

Table 1. Annual incidence of all-cause pneumonia and pneumococcal pneumonia (per 100,000-persons) between 2004-2017

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
All-cause pneumonia														
Overall*	633	754	658	677	699	661	812	726	769	712	692	660	742	679
0-19 y	232	388	424	272	270	257	548	334	443	527	436	364	626	478
20-64 y	77.3	96.2	94.2	88.9	89.9	98.1	142	127	134	136	134	133	167	149
≥ 65 y	2664	3166	2732	3059	3282	3148	3661	3501	3671	3276	3261	3144	3252	3059
Pneumococcal pneumonia														
Overall*	17.4	18.5	16.5	16.3	15.9	13.7	13.1	15.4	14.8	14.1	13.4	13.0	12.6	12.2
0-19 y	11.4	11.8	12.2	10.2	9.87	8.34	9.67	10.6	12.4	13.9	13.9	14.6	15.5	13.7
20-64 y	4.16	4.44	3.87	3.97	4.03	3.70	3.89	5.26	4.25	5.04	4.98	5.47	5.48	5.12
≥ 65 y	64.8	71.5	63.0	65.7	67.2	58.9	53.2	61.2	60.7	52.6	47.8	42.8	39.5	39.9

Note: * age-standardised incidence using HK census population in 2017 as reference

Table 2. Interrupted time series analysis for the effect of childhood PCV immunisation among the overall population

Effect	IRR*	95% CI	P-value
All-cause pneumonia			
Trend in pre-PCV period	1·0007	0·9977-1·0036	0·6519
Level change	1·0117	0·8496-1·2047	0·8959
Slope change (gradual effect)	0·9965	0·9932-0·9998	0·0378
Pneumococcal pneumonia			
Trend in pre-PCV period	0·9973	0·9950-0·9996	0·0229
Level change	1·0122	0·8613-1·1895	0·8832
Slope change (gradual effect)	0·9977	0·9946-1·0007	0·1341
Fracture of lower or upper limb (negative control)			
Trend in pre-PCV period	0·9978	0·9970-0·9985	< 0·0001
Level change	1·1831	1·1191-1·2507	< 0·0001
Slope change (gradual effect)	1·0036	1·0029-1·0044	< 0·0001

Abbreviations: CI: confidence interval; IRR: incidence rate ratio

Note: * Incidence rate ratio for change in PCV introduction incidence per month post intervention.

Table 3. Slope change effect of childhood PCV immunisation, by age group

Age groups	IRR*	95% CI	P-value
All-cause pneumonia			
0-19 y	1.0016	0.9958-1.0074	0.5925
20-64 y	0.9995	0.9964-1.0026	0.7677
≥ 65 y	0.9928	0.9904-0.9953	< 0.0001
Pneumococcal pneumonia			
0-19 y	1.0053	0.9986-1.0120	0.1233
20-64 y	1.0011	0.9969-1.0053	0.6147
≥ 65 y	0.9911	0.9875-0.9948	< 0.0001
Fracture of lower or upper limb (negative control)			
0-19 y	1.0047	1.0028-1.0066	< 0.0001
20-64 y	1.0042	1.0036-1.0048	< 0.0001
≥ 65 y	1.0003	0.9988-1.0017	0.7040

Abbreviations: CI: confidence interval; IRR: incidence rate ratio

Note: * Incidence rate ratio for change in PCV introduction incidence per month post intervention.