Pharmacist Management of HIV in Saskatchewan: The Basics

September 20, 2016

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Regina Qu'Appelle HEALTH REGION

SK HIV COLLABORATIVE

Disclosures

This learning program has been funded by Gilead Sciences Canada, Inc.

The presentation has been developed independently by Mike Stuber, BSP.

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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

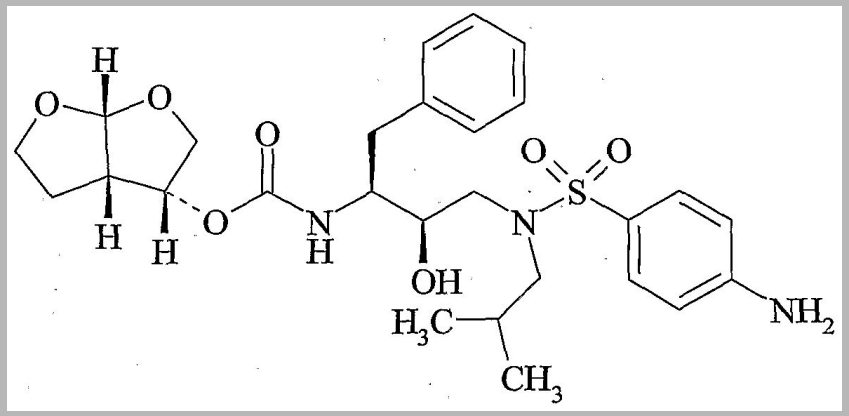
Objectives

1. Understand the scope and complexity of SK's unique HIV epidemic

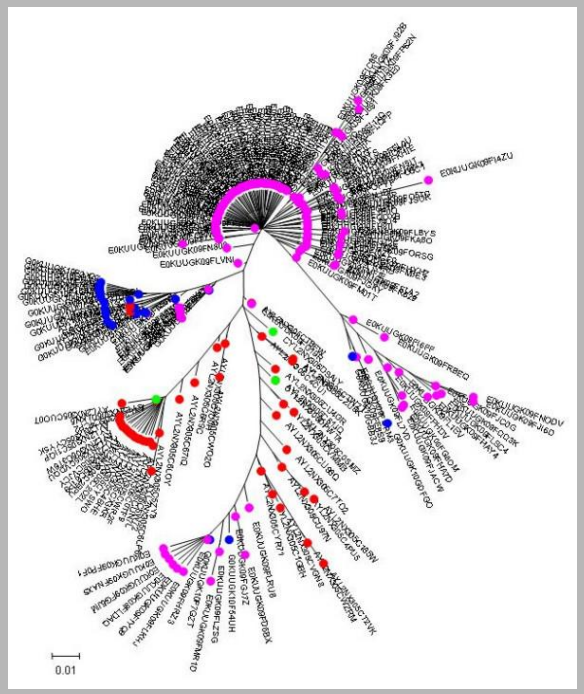
2. Recognize and understand the importance of effective drug therapy in the treatment of HIV

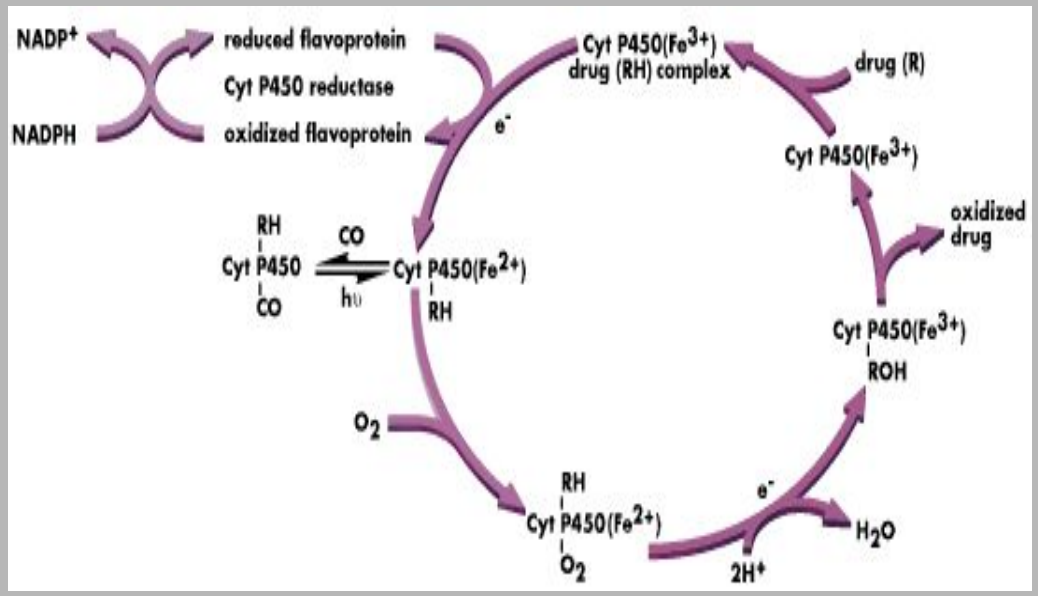
3. Explore the basics of HIV management in a community pharmacy setting

HIV Basics for Pharmacists



All the things pharmacists love!





Putting a face to HIV treatment

- We’re not just treating HIV, we’re treating people

Deadly Record: Inside Saskatchewan's HIV crisis

CHARLES HAMILTON, SASKATOON STARPHOENIX, SASKATOON STARPHOENIX 09.16.2016 |

SHARE

Something 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

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 8

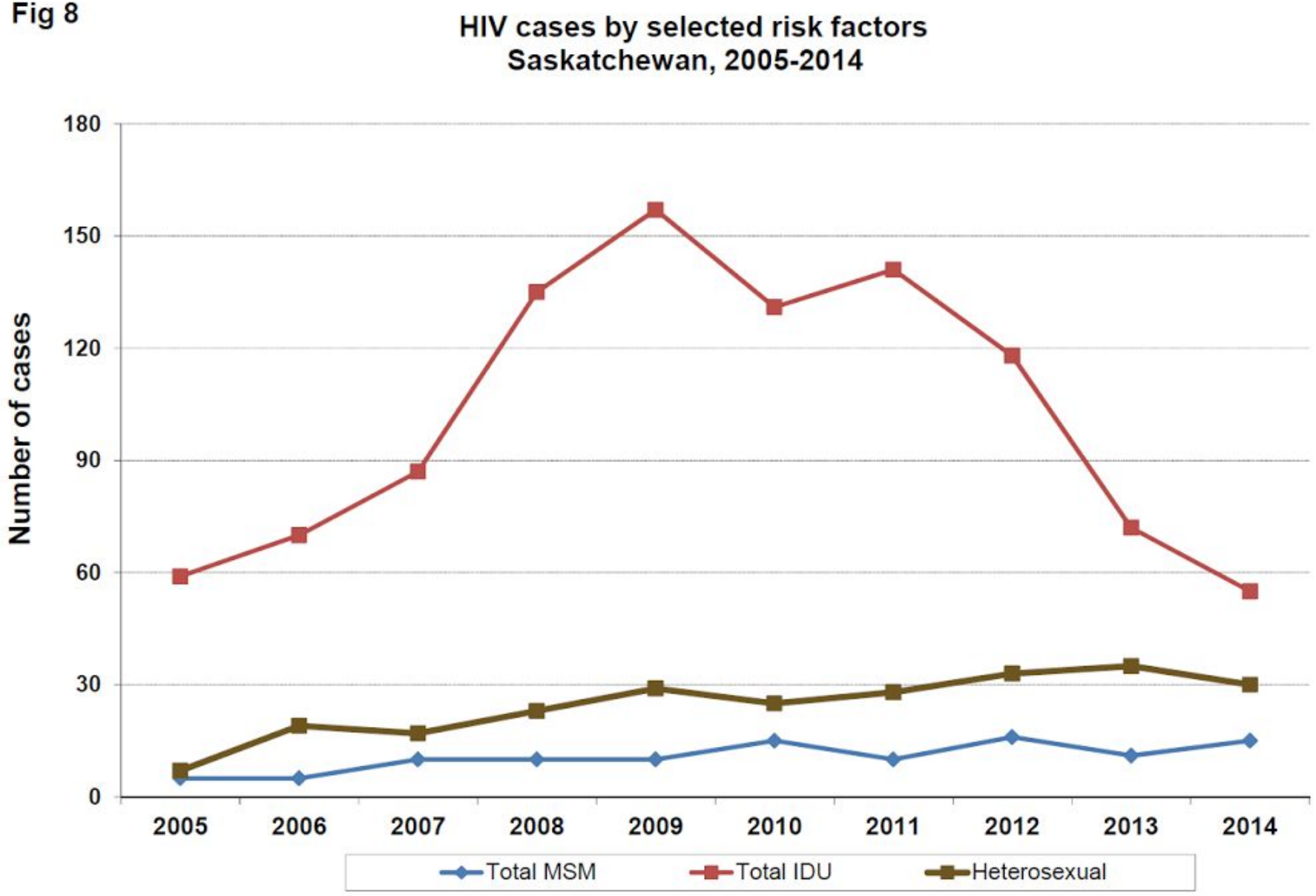

HIV cases by selected risk factors
Saskatchewan, 2005-2014
Number of cases
180
150
120
90
60
30
0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Total MSM
Total IDU
Heterosexual

Fig 7

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

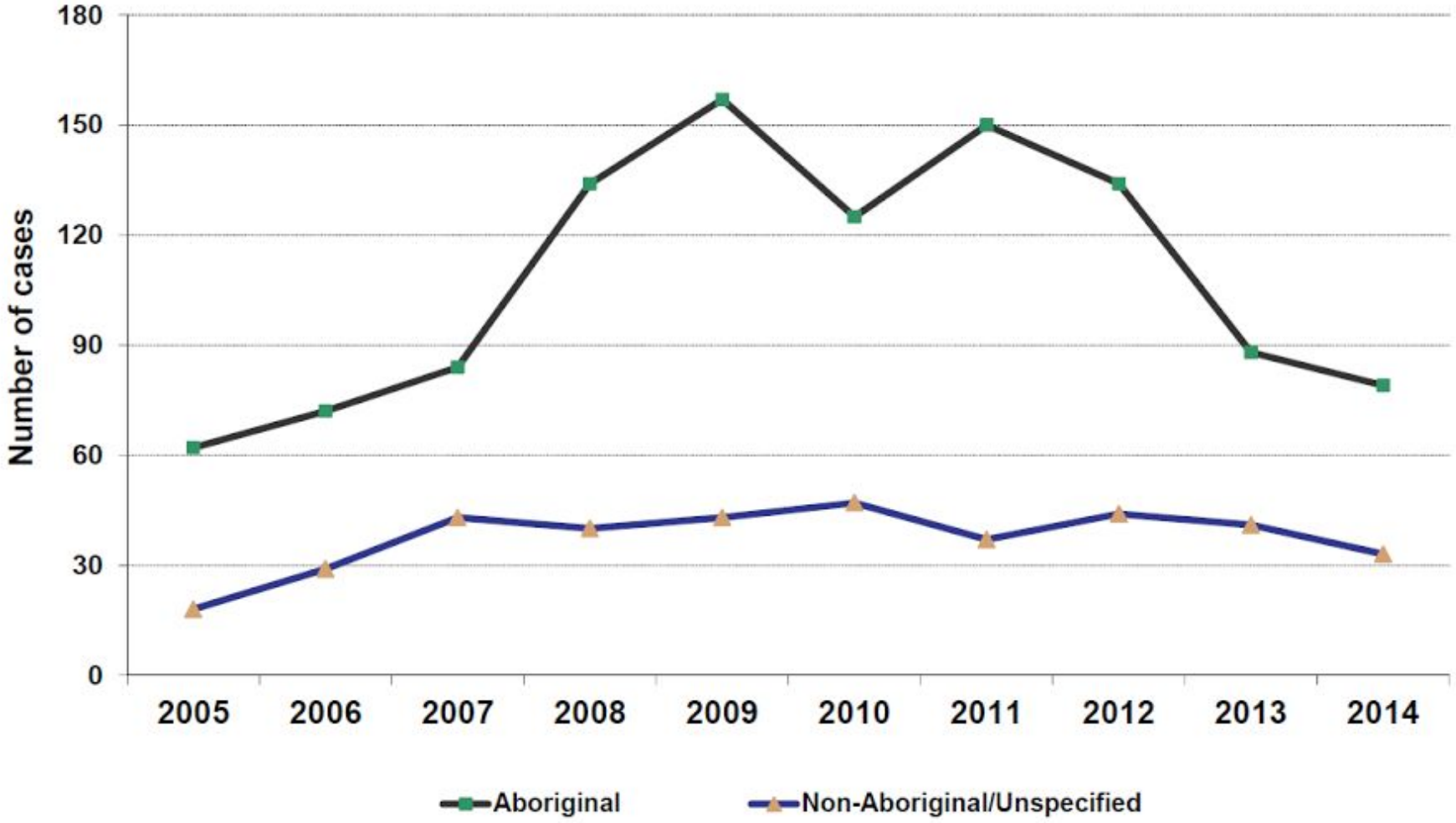
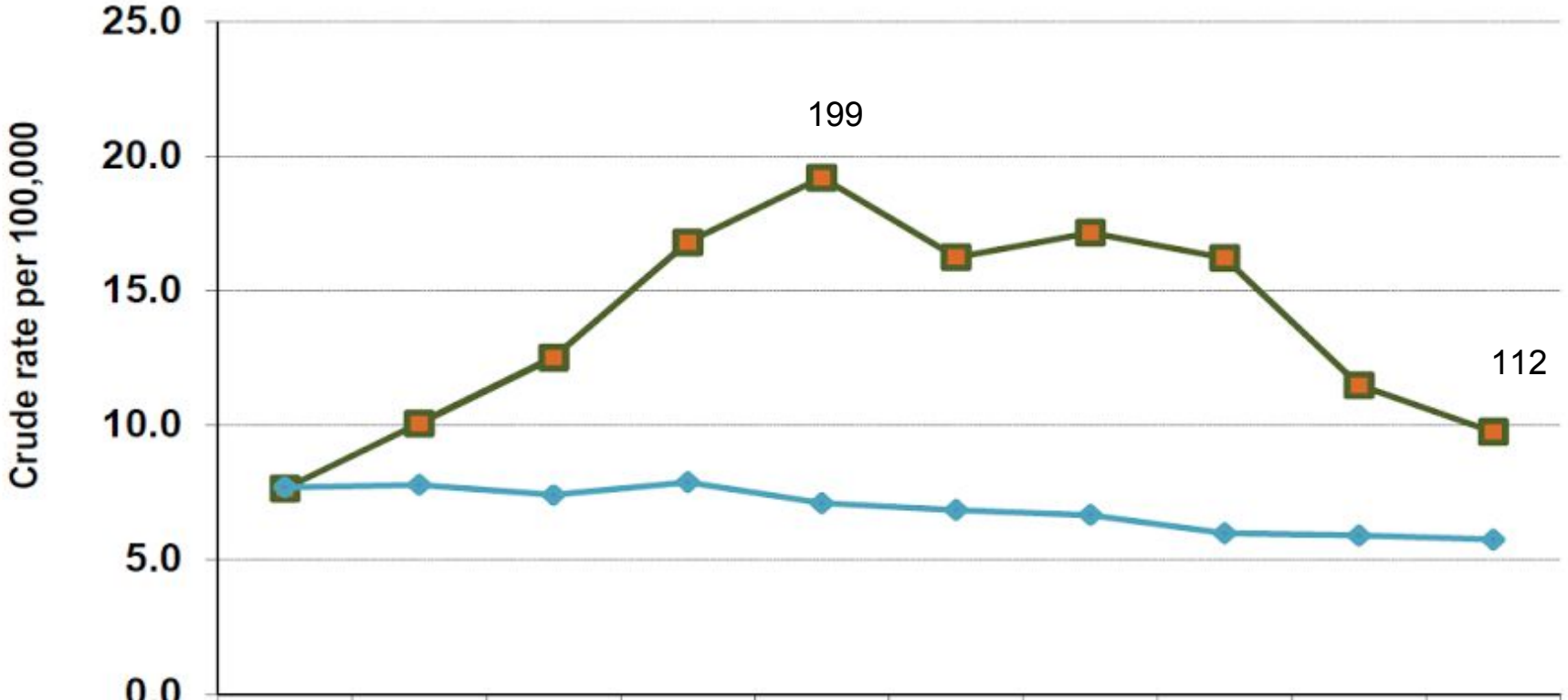


Fig 2

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



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
SK	7.7	10.1	12.5	16.8	19.2	16.3	17.2	16.2	11.5	9.8
Canada	7.7	7.8	7.4	7.9	7.1	6.9	6.7	6.0	5.9	5.8

Canadian rates from the Public Health Agency of Canada

The Numbers

- 9.8 new HIV infections/100k vs 5.8/100k in Canada
- ~2x national rate (down from 3x in 2009)
  - preliminary data show an increase in 2015/16 for Saskatchewan and a small decrease for rest of 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

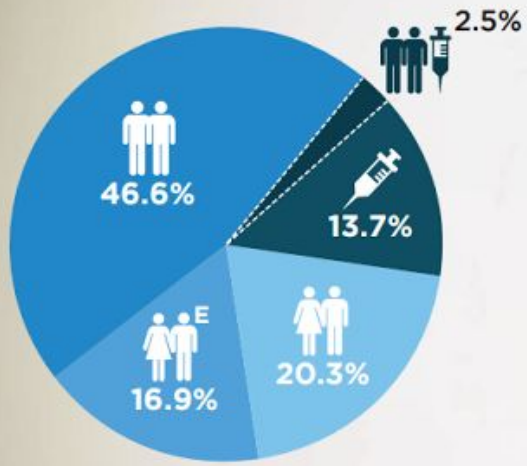
- 56% new HIV cases report IDU
  - 11% in rest of Canada(www.catie.ca)

- 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)

NEW HIV INFECTIONS IN CANADA

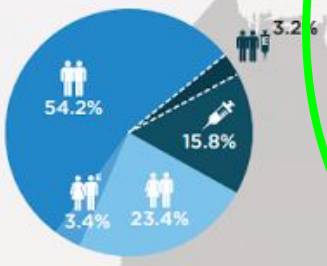
CATIE Canada's source for HIV and hepatitis C information | www.catie.ca

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



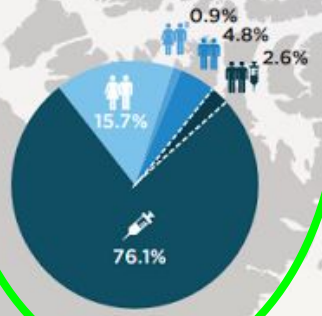
BRITISH COLUMBIA

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



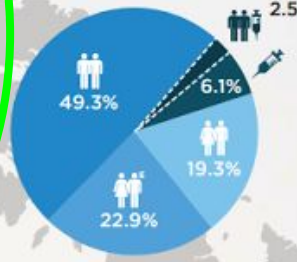
SASKATCHEWAN

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



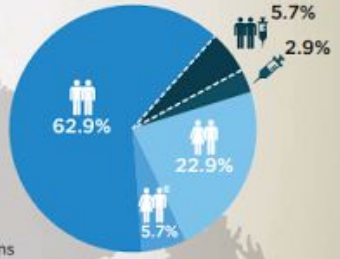
ONTARIO

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



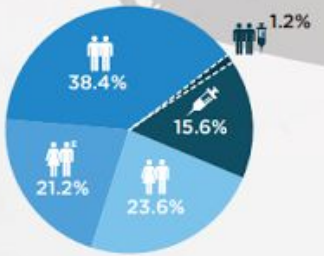
ATLANTIC CANADA

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



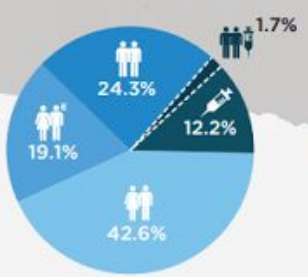
ALBERTA

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



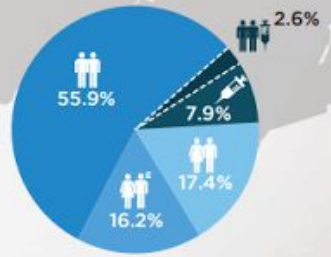
MANITOBA

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)



EXPOSURE CATEGORY

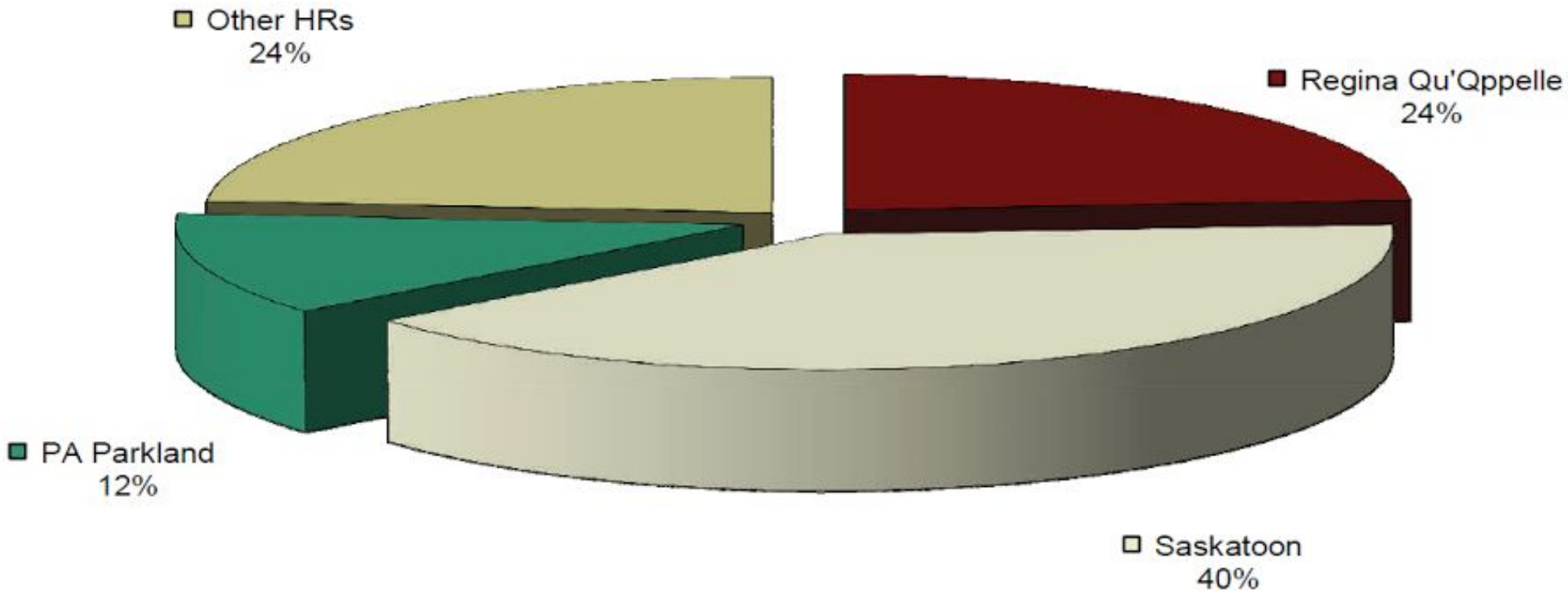
- Men who have sex with men
- Men who have sex with men and inject drugs
- People who inject drugs
- Heterosexual people, not including those born in countries where HIV is endemic
- Heterosexual people born in countries where HIV is endemic

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

Fig 6

Proportion of HIV cases reported by selected health regions Saskatchewan, 2005-2014



In 2016 PAPHR makes up ~25% new infections

Saskatchewan's Situation

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

Saskatchewan's Situation

- High prevalence in rural, northern and reserve communities where access to HIV 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.

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 government, federal health and provincial funding
- Lack of infrastructure and coordination to solve complex problem
- Need to make better use of existing resources and maximize efficiency by building capacity to treat increasing numbers

VS

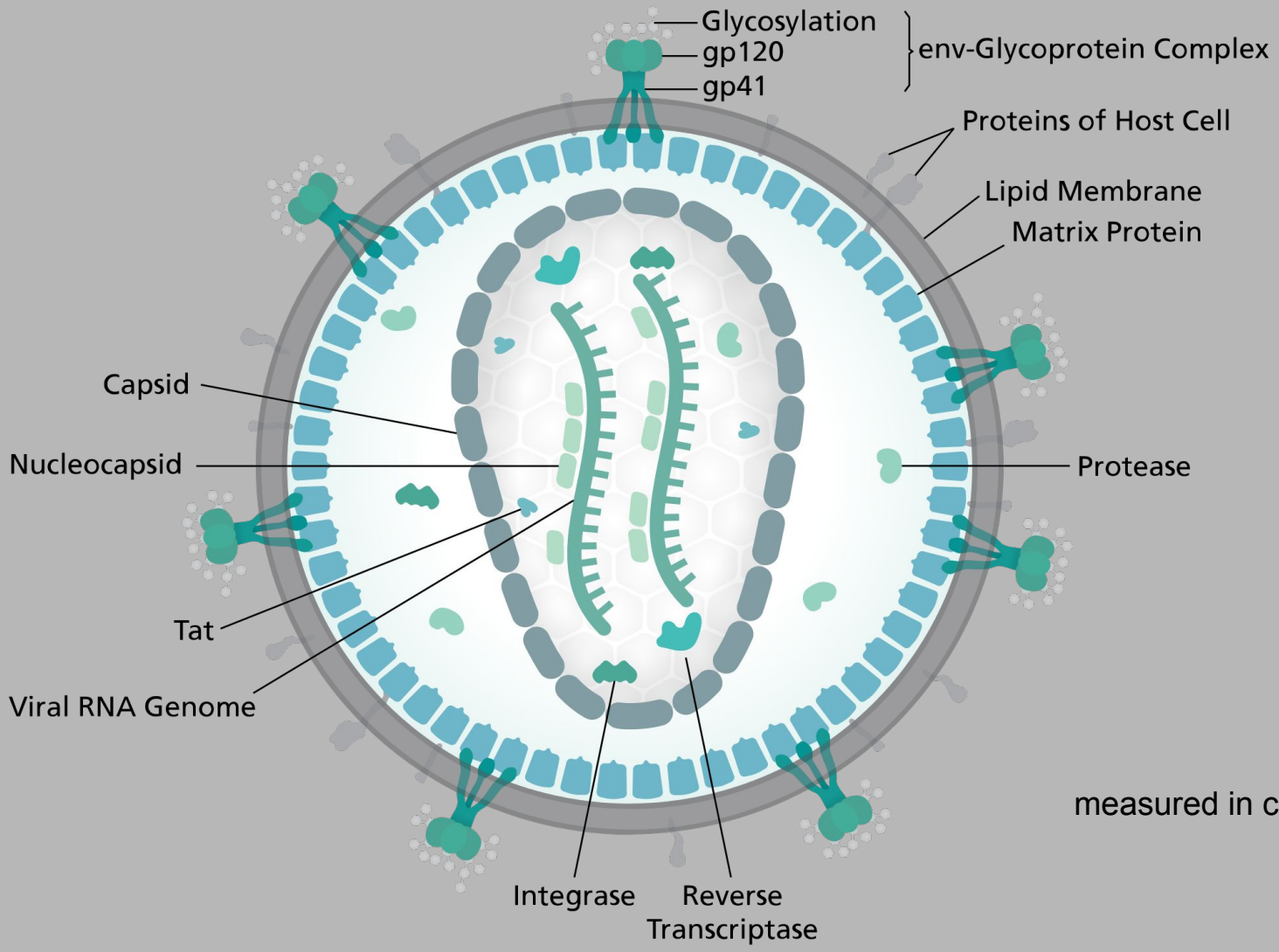
Who are we treating?

- HIV can infect and affect anyone regardless of ethnicity, income, drug use, location etc

- Treat the person with HIV, not just the HIV itself
  - 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

Human Immunodeficiency Virus

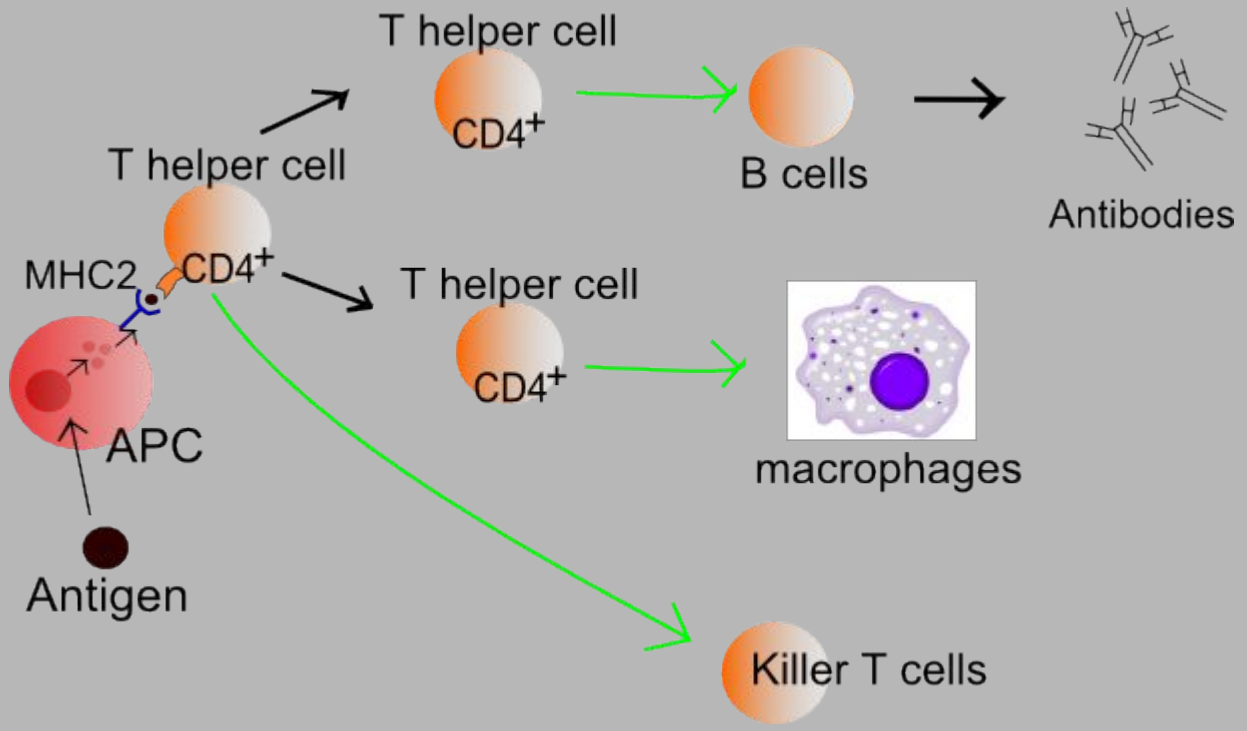


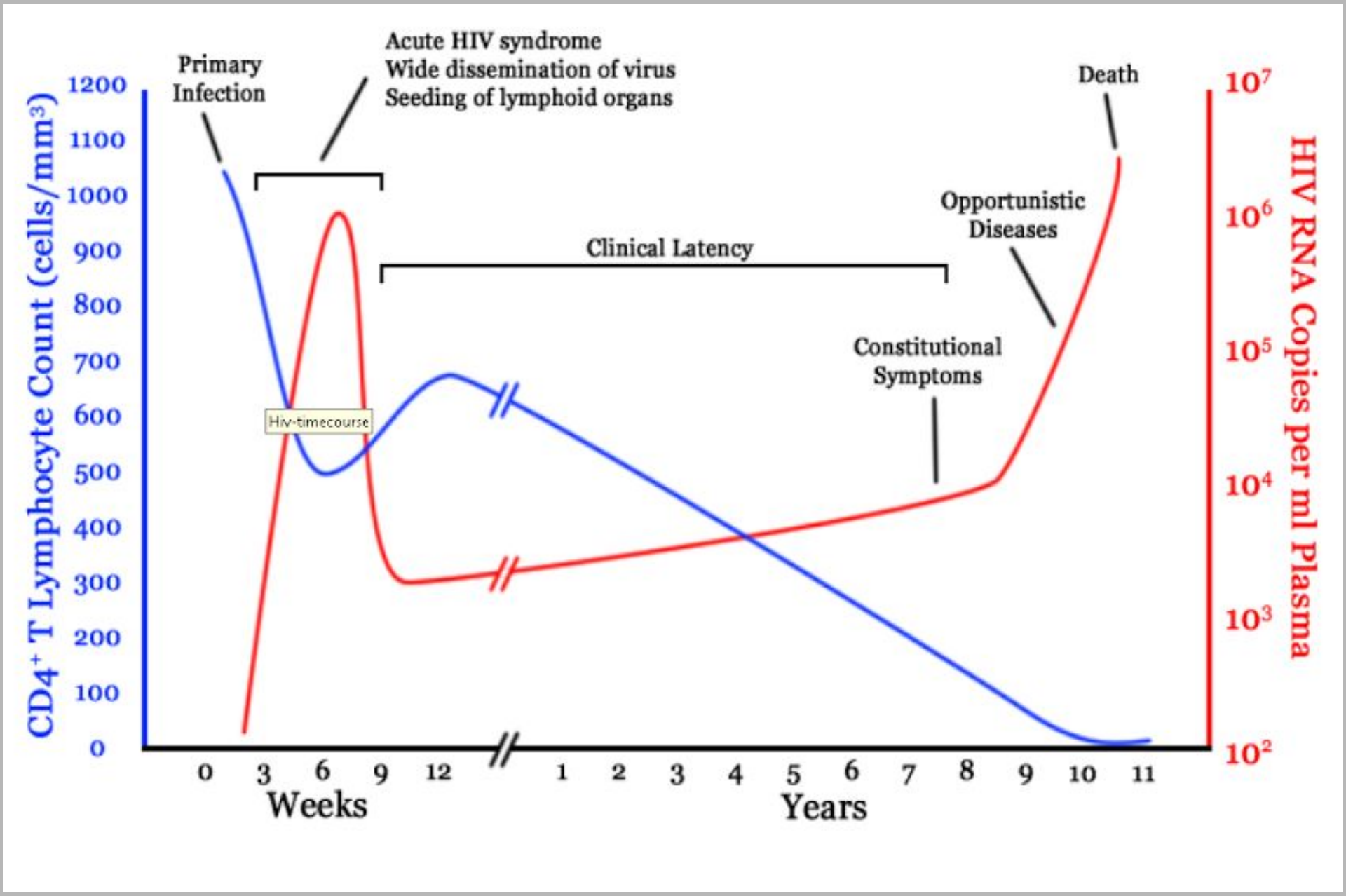
measured in copies/mL

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

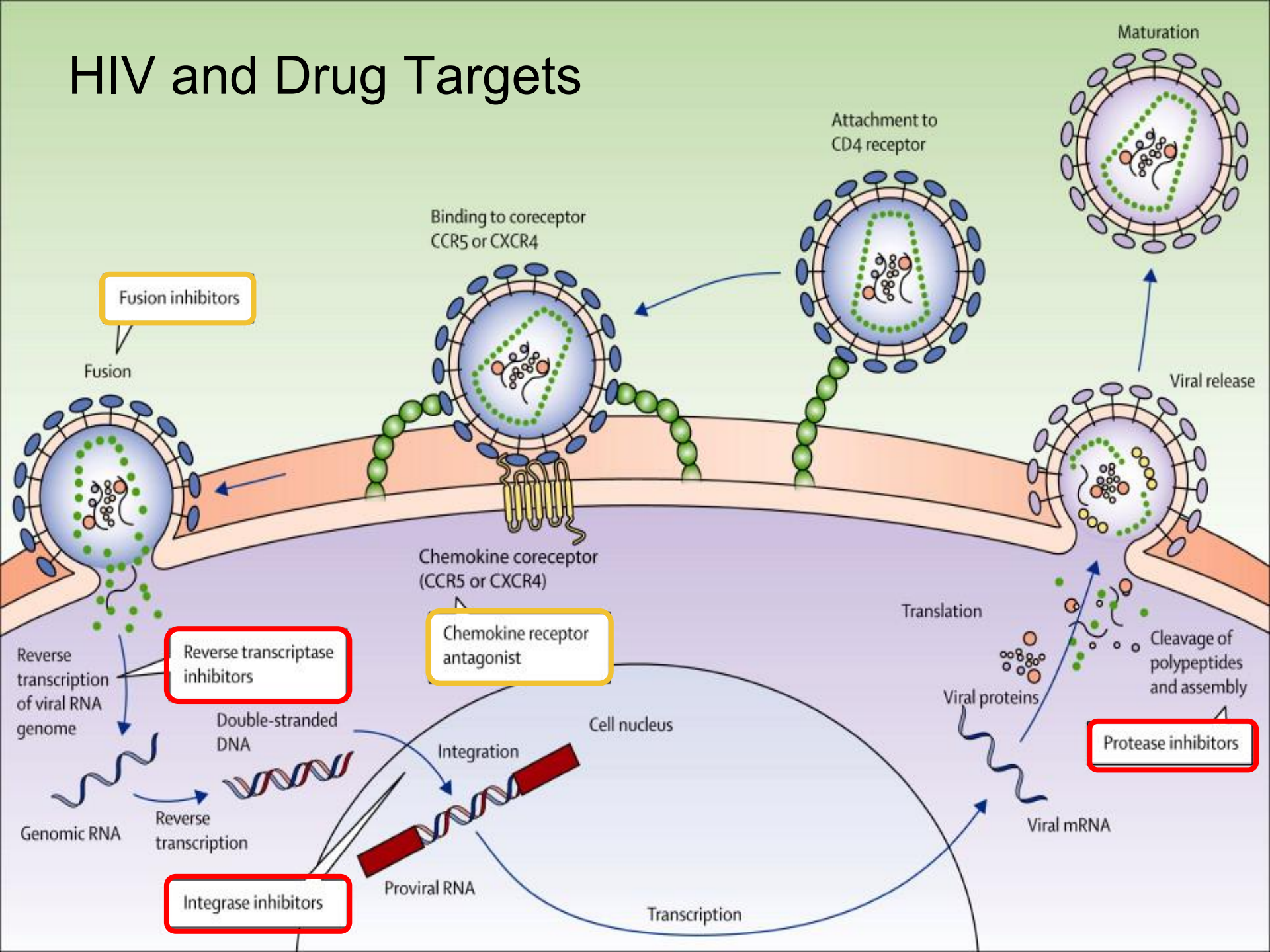
measured in cells per cubic millimetre (mm^3)



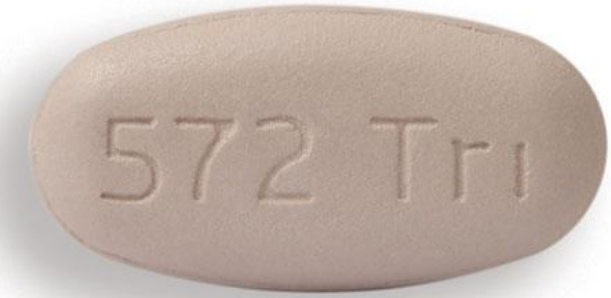

Primary Infection
Acute HIV syndrome
Wide dissemination of virus
Seeding of lymphoid organs
Clinical Latency
Opportunistic Diseases
Constitutional Symptoms
Death
Hiv-timecourse
CD4+ T Lymphocyte Count (cells/mm3)
HIV RNA Copies per ml Plasma
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
10^7
10^6
10^5
10^4
10^3
10^2
0 3 6 9 12
Weeks
1 2 3 4 5 6 7 8 9 10 11
Years

Anti-RetroVirals

HIV and Drug Targets



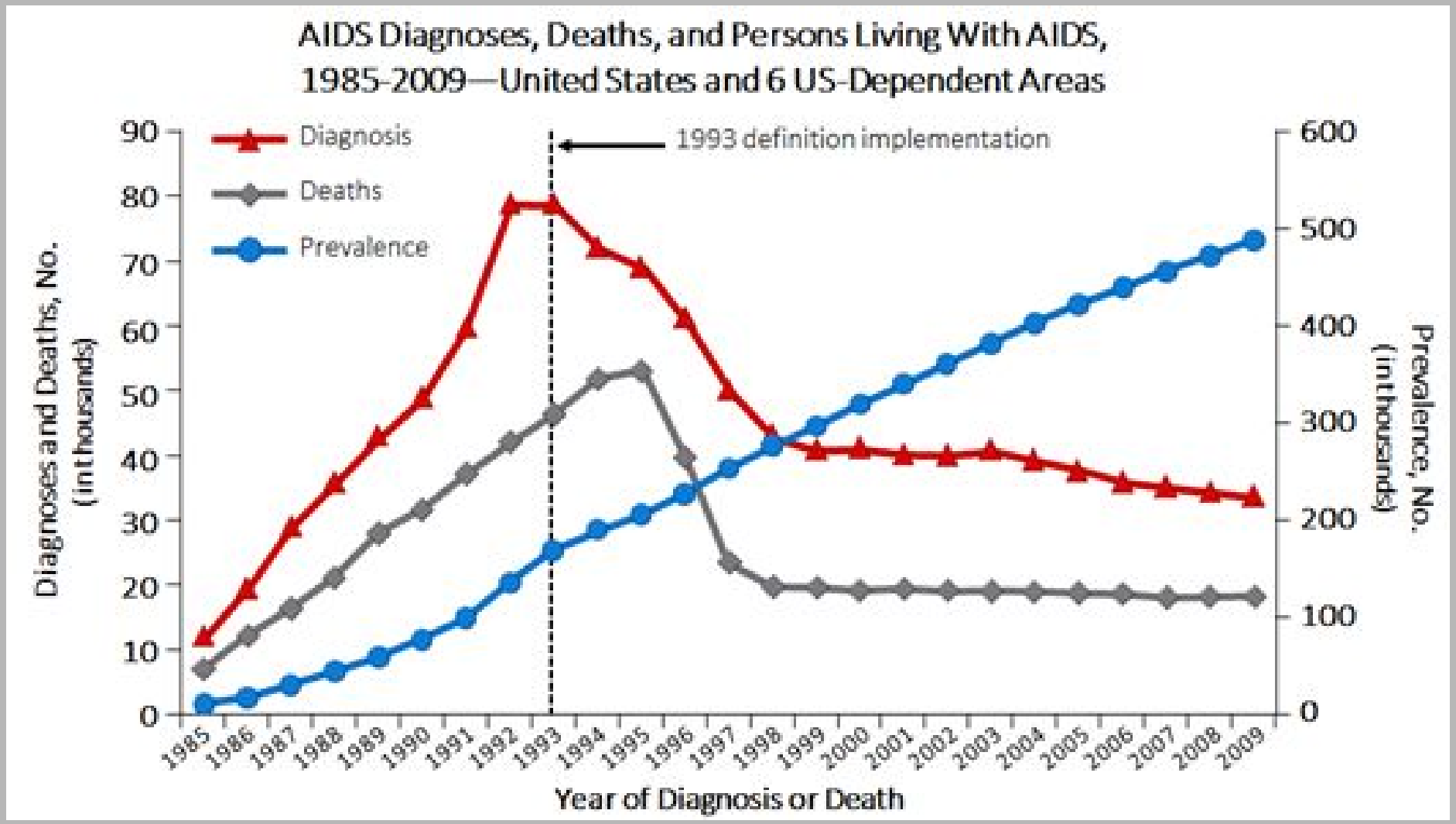
Anti-RetroVirals



Benefits of ART

- Effective ART:
  - Suppresses Viral Replication
    - “undetectable” viral load
  - Improves Immune Systems
    - Improved CD4+ counts
    - Avoidance of OIs and AIDS defining illnesses
    - Prevention of death
  - Reduces Inflammation
    - End-organ damage, cancers

Mortality Benefit



http://www.cdc.gov/hiv/topics/surveillance/resources/slides/trends/index.htm. Accessed March 7, 2013

Benefits of ART

- Individual
  - Longer lifespan than pre-HAART era
    - Near normal
  - Reduced morbidity and mortality
    - Associated hospitalizations
  - Reduced incidence of non-AIDS comorbidities
    - CVD, DM, CKD, non-AIDS cancers
    - Still higher than HIV- cohorts

Benefits of ART

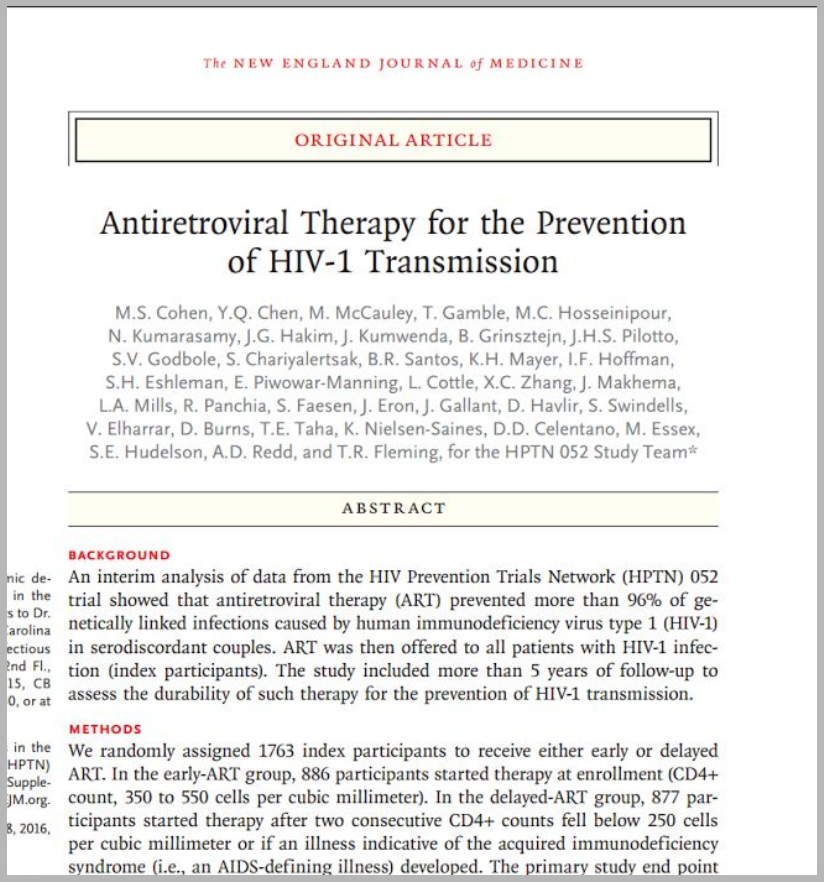
- Societal:
  - Reduced health care costs
  - Improved productivity

Benefits of ART

- Societal:
  - ZERO TRANSMISSIONS
    - Treatment as Prevention (TasP)
    - 90-90-90 Approach

- Less transmissions saves countless dollars

We Can End HIV Epidemic



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. Kumwenda, 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

HPTN 052 - published in NEJM July 18, 2016

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,

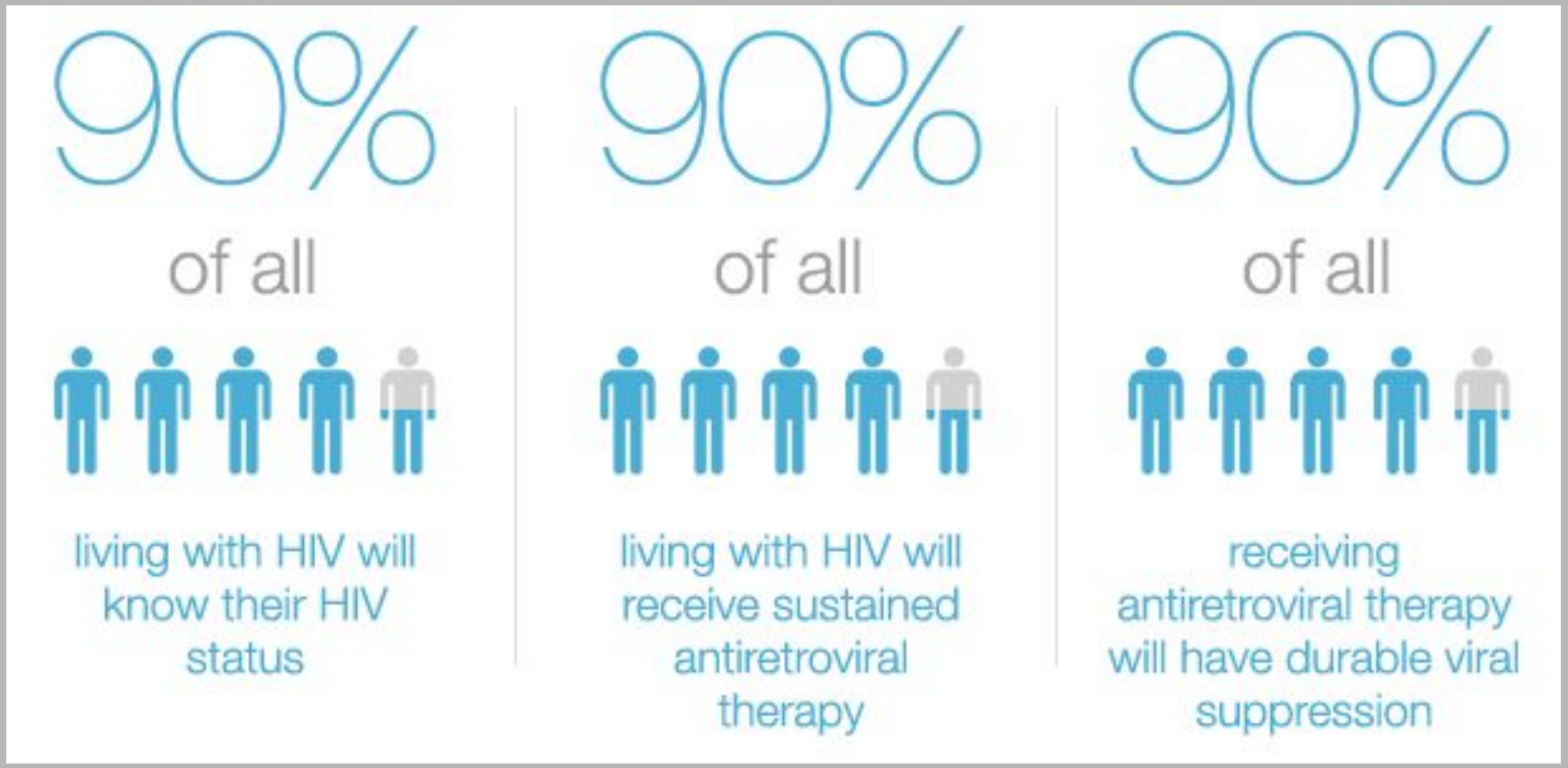
PARTNER Study presented at CROI - 2014

Undetectable = Untransmittable

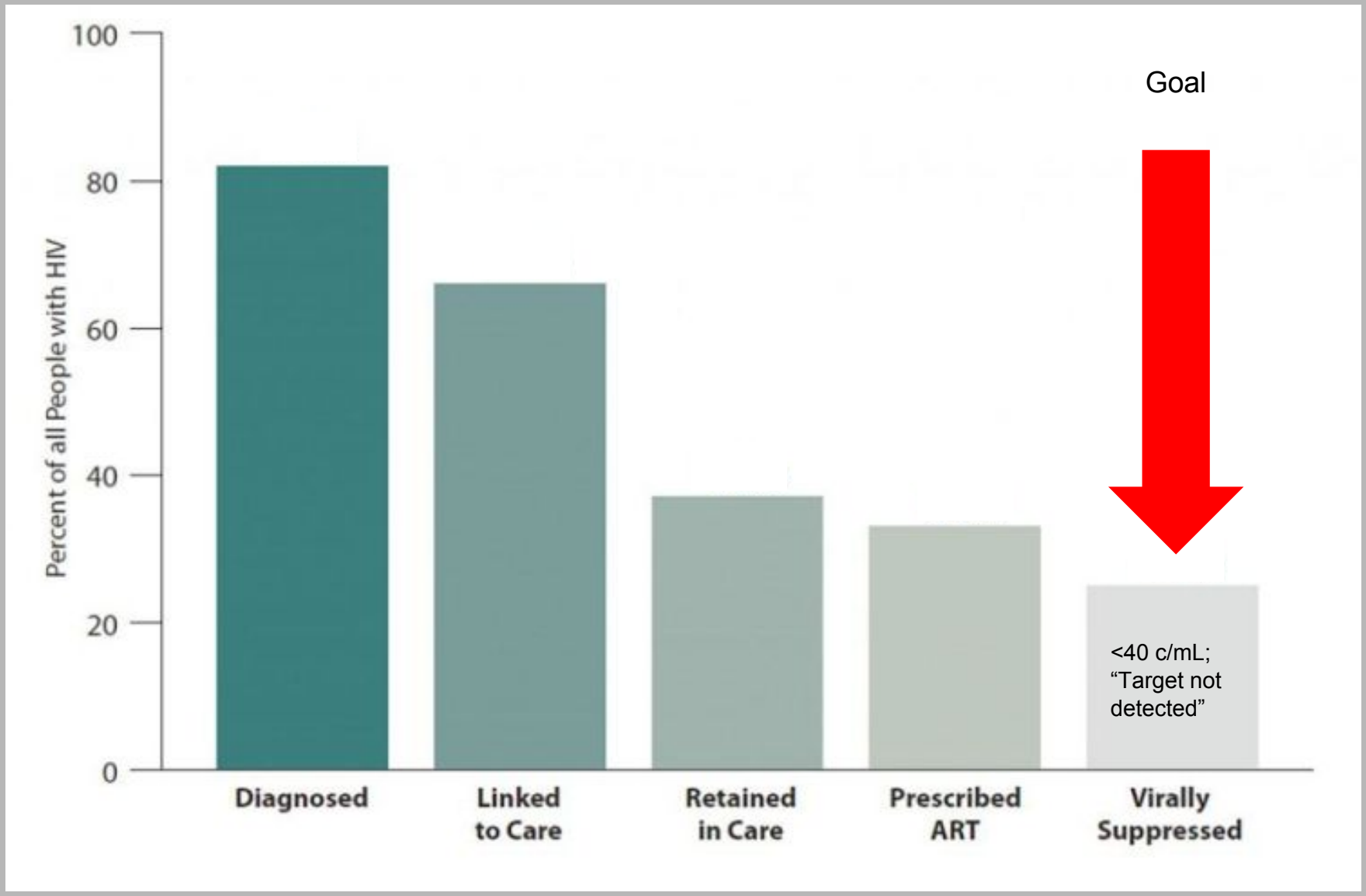
People living with HIV on antiretroviral therapy (ART) and virally suppressed "are **not capable of transmitting HIV to a sexual partner.** With successful ART, that individual is **no longer infectious."**

Dr. Carl Dieffenbach,
Director of the Division of AIDS, NIAID
National Institutes of Health
(August 26, 2016)

We Can End HIV Epidemic



Cascade of Care



HIV Basics

- Lots of support needed
  - At ALL stages of cascade
  - Fragmented system

- Many steps to achieve goal of Cascade
  - Not always linear progression
  - Different barriers for different patients at different times

Pharmacist Roles in Cascade

"My pharmacists (clinical and community) are very important to me! They're the final part of my healthcare team – like the final piece of a puzzle that shows the complete picture.

As an individual that has to visit many different doctors and specialists, it is my pharmacists that do not change. So they are the ones who truly know my entire medication regiment. I trust them with my life! I trust them to recognize any potential problems with my drugs and to let me and my doctors know about it."

-Dom

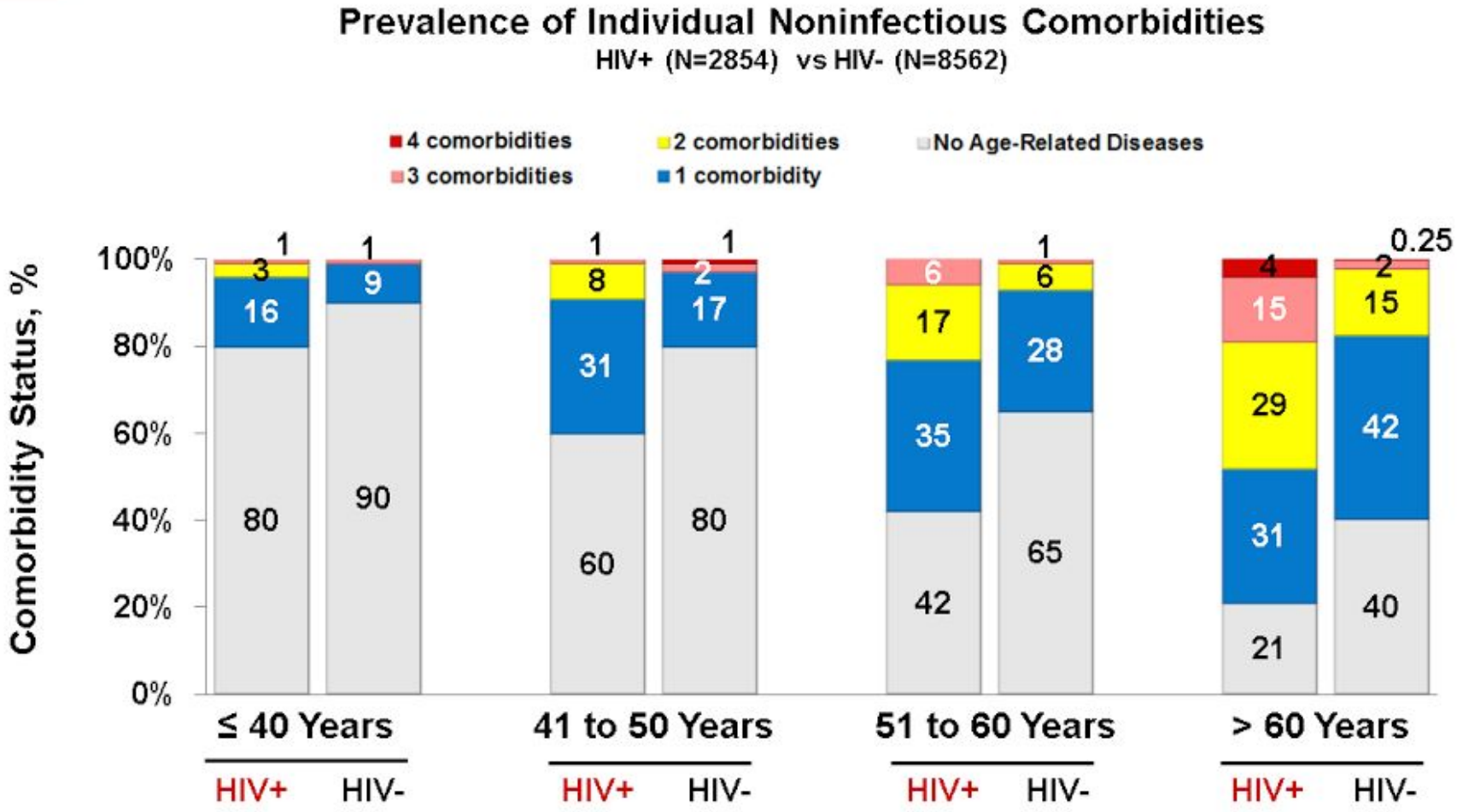
Pharmacist Roles in Cascade

- Diagnosis
  - Testing for HIV/HCV
    - Being done by some pharmacies in Saskatchewan; pilot projects across Canada
  - Harm reduction
    - Who is at risk for HIV/HCV and when was their last test?

Pharmacist Roles in Cascade

- Diagnosis
  - Comorbidity Managers
    - Cardiovascular
    - renal
    - Bone
    - smoking cessation
    - Addictions
    - Gastrointestinal
    - viral hepatitis
  - Premature aging

HIV+ vs HIV-
Onset of Age-Related Comorbidities

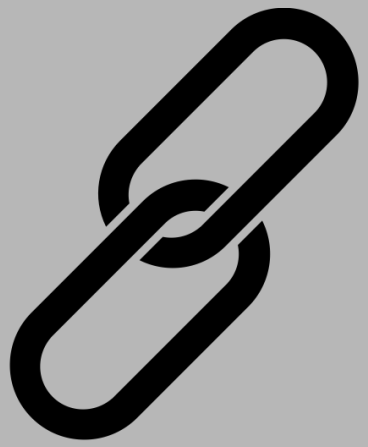


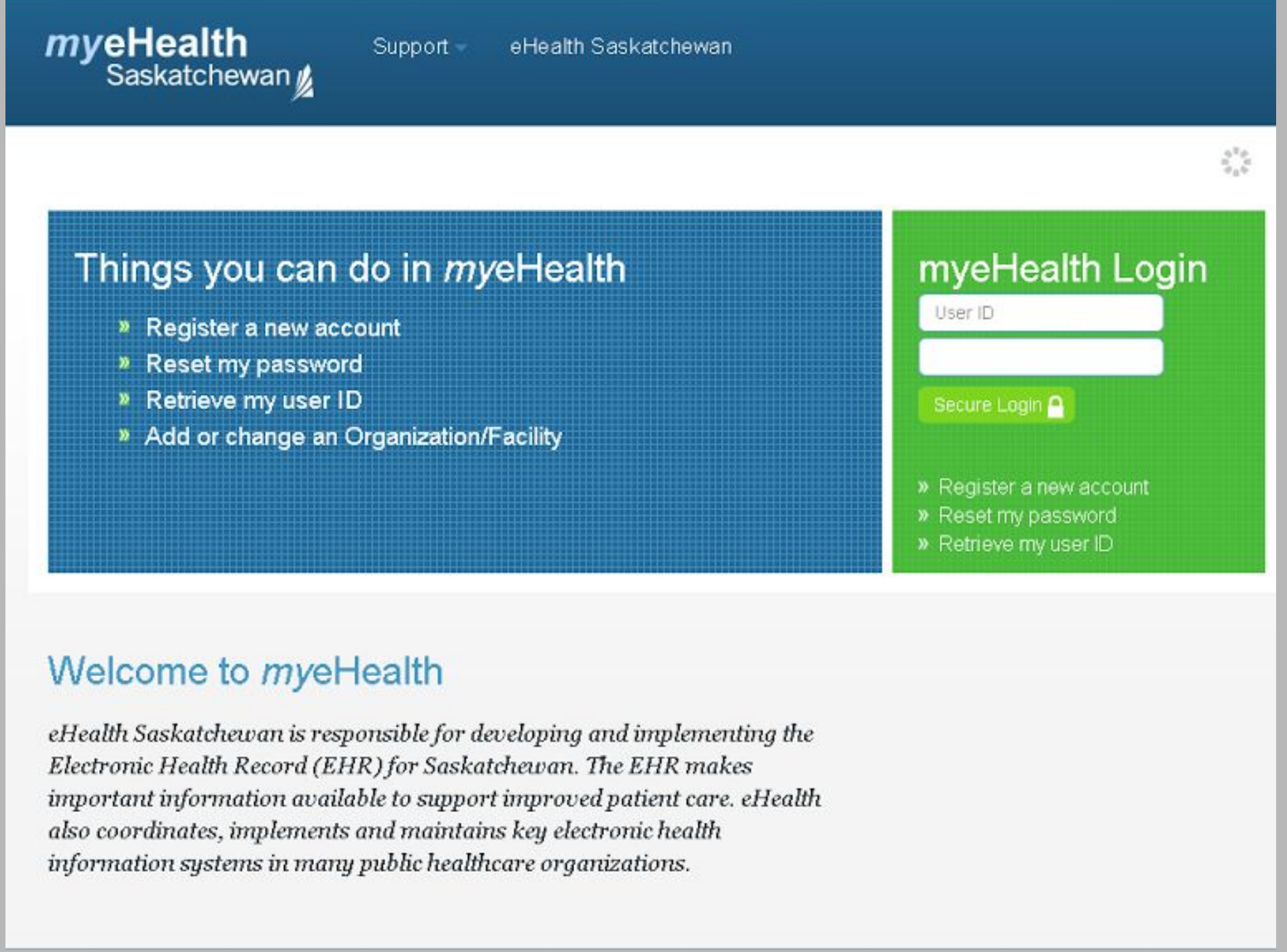
HIV+ individuals vs age-matched HIV- controls have more individual noninfectious comorbidities and at an earlier age (all P < 0.001)

Guaraldi G, et al. *Clin Infect Dis.* 2011;53:1120-1126.

Pharmacist Roles in Cascade

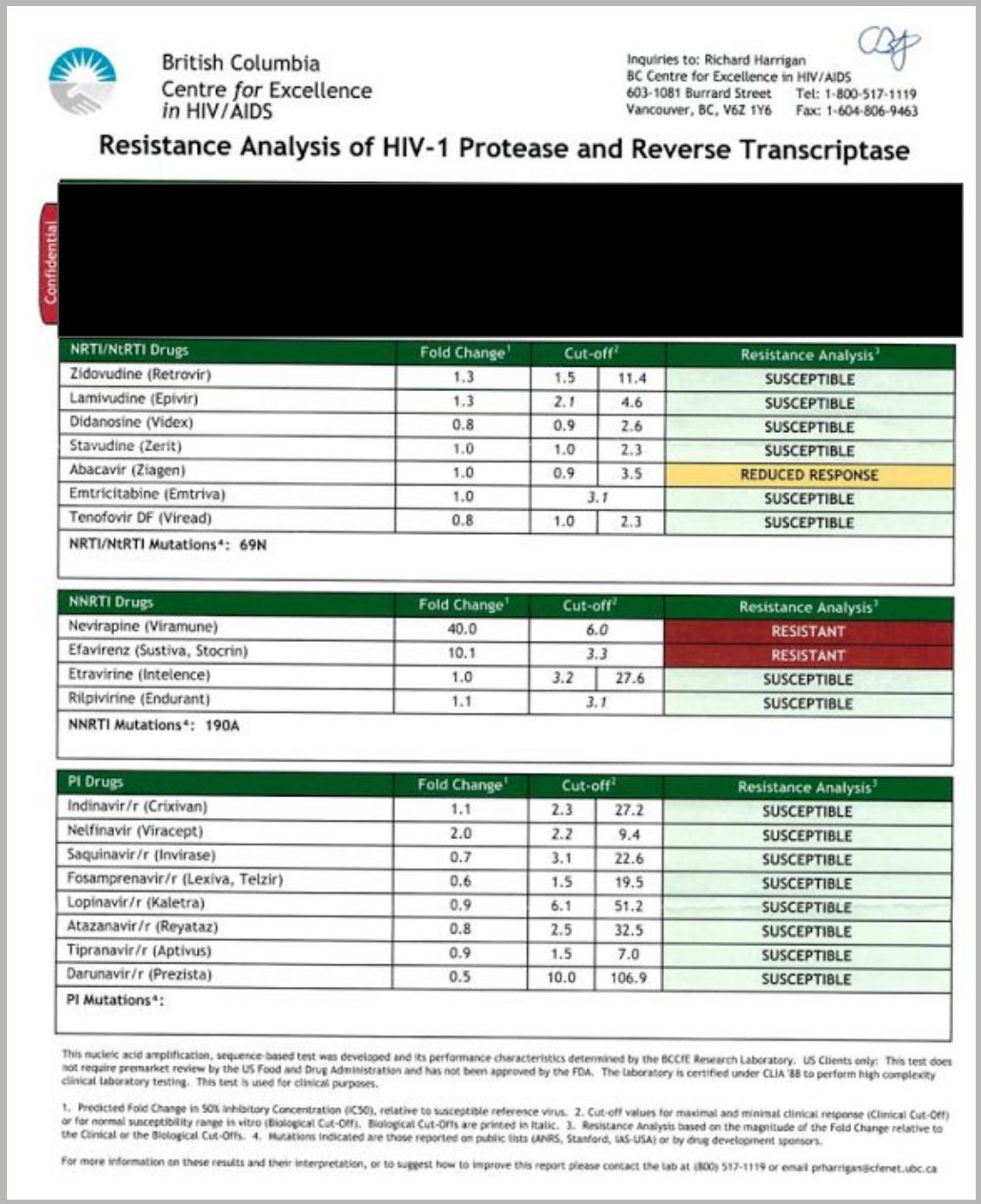
- <u>Linked/Retained in Care</u>
  - Coordinators/intermediaries between HIV team, community workers and patients
  - Community support linkage
    - CBOs
  - Appointments
  - Laboratory tests & monitoring
    - eHealth portal to stay up to date on lab values




myeHealth
Saskatchewan
Support
eHealth Saskatchewan
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
User ID
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.

Pharmacist Roles in Cascade

- Prescribed ART
  - Drug therapy experts
    - Ensure right drug/regimen
      - Ensure **entire regimen** is dispensed at each visit - *common drug error*
    - DDIs - ongoing basis
    - Coverage in place
      - This can change - be cautious!
      - Patients may be embarrassed to seek help
    - Adverse effects
      - Minor to major can all impact adherence



British Columbia Centre for Excellence in HIV/AIDS

Inquiries to: Richard Harrigan
BC Centre for Excellence in HIV/AIDS
603-1081 Burrard Street Tel: 1-800-517-1119
Vancouver, BC, V6Z 1Y6 Fax: 1-604-806-9463

Resistance Analysis of HIV-1 Protease and Reverse Transcriptase

Confidential

[redacted]

NRTI/NtRTI Drugs	Fold Change[1]	Cut-off[2]		Resistance Analysis[3]
Zidovudine (Retrovir)	1.3	1.5	11.4	SUSCEPTIBLE
Lamivudine (Epivir)	1.3	*2.1*	4.6	SUSCEPTIBLE
Didanosine (Videx)	0.8	0.9	2.6	SUSCEPTIBLE
Stavudine (Zerit)	1.0	1.0	2.3	SUSCEPTIBLE
Abacavir (Ziagen)	1.0	0.9	3.5	REDUCED RESPONSE
Emtricitabine (Emtriva)	1.0	*3.1*		SUSCEPTIBLE
Tenofovir DF (Viread)	0.8	1.0	2.3	SUSCEPTIBLE
NRTI/NtRTI Mutations[4]: 69N				

NNRTI Drugs	Fold Change[1]	Cut-off[2]		Resistance Analysis[3]
Nevirapine (Viramune)	40.0	*6.0*		RESISTANT
Efavirenz (Sustiva, Stocrin)	10.1	*3.3*		RESISTANT
Etravirine (Intelence)	1.0	*3.2*	27.6	SUSCEPTIBLE
Rilpivirine (Endurant)	1.1	*3.1*		SUSCEPTIBLE
NNRTI Mutations[4]: 190A				

PI Drugs	Fold Change[1]	Cut-off[2]		Resistance Analysis[3]
Indinavir/r (Crixivan)	1.1	2.3	27.2	SUSCEPTIBLE
Nelfinavir (Viracept)	2.0	2.2	9.4	SUSCEPTIBLE
Saquinavir/r (Invirase)	0.7	3.1	22.6	SUSCEPTIBLE
Fosamprenavir/r (Lexiva, Telzir)	0.6	1.5	19.5	SUSCEPTIBLE
Lopinavir/r (Kaletra)	0.9	6.1	51.2	SUSCEPTIBLE
Atazanavir/r (Reyataz)	0.8	2.5	32.5	SUSCEPTIBLE
Tipranavir/r (Aptivus)	0.9	1.5	7.0	SUSCEPTIBLE
Darunavir/r (Prezista)	0.5	10.0	106.9	SUSCEPTIBLE
PI Mutations[4]:				

This nucleic acid amplification, sequence-based test was developed and its performance characteristics determined by the BCCfE Research Laboratory. US Clients only: This test does not require premarket review by the US Food and Drug Administration and has not been approved by the FDA. The laboratory is certified under CLIA '88 to perform high complexity clinical laboratory testing. This test is used for clinical purposes.

1. Predicted Fold Change in 50% Inhibitory Concentration (IC50), relative to susceptible reference virus. 2. Cut-off values for maximal and minimal clinical response (Clinical Cut-Off) or for normal susceptibility range in vitro (Biological Cut-Off). Biological Cut-Offs are printed in Italic. 3. Resistance Analysis based on the magnitude of the Fold Change relative to the Clinical or the Biological Cut-Offs. 4. Mutations indicated are those reported on public lists (ANRS, Stanford, IAS-USA) or by drug development sponsors.

For more information on these results and their interpretation, or to suggest how to improve this report please contact the lab at (800) 517-1119 or email prharrigan@cfenet.ubc.ca

- Genotyping
  - Are the prescribed drugs effective in this patient?

- HLA B*5701 status
  - Are they on a abacavir containing regimen

Drug Interactions

- 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
  - http://hivclinic.ca/drug-information/ - excellent Canadian resource!
  - http://hivinsite.ucsf.edu/insite?page=ar-00-02

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

Pharmacist Roles in Cascade

- <u>Viral Suppression</u>
  - *Overcoming Adherence Barriers*
    - Coverage
    - Adverse effects managment
    - Convenience packaging
    - Transitions in Care
    - Creative solutions to barriers in care
  - Adherence is notoriously difficult to assess
  - *Persistence* vs *adherence*

<40 c/mL or

TARGET NOT DETECTED

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

Time Collected
Time Reported
Ordering Provide
Specimen Sourc
Copied To
Comments

[redacted]

REGINA SK S4P0W5

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 postive patients receiving anti-retroviral drug therapy. Use of this product for screening or diagnosis is neither licensed nor validated.

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.

- 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

Managing Adverse Effects

- Try non-pharm strategies first (play with dose timing, food, etc)
- Maintain support and encouragement for patients considering going off therapy
  - use eHealth to show patient their VL or CD4 progress
- Nausea
  - dimenhydrinate, metoclopramide, ondansetron
- Diarrhea
  - loperamide

Managing Adverse Effects

- Headache
  - acetaminophen (caution in HCV+ or heavy alcohol users); NSAIDs (use caution if patient on TDF)
- Rash
  - return to clinic for assessment ASAP
  - hydroxyzine, diphenhydramine
- Sleeping difficulty
  - change dose time, ?sedative such as diphenhydramine or zopiclone
- Lipids
  - low dose statin if indicated

Managing Adverse Effects

- Abacavir Hypersensitivity
  - Onset within 7-8 days on average
    - Fever, influenza like symptoms, GI involvement, rash
  - Highly correlates with presence of HLA B*5701 allele
    - Tested for before treatment started - can find on eHealth portal
  - Immediately stop drug!
    - Symptoms may resolve quickly
    - Never rechallenge as this can result in rapid and severe onset of symptoms with potential death
  - Abacavir (Kivexa & generics, Triumeq)

Pharmacist Roles in Cascade

- Viral Suppression
  - Maintaining Viral Suppression
    - Lifelong, chronic illness
    - encouragement/feedback
    - Ongoing monitoring lab values and clinic checkups
  - Intervene when necessary
  - Treat person with HIV as any other patient; build strong relationships
    - Better outcomes

Barriers to Adherence

Perspective

Barriers to Adherence

- Pill burden
- Adverse Effects
- Treatment fatigue
- Relative regimen complexity
- Navigation of health care system
- Drug Costs
- Swallowing difficulty
- Transitions in care

Barriers to Adherence

- Cultural differences
- Housing Stability/Transiency
  - Remote/Rural/Northern isolation
- Social chaos
- Addictions/Mental Health
- Access to Food

Stigma

- Diabetes vs HIV outcomes
- Both chronic and treatable - why do we see them differently?
- Stigma:
  - Nature of disease
  - Characteristics of HIV+ people
  - Community support (urban setting vs rural; cultural differences)

Stigma

- Privilege and our perspective of HIV treatment can be a barrier
- Imperative to be aware that our experience is different than that of the patients
- Be empathetic (put yourself in their shoes) vs sympathetic (pity)
- **Confidentiality** - patient's status must be kept confidential
  - Includes medication names, etc

HIV Basics

- ART is the key to getting to ‘viral suppression’
  - Pharmacists are experts in drug therapy provision
    - Under/poorly utilized in Saskatchewan
    - Unique opportunities vs other provinces
      - Community vs central ARV dispensaries
  - Pharmacists can be valuable resources at other steps of the cascade

Summary: Success and Failure

- AIDS cases aren't decreasing
  - 22/28 AIDS cases in 2014 alive
- Provision of ART to hard to reach populations
  - Does it go far enough?
- Reduced HIV incidence
  - True incidence?
  - Northern/Remote communities

Success and Failure

- Adherence Supports
  - DOT/EA approaches
    - Documented success in chaotic populations
    - System barriers to implementation
  - Home care
  - Case Management

The Future

- Integration of community pharmacists into HIV team
  - Use of EMRs
  - Lower threshold for feedback to clinic team
    - Improved communications mechanisms
  - HIV testing and follow up
  - Care coordination
  - Case management involvement

The Future

- Building capacity
  - Targeted education
  - Intra/Interdisciplinary collaboration
  - Strategies for overcoming adherence barriers

- Research
  - Data needed
  - Projects

The Future

- Pharmacist compensation
- Community Practice Guidelines
  - Certifications
  - Internships
- 100% ARV reimbursement for all Saskatchewan people
- SK HIV Pharmacists Interest Group/Network
  - Sharing of information
  - Collaboration
  - Data collection

Resources

- SK HIV Collaborative
  - http://www.skhiv.ca/
- Canadian HIV/AIDS Pharmacists Group (CHAP)
  - http://hivclinic.ca/chap/
- AIDSInfo Guidelines
  - https://aidsinfo.nih.gov/guidelines
- BC Centre for Excellence
  - http://www.cfenet.ubc.ca/
- Drug Interactions
  - http://hivclinic.ca/main/drugs_interact.html
- Clinical Pharmacists
  - Regina - 306.766.0717
  - Saskatoon - 306.655.0688

An HIV Free Saskatchewan

Conclusions

- HIV is a chronic illness easily treated with ART
- People living with HIV are individuals and are more than their infection
- Myriad challenges and barriers to effective HIV diagnosis, engagement and treatment in Saskatchewan
  - Exacerbated by fragmented system
- As gatekeepers of ARVs and drug therapy experts, pharmacists are key players in guiding patients through the HIV Care Cascade

Conclusions

- Active involvement of pharmacists in HIV care results in better outcomes
- Opportunities exist to increase capacity for pharmacist lead HIV interventions
- Ongoing educational opportunities and collaboration will produce novel ways of overcoming barriers to HIV care

Questions?

- Please sign up for Thursday!

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