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**Title:** Haemophilus influenza related respiratory infections and hospital re-admissions

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**Body:** Introduction: Haemophilus Influenza (HI) is a virulent organism that commonly colonise patients with chronic lung diseases and cause respiratory illness in the form of pneumonia, exacerbation of chronic lung diseases and acute bronchitis. Inadequately treated HI infection can lead to recurrent hospital admission. Hypothesis: HI sensitive antibiotics administered for >7 days result in fewer hospital readmissions within 30 days. Methods: HI isolated from the sputum in hospitalised adult patients were identified over a 2 year period (Jan 2010 to Dec 2011). Association of readmissions with duration of treatment and sensitive antibiotics were studied. Results: Total No of patients-150; No of admissions-277; HI related Readmissions-128; Respiratory co-morbidities - 83% (COPD -76%, Bronchiectasis - 5%, Asthma - 7%, Combined -8%). 52/128 readmissions were admitted within 30 days from hospital discharge. Patients treated and discharged on HI resistant antibiotics had resulted in more hospital readmissions 23/35(66%) compared to treated and discharged on HI sensitive antibiotics 105/242(43%).P=0.017, Fisher's exact test. Duration of antibiotics administered for < 7days had more readmissions within 30days 25/46(54%) compared to those treated with antibiotics for > 7days 27/82(33%). P=0.024, Fisher's exact test. Conclusions: This study confirms the importance of treating HI with sensitive antibiotics. It would be urged to check sputum sensitivity on each admission to guide the management of HI with sensitive antibiotics especially in patients with recurrent admissions. Antibiotics administered more than 7 days reduced readmissions in this study and we recommend 7 days should be the minimum duration of treatment for HI.