Best practices in HIV Prevention and Treatment

BCCDC Update: Prevention, Diagnosis, to Care

Richard Lester, MD, FRCPC
Medical Head, STI/HIV Services, BCCDC

STOP HIV Knowledge Exchange
January 31st 2013, Vancouver, BC
The Seek, Test and Retain HIV Care Cascade

Optimizing the engagement of care cascade: a critical step to maximize the impact of HIV treatment as prevention.
Hull, Mark; Wu, Zunyou; Montaner, Julio
DOI: 10.1097/COH.0b013e3283590617
Overview: Innovations & Learning Points

• Prevention First!
  – Education, risk reduction, harm reduction (sex, idu), PrEP, NPEP

• Who is infected and where might we find them?
  – E.g. Innovations: Smartsex Resource, Chee Mamuk

• A major step: Getting tested!
  – E.g. Innovations: Low threshold (LGBTQ friendly), Online testing, POC

• What test for who, where?
  – E.g. Innovations: Point of care (POC), 4th Generation and NAATs

• Engagement into care (linkage) and treatment
  – E.g. Innovations: Immediate Staging, mHealth
Prevention First!

• Education
• Risk Reduction
• Harm Reduction
• Cultural appropriateness
• Outreach
• Online resources
Online for patients:
www.smartsexresource.com
Trends in HIV testing and diagnosis pre/post STOP

**Vancouver (VHDSA)**

Tests
- Number of HIV tests done in Vancouver HSDA, 2007 to current month

Diagnosis
- Number of new HIV diagnoses in Vancouver HSDA, 2007 to current month

**Prince George (NIHDSA)**

Tests
- Number of HIV tests done in Northern Interior HSDA, 2007 to current month

Diagnosis
- Number of new HIV diagnoses in Northern Interior HSDA, 2007 to current month

**Other HDSA**

Tests
- Number of HIV tests done in Other HSDA’s, 2007 to current month

Diagnosis
- Number of new HIV diagnoses in Other HSDA, 2007 to current month

Includes PHMRL, Providence, and Point-of-Care tests
Who is infected?

Number of New HIV Diagnoses

- MSM
- IDU
- Heterosexual
- Other
- No Identified Risk/Unknown

BCCDC Surveillance Data
Innovations: Getting tested

- Primary care clinic based testing
- Hospital based testing
- Public health, sexual health, STI clinics
- Outreach testing
- Point of care
- **Online testing**
Create a profile, review pre-test information, complete an assessment, and print a requisition for STI tests.
Innovations: HIV tests

- Seroconversion symptoms*
- 3rd generation EIA
- 4th Generation EIA
- Western Blot
- Individual RNA NAAT
- Point of Care HIV test
- Pooled RNA NAAT

Weeks since infection
Why is acute HIV important?

- High viral load = high probability of transmission
- Earlier diagnosis & potential for behaviour change
- Indicative of high degree sexual networks

(Brenner JID 2007; Fraser CROI 2006; Galvin Nature Rev Micro 2004; Hayes JID 2005)
Pooled NAAT testing, British Columbia (Pre-screened by 3rd gen EIA)

Pool resolution requires approximately 3 days

NAAT Test
Pooled NAAT: Earlier HIV detection

(Males > 18 yrs, Data from 6 high risk clinic sites)

MAJOR IMPACT:

- 34/155 (21.9%) AHI/HIV+ increased from 15/173 (8.7%) after introducing pooled NAATs

- 46% of men at 6 high risk clinics with AHI would have received a negative result before pooled NAATs

- AHI are highest risk for transmission

- Estimated 1-3 new infections averted in year after acute dx
  = 25 to 75 new infections
  = 9.2 to 27.7 million cost savings
CIHR Acute HIV Study Team and Collaborators

National HIV and Retroviral Laboratories
James Brooks
National Lab for HIV Genetics
Paul Sandstrom

Health Initiative for Men
Jody Jollimore, Hans Bosgoed
Wayne Robert

STI/HIV Prevention & Control
Michael Rekart, Mark Gilbert, Malcolm Steinberg, Michael Kwag, Bill Coleman, Gina Ogilvie, Melanie Achen, Glenn Doupe, Daphne Spencer, Cory Genereaux, Daniel Grace, Sarah Chown, Robin Parry

Mathematical Modeling
Babak Pourbohloul, Flavia Moser

Laboratory Services
Mel Krajden, Darrel Cook, Wendy Mei

Epidemiology
David Patrick

STI/HIV Prevention & Control
Josephine McIntosh

Recruitment Sites
12th Avenue, Bute Street, Spectrum Health,
3 Bridges, Dr Richard Taylor, Cook Street, HIM SHC

Community Based Research Centre
Terry Trussler, Rick Marchand, Olivier Ferlatte

Elgin Lim

North Carolina HIV/STD Prevention
Peter Leone

Mathematics Department
Daniel Coombs

AIDS Vancouver Island
Captain Snowden
Innovations: Point of Care (POC) HIV testing
POC: 33,000 distributed, 17,029 done, 62 sites, 7 First Nations

- 173 health professionals trained
HIV testing is a “rate-limiting step”

**Individual Benefit:** Improved clinical outcomes

**Public Health Benefit:** Prevention of transmission

**STOP HIV/AIDS Project Goals**
- Ensure timely access to high-quality and safe HIV/AIDS care and treatment
- Reduce the number of new HIV infections
- Reduce the impact of HIV/AIDS through effective screening and early detection
- Improve the patient experience in every step of the HIV/AIDS journey
- Improve the efficiency and cost-effectiveness of HIV/AIDS service delivery
Successes of Low Threshold testing sites

- Bute Street Clinic
  - LGBTQ friendly

- Diagnosing new HIV infections
- 54/289 (18.7%) in 2011
- 42/248 (16.9%) in 2012

- Approx. 18% of all new HIV diagnosis in BC!

- And most early (AHI approx 20%), therefore reducing ongoing risk of transmission
Challenges of Low Threshold testing sites

- Reporting, linkage
- Anonymous, pseudonymous
- HIV Care is nominal!
Innovations in Linkage to Care: Immediate HIV Staging

• CD4 & VL offered at time of HIV+ diagnosis
• Increase knowledge and decision making (engagement in care)?
• Nominal preferred

• PILOT: August to December, 2012:
  – 20 offered, (mostly MSM)
  – 12 clients (60%) had HIV IS
  – 14 (70%) followed by a nurse at one month post-diagnosis (four more clients are currently pending contact)
  – 15 (75%) were engaged in the care of a physician or HIV specialty clinic.
Innovations in Engagement in Care: WelTel BC1 (mHealth)

A simple text message can impact HIV patients

A simple text message asking HIV patients how they are feeling can encourage individuals to adhere to their antiretroviral treatment. The program had nurses send text messages to patients on a weekly basis. The message was simple, but effective: “How are you?”

Taking ARVs consistently is critical to prevent HIV transmission to new partners and to maintain a near-perfect adherence to the medical regimen.

“Mobile phones are a gift ... we should use to strengthen our health system and improve patient engagement.”

Photo by Dr. Richard Lester.
WelTel BC1: Participant interviews

“I've learned to take my meds every day in the last six months...I wasn't taking them daily, or I wasn't actually taking them at all...And it's a lot to do with being able to talk about it, through the texting...they let me know that it would be you know, the symptoms would go away, or they, just to hang in there and, keep on trying, and take them so that, you know, there's just somebody else there for me... In writing that you see it, and, and it feels a hell of a lot better to know that.”
– Participant #15, Low CD4, previous non-adherent

“It just gave me a sense that someone was there, that there's actually someone there that will text me and ask me how I am. And even if it's once a week, it still makes a difference in someone's day.”
– Participant #9, Youth
Hi! This is Karen, I’m sorry to hear that [name]. Let us know if there is anything we can do to support you.”

It b gd to find a frief counselor.. My x mother in law passed away in April too along w/ 2 friends up north .. April has been very heart breaking

Patient put in contact with Oak Tree counselor who referred patient to grief counselors closer to her, as well as opportunities for aboriginal healing ceremonies.

How are you?

A really gd friend of ours was murdered last thurs.. she was only 23
An adherence benefit of dose-time reminder alarms has been reported (64, 65). Strategies using cellular technology (short message service communication) have demonstrated improvement in adherence and HIV-1 RNA. Methods ranged from texting dosing reminders with or without requesting a response (66–68) to texting weekly check-ins from the clinic with telephone follow-up for those requesting it (69). One study found better ART adherence was achieved with use of texting with expected reply (interactive) than simple 1-way reminders (66).
Scaling Up

Geographic Distribution of Cellular Coverage and Sexual Health Clinics in British Columbia, 2012

Notes:
- Cellular coverage represents a 25 km radius around each cell tower (TAFIL - Industry Canada).
- Population density from the 2006 census at the dissemination area unit (Statistics Canada).
- Sexual health clinics - Clinical Prevention Services, BCCDC.

Map created July 5, 2012 by BCCDC.
Summary: Best Practices and Innovations

• Prevention First!
  – Education, risk & harm reduction, PrEP/NPEP…

• Reaching people for testing
  – Low threshold, online
  – Bute/HIM #1 single most effective HIV diagnosing program in BC

• Getting tested
  – online, POC, targeted 4th generation and NAT. Anonymous?

• Linkage to care
  – Immediate staging?

• Engagement in care (adherence and retention)
  – Support, mHealth (WelTel)

HIV control: Rates are decreasing, can we reach the final mile?!
The Seek, Test and Retain HIV Care Cascade

Optimizing the engagement of care cascade: a critical step to maximize the impact of HIV treatment as prevention.
Hull, Mark; Wu, Zunyou; Montaner, Julio
DOI: 10.1097/COH.0b013e3283590617
Thank you.

www.bccdc.ca