



Pharmacists and the HIV Care Continuum

October 22, 2016
Mike Stuber, BSP
Clinical Pharmacist - HIV



Conflicts of Interest

- I have received honoraria from the following companies:
 - Gilead Sciences, Bristol Myers Squibb, ViiV, Janssen

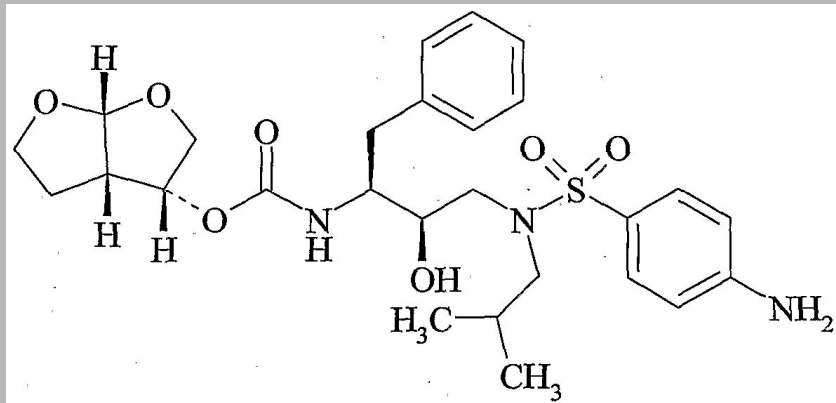
- If you detect **any** commercial bias, please let me know
 - Phone: 306.766.0717
 - Email: Michael.Stuber@rqhealth.ca



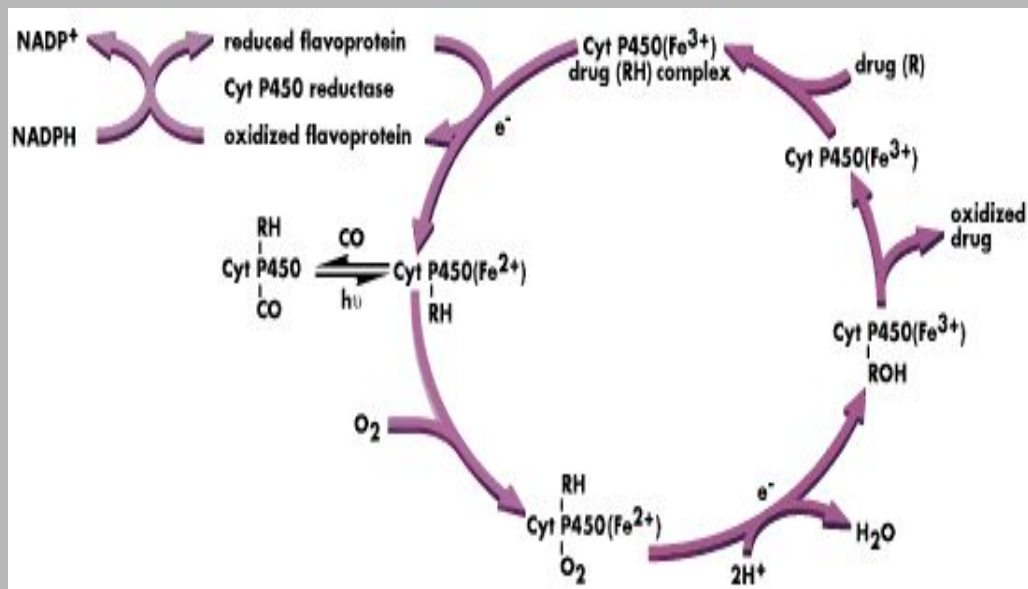
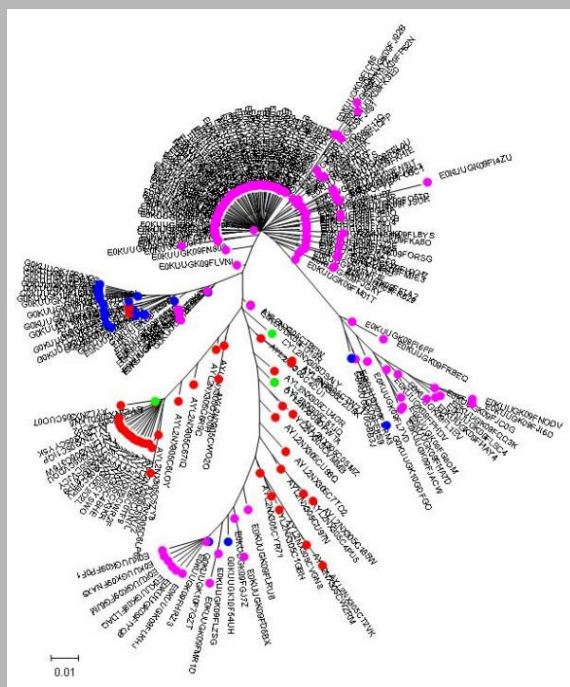
Objectives

1. Describe patient progress through the HIV Care Continuum (Cascade of Care)
2. Understand the role of the pharmacist in helping patients progress through the continuum
3. Identify key educational and support resources
4. Have a fantastic time

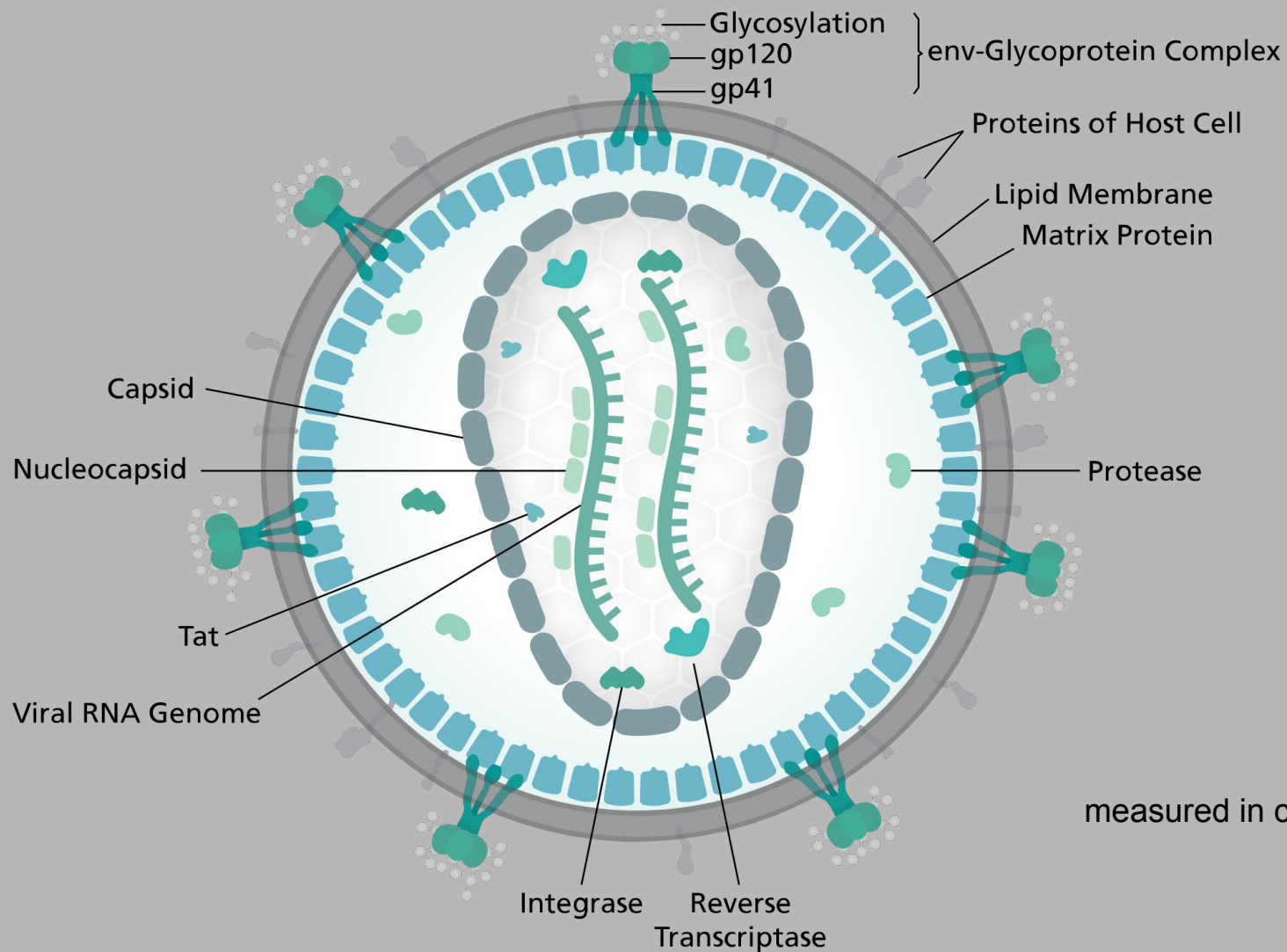
HIV for Pharmacists



All the things pharmacists love!



Human Immunodeficiency Virus

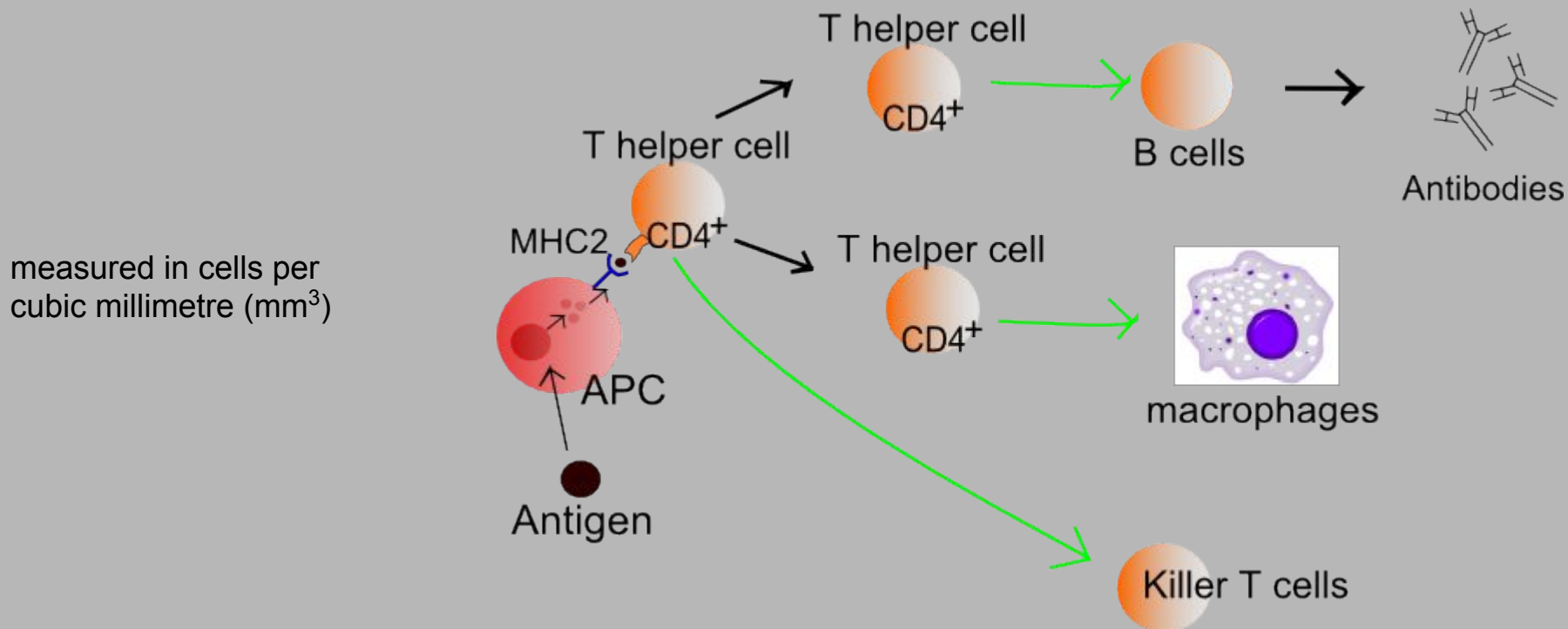


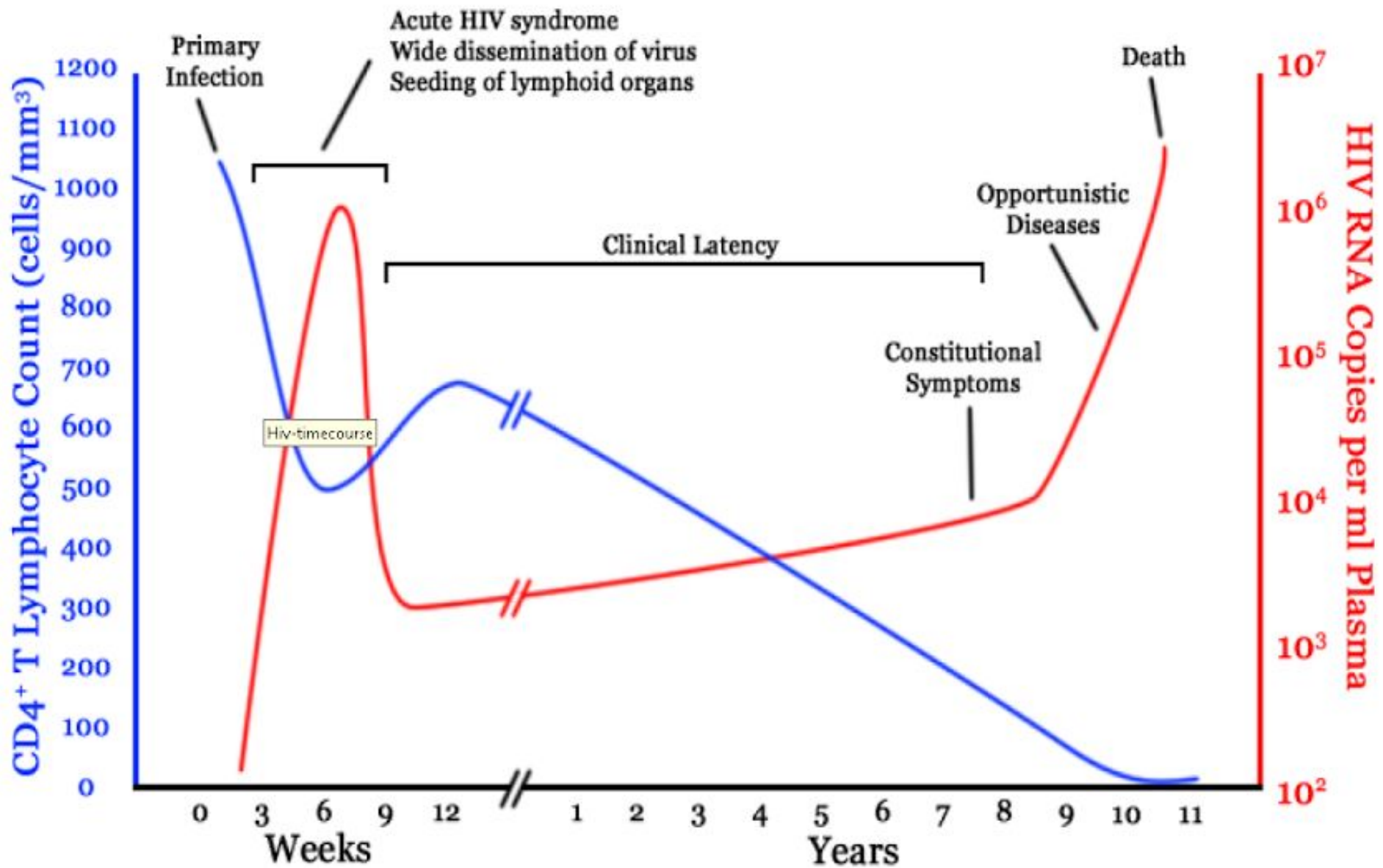
measured in copies/mL



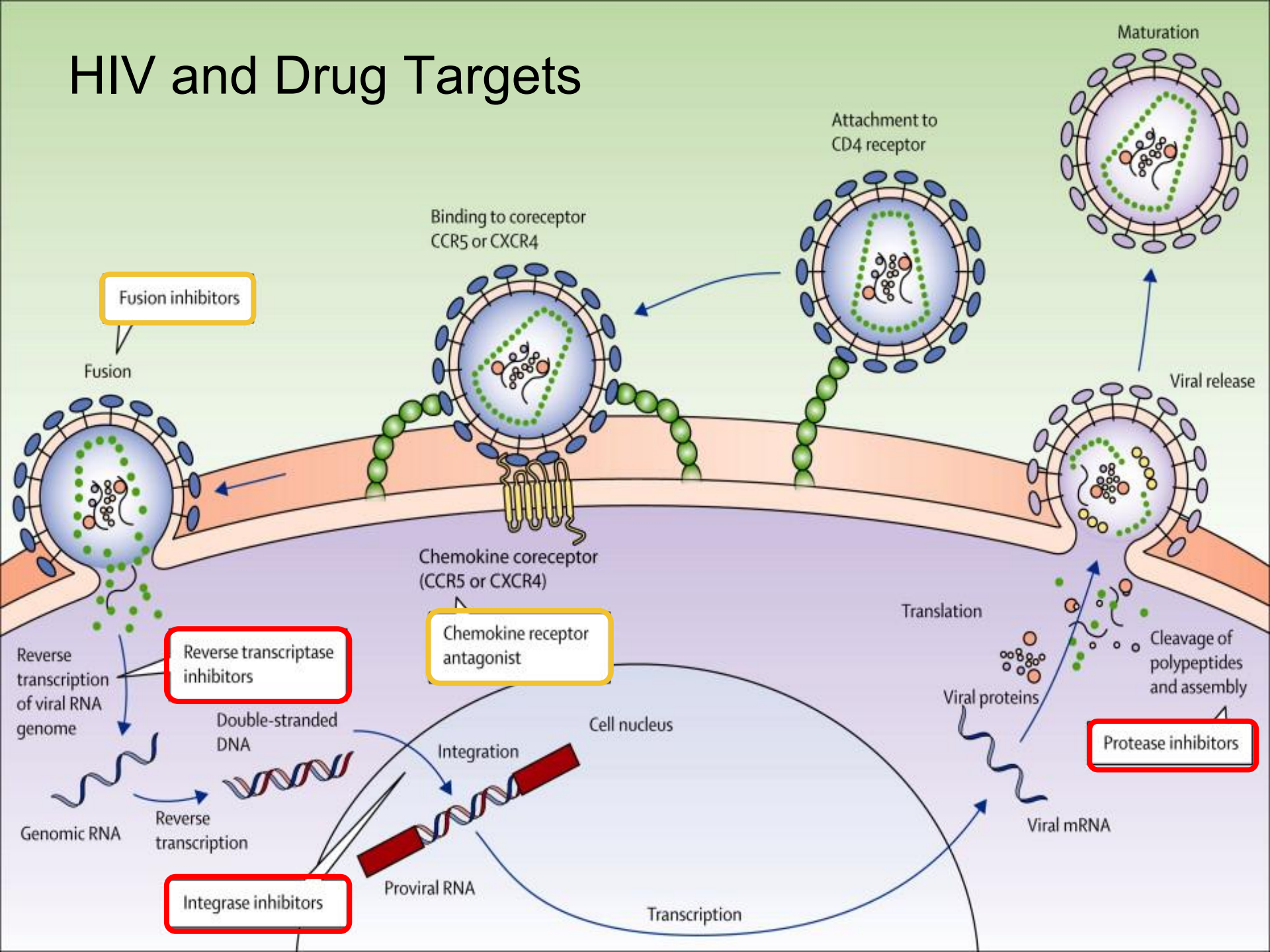
CD4+ Cells

- Also known as T-cells are white blood cells that help protect the body from infection via activation of the immune response when they detect pathogens such as viruses or bacteria





HIV and Drug Targets



Deadly Record: Inside Saskatchewan's HIV crisis

CHARLES HAMILTON, SASKATOON STARPHOENIX, SASKATOON STARPHOENIX | 09.16.2016 |



S

omething as simple as the common cold could kill Lauren Cardinal.

A friend of hers died because he refused to see a doctor and get an abscessed tooth



Saskatchewan should declare HIV-AIDS public health emergency

ANDRÉ PICARD

The Globe and Mail

Published Monday, Sep. 19, 2016 6:00AM EDT

Last updated Sunday, Sep. 18, 2016 8:55PM EDT

20 Comments



2K



2K



34



4



4



Print /
License

AA

The rate of HIV-AIDS in Saskatchewan, particularly in First Nations communities, is so high that the province should declare a public-health state of emergency.

That's the view of a group of doctors in the province who, on Monday, are issuing a *cri de coeur* for action.

The ad hoc coalition, led by Dr. Ryan Meili of the West Side Community Clinic in Saskatoon, is comprised mostly of physicians who provide front-line HIV care, but they have some chilling data to justify sounding the alarm.

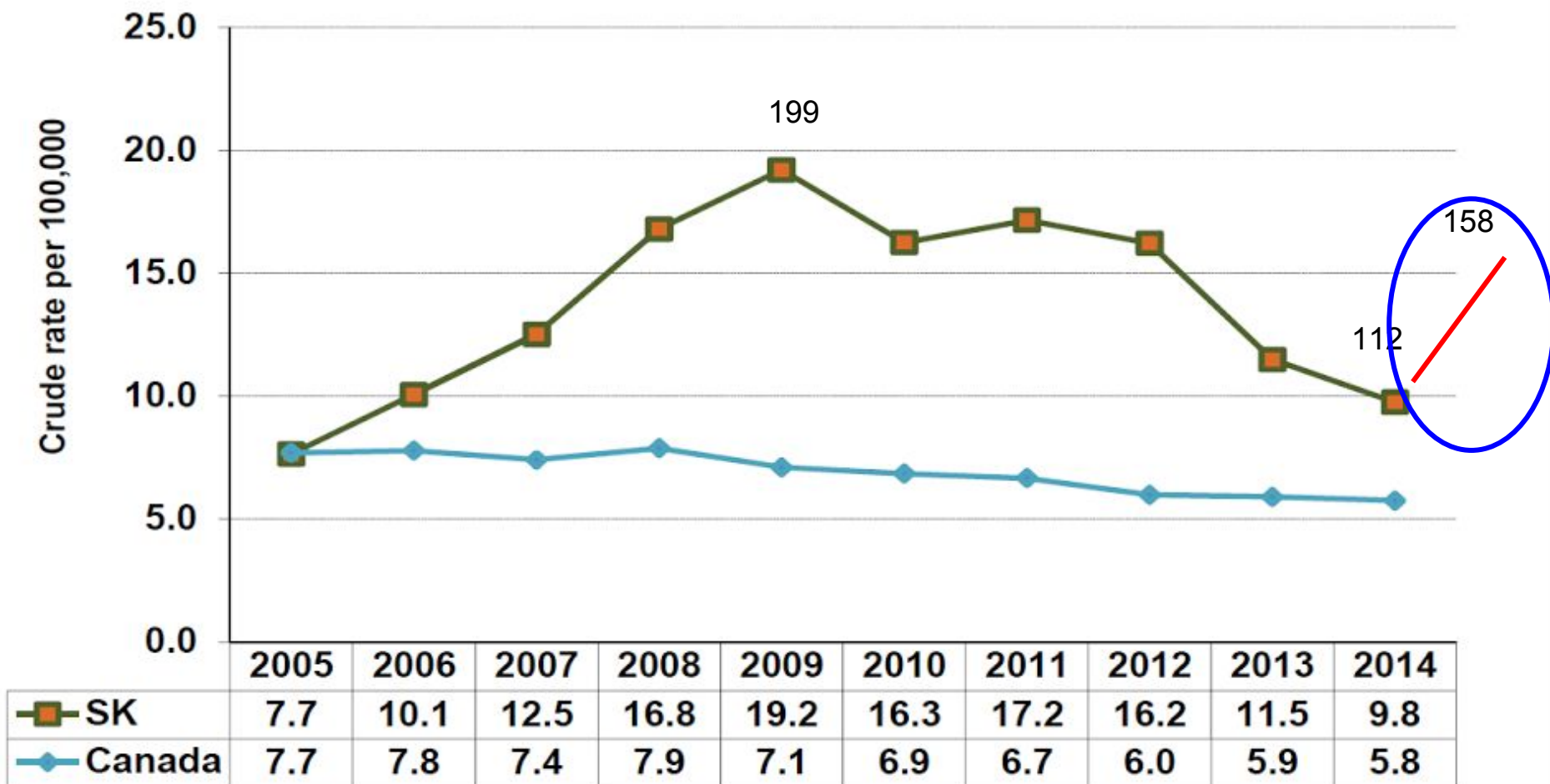
RELATED: Canada's Indigenous HIV treatment in the global spotlight

The HIV infection rate in Saskatchewan is 13.8 per 100,000 population, almost double the national average of 7.8 per 100,000.

But the provincewide numbers hide the real problem: On reserves, the infection rate is 64 per 100,000.

Fig 2

Rate of HIV cases by year Saskatchewan and Canada, 2005-2014



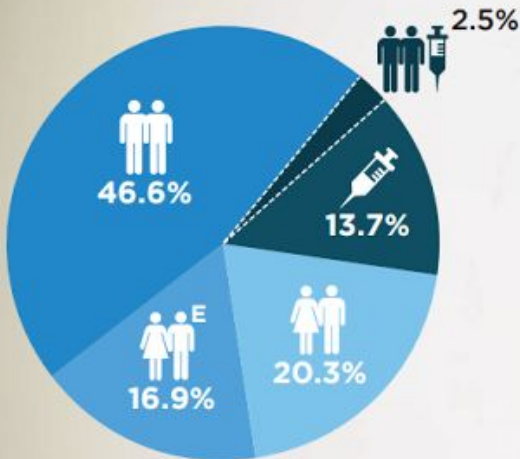
NEW HIV INFECTIONS IN CANADA



Canada's source for
HIV and hepatitis C
information

www.catie.ca

An estimated 3,175 new HIV infections
in Canada in 2011 (9.5 per 100,000 population)



EXPOSURE CATEGORY



Men who have
sex with men



Men who have sex with
men and inject drugs



People who
inject drugs



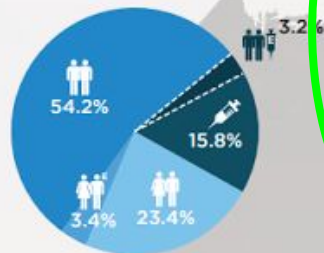
Heterosexual people, not
including those born in countries
where HIV is endemic



Heterosexual people born
in countries where
HIV is endemic

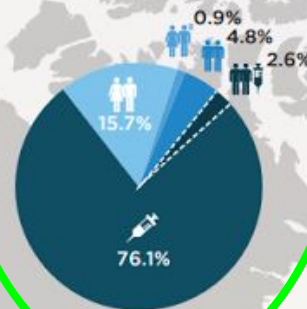
BRITISH COLUMBIA

An estimated 380 new HIV infections
in 2011 (8.6 per 100,000 population)



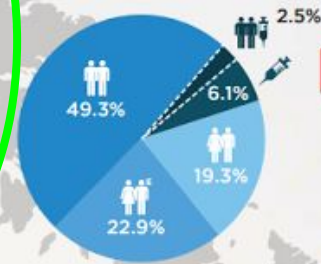
SASKATCHEWAN

An estimated 230 new HIV infections
in 2011 (22.3 per 100,000 population)



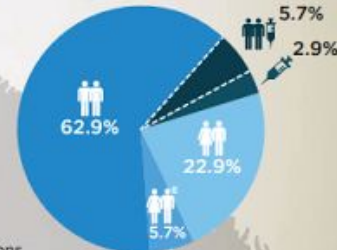
ONTARIO

An estimated 1,400 new HIV infections
in 2011 (10.9 per 100,000 population)



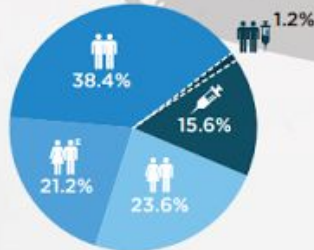
ATLANTIC CANADA

An estimated 35 new HIV infections
in 2011 (1.5 per 100,000 population)



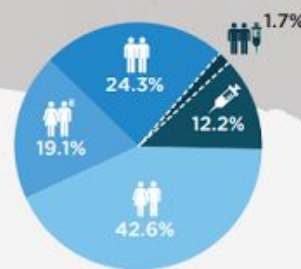
ALBERTA

An estimated 250 new HIV infections
in 2011 (6.9 per 100,000 population)



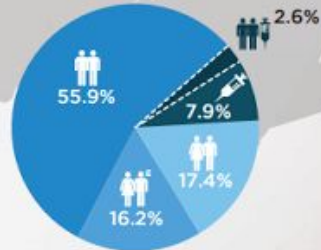
MANITOBA

An estimated 115 new HIV infections
in 2011 (9.5 per 100,000 population)



QUEBEC

An estimated 760 new HIV infections
in 2011 (9.6 per 100,000 population)



Source: 2011 estimates from the Public Health Agency of Canada. Incidence rates have been calculated using 2011 census data from Statistics Canada. Exposure categories are based on a hierarchical classification at the time of diagnosis.

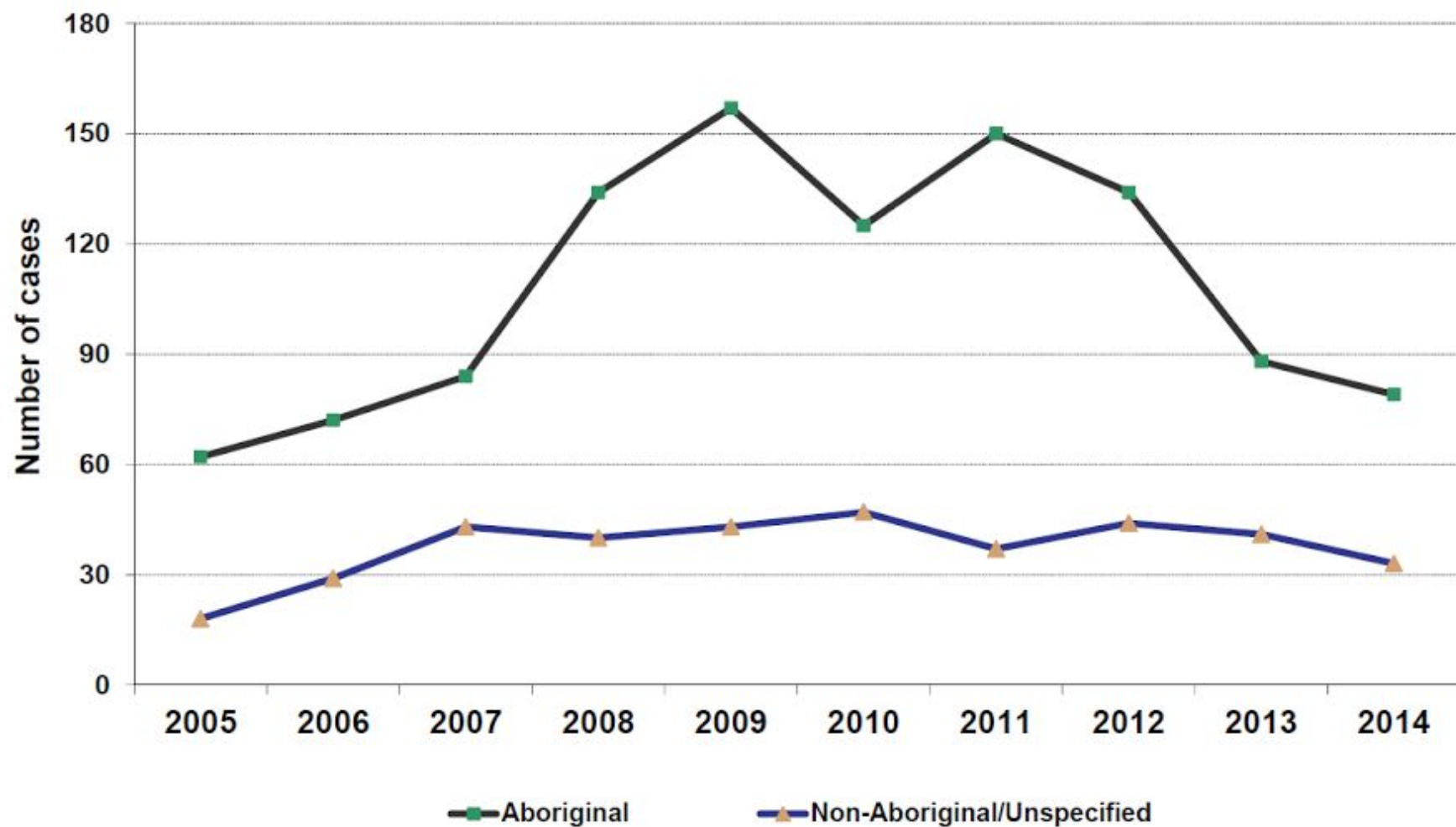
CATIE Ordering Centre Catalogue Number: ATI-40239

Spot the difference

www.catie.ca

Fig 7

HIV Cases by self-reported ethnicity Saskatchewan, 2005 to 2014





The Numbers

- 13.7 new HIV infections/100k vs 5.8/100k in Canada

- 71% new HIV cases in Aboriginal peoples
 - 84% of women infected were Aboriginal
 - ~15% of SK population Aboriginal (~171,000)
 - rate of infection = 51/100k



The Numbers

- 56% new HIV cases report IDU
 - 11% in rest of Canada^(www.catie.ca)

- 5% prevalence rate of HIV in Regina ^(A-Track Pilot Survey)
 - Sub-Saharan Africa ~4.7% prevalence rate
 - 46% unaware of HIV + status
 - ~20% in rest of Canada^(www.catie.ca)



Saskatchewan's Situation

- Our epidemic is unique in Canada
- Driven by injection drug use
- Disproportionately impacting women and indigenous peoples



Saskatchewan's Situation

- High prevalence in rural, northern and reserve communities where access to specialized care is difficult
- Associated with groups who are marginalized and impacted heavily by stigma



Saskatchewan's Situation

- Multiple health, addiction and other concerns in HIV+ people (HCV, mental health, abuse, poverty, housing and food security)
- Very few resources exist for the unique challenges in Saskatchewan
 - We're on our own



VS





Saskatchewan's Situation

- Although there are calls for more funding and action this is unlikely to come in the near future
- Fragmented system of First Nations, federal and provincial governments/funding
- Lack of infrastructure and coordination to solve complex problems
- Need to make better use of existing resources and maximize efficiency by building capacity to treat increasing numbers



HIV Infects...

- HIV can infect and affect anyone regardless of ethnicity, income, drug use, location etc
- Treat the individual, not “the HIV”
 - Each person is an individual and as health care providers we need to assess patients as such
 - Do not let bias, past experiences or perceptions of their HIV status impact care
- Our own experiences and lives are not the same as our patients and seeing their life through our own lens can lead to problems

HIV Care Continuum



- Series of steps a person living with HIV takes from diagnosis to successful treatment with anti-retroviral therapy (ART)
- Patients may not achieve completion of all steps
- Patients may skip steps or regress

Undetectable = Untransmittable

People living with HIV on antiretroviral therapy (ART) and virally suppressed "are **not capable of transmitting HIV to a sexual partner.** With successful ART, that individual is **no longer infectious.**"

Dr. Carl Dieffenbach,

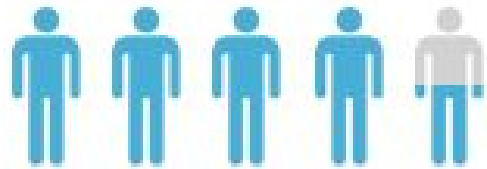
Director of the Division of AIDS, NIAID

National Institutes of Health

(August 26, 2016)

90%

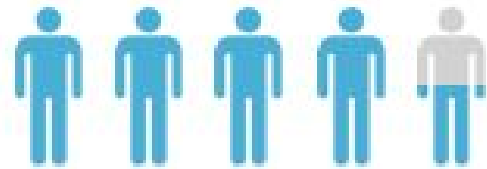
of all



living with HIV will
know their HIV
status

90%

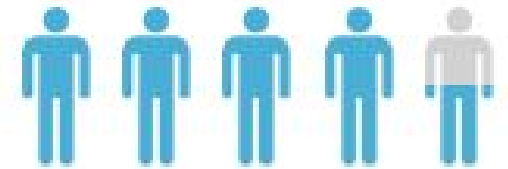
of all



living with HIV will
receive sustained
antiretroviral
therapy

90%

of all



receiving
antiretroviral therapy
will have durable viral
suppression

- Proposed by BCCfE, endorsed by UNAIDS/WHO
- Significant challenges to implementation, especially in Saskatchewan
 - Not endorsed by SK Ministry of Health
 - Not endorsed by various other agencies



The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Antiretroviral Therapy for the Prevention of HIV-1 Transmission

M.S. Cohen, Y.Q. Chen, M. McCauley, T. Gamble, M.C. Hosseinipour, N. Kumarasamy, J.G. Hakim, J. Kumbwenda, B. Grinsztejn, J.H.S. Pilotto, S.V. Godbole, S. Chariyalertsak, B.R. Santos, K.H. Mayer, I.F. Hoffman, S.H. Eshleman, E. Piwowar-Manning, L. Cottle, X.C. Zhang, J. Makhema, L.A. Mills, R. Panchia, S. Faesen, J. Eron, J. Gallant, D. Havlir, S. Swindells, V. Elharrar, D. Burns, T.E. Taha, K. Nielsen-Saines, D.D. Celentano, M. Essex, S.E. Hudelson, A.D. Redd, and T.R. Fleming, for the HPTN 052 Study Team*

ABSTRACT

BACKGROUND

An interim analysis of data from the HIV Prevention Trials Network (HPTN) 052 trial showed that antiretroviral therapy (ART) prevented more than 96% of genetically linked infections caused by human immunodeficiency virus type 1 (HIV-1) in serodiscordant couples. ART was then offered to all patients with HIV-1 infection (index participants). The study included more than 5 years of follow-up to assess the durability of such therapy for the prevention of HIV-1 transmission.

METHODS

We randomly assigned 1763 index participants to receive either early or delayed ART. In the early-ART group, 886 participants started therapy at enrollment (CD4+ count, 350 to 550 cells per cubic millimeter). In the delayed-ART group, 877 participants started therapy after two consecutive CD4+ counts fell below 250 cells per cubic millimeter or if an illness indicative of the acquired immunodeficiency syndrome (i.e., an AIDS-defining illness) developed. The primary study end point

News

Latest news

News by topic

HIV update

News feeds

Conference news

INFECTIOUSNESS AND TREATMENT AS PREVENTION

No-one with an undetectable viral load, gay or heterosexual, transmits HIV in first two years of PARTNER study

Viral load suppression means risk of HIV transmission is 'at most' 4% during anal sex, but final results not due till 2017

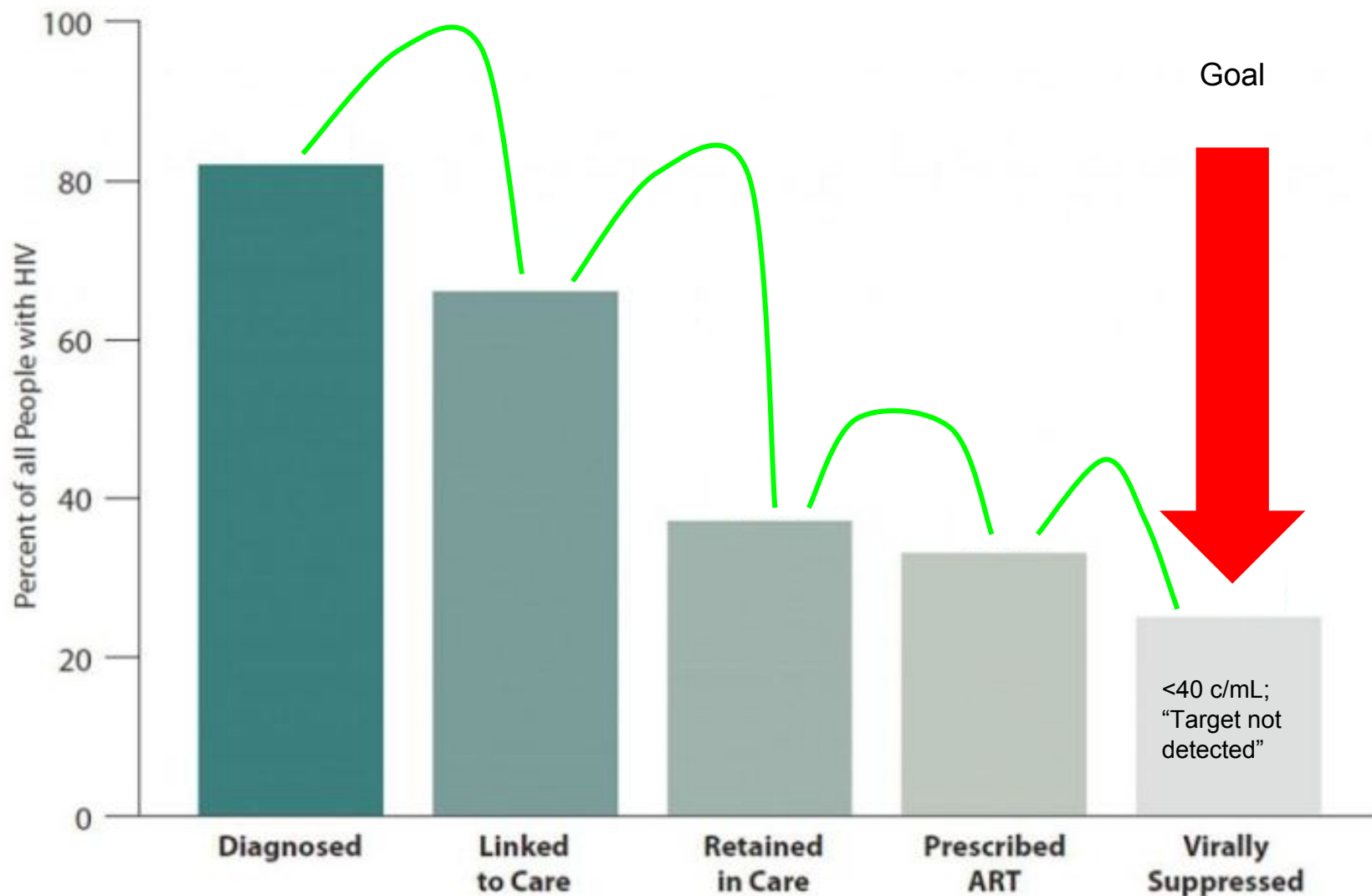


Press conference at CROI 2014. Photo by Liz Highleyman, AP/Wide World

HPTN 052 - published in NEJM July 18, 2016

PARTNER Study presented at CROI - 2014

Progression Through “Cascade”



Diagnosed



- Many HIV+ individuals undiagnosed
- Community pharmacies or other points of health care access are opportunities to test for HIV
 - Pharmacists in other jurisdictions able to test
 - Pharmacy in Regina doing collaborative approach for high risk patients
- Many creative ways to test outside traditional settings
- Who should be tested?
 - **Everyone, at least annually**

Saskatchewan HIV Testing Policy




Routine Testing Quick Guide

WHY? 26% of HIV positive people are unaware of their status.¹

- In spite of The Joint United Nations Programme on HIV and AIDS (UNAIDS)/WHO 2004 recommendations, **people who should be tested are still being missed.**
- **Missed testing opportunities** when providers are required to determine need for testing based on risk.
- **Missed testing opportunities** when testing is mainly client-initiated.
- **Stigma and discrimination** will lessen when testing is routine.
- **To increase rate of testing, promote earlier diagnosis, improve treatment outcomes & reduce transmission.**



WHO?

- 
- **All patients aged 13 to 70 receiving primary or emergency health care who do not know their HIV status.**
 - All persons who are **sexually active with multiple/successive long-term partners** and have not had an HIV test in the last 12 months.
 - **All patients who have requested an HIV test.**
 - All **pregnant women.** HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women (Society of Obstetricians and Gynecologists of Canada [SOGC] , 2006). Repeat screening in the third trimester may be indicated based on clinical assessment and labor and delivery guidelines. (Morbidity and Mortality Weekly Report [MMWR] Recommendations and Reports, 2006) (SOGC , 2006).
 - All patients **assessed in a sexually transmitted infection (STI) clinic** or seen in any health care setting for an STI or Hepatitis B or C.
 - • All persons with **current or past history of illicit drug use.**
 - All persons **from endemic² countries.**
 - All **tuberculosis (TB) patients (active and latent)** and contacts as indicated.
 - • All patients **showing signs/symptoms that may be consistent with HIV-related disease.³**



WHEN?

- Consider at least once every 5 years in all adults.
- Part of an annual exam.
- Whenever a risk is discussed.


Diagnosed

- Prevention is just as important as diagnosis
- Harm reduction strategies including:
 - needle exchange/distribution
 - Opioid substitution therapy
- PrEP - once daily Truvada (FTC/TDF)



Pre Exposure Prophylaxis (PrEP)



 The NEW ENGLAND JOURNAL of MEDICINE

HOME ARTICLES & MULTIMEDIA ISSUES SPECIALTIES & TOPICS FOR AUTHORS CME






ORIGINAL ARTICLE

Preexposure Chemoprophylaxis for HIV Prevention in Men Who Have Sex with Men

Robert M. Grant, M.D., M.P.H., Javier R. Lama, M.D., M.P.H., Peter L. Anderson, Pharm.D., Vanessa McMahan, B.S., Albert Y. Liu, M.D., M.P.H., Lorena Vargas, Pedro Golcochea, M.Sc., Martín Casapia, M.D., M.P.H., Juan Vicente Guanira-Carranza, M.D., M.P.H., Maria E. Ramirez-Cardich, M.D., Orlando Montoya-Herrera, M.Sc., Telmo Fernández, M.D., Valdeia G. Veloso, M.D., Ph.D., Susan P. Buchbinder, M.D., Suwat Chanyaletsak, M.D., Dr.P.H., Mauro Schechter, M.D., Ph.D., Linda-Gail Bekker, M.B., Ch.B., Ph.D., Kenneth H. Mayer, M.D., Esper Georges Kallás, M.D., Ph.D., K. Rivet Amico, Ph.D., Kathleen Mulligan, Ph.D., Lane R. Bushman, B.Chem., Robert J. Hance, A.A., Carmela Ganoza, M.D., Patricia Defechereux, Ph.D., Brian Postle, B.S., Furong Wang, M.D., J. Jeff McConnell, M.A., Jia-Hua Zheng, Ph.D., Jeanny Lee, B.S., James F. Rooney, M.D., Howard S. Jaffe, M.D., Ana I. Martinez, R.Ph., David N. Burns, M.D., M.P.H., and David V. Glidden, Ph.D., for the iPrEx Study Team*

N Engl J Med 2010; 363:2587-2599 | December 30, 2010 | DOI: 10.1056/NEJMoa1011205

Comments open through January 4, 2011


Share:     

Abstract	Article	References	Citing Articles (1166)	Comments (8)	Letters	Metrics
----------	---------	------------	------------------------	--------------	---------	---------

A total of 2.7 million new infections with the human immunodeficiency virus (HIV) were diagnosed worldwide in 2008, according to the Joint United Nations Program on HIV/AIDS (UNAIDS). Combination antiretroviral therapy for patients with HIV infection restores health and may decrease the transmission of the virus to uninfected partners.¹ Therapy also decreases mother-to-child transmission.²

Postexposure chemoprophylaxis is recommended after occupational or nonoccupational exposure to

iPrEx Study

 CANADIAN GUIDELINES ON HIV PrEP & nPEP

Canadian HIV Pre-exposure Prophylaxis and Non-Occupational Post Exposure Prophylaxis DRAFT Guidelines – Executive Summary

May 12, 2016 Preliminary Version

Background

Populations including men who have sex with men, persons who inject drugs, women and men engaged in survival sex trade work, certain Canadian aboriginal populations and other groups have an elevated incidence of HIV. Individuals in these communities remain at risk for HIV infection (Tables 1 and 2), and biomedical prevention strategies including pre-exposure prophylaxis (PrEP) and non-occupational post-exposure prophylaxis (nPEP) should be considered a key potential component of combination prevention strategies.

Definitions:

Throughout this document, we distinguish between three categories for the risk of HIV transmission per act from an HIV-positive source: high, moderate, and low (Table 6a). These categories apply to the behaviour. We also distinguish between three categories for the likelihood that a given person (eg. patient's sexual partner) has transmissible HIV infection: significant, non-negligible and negligible/none (Table 6b). These categories apply to the person and timepoint.

A) General recommendations

1. PrEP and nPEP should be part of a combination prevention strategy that includes behavioural interventions such as condoms and risk reduction counseling [Grade 1A].
2. Health systems should strive to engage a broad number and range of qualified clinical providers in prescribing and providing follow-up for PrEP and nPEP, including family and specialist physicians, nurses, nurse practitioners, and pharmacists, where provincial scope of practice allows, or under appropriate delegation of responsibility [Grade 1D].

Draft Canadian Guidelines on HIV PrEP & nPEP -

<http://www.catie.ca/sites/default/files/Canadian%20PrEP%20and%20nPEP%20Guidelines%20Executive%20Summary%20for%20circulation%20v0-5%20May%2012%202016.pdf>

Pre Exposure Prophylaxis (PrEP)



- Prevention of HIV-1 infection is possible through daily medication
- Truvada (TDF/FTC) but not Descovy (TAF/FTC) taken **daily** (alternate “on demand” regimen: ii tabs 2-24 hours before exposure, i QD until 48 hours post last exposure)
- Does not protect against other STIs or pregnancy
- Not for everyone



PrEP

**ONE PILL.
ONCE A DAY.**
Protect against HIV.

Linked to Care



- Public Health does great job linking new +s
- Due to stigma, unready state or other priorities patients may not link to care
- Use of eHR may reveal positive result
 - Not accompanied by HIV specific blood work (VL, CD4 count, genotyping, etc)
- May be opportunity to link patient to care
 - Do not disclose status to patient as they may not be aware
 - May ask them about HIV testing

Retained/Engaged in Care



- Pharmacists are highly accessible HCPs
- Use of eHR viewer may reveal disengagement from care (no VL in last 6-12 months)
- Ask patients about their visits to HIV care team if relationship allows
- Arrange follow up appointment for patients
- Obtain lab requisitions for patients to take to lab
- Coordination with Community Based Orgs/Public Health to get patients into clinic



Things you can do in *myeHealth*

- » Register a new account
- » Reset my password
- » Retrieve my user ID
- » Add or change an Organization/Facility

myeHealth Login

Secure Login 

- » Register a new account
- » Reset my password
- » Retrieve my user ID

Welcome to *myeHealth*

eHealth Saskatchewan is responsible for developing and implementing the Electronic Health Record (EHR) for Saskatchewan. The EHR makes important information available to support improved patient care. eHealth also coordinates, implements and maintains key electronic health information systems in many public healthcare organizations.

HIV 1 RNA; PCR/NAAT (HIV-1 Viral Load NAAT) [View Cumulative Results](#)

Time Collected
Time Reported
Ordering Provider
Specimen Source
Copied To
Comments

REGINA SK 54PQW5

Test	Result	Ref. Range (Units)	Abnormality	Status
HIV 1 RNA; PCR/NAAT (HIV-1 Viral Load NAAT)	^a 131	(Copies/mL)		Final

* Abnormal ** Critically Abnormal

^a

RNA detected.

Test Method: HIV-1 Abbott RealTime NAAT (Nucleic Acid Amplification Test) Dynamic Range: 40 - 10,000,000 Copies/mL based on 0.6 mL sample input. This test product is only validated/licensed to monitor HIV-1 antibody positive patients receiving anti-retroviral drug therapy. Use of this product for screening or diagnosis is neither licensed nor validated.

- Check for VL and CD4+
- Look at date
 - Is it recent or should it be repeated?
- VL
 - Is it suppressed?
- CD4+ above OI cutoffs
 - <50 - MAC proph
 - <100 - toxo proph
 - <200 - PCP proph

Test	Result	Ref. Range (Units)	Abnormality	Status
CD3 Cells/100 Cells (CD3 (%))	84	59-84 (%)		Final
CD3 Cells (CD3 (ABSOLUTE))	975	887-2331 (x10e6/L)		Final
CD3+CD4+ Cells/100 Cells (CD4 (%))	* 10	33-59 (%)	L	Final
CD3+ CD4+ Cells (CD4 (ABSOLUTE))	* 120	689-1566 (x10e6/L)	L	Final
CD3+CD8+ Cells/100 Cells (CD8 (%))	* 55	15-39 (%)	H	Final
CD3+ CD8+ Cells (CD8 (ABSOLUTE))	635	262-1066 (x10e6/L)		Final
CD3+CD4+ Cells/CD3+CD8+ Cells (CD4/CD8 RATIO)	^a * 0.19	0.92-3.80	L	Final

* Abnormal ** Critically Abnormal

^a

Interpretation(s):

PLEASE NOTE: THE REFERENCE RANGES USED ARE TAKEN FROM A STUDY BY THE NEW JERSEY MEDICAL SCHOOL.

Anti-RetroVirals (ARVs)



VS



or



On ART

- Pharmacists are drug therapy experts
 - Ensure right drug/regimen
 - Ensure **entire regimen** is dispensed/sent up at same time - *common drug error*
 - Enter for the same time if multiple tablets
 - DDIs - ongoing basis
 - Coverage in place
 - This can change - at transitions of care
 - Income based, etc
 - Patients may be embarrassed to seek help



On ART

- Adverse effects
 - Minor or major; can all impact adherence
- Seamless care at admission/discharge is critical
 - Ensure discharge prescriptions are correct and accurate
 - Follow up with community pharmacist to prevent delays
 - Discuss with clinic pharmacist if required



On ART - DIs

- Varies by drug class and individual agents
 - Beware of the classic high risk medications
 - Antidepressants
 - Anticonvulsants
 - Methadone
 - Oral contraceptives
 - Antibiotics
 - Natural products/supplements
 - HCV drugs are becoming more common
 - DIs with Harvoni, Holkira etc - use caution



On ART - DIs



- Check entire profile often and call if need help interpreting/managing the interaction
- Illicit drugs (cocaine, opioids, methylphenidate, benzo's) may have altered effect

Although no longer as complex as in the past, ART drug interactions can be critical

Viral Suppression

- Only occurs through consistent ART
 - Adherence
 - *Persistence*
- ART is lifelong
- Myriad barriers to consistent, long term ART use



<40 c/mL or

TARGET NOT DETECTED

Viral Suppression



- Pharmacists are key players
- Identification and resolution of adherence barriers can lead to durable viral suppression
- Pharmacists can help with:
 - Adverse effect management
 - Drug costs
 - Transitions in care
 - Drug interactions
 - **Reducing stigma**
- Referral can be made for:
 - Social chaos, food security, housing, treatment fatigue, access to care, addictions/mental health

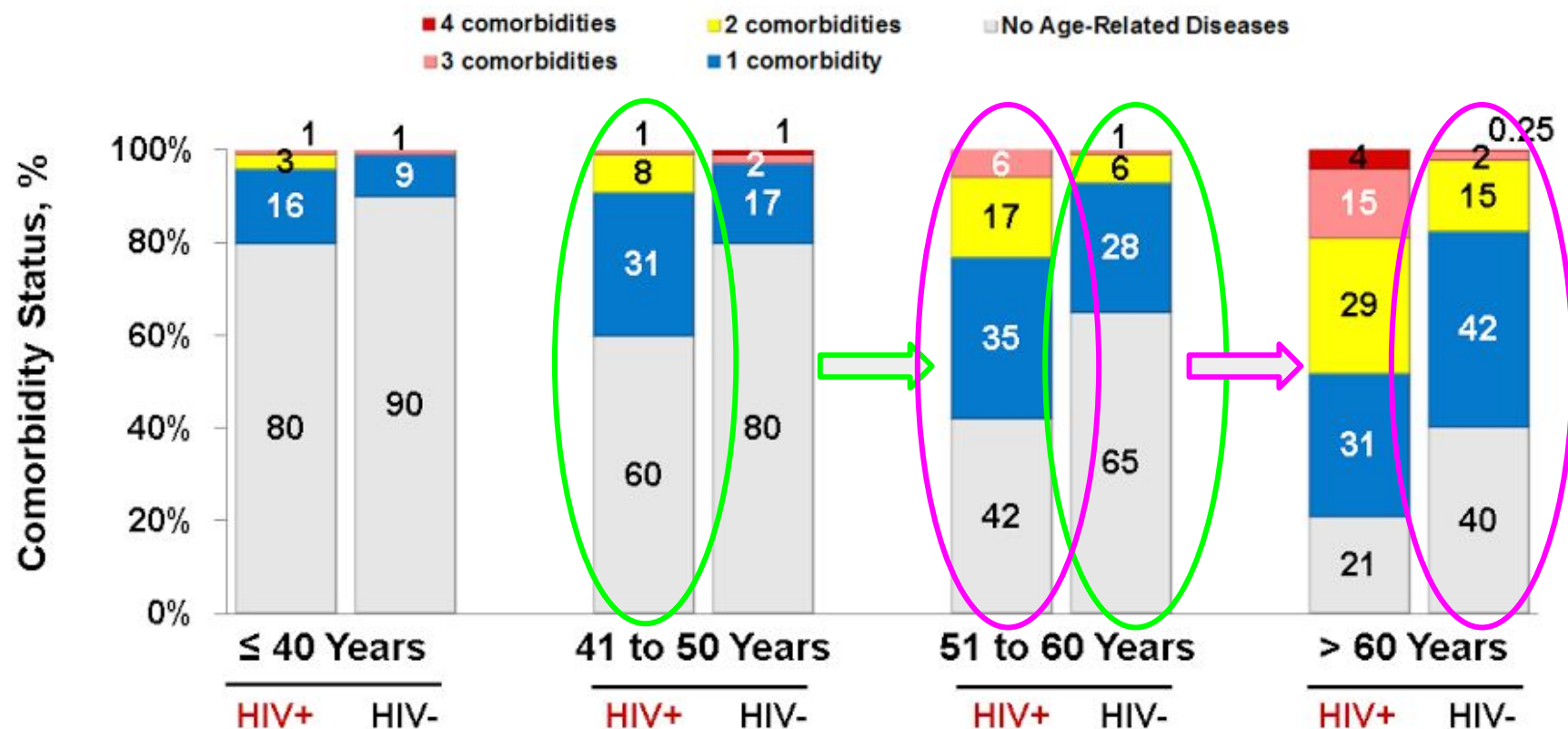
HIV+ vs HIV-

Onset of Age-Related Comorbidities

HIV adds ~10 years[†]

Prevalence of Individual Noninfectious Comorbidities

HIV+ (N=2854) vs HIV- (N=8562)



HIV+ individuals vs age-matched HIV- controls have more individual noninfectious comorbidities and at an earlier age (all $P < 0.001$)

Viral Suppression

- Once suppressed (or throughout cascade)
- Comorbidity Managers
 - Cardiovascular
 - Renal
 - Bone
 - Smoking cessation
 - Addictions
 - Gastrointestinal
 - Viral hepatitis
 - Premature aging





Summary

- Pharmacists are key players in helping patients progress through the HIV Care Continuum
- Understanding the steps of the continuum can help us achieve viral suppression
- Viral suppression = no transmission
- Extra attention is needed for DIs and other barriers to adherence/cascade but benefits are numerous
- HIV+ “age faster” and require comorbidity management

Supports



- Clinical Pharmacists
 - Regina - 306.766.0717
- SK HIV Collaborative
 - <http://www.skshiv.ca/>
 - **SLIDES TO BE POSTED HERE**
- Canadian HIV/AIDS Pharmacists Group (CHAP)
 - <http://hivclinic.ca/chap/>
- SHARE: Saskatchewan HIV/AIDS Research Endeavor
 - <http://www.share-sk.ca/>



Resources

- Guidelines and References

- AIDSInfo Guidelines

- <https://aidsinfo.nih.gov/guidelines>

- BC Centre for Excellence

- <http://www.cfenet.ubc.ca/>

- HIV Clinical Care Options

- <http://www.clinicaloptions.com/HIV.aspx>

- *Role of the Pharmacist in Caring for Patients with HIV/AIDS: Clinical Practice Guidelines*

- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3329905/>

- ViralEd

- <http://www.viraled.com/>



Resources

- ART Resources
 - Drug Interactions
 - http://hivclinic.ca/main/drugs_interact.html
 - <http://www.hivmedicationguide.com>
 - USCF InSite
 - <http://hivinsite.ucsf.edu/insite?page=ar-00-02>
 - AIDSInfo Drug Database
 - <https://aidsinfo.nih.gov/drugs>
 - Medication Info Sheets
 - http://www.hivclinic.ca/main/drugs_interact.html
 - <http://www.catie.ca/en/fact-sheets>



Resources

- ART Resources
 - Drug Interactions
 - http://hivclinic.ca/main/drugs_interact.html
 - <http://www.hivmedicationguide.com>
 - USCF InSite
 - <http://hivinsite.ucsf.edu/insite?page=ar-00-02>
 - AIDSInfo Drug Database
 - <https://aidsinfo.nih.gov/drugs>
 - Medication Info Sheets
 - http://www.hivclinic.ca/main/drugs_interact.html
 - <http://www.catie.ca/en/fact-sheets>



Resources

- Patient Resources
 - Catie
 - <http://www.catie.ca>
 - The Body
 - <http://www.thebody.com/>
 - Poz.com
 - <https://www.poz.com/>

Questions?



- Phone: 306.766.0717
- Email: Michael.Stuber@rqhealth.ca

