Evidence Synthesis Ireland Fellowship Scheme 2020

Review Centre/Group Mentor (RCM)

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Review title

Comparative effectiveness of influenza vaccines in adults 65 years of age and older: a systematic review and network meta-analysis

Review type

Systematic Review and Network Meta-Analysis

Review details

Background: A number of influenza vaccine products are available for adults aged 65 years and above with additional new vaccines in development. While a number of primary studies that focus on the safety and efficacy of individual vaccines exist, there is a lack of comparative vaccine studies. Addressing this gap will enable policy makers and healthcare providers to make evidence-based decisions on which vaccine is most effective for older adults.

Research Question:
The overall objective of this proposed systematic review and network meta-analysis is to compare the effectiveness of the various available influenza vaccines in adults aged 65 years and older. The specific research question is:

1. Which influenza vaccine available for adults 65 years of age and older is the most effective?
    a. Does the efficacy vary by risk groups (e.g., populations with comorbid conditions, sex, previous vaccination, age >80 years)?
    b. Does the efficacy vary by vaccine characteristics (e.g., high dose or low dose, trivalent or quadrivalent, adjuvanted or. unadjuvanted)?

Population: Adults 65 years of age and older (studies with a median age of participants of 60 years will be included). Sub-group analyses will be conducted amongst healthy participants compared to those with chronic diseases (defined as conditions that last for one or more years, require ongoing medical attention and/or limit activities of daily living), as well as by sex, previous vaccination with any type of influenza vaccine, and age >80 years.

Intervention: Any Influenza vaccines for adults 65 years of age and older (e.g. trivalent standard dose influenza vaccine, quadrivalent standard dose influenza vaccine, adjuvanted trivalent influenza vaccine, trivalent high dose influenza vaccine). If possible, the analyses will also be conducted by vaccine dosage and whether an adjuvant was used (e.g., trivalent vs quadrivalent or adjuvanted vs. unadjuvanted).

Comparator: One of the other available influenza vaccines, no influenza vaccine, placebo or any other vaccine.

Outcome:
Primary outcome: Vaccine efficacy/effectiveness against infection. Seasonal and pandemic influenza will be included and analysed separately.
Secondary outcomes: Hospitalisation due to infection, mortality from infection

Study Designs: Randomised controlled trials (RCTs), case test-negative studies, NRCTs (e.g., such as quasi-RCTs, non-randomised trials, interrupted time series, controlled before after), and observational studies (e.g., cohort, case control) will be included. Studies must have a control or comparator in order to be eligible for inclusion and as such, cross-sectional, case series, case reports, and qualitative studies will be excluded.

Estimated start and completion dates* *– please note dates are subject to change and flexibility on Fellows part is required*

Start date: December, 2019

Estimated completion date: December, 2020