Table S2 Summary of methodologies utilised in the included studies (n=28)

Study	All VARI lab-confirmed	Exposure			Outcome				Data		Analysis at POP level			Seasonality Adjustment
		IFV	RSV	Others	PD	IPD	PP	Others	IDNV	POP	CORR	REGR	Others	
Allard et al. 2012[1]	Yes, multiple methods	✓				✓				✓		✓		✓
Ampofo et al. 2008[2]	Yes, IF and culture	✓	✓	✓		✓				✓	✓			
Burgos et al. 2015[3]	Yes, IF and PCR	✓				✓				✓	✓	✓		✓
Ciruela et al. 2016[4]	Yes, multiple methods	✓	✓	✓		✓				✓	✓	✓		✓
Dangor et al. 2014[5]	Yes, IF and culture	✓				✓				✓			✓	
Domenech de Cellès et al. 2017[6]	No	✓				✓				✓		✓	✓	✓
Edwards et al. 2011[7]	Yes, method not known	✓				✓			✓					
Grabowska et al. 2006[8]	Yes, multiple methods	✓				✓				✓		✓		✓
Hendriks et al. 2017[9]	No	✓				✓				✓			✓	✓
Jansen et al. 2008[10]	Yes, multiple methods	✓	✓			✓		✓		✓	✓			
Kim et al. 1996[11]	Yes, culture	✓	✓	✓		✓				✓	✓			
Kuster et al. 2011[12]	Yes, culture and DAT	✓				✓				✓		✓	✓	✓
Murdoch et al. 2009[13]	Yes, IF and culture	✓	✓	✓		✓				✓	✓	✓		✓
Nicoli et al. 2013[14]	Yes, multiple methods	✓	✓			✓				✓	✓	✓		✓
O'Brien et al. 2000[15]	Yes, serology	✓					✓		✓					✓
Opatowski et al. 2013[16]	No			✓				✓		✓		✓	✓	✓
Peltola et al. 2011[17]	Yes, multiple methods	✓	✓	✓		✓				✓	✓			
Shrestha et al. 2013[18]	No	✓					✓			✓			✓	
Stensballe et al. 2008[19]	No		✓	✓		✓			✓	✓	✓			
Talbot et al. 2005[20]	Yes, culture and RAT	✓	✓			✓				✓	✓			
Toschke et al. 2008[21]	Yes, PCR	✓				✓				✓			✓	
Walter et al. 2010[22]	Yes, method not known	✓				✓		✓		✓		✓		✓
Watson et al. 2006[23]	Yes, DAT	✓	✓	✓		✓				✓	✓			
Weinberger et al. 2014[24]	No	✓	✓			✓		✓		✓		✓		✓
Weinberger et al. 2013[25]	No	✓						✓		✓		✓		✓
Weinberger et al. 2014[26]	No	✓				✓	✓			✓		✓		✓
Weinberger et al. 2015[27]	No	✓	✓		✓		✓	✓		✓		✓		✓
Zhou et al. 2012[28]	Yes, method not known	✓	✓							✓		✓		✓

CORR, correlation; DAT, direct antigen test; IF, immunofluorescence; IFV, influenza virus; INDV, individual; IPD, invasive pneumococcal disease; PCR, polymerase chain reaction; PD, pneumococcal disease; POP, population; PP, pneumococcal pneumonia; REGR, regression; RAT, rapid antigen test; RSV, respiratory syncytial virus; VARI, viral acute respiratory infection.

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