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Hutterite Influenza Prevention Study

Submission date	Recruitment status	[_] Prospectively registered
21/08/2008	No longer recruiting	[_] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
16/09/2008	Completed	[_] Results
Last Edited	**Condition category**	[_] Individual participant data
25/02/2009	Infections and Infestations	[_] Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
MCT- 88113

Study information

Scientific Title

Does vaccinating healthy Hutterite children against influenza prevent influenza in other Hutterite colony members? A cluster randomised controlled trial

Acronym
HIPS

Study objectives
Healthy children are felt to be an important source for community transmission of influenza. Immunising healthy school-aged children, who mount a robust immune response to the vaccine, has been proposed as one strategy to protect high risk individuals. By immunising children, spread of influenza is prevented and persons at high risk for complications are protected. Although observational data are supportive, a randomised controlled trial is needed to test whether such a strategy provides indirect benefit. Many challenges exist to carefully assessing the indirect benefit of influenza immunisation, including the feasibility of extensive laboratory testing in large clusters of high risk persons in towns and cities, the problem of repeated introduction of influenza in a community, and the uncertain uniformity and nature of interactions between healthy children and individuals at high risk for complications of influenza. Hutterites, along with the Mennonites, were founded as Protestant sects in the 16th century Anabaptist movement of Switzerland. The majority of Hutterites live in Alberta, Saskatchewan, and Manitoba where they practice communal farming on small colonies relatively isolated from towns and cities. Randomisation of these homogeneous, moderately sized colonies where regular influenza transmission is facilitated by a communal lifestyle, but where there is limited re-introduction of the virus because of isolation from the outside community, represents a unique opportunity to test the hypothesis of indirect benefit.

We hypothesise that if greater than or equal to 70% of healthy children in intervention colonies are immunised with inactivated vaccine, laboratory-confirmed influenza in other Hutterite colony members will be reduced. Specific objectives of the proposed cluster randomised trial are to assess whether high immunisation rates among healthy children in Hutterite colonies reduces laboratory-confirmed influenza in other colony members, high risk participants (including the elderly, individuals with chronic medical conditions, pregnant women, and young children), or healthy immunised children, as well as whether the intervention reduces the following among all participants:
1. Influenza-like illness
2. Antimicrobial prescriptions
3. Physician-diagnosed otitis media
4. School or work-related absenteeism
5. Physician visits for respiratory illness
6. Lower respiratory infection
7. Pneumonia
8. Hospitalisations
9. Death

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. McMaster University, Health Sciences Research Ethics Board on the 20th May 2008 (ref: #:07-045)
2. University of Calgary, Office of Medical Bioethics Ethics on the 7th May 2008 (ref: 18970)
3. University of Saskatchewan, Biomedical Research Ethics Board on the 24th June 2008 (ref: 05-

238)
4. University of Manitoba, Research Ethics Boards on the 2nd April 2008 (ref: B2007:097)

Study design
A multi-centre, blinded, cluster randomised controlled trial

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details below to request a patient information sheet

Health condition(s) or problem(s) studied
Influenza

Interventions
Experimental arm:
Healthy children aged 36 months to 15 years in the intervention colonies will be immunised with inactivated influenza vaccine (VAXIGRIP vaccine). A 0.5 ml dose of the vaccine will be administered intramuscularly. Previously unvaccinated children who are less than 9 years of age at the time of immunisation will receive a second 0.5 ml dose of the influenza vaccine four weeks following the first vaccine as per influenza immunisation recommendations.

Control arm:
As a control group, healthy children aged 36 months to 15 years will be immunised with AVAXIM-Pediatric (hepatitis A vaccine) in a blinded manner such that the schedule of immunisation of influenza will be mimicked. That is, children previously unvaccinated for influenza who are less than 9 years of age in the comparison colonies will be immunised with AVAXIM-Pediatric. A 0.5 ml dose of the vaccine will be administered intramuscularly. The children will receive a second 0.5 ml injection of sterile saline 4 weeks following the first vaccine to maintain blinding for the second influenza vaccine dose. To complete the hepatitis immunisation schedule, children will receive a second 0.5 ml dose 12 months following the first vaccine. This will also serve to maintain the blinding for influenza vaccine in the second year. Children greater than or equal to 9 years will receive two doses of hepatitis A vaccine 12 months a part and in the third year will receive saline vaccine. These schedules ensure that children in the control arm of the study will be fully immunised for hepatitis A.

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Intervention Type
Drug

Phase
Not Specified

Drug/device/biological/vaccine name(s)
Inactivated influenza vaccine (VAXIGRIP vaccine)

Primary outcome measure
Laboratory-confirmed influenza infection among Hutterite colony members other than the healthy children immunised as part of the intervention. Laboratory-confirmed influenza will be confirmed on the basis of at least one of the following:
1. Detection of viral ribonucleic acid (RNA) on the basis of reverse transcriptase polymerase chain reaction (PCR)
2. Isolation of influenza virus from nasopharyngeal (NP) specimens or throat specimens
3. Greater than or equal to four-fold rise in serum antibodies to circulating influenza strain antigens

Serology will be taken at baseline and at the end of the flu season. NP swabs will be taken any time a participant reports two or more symptoms during in the surveillance period. Surveillance will start once there is two consecutive weeks of at least one positive flu in that health region.

Secondary outcome measures
1. Influenza-like illness
2. Courses of antimicrobial prescriptions
3. Physician-diagnosed otitis media
4. School or work related absenteeism
5. Physician visits for respiratory illness
6. Lower respiratory infection or pneumonia
7. Hospitalisation for lower respiratory infection or pneumonia
8. All cause hospitalisations
9. Deaths due to lower respiratory infection or pneumonia
10. All-cause deaths

This information will be collected during the surveillance period when a participant reports two or more symptoms. The information will be collected on a respiratory information form by the nurse through interviewing the participants.

Overall study start date
15/09/2008

Completion date
31/08/2011

Eligibility

Key inclusion criteria
There are two sets of participants in this trial:
1. Hutterites other than the healthy children who will be immunised. Although this category as a whole will be used to assess indirect benefit of the vaccine in the main analysis, Hutterites at high risk for influenza complications within this category will be assessed in a separate analysis. These are defined as anyone in one or more of the following groups:
1.1. Individuals aged greater than or equal to 65 years
1.2. Pregnant women
1.3. Children 23 months of age or less
1.4. Anyone with greater than or equal to one of the following conditions severe enough to require regular medical follow-up or hospital care:
1.4.1. Chronic cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis, and asthma)
1.4.2. Diabetes mellitus and other metabolic diseases
1.4.3. Cancer
1.4.4. Immunodeficiency
1.4.5. Immunosuppression (due to underlying disease and/or therapy)
1.4.6. Renal disease
1.4.7. Anaemia
1.4.8. Haemoglobinopathy
1.4.9. Any condition that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk of aspiration
2. Healthy children aged 36 months to 15 years who will be immunised as part of the intervention

Participant type(s)
Patient

Age group
Child

Sex
Both

Target number of participants
1500 health children and 3000 other Hutterite members

Key exclusion criteria
1. Hutterites other than the healthy children who will be immunised; there are no exclusion criteria for this category of participants
2. Healthy children aged 36 months to 15 years who will be immunised as part of the intervention:
2.1. Anaphylactic reaction to a previous dose of influenza vaccine
2.2. Anaphylactic reaction to hepatitis A vaccine
2.3. Anaphylactic reaction to neomycin
2.4. Known immunoglobulin E (IgE)-mediated hypersensitivity to eggs manifested as hives, swelling of the mouth and throat, difficulty in breathing, hypotension, or shock
2.5. Guillain-Barre syndrome within eight weeks of a previous influenza vaccine

Date of first enrolment
15/09/2008

Date of final enrolment
31/08/2011

Locations

Countries of recruitment
Canada

Study participating centre
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Sponsor information

Organisation
McMaster University (Canada)

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Sponsor type
University/education

Website
http://www.mcmaster.ca/

ROR
https://ror.org/02fa3aq29

Funder(s)

Funder type
Research organisation

Funder Name
Canadian Institutes of Health Research (CIHR) (Canada) - http://www.cihr-irsc.gc.ca (ref: MCT-88113)

Results and Publications

Publication and dissemination plan
Not provided at time of registration

Intention to publish date

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not provided at time of registration