

# 2015-2016 Influenza Season in an Irish Regional Paediatric Unit: Importance of Influenza Vaccination Highlighted

## Dear Editor

Owing to a notable national increase in influenza activity during the '15 - '16 season, a retrospective review of paediatric influenza infection was conducted at University Hospital Galway (UHG), where all positive influenza swabs from children  $\leq 14$  years of age were identified via the UHG Microbiology Database for the same four-month period of the '15 - '16 and '14 - '15 'influenza seasons'. The '15 - '16 season start date was identified as the day the first positive 'flu swab was recorded; December 4<sup>th</sup> 2015; the last April 11<sup>th</sup> 2016. Comparing the '14 - '15 and '15 - '16 influenza seasons, a sizable increase in the number and severity of influenza cases was noted. A 350% increase from 28 to 98 confirmed cases with 13 (46%) of 28 cases admitted during '14 - '15 compared with 71 (72%) of 98 cases during the '15 - '16 season; 68% of children admitted during the '15 - '16 season were  $\leq 5$  years old. Unlike the '14 - '15 season (75% A), there was not a predominance of the A strain of influenza, 50/50 divide A and B strains. Severe complications developed in 5/71 (7%) hospitalised cases, including acute necrotizing encephalitis, invasive group A streptococcal infection, pleural effusion with pulmonary abscess formation and overwhelming sepsis.

These cases, combined with the death of one child (underlying global developmental delay), are evidence for the potential for severe influenza disease among the paediatric population. During the '15 - '16 season, 10.4% of the paediatric medical caseload was accounted for by influenza, 1.4% during the same period in '14 - '15 ( $P, < 0.0001$ , Fischer's exact test). Clinically, among those admitted, the most common presenting complaints were fever (93%) and respiratory symptoms (88.7%) followed by gastrointestinal symptoms, headache and myositis; 40.8, 18.3 and 11.2% of patients respectively. The average length of stay was 2 days (range: 1 to 8 days); oseltamivir administered to 15 (21%) patients post admission, antibiotics to 27 (38%). Co-morbidity was present in 25 (35.2%) admitted cases; most commonly respiratory, neuromuscular, and cardiac disease. None of the children, including those deemed 'at risk' as per National Immunisation Advisory Committee recommendations<sup>1</sup>, admitted during the '15 - '16 season, had received the annual influenza vaccine. The UK recently introduced universal live attenuated annual influenza vaccination for all children aged two years and older. End of '15 - '16 season data provided reassurance for the UK to continue this programme; among 2-17 year-olds, adjusted vaccine efficacy was reportedly 57.6% against any influenza, 81.4% against influenza B and 41.5% against influenza A(H1N1)<sup>2</sup>. Similar data are reported from Finland, the only other EU country where universal paediatric annual influenza vaccination has been introduced<sup>3</sup>. A recent UK-based study showed a significant increase in influenza admissions and fatality rate among children aged 5-15 who

were considered 'at-risk' due to co-morbidities, and concluded that more was needed to be done to protect 'at-risk' paediatric and adult groups from influenza-related morbidity and mortality<sup>4</sup>. This study echoes that recommendation highlighting the need to consider routine seasonal childhood influenza vaccination in Ireland.

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