National Collaborating Centre for Infectious Diseases: A National Initiative to Promote Evidence-Informed STBBI Partner Notification Practices and Programs in Canada

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4. Mathematical Modelling

The initial focus for this project activity will be on PN for chlamydia. An agent-based mathematical model, which simulates infectious diseases by considering each individual in a virtual population as a distinct entity, will be used to project chlamydia disease trends over time and to evaluate effectiveness and cost-effectiveness of different modes of PN.

This mathematical model will be made available on an Internet-based interactive platform accessible to local public health practitioners for informing their PN strategy. Potential expansion of the modelling project component to address PN for other STIs is being considered.

3. Experiential Review of PN Practice

The purpose of this experiential review is to provide tacit knowledge to complement the PN Evidence Review series and to provide the Canadian context for STBBI PN. This project activity will involve documentation of programmatic elements, challenges and successes of PN for STBBIs and HIV in local public health jurisdictions in Canada through a semi-structured interview process.

Sample questions:
- What are the additional prevention services provided? (e.g. education, counseling, screening)
- What are the challenges and barriers encountered in your PN practice/program?
- How are these challenges overcome?
- What are some new technologies that have been attempted or in routine use for PN?

The product of this project activity will be a series of case studies.

2. PN Evidence Reviews

An Evidence Review is a succinct synthesis document that summarizes the evidence for and highlights key issues of a public health topic to inform policies, programs and practices.

The objectives of the Evidence Reviews on STBBI PN are:
- To critically assess and consolidate research findings
- To contextualize research findings for the Canadian setting
- To review, and compare and contrast PN efforts and policies implemented in Canada and other countries (e.g. the USA, Australia, the UK and other European countries).

The PN Evidence Review series comprises these topics:
- a) Origins of contact tracing in North America for chlamydia, gonorrhea and syphilis
- b) Partner notification for chlamydia
- c) Partner notification for HIV
- d) Partner notification in special populations (e.g. military personnel, inmates, domestic and international travellers, migrants etc.)
- e) Impact of STBBI partner notification on other outstanding issues (e.g. re-infection rates, change in behaviour, unintended harm)
- f) New technologies for partner notification
- g) Partner notification for hepatitis C
- h) Partner notification in populations involving anonymous partners
- i) Partner notification in immigrants and refugees
- j) Partner notification in remote and isolated populations

1. PN Legislation Review

The PN legislation review serves as the foundation of the NCCID PN project.

The review is organized in 5 levels:
- i. Directory of links to provincial and territorial PN legislations and related guidelines/protocols
- ii. Compilation of provincial and territorial PN regulations and protocols
- iii. Case definitions of STBBIs for which PN is conducted
- iv. Legislation regarding recalcitrant individuals
- v. PN parameters (who reports, to whom, by when, how far back in time are contacts traced etc.)

The final document will also contain an appendix of reporting forms used by individual provinces and territories. Legislation materials were initially gathered from information accessible on the internet. The draft compilation was then sent to each province and territory for review to ensure its accuracy.

Mixed-Methods Approach

Components of this project include:
- 1. Review of provincial and territorial acts, regulations and protocols related to PN for STBBIs
- 2. Evidence Reviews on various STBBI PN topics
- 3. Experiential review of PN practice
- 4. Mathematical modelling for evaluating the effectiveness and cost-effectiveness of different modes of PN.

Background

Partner notification (PN) is one of the central pillars of communicable disease control in public health. It involves the identification and assessment of individuals who are reported to have come into contact with an infected person. In spite of ongoing efforts and resources dedicated to PN for sexually-transmitted and bloodborne infections (STBBIs), the incidence of STBBIs continues to rise in Canada, calling into question the effectiveness of PN in preventing and controlling the spread of STBBIs at the population level.

The National Collaborating Centre for Infectious Diseases (NCCID) has embarked on a project that utilizes a mixed-methods approach to capitalize on both research and experiential evidence to inform Canadian STBBI PN programs on both the policy and practice levels.