

Proportion of laboratory-confirmed seasonal influenza in people with medically-attended, acute respiratory illness in Europe: A meta-analysis.

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Abstract

Background: Across the WHO European Region, there are few estimates of the proportion of people seeking medical care for influenza-like illness or acute respiratory infections and who have confirmed seasonal influenza infection when tested for respiratory viruses.

Methods: We conducted meta-analyses of data extracted from a) literature review of studies published between 2004 and 2017; b) sentinel data from the European surveillance system (TESSy), pooling within-season estimates by influenza type/subtype, setting (outpatient/inpatient) and age-group, to estimate the proportion of people tested who have laboratory-confirmed medically-attended seasonal influenza in Europe.

Results: In the literature review, the pooled proportion for all influenza was 33% (95% CI, 30%-36%), and higher among outpatients (36% [33-40%]) than inpatients (24% [20-29%]). Pooled estimates for all influenza by age group were: 0-17 years, 26% (22-31); 18-64 years, 41% (32-50); ≥65 years, 33% (27-40%). From TESSy data, 33% (31-24%) of outpatients and 24% (21-27%) of inpatients were positive. The highest proportion of influenza A overall was in people aged 18-64 years (22% [16-29%]). By subtype, influenza A(H1N1)pdm09 was highest in 18-64 year-olds (16% [11-21%]) whereas influenza A(H3N2) was highest in those ≥65 years (10% [2-22%]). For influenza B, the highest proportion of infections was those aged 18-64 years (15% [9-24%]). Estimated proportions of confirmed influenza varied across seasons and across countries.

Conclusions: Both the literature review and TESSy analyses showed a higher proportion of laboratory-confirmed influenza in non-hospitalised patients, with further variation by influenza type, age-group, country and season.

Key words: Influenza, Human; Influenza A Virus; Influenza B Virus; Acute Respiratory Infection; Influenza-like Illness; Medically-attended

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