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## Influenza vaccine effectiveness (VE) in adults and children in primary care in the United Kingdom (UK): provisional end-of-season results 2016-17

The United Kingdom is in the fourth season of introducing a universal childhood influenza vaccine programme. The 2016/17 season saw early influenza A(H3N2) circulation with care home outbreaks and increased excess mortality particularly in the elderly. As in previous seasons, influenza vaccine effectiveness (VE) was measured using a test-negative case control design through five primary care influenza sentinel swabbing surveillance schemes in England (two schemes), Scotland, Wales and Northern Ireland by Public Health England, RCGP, Health Protection Scotland, Public Health Wales and the Public Health Agency of Northern Ireland.

The provisional end-of-season vaccine effectiveness (VE) estimates showed an adjusted all-age VE of 39.8% (table) against influenza-laboratory-confirmed primary-care consultations for influenza. Effectiveness was 40.6% in 18-64 year olds, with no significant effectiveness in  $\geq 65$  year olds. VE was 57% for A(H3N2) for 2-17 year olds receiving quadrivalent live attenuated influenza vaccine and 78.6% for influenza B. The findings support the on-going roll-out of the paediatric vaccine programme and highlight the importance of effective interventions to protect the elderly.

**Table: Adjusted influenza vaccine effectiveness (VE) against medically-attended laboratory confirmed influenza by age group and influenza type in 2016/17, UK.**

Age-group	A(H3N2) adjusted* VE (95% CI)	Flu B adjusted VE (95% CI)	Flu A and B adjusted VE (95% CI)
2-17 years (LAIV only)	57.0 (7.7, 80.0)	78.6 (-86.0, 97.5)	65.8 (30.3, 83.2)
18-64 years	36.6 (10.4, 55.1)	52.1 (-20.0, 80.9)	40.6 (19.0, 56.3)
$\geq 65$ years	-68.4 (-248.9, 18.7)	17.2 (-249.7, 80.4)	-6.3 (-94.5, 42.0)
All age	31.6 (10.3, 47.8)	54.5 (10.8, 76.8)	39.8 (23.1, 52.8)

CI: confidence interval; VE: vaccine effectiveness.

\*Adjusted for age-group, sex, month, pilot area and surveillance scheme.