	8(6.50)	22F	11(5.16)	19A	14(5.13)
3	6(5.36)	3	7(5.69)	8	9(4.23)	10A	13(4.76)
23B	5(4.46)	19F	7(5.69)	33F	8(3.76)	15A	11(4.03)
15A	5(4.46)	19A	6(4.88)	15C	8(3.76)	38	11(4.03)
10A	5(4.46)	15C	4(3.25)	15B	8(3.76)	33F	10(3.66)
Other	30(26.79)	Other	33(26.83)	Other	56(26.29)	Other	71(26.01)
<b>Total</b>	<b>112</b>	<b>Total</b>	<b>123</b>	<b>Total</b>	<b>213</b>	<b>Total</b>	<b>273</b>
<b>≥65 years old</b>							
8	122(17.58)	8	85(18.56)	3	162(17.90)	3	325(21.31)
3	84(12.10)	3	63(13.76)	8	152(16.80)	8	230(15.08)
9N	34(4.90)	6C	35(7.64)	22F	50(5.52)	22F	103(6.75)
11A	31(4.47)	22F	23(5.02)	19A	37(4.09)	6C	60(3.93)
22F	30(4.32)	23B	22(4.80)	11A	35(3.87)	19A	57(3.74)
24F	29(4.18)	10A	18(3.93)	15A	34(3.76)	9N	54(3.54)
19A	27(3.89)	11A	16(3.49)	23A	34(3.76)	11A	52(3.41)
15A	27(3.89)	15A	16(3.49)	9N	32(3.54)	15A	51(3.34)
33F	26(3.75)	19A	16(3.49)	16F	32(3.54)	31	49(3.21)
16F	23(3.31)	23A	16(3.49)	6C	30(3.31)	23A	44(2.89)
Other	261(37.61)	Other	148(32.31)	Other	307(33.92)	Other	500(32.79)
<b>Total</b>	<b>694</b>	<b>Total</b>	<b>458</b>	<b>Total</b>	<b>905</b>	<b>Total</b>	<b>1525</b>