Assessment of 2012/13 IVE statistical heterogeneity across study sites within The Global Influenza Hospital Surveillance Network (GIHSN)

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Background, objectives

Multicentre IVE hospital based studies are needed to ensure sufficient sample sizes and generalisability of results. Validity of pooled datasets need to be assessed qualitative and quantitatively. Here we present the findings of statistical heterogeneity in IVE estimates across GIHSN participating sites for the 2012/13 season.

Methods

Individual patient data from Spain (5 hospitals), Russia (4 hospitals) and France (5 hospitals) was used to estimate both pooled and site specific IVE in patients ≥18 by using a hospital based test negative design. Heterogeneity in the estimates was assessed by using the Cochran’s Q test and the I² statistics (Stata v.12).

Records screened: N=9150 (Sp N=5038; STPet N=1986; Mosc N=1677; Fr N=449)

Records excluded: Non-resident N=63; Institutionalized N=357; No consent obtained N=632; Less than 18 years N=1923; Positive lab results for influenza virus during the season N=3; Contraindication against vaccination N=11; Missing data: N=215

Conclusions

Risk group specific -IVE against influenza A hospitalization needs to be presented, and random effects models used in the pooled analyses. Larger samples sizes and an informed pooling, by a thorough assessment and exploration of heterogeneity, should allow for obtaining precise risk group-specific IVE estimates.

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