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The Canadian antibiotic prescribing feedback initiation: building a national framework to combat AntiMicrobial Resistance in primary care

Submission date
04/11/2025

Recruitment status
No longer recruiting

Registration date
04/11/2025

Overall study status
Ongoing

Last Edited
17/12/2025

Condition category
Infections and Infestations

[X] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol

Background and study aims
Antibiotics are often prescribed for viral respiratory infections, like colds and the flu, even though they are not needed. Overuse can lead to antibiotic resistance, which makes infections harder to treat. This study aims to find out whether giving primary care doctors feedback on unnecessary antibiotic prescribing reduces their overall and unnecessary antibiotic use compared to feedback on total antibiotic prescribing. The results will help improve future antibiotic stewardship programs.

Who can participate?
The study includes actively practicing primary care doctors (family doctors and general practitioners) in Ontario, Canada, who treat patients aged 65 or older.

What does the study involve?
Doctors are randomly assigned to one of two groups. One group receives a mailed letter showing their overall antibiotic prescribing rate compared to peers. The other group receives a letter showing their rate of unnecessary antibiotic prescribing for viral respiratory infections. Both letters provide a peer comparison and educational information. Doctors are automatically enrolled unless they opted out previously. The study uses existing administrative data to measure prescribing patterns for six months after the letters are sent.

What are the possible benefits and risks of participating?
Doctors may gain insight into their prescribing habits and learn ways to safely reduce unnecessary antibiotic use. The intervention poses minimal risk, as it only involves receiving feedback letters. There are no known harms from receiving these letters.

Where is the study run from?
The study is managed by Public Health Ontario, using data from ICES, a research institute in Ontario that collects and links health information for system evaluation.

When is the study starting and how long is it expected to run for?
The study begins in mid-November 2025. Doctors' prescribing patterns are measured for six months, with a follow-up feedback letter sent 12 months later.

Who is funding the study?
The Canadian Institutes of Health Research, Canada.

Who is the main contact?
Kevin L Schwartz (Principal Investigator), Public Health Ontario (OAHPP), kevin.schwartz@oahpp.ca

Contact information

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Scientific, Principal investigator

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Additional identifiers

Protocol serial number
2024-017.02

Study information

Scientific Title
The Canadian ANtibiotic prescribing feedback initiation: Building a national framework to combat AntiMicrobial Resistance in primary care: study protocol for a comparative effectiveness randomized controlled trial

Acronym
CANBuild-AMR

Study objectives
This trial will evaluate whether providing feedback to primary care physicians in Ontario on unnecessary antibiotic prescribing (UAP) rates for viral respiratory conditions leads to a greater reduction in overall and unnecessary antibiotic prescribing compared to providing feedback on overall prescribing rates. Understanding which strategy is more effective will help shape future antimicrobial stewardship efforts and guide best practices for audit and feedback.

Ethics approval required
Ethics approval required

Ethics approval(s)
approved 28/08/2024, Public Health Ontario Ethics Review Board (661 University Avenue, Suite 1701, Toronto, M5G 1M1, Canada; +1 416-235-6556; ethics@oahpp.ca), ref: 2024-017.01

Study design
Multicentre parallel-group randomized controlled trial

Primary study design
Interventional

Study type(s)
Other

Health condition(s) or problem(s) studied
Antimicrobial stewardship in primary care through the prevention of unnecessary antibiotic prescribing for viral respiratory infections among older adult patients (aged ≥65 years) in Ontario, Canada

Interventions
This study will be conducted as a two-arm, parallel-group randomized controlled trial among actively practicing primary care physicians in Ontario, Canada. Eligible physicians will be randomized 1:1 to receive a single mailed personalized feedback letter on either overall antibiotic prescribing rates (APR, control group) or unnecessary antibiotic prescribing for viral respiratory infections (UAP, intervention group). Randomization will be stratified by prior enrollment in MyPractice quality improvement reports and will be implemented centrally by an independent analyst using a computer-generated sequence. Feedback letters will include peer comparison with the 25th percentile as the achievable target, educational content on

appropriate antibiotic use, and links to additional resources. The intervention will be delivered once by mail, and prescribing outcomes will be assessed over six months using linked administrative health data from the Institute for Clinical Evaluative Sciences (ICES). Outcome data collection will occur independently of the participants, and statistical analysts will be blinded to group allocation.

Intervention Type
Behavioural

Primary outcome(s)
Antibiotic prescribing rate (APR) measured using routinely collected administrative health data from ICES at 6 months post-intervention

Key secondary outcome(s))
1. Proportion of unnecessary antibiotic prescriptions (UAP) measured using ICES administrative health data at 6 months post-intervention, percentage of antibiotics prescribed for viral respiratory infections without bacterial codes in patients aged 65 years and older
2. Diagnostic code switching measured using ICES administrative health data at 6 months post-intervention, proportion of respiratory infection codes where antibiotics are not indicated relative to all respiratory infection codes
3. Stratified analyses measured using ICES administrative health data at 6 months post-intervention and stratified by physician gender, career stage, patient volume (Q1- Q4), baseline overall prescribing (Q1-Q4), baseline unnecessary prescribing (Q1-Q4), virtual care (Q1-Q4), primary practice setting (emergency room, primary care), rural location, MyPractice report enrollment, and neighborhood income quintile (Q1-Q5)

Completion date
31/05/2026

Eligibility

Key inclusion criteria
Primary care physician (family medicine or general practitioner) in Ontario, Canada

Participant type(s)
Health professional

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
0

Key exclusion criteria

1. Inactive physician, defined as working less than 44 days per year
2. Prescribed fewer than 10 antibiotic prescriptions to patients aged 65 years and older in the most recent year or 2 out of the last 3 years
3. Fewer than 100 outpatient visits with patients aged 65 years or older in the most recent year or 2 out of the last 3 years
4. Fewer than 6 outpatient visits for a viral respiratory infection with patients aged 65 years or older in the most recent year or 2 out of the last 3 years
5. Physicians who previously opted out after receiving antibiotic prescribing feedback letters

Date of first enrolment
30/11/2025

Date of final enrolment
30/11/2025

Locations

Countries of recruitment
Canada

Study participating centre
Public Health Ontario
661 University Avenue, Suite 1701
Toronto
Canada
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Study participating centre
ICES (formerly the Institute for Clinical Evaluative Sciences)
V Wing, V1-06, 2075 Bayview Avenue
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Sponsor information

Organisation
Public Health Ontario

ROR
https://ror.org/025z8ah66

Funder(s)

Funder type
Government

Funder Name
Canadian Institutes of Health Research

Alternative Name(s)
Instituts de Recherche en Santé du Canada, Canadian Institutes of Health Research (CIHR), CIHR_IRSC, Canadian Institutes of Health Research | Ottawa ON, CIHR - Welcome to the Canadian Institutes of Health Research, CIHR, IRSC

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
Canada

Results and Publications

Individual participant data (IPD) sharing plan
The dataset from this study is held securely in coded, de-identified form at ICES. Legal data sharing agreements between ICES and data providers (e.g., healthcare organizations and government) prohibit ICES from making the dataset publicly available. However, access may be granted to those who meet pre-specified criteria for confidential access, available at www.ices.on.ca/DAS (email: das@ices.on.ca).

The full dataset creation plan and underlying analytic code are available from the authors upon request, with the understanding that the computer programs may rely upon coding templates or macros that are unique to ICES and may require modification before use or be inaccessible. Access will be provided for non-commercial research purposes only, in compliance with all applicable privacy and legal requirements.

IPD sharing plan summary
Available on request, Stored in non-publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes
Study website	Study website	11/11/2025	11/11/2025	No	Yes