I-MOVE, a European network for measuring Influenza Vaccine Effectiveness, 2007-12

On behalf of I-MOVE partners

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Influenza virus are constantly mutating

Every year:
- New vaccine composition
- Risk of mismatch between vaccine and circulating virus
- Need to verify vaccine effectiveness (post-marketing)
Having early and repeated Influenza vaccine effectiveness (IVE) estimates in each flu season or pandemic is essential in order to:

- Identify risk groups with low IVE and
  - guide vaccination campaigns
  - target complementary measures (e.g. antivirals) if low IVE
- Validate IVE of new vaccine types and mode of administration
- Detect waning immunity (elderly)
- Guide the composition of next season vaccine
- Trigger research on more effective and cost effective vaccines
- Maintain public confidence in vaccination programmes
- Have a system ready for pandemic IVE
The I-MOVE network 2007 – 2012

• A solid I-MOVE network
  – 26 institutes
  – 17 MS EU / EEA
  – USA, Canada, Australia

• Studies in 15 sites
  – National case-control studies based on GP sentinel networks
  – Multicentre case-control in 8 countries
  – Cohorts based on computerised registers
  – Rapid administrative VE estimates

Case-control
Cohort with nested case-control
Administrative method
Methods: Multicentre case-control study

- **Sentinel networks (> 1000 GPs)**
  - Interview and swab of ILI patients

- **Reference laboratories**
  - Cases: ILI positive for influenza
  - Controls: ILI negative (test-negative)

- **Vaccination status (exposure)**
  - seasonal or pandemic influenza vaccine
  - vaccinated: vaccine > 14 days before ILI symptom onset
Adjusted vaccine effectiveness (%) for influenza vaccine effectiveness by age and risk groups, type/subtype.

Multicentre case control study, I-MOVE, 2007-12, EU.
Multicentre case control study (7 countries), VE against A(H1N1)pdm09 by delays since vaccination, I-MOVE, 2009-10

Missing data excluded
* Study site as a fixed effect
‡ adjusted for age, sex, month of onset, chronic diseases and hospitalisations, smoking, seasonal vaccine, GP visits
VE of seasonal vaccine against AH3, vaccination target group, by early and late phase and time since vaccination multicentre case control study, EU, 2011-12

1 Adjusted for age (10 year bands), sex, week of onset, chronic diseases and related hospitalisations and number of practitioner visits in the previous year.
Adjusted IVE estimates against medically-attended ILI or ARI/ILI, I-MOVE cohort studies, influenza season 2011-12
Communication

The results are disseminated through:

- Exchanges between I-MOVE members and external experts
  - during the season teleconferences, workshops
  - annual meeting
  - an I-MOVE website with three access levels: unrestricted, restricted to I-MOVE partners, restricted to I-MOVE study sites (https://sites.google.com/site/epiflu/Home)
- Early (February) and final reports to ECDC, EMA, WHO, & member states
- Articles (29 so far) in international peer-reviewed journals
- Presentations in scientific conferences
I-MOVE future

- I-MOVE is cost effective
  - Good quality data
  - Overlaid to routine influenza surveillance
  - Budget directly used to support member state public health institutes
  - Generate spinoffs:
    - surveillance strengthening,
    - template for other vaccine preventable diseases

- Robust methodology
- Early estimates in the season
- Strong commitment from Member States
- Independent from commercial pressure
I-MOVE future

So far no EC / ECDC funding for 2012-13 and subsequent seasons

Without I-MOVE:

- No rapid flu IVE estimates, no scientific evidence on performance of vaccines
  - Difficult to make alternative recommendations
  - No European VE contribution to WHO vaccine strain selection
  - EU will depend on external results to make its own decisions
- No monitoring of any imperfect vaccine
- No system ready for the next pandemic
- Loss of strong network of EU experts
- Decrease in MS and ECDC expertise on flu VE methodology/knowledge
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