Objective Identifying clinical factors associated with respiratory tract diseases during human influenza circulation seasons in children aged less than two years old and adults aged over 65 years in two hospitals in the cities of Manizales and Bogota, Colombia. Methods A retrospective case study in patients hospitalized with acute respiratory illness was carried out during influenza circulation seasons from 2000 to 2006 in Bogota and Manizales. Complication frequency was studied, including death, and its relationship with baseline diseases. Results 535 children under two years of age and 288 adults over 65 years old were studied. 38.9 % of the children and 27 % of the adults had at least one complication. The presence of underlying disease in children was associated with complications such as hospital death (OR=16.5; 4.7-57.7 95%CI), being admitted to an intensive care unit (OR=6.3; 3.5-11.3 95%CI), respiratory distress needing FIO2> 40 % (OR=2.4; 1.6-3.7 95 %CI), mechanical ventilation (OR=2.4; 1.6-3.7 95 %CI) and multilobar pneumonia (OR=2.1; 1.3-3.4 95 %CI). This association remained after adjusting for confounding factors such as age and socioeconomic status, whilst such relationship was not observed in older adults. Conclusion Children with underlying chronic diseases were more susceptible to clinical complications during influenza seasons. Those under 6 months of age were particularly prone to dying or being admitted to an ICU. These results suggested that vaccination policies need to be adjusted.

Keywords
Respiratory tract diseases, influenza A virus, complications, risk factors, respiratory insufficiency (source: MeSH, NLM).