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Have you heard?
**The HIV prevention toolbox has
grown!**

12th National CHNC Conference
June 21, 2017

Camille Arkell
Knowledge Specialist, Biomedical Science of Prevention



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The latest news about HIV and hepatitis C treatment and prevention in clear language



Events for service providers to share approaches and lessons learned



Resources developed in partnership with organizations across Canada



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Overview

There are three **highly effective** strategies to reduce the risk of the sexual transmission of HIV:

1. Internal and external condoms
2. Oral pre-exposure prophylaxis (PrEP)
3. The use of antiretroviral treatment (ART) to maintain an undetectable viral load

When a highly effective strategy is used consistently and correctly, the risk for HIV transmission ranges from **very low** to **negligible**.

Condoms

- Barriers that prevent vulnerable body parts from coming into contact with HIV
- Correct use of condoms is important!
 - Can fail to prevent an exposure to HIV if they break, slip, or leak
- When used consistently and correctly, the risk for HIV transmission is **very low**
 - Estimated 69% to 94% risk reduction
- Correct and consistent use difficult to achieve for many people



Oral pre-exposure prophylaxis (PrEP)

What is oral PrEP?



- Antiretroviral drugs taken by HIV-negative individuals, **before exposure to HIV and continuing afterwards**
- **Regular visits with a clinical provider** to test for HIV and other STIs, monitor side-effects and toxicity, and provide risk-reduction and adherence support

What is oral PrEP?

- **Approved** by Health Canada in February 2016, with national guidelines under development
- Recommended for people at **“high-risk”** of HIV infection
- When used consistently and correctly, it is **rare** for HIV to be transmitted through sex



How well does daily oral PrEP work?

- **Several RCTs** have found that the daily use of oral PrEP works for multiple populations;
 - heterosexual men and women
 - gay men and other men who have sex with men
 - people who use injection drugs
- The overall reduction in HIV risk provided by PrEP in these studies ranged from **0 to 86%**
 - Varying levels of adherence responsible for wide range

How well does daily oral PrEP work?

- Adherence analyses suggest *consistent* use of PrEP can reduce the risk of HIV infection by:
 - **85%-92%** for sexual transmission
 - **Up to 84%** for people who inject drugs
- PrEP is effective for both men and women when used consistently and correctly, however,
 - Drugs levels are lower and accumulate more slowly in vagina vs. rectum
 - May be less “adherence forgiveness” for vaginal exposures



Does intermittent oral PrEP work?

- IPERGAY study evaluated an “on demand” PrEP strategy in MSM
- Preliminary results: **86% reduced risk** of HIV
 - 2 HIV infections in PrEP group, 14 in placebo group
- Open-label extension followed 362 people on intermittent PrEP
 - 1 person became infected
- All three people infected during study were clearly **not adherent to PrEP medications**



PrEP works in the 'real world'

- Evidence from 'open label' studies supports **high effectiveness** and shows **high adherence**
 - PREPARATORY-5 (Demonstration project in Toronto)
Very high adherence, no HIV seroconversions
 - Clinique L'Actuel (Montreal)
High demand for PrEP, high adherence, no HIV seroconversions
- BUT, evidence shows PrEP is **not 100% effective**
 - **Three case reports** of HIV transmission while on PrEP

How safe is PrEP?

- PrEP **may cause side effects** including diarrhea, nausea, headache, fatigue and dizziness (1% to 10% of people)
- Some participants experienced **small decreases** in kidney, liver and bone health
- Drug resistance was **generally rare**
- Does not protect against **other STIs**

Available, but how accessible?

A person can potentially access PrEP if:

1. They can find a healthcare provider who is willing to prescribe PrEP
2. They have a method for covering the cost (\$800-1000/month)

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PRESCRIPTIONS



**“This is one of those new miracle drugs.
If you can afford it, it’s a miracle.”**

Increasing access – How?

Widespread access to PrEP requires...

- Adoption into clinical practice
 - National guidelines forthcoming
 - CME course for clinicians
 - Nurse-led models
- Insurance coverage
 - Advocacy
 - Generic drugs
- Eliminating stigma
 - Awareness campaigns



Summary – oral PrEP

- The **consistent and correct** use of oral PrEP is a highly effective strategy to reduce the risk of HIV transmission
- **Adherence** to daily pill-taking and **regular medical visits** are important to maximize effectiveness and safety
- Daily oral PrEP is currently available by prescription in Canada, but there are several barriers to access

Recommendations for service providers

1. Improve awareness of PrEP as a highly effective HIV prevention strategy, including the factors important for maximizing its effectiveness.

Emphasize that PrEP:

- requires the consistent and correct use of oral Truvada
- should only be used by people who are HIV negative
- should only be accessed through a healthcare provider
- requires that people be tested for hepatitis B, kidney function, HIV and other STIs before taking PrEP
- requires regular visits with a clinical provider every three months

Recommendations for service providers

2. Facilitate and support appropriate uptake and use of PrEP as a prevention strategy.

- Support clients to decide whether PrEP is right for them
- Be aware of – and develop partnerships with – local healthcare providers, clinics, health centres and demonstration/pilot projects that are willing to prescribe PrEP
- Support clients in talking to a healthcare provider and determining whether insurance can cover the cost
- Support consistent and correct use

Use of ART and an undetectable viral load as prevention

“Undetectable viral load”

What does it mean and why does it matter?

- Viral load is the amount of HIV in the blood of a person living with HIV
- Viral load is “undetectable” in blood when the level of virus is so low it can’t be measured
- Successful antiretroviral treatment (ART) lowers viral load by controlling HIV replication

“Treatment as Prevention”

- Taking ART to maintain an undetectable viral load is good for an HIV+ person’s health, and also prevents sexual transmission of HIV



- When this strategy is used consistently and correctly, the risk for sexual HIV transmission is **negligible**

Negligible = so small or unimportant as to be not worth considering; insignificant.

How well does the use of ART as prevention work?

- The **HPTN 052** RCT conclusively demonstrated that ART has prevention benefits
 - Taking ART reduced the risk of HIV transmission among heterosexual serodiscordant couples by 96%
- Final results: **8 HIV transmissions occurred** between partners while the HIV-positive partner was on ART
 - In all 8 cases, the viral load was detectable
- **Zero** HIV transmissions occurred when the viral load was undetectable

How well does the use of ART as prevention work?

- The **PARTNER** study confirmed results for both vaginal and anal sex
 - Assessed risk of transmission when HIV+ partner on ART had an *undetectable viral load* and *no condoms were used*
 - Heterosexual and gay (male) couples had over **58,000** acts of unprotected vaginal and anal sex
 - No protection was used (including condoms, PrEP, or PEP)
- **No HIV transmissions** occurred between partners
 - 11 HIV infections occurred but were not genetically linked to HIV+ partner in the study

Have you heard of U=U?



HIV & AIDS – sharing knowledge, changing lives

“The scientific evidence is clear. Someone whose HIV is undetectable does not pose an infection risk to their sexual partners.”

For information on HIV you can rely on: www.aidsmap.com

#UequalsU

U=U Undetectable
Equals Untransmittable

What is U=U?

- A campaign promoted by a group of people living with HIV, advocates and researchers
- A consensus statement:
*"People living with HIV on ART with an undetectable viral load in their blood have a **negligible risk of sexual transmission of HIV.**"*
- A simple message to:
 1. Increase awareness about prevention benefits of treatment
 2. Reduce stigma



Contextualizing U=U

Important to know:

- Ongoing prevention dependent on maintaining an undetectable viral load over time
- Engagement in regular HIV care and adherence to medication is necessary
- There are rare circumstances where HIV transmission can occur while on ART if viral load is detectable
- Applies to sexual transmission ONLY
- No protection against STIs
- Not everyone who takes ART is able to achieve or maintain an undetectable viral load
- Decision to take ART is a personal choice

What about other modes of transmission?

Through shared injection equipment

- Available research shows the risk of transmitting HIV is also considerably reduced for people who inject drugs who are on treatment and maintain an undetectable viral load
- However, there is not enough evidence to conclude that the risk is negligible

Vertical transmission

- ART taken by HIV+ people throughout pregnancy, and by their newborn infants, has significantly reduced the risk of vertical HIV transmission
- However, evidence suggests the risk is not negligible
- For women who breastfeed, breastmilk may contain HIV even when the viral load is undetectable

Summary – ART as prevention

- ART and an undetectable viral load can **dramatically reduce the risk of HIV** transmission when used consistently and correctly
- **U=U** for sexual transmission only
- Adherence to **daily pill-taking** and **regular medical visits** are important to maximize effectiveness



Recommendations for service providers

1. Improve awareness of ART and an undetectable viral load as a highly effective HIV prevention strategy.

Maximizing effectiveness requires:

- high adherence to medications
- an HIV-positive individual to have had an undetectable blood viral load (defined as less than 40 or 50 copies per ml of blood) for at least six months
- Ongoing engagement in care and regular viral load testing to make sure viral load stays undetectable

Recommendations for service providers

2. Facilitate and support appropriate uptake and use of ART as a prevention strategy.
 - Support client decisions related to ART initiation
 - Link clients to HIV care, if needed
 - Support clients on ART with consistent and correct use
 - Encourage and support clients to communicate openly with their sex partners (viral load and STI test results, outside sex partners, disclosure of HIV status)

How to talk to clients about new HIV prevention options

Consider that:

- People need good, accurate information about HIV and their HIV prevention options
- People have a right to make informed decisions about their own sexual and reproductive health
- We can support people to use a variety of HIV prevention tools and to make decisions that will work best for them
- Sex can be difficult to talk about, and HIV-related stigma is present in health care settings

Thank you!

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