

PREP: PRE-EXPOSURE PROPHYLAXIS

COMMUNITY MOBILIZATION KIT

APRIL 2010



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INTRODUCTION

Pre-exposure prophylaxis (PrEP) will allow people at risk of contracting HIV to take antiretroviral drugs (ARVs) to prevent infection. The procedure, while not yet approved, is being tested in clinical trials involving vulnerable communities (men who have sex with men (MSM), injection drugs users (IDU), at-risk heterosexual couples, and youth). The reason behind this initiative is that current HIV medication works relatively safely and efficiently to slow or stop the virus in people living with HIV. ARVs have successfully prevented transmission of HIV through contaminated needles or blood, and from mother to child. PrEP is also considered a viable prevention tool due to its promising results in experiments with laboratory animals (Garcia et al, 2009).

The Canadian AIDS Society and its member organizations have prepared this tool kit to inform community advocates about this new prevention strategy that has the potential as a safe and effective tool in the near future. This kit was developed in consultation with member organizations to address community preparedness for pre-exposure prophylaxis or PrEP.

Contributors

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FACTS

WHAT IS PrEP?

PrEP, pre-exposure prophylaxis, is an experimental strategy consisting of giving HIV antiretroviral drugs to people to prevent HIV infection. While it is currently being tested in laboratories and clinical trials, it has not yet been proven to work. To better suit the demands of people at risk, PrEP is being developed as part of an overall HIV prevention strategy that also includes condoms, vaccines, microbicides and other technologies. Since ARVs are already approved and licensed for treating HIV, widely in use, and relatively well-studied (cdc.org, prepwatch.org), many consider PrEP a promising prevention technology.

WHAT IS iPrEP?

The term iPrEP, intermittent pre-exposure prophylaxis, is used when PrEP drugs are given at intervals before and after exposure to HIV (Garcia et al, 2009). Due to reductions in cost, side effects and adverse reactions, iPrEP could improve many people's ability to adhere to treatment. A new study in the July 31, 2009 issue of *AIDS* also found that, in outpatient clinics in the United States, Australia, and Spain, compared to continuous ART, intermittent intake of antiretrovirals guided by CD4 cell count is associated with lowered decline in bone mineral density and possibly with reduced fractures (Grund et al, 2009).

WHAT IS THE RATIONALE BEHIND PrEP?

Providing medication before exposure has been successfully used to prevent a variety of diseases. In the case of HIV, antiretroviral drugs are currently used to prevent mother-to-child transmission during and after birth, and in post-exposure prophylaxis (PEP) for individuals who may have been exposed to HIV.

The success of ARVs may have prompted individuals at high risk of contracting HIV or their healthcare providers to consider using PrEP. An article in the *New York Times* (Cohen J., 2006) refers to a researcher whose interest in PrEP was influenced by hearing anecdotes about underground use, including a cocktail known in street slang as "the 3Vs": Viread, Viagra and Valium. Viread, which contains tenofovir, is manufactured by Gilead Sciences, but it is reported that the company has no interest in marketing the drug as a prophylaxis.

Although PrEP is already being used despite not being formally recognized as a proven prevention method, many factors associated with PrEP warrant clinical trials, scientific studies and community advocacy campaigns. Availability of PrEP may cause disinhibition and lead to more risky behaviour, while adherence to treatment regimen remains a challenge due to the painful side effects. Antiretroviral drugs may also cause cancer, heart disease, peripheral neuropathy, lipodystrophy and neurocognitive impairment which can lead to episodic

disabilities. In addition, the widespread use of ARVs may lead to mutations and new forms of the virus that may resist treatment with current drugs (cdc.gov).

WHAT DRUGS ARE BEING TESTED AND WHAT ARE THEIR SIDE EFFECTS?

Clinical studies are being conducted on the ARV tenofovir, both on its own and with emtricitabine. The safety and efficacy of both treatments for HIV infection is relatively well established in clinical studies and medical settings. They are reportedly associated with low levels of side effects (nausea and vomiting and loss of appetite for tenofovir, and diarrhea, nausea, fatigue, headache, dizziness, and rash for the combination Tenofovir plus emtricitabine). Added benefits of Tenofovir are that it remains active in the body for a long time and produces slower viral resistance. However, uncommon and more serious effects, such as impaired kidney function and reduction in bone density, have also been reported. These are both reversible when the person stops taking the drug. As well, there are calls to study the long-term effects of antiretroviral drugs (cdc.gov, Clauson KA et al., 2009).

Tenofovir and emtricitabine disrupt the life cycle of HIV once it has succeeded in entering the body. They stop the conversion of HIV genetic material from RNA to DNA and are in the class of nucleotide analog reverse transcriptase inhibitors. More information can be obtained from the manufacturers' websites provided in the resource section of this document. They are referred to there under their trade names, Viread and Truvada, respectively).

WHY ARE TRIALS CONDUCTED?

Although ARVs are widely used by people living with HIV, little is known about the safety of their long-term use among HIV-negative individuals. It is also unknown whether PrEP would result in treatment-resistant strains of HIV. Clinical trials would also determine if PrEP works to prevent or reduce HIV infection and would reveal associated side effects, costs, access, and ease of use.

WHAT TRIALS ARE UNDERWAY AND IN WHAT POPULATIONS (CDC.GOV, CLAUSON KA ET AL., 2009)?

At the time of publishing, three separate safety and efficacy trials for PrEP, based in Thailand, Botswana and the United States, are being sponsored by the Center for Disease Control and Prevention (CDC). Once-daily oral tenofovir is being tested in Thailand for safety and efficacy in reducing HIV transmission among IDUs, while in the United States, its safety and tolerability are being evaluated in MSM. The safety and efficacy of a once-daily tenofovir plus emtricitabine is being tested in Botswana among young heterosexual men and women. The CDC and the University of Washington are also co-managing two trial sites in Uganda to test the safety and efficacy of two drug regimens – tenofovir and tenofovir plus emtricitabine – among heterosexual couples in which one partner is infected and the other is not (serodiscordant).

In parallel, the US National Institutes of Health (NIH) is evaluating the safety and efficacy of PrEP among MSM in Peru, Ecuador, South Africa, Brazil, Thailand, and the U.S. Family Health International (FHI) and the Microbicide Trials Network (MTN) are running additional trials investigating PrEP among women in Africa.

Planned trials in Kenya, Malawi, South Africa and Tanzania will target sexually active and high-risk women.

WHEN WILL THE RESULTS OF THE TRIALS BE AVAILABLE AND WHAT DO WE KNOW FROM PREVIOUS TRIALS?

According to current study protocols, trial results will not be available for one to three years (clinicaltrials.gov). Presently, however, data is partially available from one completed PrEP study on women at risk of HIV infection from heterosexual sex. Initial enrolment included Ghana, Cameroon and Nigeria in West Africa, and sex workers in Cambodia, but only the trial in Ghana was completed. Unfortunately, the data did not allow scientists to assess whether a once-daily dose of tenofovir helped reduce the risk of HIV infection. However, no serious adverse events or side effects were associated with its use. The study was completed in 2006 by FHI with funding from the Bill and Melinda Gates Foundation.

PrEP trials were halted or cancelled in Cameroon, Nigeria, Malawi and Cambodia due to concerns about ethics (Cameroon and Cambodia), trial site capacity (Nigeria), and possible complications among people living with HIV (Malawi). A lessons learned report published by the Global Campaign for Microbicides and USAID attempts to pinpoint issues that may have contributed to the failure of these trials. For the West African trial, lack of external consultation regarding the choice of countries was cited as a shortcoming, while challenges concerning the ethics and motives of the research were also brought forth by AIDS activists. (McGrory E, Irvin A and Heise L, 2009). Approvals for the trials in both Cameroon and Cambodia were suspended as a result of opposition expressed both in campaigns and in reports from a major TV channel in France. The report also revealed the legitimacy of opponents' concerns such as the choice of study groups, access to treatment for trial participants who could become infected, and the lack of safety data among HIV-negative individuals. In the document, trial stakeholders were also criticized for not engaging in dialogue at crucial times.

IS PrEP OR iPrEP CURRENTLY BEING USED BY INDIVIDUALS, DESPITE THE LACK OF EVIDENCE?

A study among attendees of minority gay pride events, published in 2007, reported that 21.4% of the respondents had heard of people taking ARVs without the supervision or prescription of a doctor in order to avoid contracting HIV (Voetsch, A. et al., 2007). Other studies have found such self-prescribed PrEP use among gay men to be rare or nonexistent (cdc.gov). The New York Times, in an article published in January 2006, reported about a San Francisco clinician specialized in AIDS who prescribed it for half a dozen select patients (Cohen J., 2006).

Borrowing or sharing of medication, as well as obtaining medication over the Internet without prescription, are serious concerns. A 2009 report in pharmacy practice advises pharmacists to warn individuals about drug interaction with medication taken for other illnesses, purity of drugs purchased over the Internet and the importance of consulting a medical professional (Clauson KA. et al., 2009).

HOW WILL THE DRUGS BE MADE AVAILABLE TO INDIVIDUALS IF TRIALS SHOW THAT PrEP WORKS?

As part of a comprehensive prevention program, it is important to explore critical issues related to PrEP, such as insurance coverage, funding, risk assessment tools, delivery mechanisms, human rights and side effects, and to develop effective models for reaching the populations at greatest risk for HIV. If proven effective, plans to implement PrEP may have to be developed, along with international normative guidelines for implementing its roll-out.

COMMUNITY MOBILIZATION AROUND PrEP

CALL FOR PrEP IN VULNERABLE COMMUNITIES

The steady rate of HIV infection reported annually in Canada, along with the high percentage of undiagnosed cases, suggests that current HIV prevention methods are limited in reaching vulnerable communities. More than two decades into the epidemic, most prevention messages are still driven by condom advocacy, although this approach is affected by sociological and cultural barriers and has not proven fully effective. According to the *HIV/AIDS Attitudinal Tracking Survey*, published by Ekos in 2006, less than 25% of sexually active Canadians used a condom the last time they had sex. In fact, for those who used condoms, the main concern cited was pregnancy. The fear of contracting HIV or a sexually transmitted disease ranked far behind. Yet, despite this lack of concern, a Statistics Canada publication that was based on analysis of surveys and studies, indicated that single young adult Canadians are at high risk of contracting sexually transmitted infections (STI), including HIV (Rotermann¹ M. and McKay A., 2009). Communities most at risk due to the lack of adequate HIV prevention technologies are youth, serodiscordant couples, MSM and people who use drugs.

The advent of ARVs with relatively limited side effects has led to the call for their use by at-risk individuals to prevent HIV infection. It is important to act before the gains in HIV prevention of the past decades are reversed.

CURRENT PrEP RESEARCH IN CANADA

The CIHR Canadian Trials Network (the CTN) has no current plans for PrEP trials, although Canadian scientists may be independently involved in PrEP trials being undertaken elsewhere. *Leading Together*, the blueprint for Canada's response to HIV/AIDS, recognizes the role of research and expertise, and calls for the participation of Canada in global research efforts to develop technologies and prevention strategies.

To position Canada as a leader in HIV prevention technologies and to benefit from its existing infrastructure and resources, community should call on stakeholders to invest in research and development related to PrEP.

THE ROLE OF CANADIAN COMMUNITY ADVOCATES

Faced with the pressing need for more effective prevention technologies, community advocates should consider all issues relevant to the roll-out of PrEP, including existing knowledge about the ARVs being tested, their side effects, ensuing adherence concerns and the need to research more effective drugs. They should emphasize that PrEP is only experimental at this point in time, but reassure that controlled trials are currently underway in representative vulnerable groups worldwide and that there is ongoing dialogue with community advocates.

In Canada, where no clinical trials are currently being conducted, dialogue should be focused on informing communities about PrEP, its roll-out, insurance coverage, testing requirements and considerations surrounding criminalization. Advocates should also call for more basic research for drug discovery.

Community advocates preparing for more clinical trials in countries where some are already underway must focus on ensuring confidentiality, consent and legal rights of participants during and after enrolment and on monitoring safety throughout the trial process. To improve communication, consent forms and other materials developed for the recruitment of trial participants should be culturally sensitive. All procedures and plans should be reviewed and approved by scientific and ethical review committees or equivalents. It is also recommended that data on safety, enrolment, and efficacy be reviewed regularly by independent bodies to ensure it is safe to continue the trial and to determine the point at which the results are conclusive. Committee meetings should also be called as needed. A key concern for advocates should be to ensure proper follow-up with participants who become infected during clinical trials.

Research is being conducted to monitor HIV vaccine trial participants for primary infection in the SIV/macaque model. The ability to detect and quantify acute HIV-1 infection before seroconversion would help curtail infection during clinical trial and would offer an added incentive for volunteer participation (Whitney, J. et al., 2009).

DEALING WITH INCREASED RISK BEHAVIOR ASSOCIATED WITH PREVENTION TECHNOLOGIES

Community advocates express concerns that some people using effective new prevention technologies will engage in risky behaviours (also called disinhibition behaviour) due to the sense of protection these methods offer. Community advocates should be prepared with adapted education campaigns. PrEP, if proven effective, will only work to reduce, not eliminate, the risk of contracting HIV. HIV infection should be regarded as a probability associated with exposure and risky behaviour. To minimize the chances of infection, individuals should minimize exposure to the virus.

STAKES FOR PHARMACEUTICAL COMPANIES AND RESEARCHERS

If PrEP proves to be safe and effective, increased demand for ARVs will most likely result in increased profits for drug manufacturers and higher demand for the monitoring and researching of side effects. Despite that fact, some pharmaceutical companies, such as the makers of Viread, which contains tenofovir, have expressed no interest in marketing the drug as PrEP (Cohen, J. 2006). Antiretroviral drugs may cause serious side effects, such as cancer, heart disease, peripheral neuropathy, lipodystrophy and neurocognitive impairment, which can lead to

episodic disabilities. Community advocates should engage political and pharmaceutical stakeholders to increase investment in research and funding for prevention programs, and to lower prices to increase accessibility to the most vulnerable.

TEMPLATE LETTER TO THE EDITOR

(Use this letter as the basis for an article in your agency's newsletter or in your community newspaper. Send your letter to coincide with key dates and events, or in response to other related HIV articles. Don't forget to send a copy of the published letter to CAS).

A NEW ALTERNATIVE TO CONDOMS IN HIV PREVENTION?

Ask most people the best way to prevent HIV/AIDS and they'll likely tell you having protected sex, which usually means using a latex condom. However, condom use is unpopular for many reasons, both personal and cultural. A 2006 Ekos report indicated that less than 25% of sexually active Canadians actually used a condom the last time they had sex. Are there alternatives?

With approximately 65,000 people living with HIV/AIDS in Canada at the end of 2008 and between 2,300 to 4,300 new infections each year, [you may also wish to insert local statistics here] it's clear that new prevention methods for HIV still need to be explored and implemented. One potentially viable alternative on the horizon is an experimental procedure called pre-exposure prophylaxis (PrEP).

Two decades into the epidemic, one of the greatest advances made has been in the area of anti-retroviral treatments (ARVs) for people living with HIV/AIDS. While these treatments are well known for prolonging the life of people infected with HIV, many people are unaware of how they may be used to prevent new infections. PrEP involves extending the use of ARVs by prescribing them to people at risk of HIV in order to prevent new infections. Their use has already successfully reduced the number of cases of mother-to-child transmission of HIV, during and after birth, and has prevented transmission of HIV when administered to individuals, through post-exposure prophylaxis (PEP), after exposure to the virus. Providing medication prior to exposure has also been successful in preventing other illnesses, such as malaria, for example. Tests are currently underway in populations at risk to test for safety and efficacy of this new experimental strategy and at least one pilot project, led by the BC Centre for Excellence in HIV/AIDS, Seek and Treat, is already studying its practical application among high risk populations.

One compelling reason to fund further research and to speed up development of PrEP is because in some communities underground use of ARVs to prevent HIV is already happening. Self-treatment could be counter-productive by producing serious side-effects in some individuals, so ensuring PrEP is rolled out quickly and appropriately will ensure it is prescribed by professionals who will be able to ensure the right medication is being used with the proper dosage.

The advent of PrEP would increase the choice of prevention options available to people at risk of HIV/AIDS. Moreover, used in combination with other existing forms of prevention, PrEP has the

potential to further reduce, and in some instances eliminate, HIV transmission. Because of its experimental nature, however, much work is still needed to evaluate safety and effectiveness. In the meantime, ARV research is strongly encouraged to develop new, safer and more effective treatment options to be used in PrEP. Public policy groundwork and awareness efforts must also be implemented to ensure broad access to this new prevention option for people at risk for HIV once it is widely approved.

SUMMARY TABLE OF ADVANTAGES & CONCERNS (BY MADZOUKA KOKOLO, UNIVERSITY OF OTTAWA)

ARGUMENT	ADVANTAGES	CONCERNS
PrEP as a Response to HIV Epidemic	<ul style="list-style-type: none"> • Can empower women, since its use requires no negotiation with sex partners. • Administration of PrEP does not occur at the time of sexual activity, whereas condoms or microbicides would be taken within the context of sexual activities. • Is not contraceptive, so may allow for pro-creation. 	<ul style="list-style-type: none"> • Have we done enough to ensure accessibility and affordability of HIV/AIDS behavioural preventative measures (counselling and condoms), especially in resource-limited, high prevalence regions?
PrEP Research Justification	<ul style="list-style-type: none"> • Rounds of international consultations involving a wide range of stakeholders were conducted in response to the early closure of some PrEP study sites (2004-2005). • These consultations allowed for discussion on the value and acceptability of PrEP research. 	<ul style="list-style-type: none"> • Four PrEP study sites were closed prematurely due to methodological and/or ethical concerns, in Botswana, Cameroon, Malawi and Nigeria (2004-2005). • Is it ethical to persist with PrEP clinical research?
PrEP Efficacy	<ul style="list-style-type: none"> • It is not yet known whether PrEP can actually prevent HIV in humans. • Current scientific evidence is inconclusive and further research needs to be done to assess the efficacy of HIV PrEP in humans. • Five efficacy/effectiveness PrEP clinical trials are currently active. 	<ul style="list-style-type: none"> • Current evidence on HIV PrEP is based on biological plausibility (positive assumption based on PEP, PMTCT and HIV infection treatment), mathematical modeling (positive predictions), small animal studies (mixed results), one clinical case study (negative results), and one small placebo-controlled randomized clinical trial (positive trend with 936 participants).

ARGUMENT	ADVANTAGES	CONCERNS
PrEP Safety – Tested Drugs	<ul style="list-style-type: none"> • Fewer antiretrovirals may be needed for prevention, compared to what is needed for treatment. • 2 drugs currently tested (tenofovir and emtricitabine/tenofovir) have a favourable safety profile in HIV-positive and are known to have mild adverse effects. • Some data show those drugs are metabolized the same way in HIV-negative persons. 	<ul style="list-style-type: none"> • The safety profile of the drugs currently tested in advanced PrEP clinical trials (tenofovir and emtricitabine/tenofovir) is based on data from HIV-positive persons taking more than one antiretroviral. Are those data applicable to HIV-negative individuals?
PrEP Ethical and Methodological Concerns	<ul style="list-style-type: none"> • Study protocols are not yet established by research ethics boards. • Specific guidelines for ethics and methods in HIV biomedical prevention research (including PrEP) are now available. 	<ul style="list-style-type: none"> • HIV PrEP clinical trials are methodologically and ethically very challenging. Considerations: <ul style="list-style-type: none"> ○ Are study participants adequately consented? ○ What if people who test negative for HIV antibodies are actually infected, but are enrolled in PrEP trials as being seronegative? ○ Are participants provided the best standard of prevention? ○ If the standard of prevention is provided to participants, how can investigators demonstrate that PrEP can prevent HIV? ○ Will they access the drug if it is proven to work? ○ Universal access to antiretroviral is not yet guaranteed to all HIV-positive persons eligible for treatment; would it be fair to give such medications to uninfected individuals who have other options for prevention?

ARGUMENT	ADVANTAGES	CONCERNS
PrEP Long Term Safety	<ul style="list-style-type: none"> • Favourable safety data is available from HIV-positive persons, with follow-up durations of up to 4 years. • One randomized clinical trials showed safety of tenofovir in young female seronegative adults, over 12 months of daily use. • On-going PrEP clinical trials are all monitoring safety outcomes and have follow-up durations of up to 5 years. 	<ul style="list-style-type: none"> • If PrEP works, it would need to be taken for an extended period of time. Do we know enough about long term toxicity in seronegative persons?
PrEP & Adherence	<ul style="list-style-type: none"> • Most oral PrEP regimens are to be taken only once a day. • Four small trials (2 on-going, in planning) are to assess intermittent use of PrEP (less frequent than once a day). • All PrEP study protocols mention monitoring of adherence and analysis of the impact of lower adherence on efficacy. 	<ul style="list-style-type: none"> • Unlike seropositive persons, HIV-negative people may be less motivated to follow a continuous preventative chemical regimen, with potentially disturbing side effects, for an extended period of time. Would efficacy be affected by less than optimal adherence?
PrEP & Risk-taking Behaviour	<ul style="list-style-type: none"> • In one randomized trial that tested tenofovir in 936 adult women, risk-taking behaviours decreased, on average (e.g., use of condoms during sex was reportedly higher after initiation of the intervention). • All PrEP study protocols mention provision of behavioural counselling and/or condoms to all participants, whatever their group. Hence, PrEP is tested in combination with the current standard of prevention. 	<ul style="list-style-type: none"> • If people think they are protected from HIV by taking PrEP, some might engage in more high risk behaviours (e.g., reduced use of condoms, having sex with more sex partners). How is this addressed in trials?

ARGUMENT	ADVANTAGES	CONCERNS
PrEP & HIV Resistance	<ul style="list-style-type: none"> • The 2 drugs currently tested in advanced clinical trials (tenofovir and emtricitabine/tenofovir) are considered to have a favourable resistance profile. Most HIV PrEP study protocols mention monitoring for resistance. • At least one mathematical modeling study (by BOTUSA group) suggested that the potential for resistance would not negatively affect the cost-effectiveness of PrEP. • One placebo-controlled randomized trial on 936 females found no evidence of resistance (1 of the 2 seroconverters under tenofovir regimen was tested). 	<ul style="list-style-type: none"> • It is expected that PrEP cannot be 100% efficacious. So, someone on a PrEP regimen could possibly get infected anyway, and antiretrovirals used for PrEP would then not work for HIV treatment. • The use of PrEP could facilitate the spread of resistant HIV strains in already vulnerable populations.
PrEP Implementation	<ul style="list-style-type: none"> • Bridging studies will be needed to further confirm effectiveness in circumstances that are not currently studied in trials (e.g., patients with malaria). • Some study teams have also planned for cohort studies after PrEP implementation. • Some governments started drafting implementation plans for PrEP. 	<ul style="list-style-type: none"> • Research results for PrEP may not produce the same results in real-life circumstances (i.e., participants enrolled in PrEP clinical trials are very healthy adults). However, the target populations are usually highly exposed or susceptible to disease (e.g., malaria, tuberculosis), and they could also have other health problems (e.g., hepatitis) or be pregnant or younger. Would such patients be eligible for PrEP?
PrEP cost-effectiveness	<ul style="list-style-type: none"> • Some experts' opinions and modeling studies suggest that, based on the averted costs of HIV infections prevented, PrEP would be worth its costs. • Gilead Sciences Inc., the company that manufactures the drugs currently tested in PrEP clinical trials, is considering providing its products at cost to communities participating in PrEP trials. 	<ul style="list-style-type: none"> • The cost of pills may be prohibitive in resource-limited communities, especially for long-term use. How could such communities possibly benefit from PrEP research?

RESOURCES

www.cdc.gov

www.prepwatch.org

www.truvada.com

www.viread.com

Voetsch, Andrew C PhD; Heffelfinger, James D MD, MPH; Begley, Elin B MPH; Jafa-Bhushan, Krishna MBBS, MPH; Sullivan, Patrick S DVM, PhD Knowledge and Use of Preexposure and Postexposure Prophylaxis Among Attendees of Minority Gay Pride Events, 2005 Through 2006 JAIDS Journal of Acquired Immune Deficiency Syndromes: 1 November 2007 - Volume 46 - Issue 3 - pp 378-380

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Whitney, James B; Luedemann, Corinne; Bao, Saran; Miura, Ayako; Rao, Srinivas S; Mascola, John R; Letvin, Norman L: Monitoring HIV vaccine trial participants for primary infection: studies in the SIV/maaque model AIDS: 31 July 2009 - Volume 23 - Issue 12 - p 1453-1460

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HIV/AIDS Attitudinal Tracking Survey 2006. EKOS RESEARCH ASSOCIATES NC. March 31, 2006

Michelle Rotermann and Alexander McKay. Condom use at last sexual intercourse among unmarried, not living common-law 20- to 34-year-old Canadian young adults. The Canadian Journal of Human Sexuality, Vol. 18 (3) 2009 75

ADDITIONAL RESOURCES

Canadian AIDS Treatment Information Exchange (CATIE) 2009 (section 5.3.5.6.3. page 43):
www.catie.ca/pdf/Canada/HIV-in-Canada_ES.pdf

Community HIV/AIDS Mobilization Project 2008:
www.global-campaign.org/clientfiles/PrEP.FAQ.final.pdf

Family Health International 2009: www.fhi.org/NR/Shared/enFHI/PrinterFriendly.asp

Global Campaign for Microbicides 2009:
[www.global-campaign.org/clientfiles/FS-PrEP\[E\].pdf](http://www.global-campaign.org/clientfiles/FS-PrEP[E].pdf)

Interagency Coalition on AIDS and Development (ICAD) 2009:
www.icad-cisd.com/content/en/component/content/article/44-prevention/268-pre-exposure-prophylaxis-prep-as-a-potential-hiv-prevention-method

Microbicides Trials Network (MTN) 2009:
www.mtnstopshiv.org/sites/default/files/attachments/Fact%20Sheet-PrEP%207-30-09.pdf

Project Inform 2009: www.projectinform.org/advo/prep/faq.shtml

United States Agency for International Development (USAID) AIDSTAR-One: www.aidstar-one.com/focus_areas/prevention/prevention_resources/biomedical_interventions/pre_exposure_prophylaxis_prep_0