

Current guidelines not clear on which children most at risk of severe flu complications

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Children born prematurely are at an increased risk of flu-related complications, despite not being identified as an "at risk" group in UK, USA, or WHO guidelines, and should be a priority group for the seasonal flu vaccination, new research published in *The Lancet Respiratory Medicine* suggests.

"Until now, guidelines highlighting groups at greater risk of developing complications from [influenza](#), such as pneumonia, have been based on consensus opinion rather than on systematic assessment of the evidence", explains Dr Kay Wang from the University of Oxford in the UK.

Dr Wang and colleagues did a [systematic review](#) and meta-analysis of published and unpublished data to identify which groups of children seen in primary or [ambulatory care](#) with influenza or influenza-like illness are at [increased risk](#) of complications (measured as being admitted to hospital).

The review analysed data from a total of 27 studies involving 14 086 children, including 3086 children with underlying conditions. Premature birth was identified as a new strong risk factor with approximately twice the risk of hospitalisation, based on the results of seven studies including a total of 3142 children. Dr Wang explains, "Considering that around 10% (12.9 million) of the world's babies are born prematurely (before 37 weeks gestation)—with preterm delivery rates of around 6% in

Europe, 11% in North America, and 12% in Africa—it's a significant public health issue and has major implications for policy makers."

Consistent with existing guidelines from the US Advisory Committee on Immunization Practices, WHO, and the UK Department of Health, the findings confirm that children with neurological disorders, immunosuppression, and diabetes are at greater risk of developing influenza-related complications. Children with sickle cell disease and those aged younger than 2 years were also found to be at greater risk but are not currently deemed "at risk" in UK guidelines.

In contrast to all three sets of current guidelines, obese children and those with respiratory disorders (eg, asthma) were not found to be at higher risk of influenza-related complications. However, these findings are based on all children with these conditions, irrespective of their clinical severity. The authors were unable to assess the risk of hospital admission specifically among children in whom these conditions were severe.

Importantly, the analysis also found that having multiple medical conditions increased the risk of children with influenza being hospitalised. The percentage of children admitted to hospital increased from 48% in children with one condition to 74% in children with more than one condition.

According to Dr Wang, "Policy makers need to be aware of which groups of children should be prioritised when delivering interventions (eg, [flu vaccination](#) and antiviral drugs) to prevent influenza and influenza-related [complications](#), particularly during influenza epidemics and pandemics."

Writing in a linked Comment, Harish Nair from the University of Edinburgh in the UK, and Marc-Alain Widdowson from the Centers for

Disease Control and Protection in the USA say, "Several options exist to better prevent severe outcomes in young children. Examples include the introduction, or increasing the uptake of, influenza and PCV vaccination globally, immunisation of mothers against influenza to protect very young infants, and exploration of other vaccine types such as adjuvanted vaccines that may be more immunogenic and crossprotective against non-matched strains. Implementation of these options should not wait for the next influenza pandemic, but be explored now to prevent the disproportionate burden of seasonal influenza on susceptible [children](#) every year."

More information: *The Lancet Respiratory Medicine* ,
[www.thelancet.com/journals/lan ... \(14\)70252-8/abstract](http://www.thelancet.com/journals/lan... (14)70252-8/abstract)

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