Reflections on how to address the resurgence of syphilis in Canada

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IUSTI Webinar

November 30, 2020

I would like to respectfully acknowledge that we are located on Treaty 6 territory, a traditional gathering place for diverse Indigenous peoples whose histories, languages, and cultures continue to influence our vibrant community.

Disclosures/Disclaimers

- No disclosures
- But the information, opinions and views presented in this webinar reflect my views and not of any of my affiliated organizations
- Since I work in Edmonton/Alberta, much of what I will share is from Alberta

WARNING: SOME GRAPHIC CLINICAL PHOTOGRAPHS INCLUDED

Objectives

1. To describe the epidemiology of infectious syphilis in Canada
2. To discuss some reasons for the observed rise in syphilis cases
3. To present some possible solutions to the observed rise in cases

“If I were asked which is the most destructive of all diseases, I should unhesitatingly reply, it is that which for some years has been raging with impunity. . . . What contagion does thus invade the whole body, so much resist medical art, becomes inoculated so readily, and so cruelly tortures the patient?”

Desiderius Erasmus,1520

Portrait of Erasmus of Rotterdam, National Gallery, London

Question 1

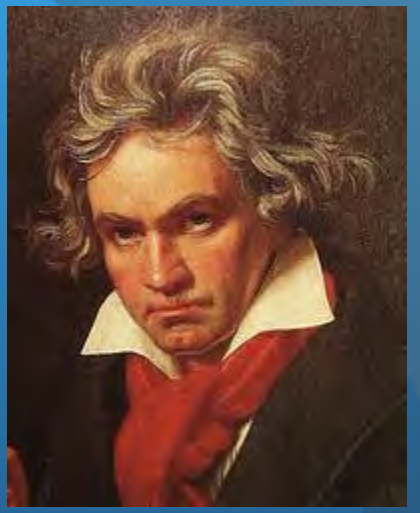
Which of the following STIs has the *highest* reported incidence in Canada:

A. Chlamydia
B. Gonorrhea
C. Genital herpes
D. Genital warts
E. Syphilis

Syphilis has been around forever…Famous syphilitics

Genius to madness: Famous (probable) syphilitics
James Joyce, Idi Amin,
Al Capone and Lenin.

Christopher Columbus



Ludwig van Beethoven

Important events in the history of syphilis

1495

First recorded outbreak of syphilis in Europe

1905

Schaudinn and Hoffman discover *Treponema pallidum*

1906

First serological test for syphilis by Wasserman, Neisser and Bruck

1943

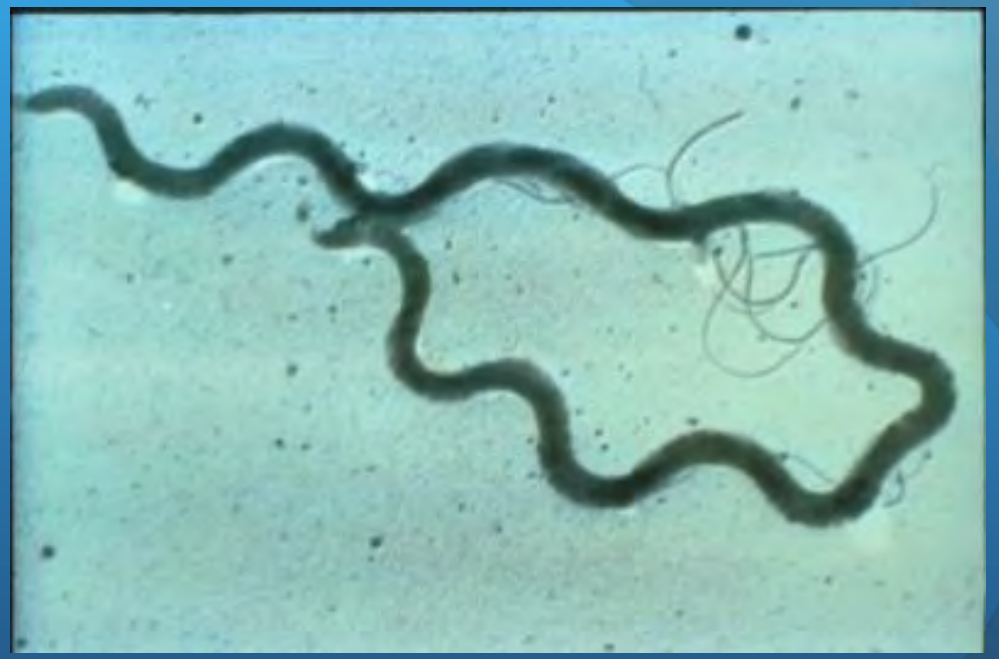
Mahoney and colleagues successfully treat 4 patients with syphilis with penicillin

2020

Global syphilis rates rising; in Alberta highest since 1948

Syphilis
Etiology

- *Treponema pallidum subsp. pallidum*
- Spirochete
- Identical morphology, antigenic properties and DNA homology to *T. pallidum subsp. pertenue* (yaws), *subsp. endemicum* (endemic syphilis) and *T. carateum* (pinta)

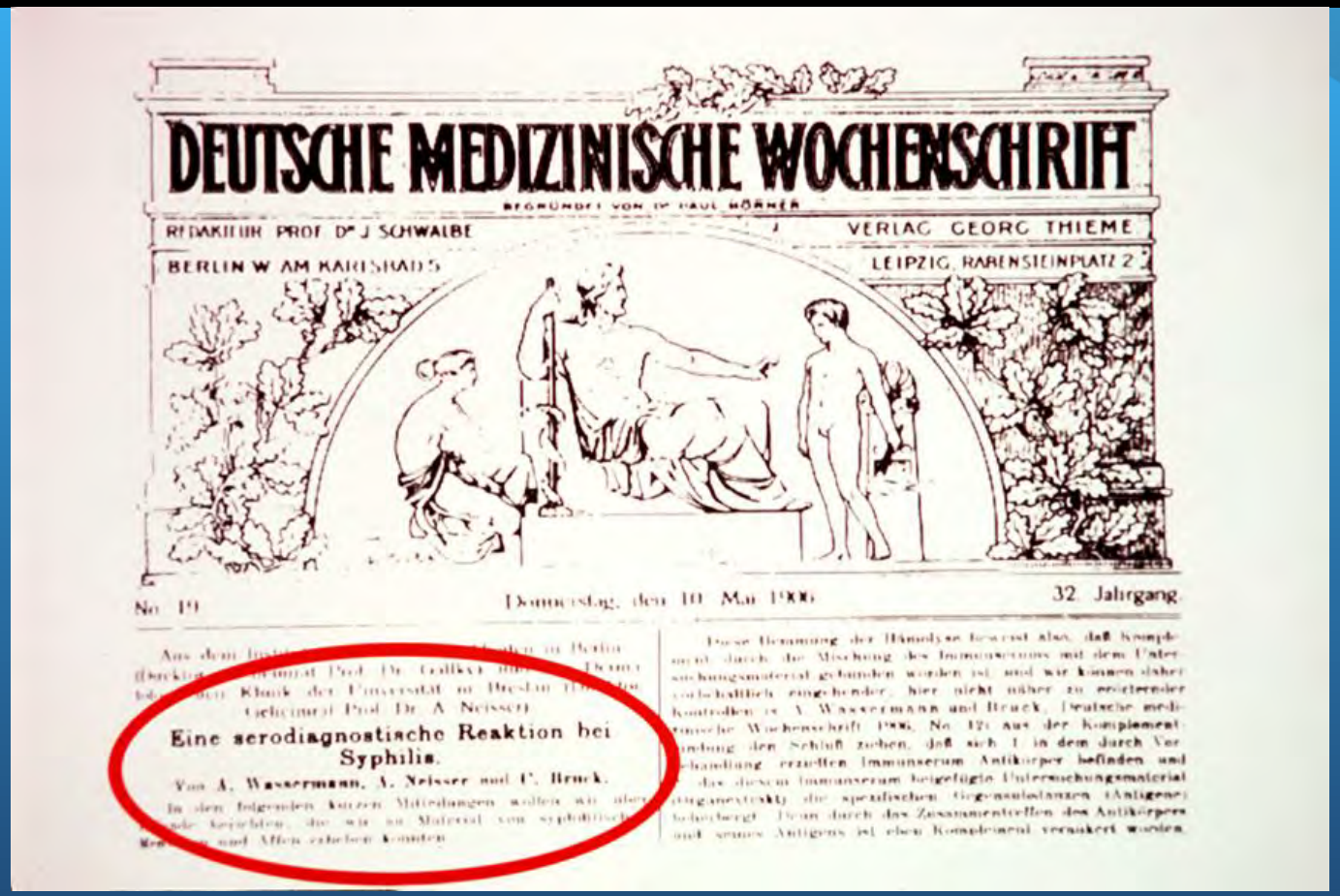


http://www.cdc.gov/std/training/clinicalslides/slides-dl.htm

Syphilis - Diagnosis/Staging

- HISTORY
  - Symptoms
  - Epidemiologic exposure
  - Risk groups
- CLINICAL MANIFESTATIONS (e.g. lesions, rash)
- SYPHILIS PCR (chancre, condyloma lata/mucus patches)
- SYPHILIS SEROLOGY

Serology: mainstay of testing for syphilis



DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT

BEGRÜNDET VON Dr PAUL HÖRNER

REDAKTEUR PROF Dr J SCHWALBE

BERLIN W AM KARLSBAD 5

VERLAG GEORG THIEME

LEIPZIG, RABENSTEINPLATZ 2

No 19 Donnerstag, den 10 Mai 1906 32 Jahrgang

Eine serodiagnostische Reaktion bei Syphilis.

Von A. Wassermann, A. Neisser und C. Bruck.

Wasserman reaction: first non treponemal test for syphilis reported in 1906: used antigen refined from the liver extracts if neonates who had died from congenital syphilis

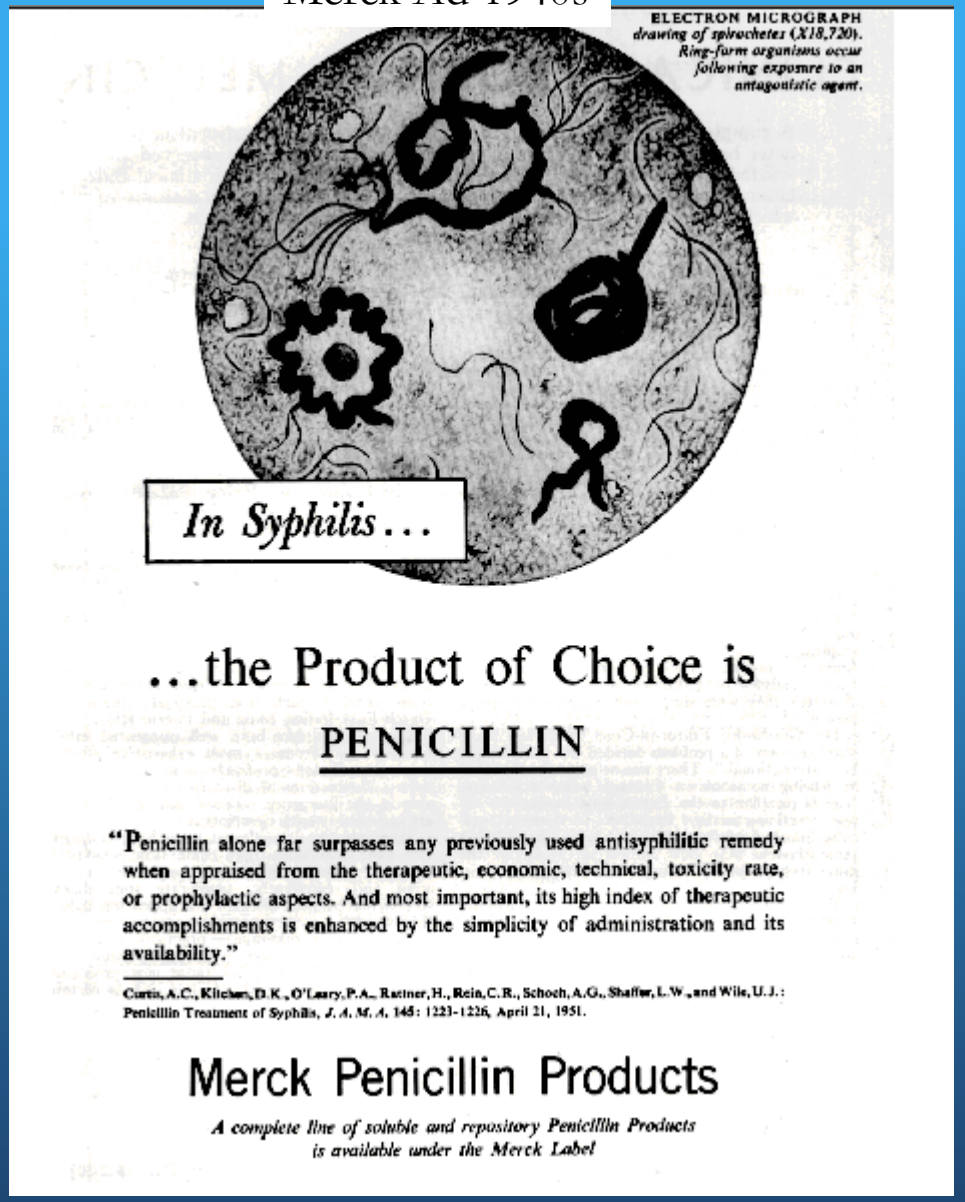
Syphilis lab tests - interpretation

- The EIA (treponemal test) = *SCREENING TEST*
  - arise during the primary stage
  - persist in most cases for the life of the patient.

- RPR (non-treponemal test) titre tends to parallel disease activity
  - useful indicator of response to therapy by observing a fall in titres over time.
  - to detect re-infection
  - or treatment failure by observation of rising titres.

- TPPA (treponemal test) = *SUPPLEMENTAL/CONFIRMATORY TEST*

Merck Ad 1940s

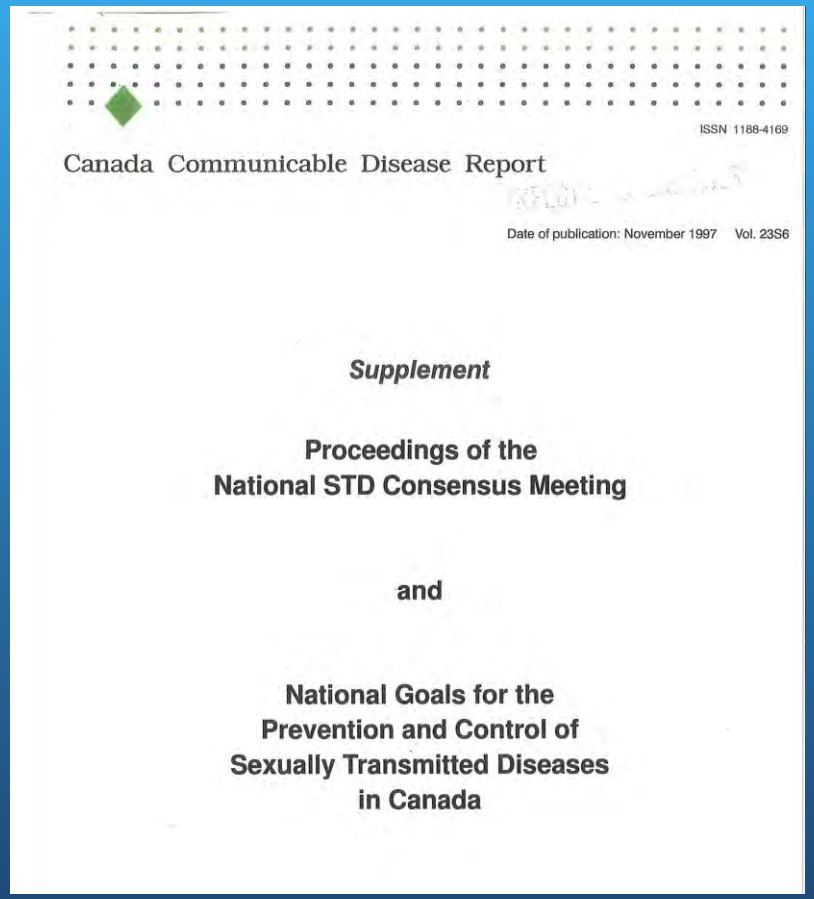


- Long-acting benzathine penicillin achieves detectable serum levels of penicillin for 2-4 weeks in non-pregnant adults

- No resistance reported to penicillin
- Alternates: doxycycline, ceftriaxone

Penicillin remains the recommended treatment for syphilis

1998 in Canada



ISSN 1188-4169

Canada Communicable Disease Report

Date of publication: November 1997 Vol. 23S6

Supplement

Proceedings of the National STD Consensus Meeting

and

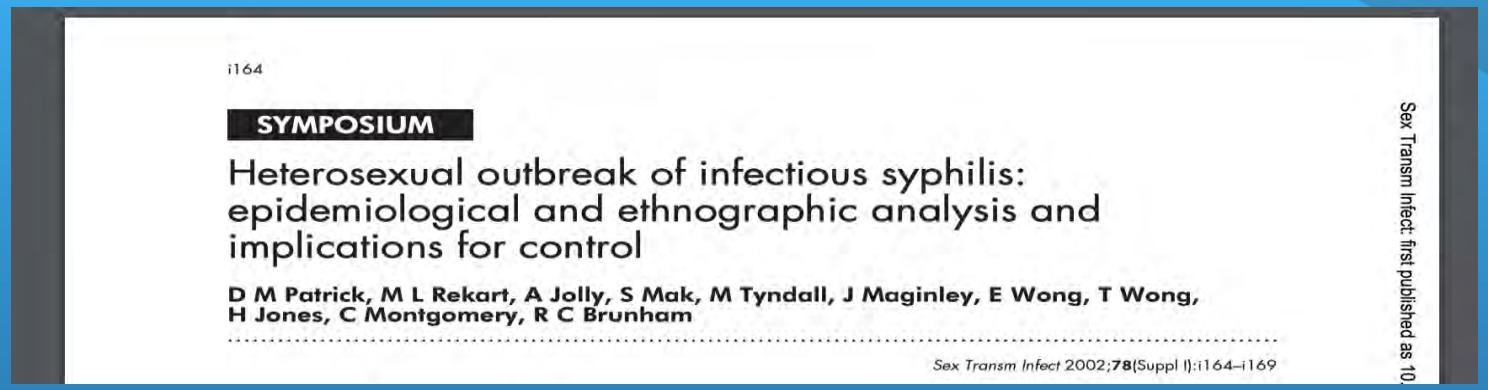
National Goals for the Prevention and Control of Sexually Transmitted Diseases in Canada

Canada set two goals:

1) To eliminate infectious syphilis by maintaining the rate at no more than 0.5 per 100,000 population

2) Prevent all cases of endemic congenital cases

http://publications.gc.ca/collections/collection_2016/aspc-phac/HP3-1-23-S6-eng.pdf



i164

SYMPOSIUM

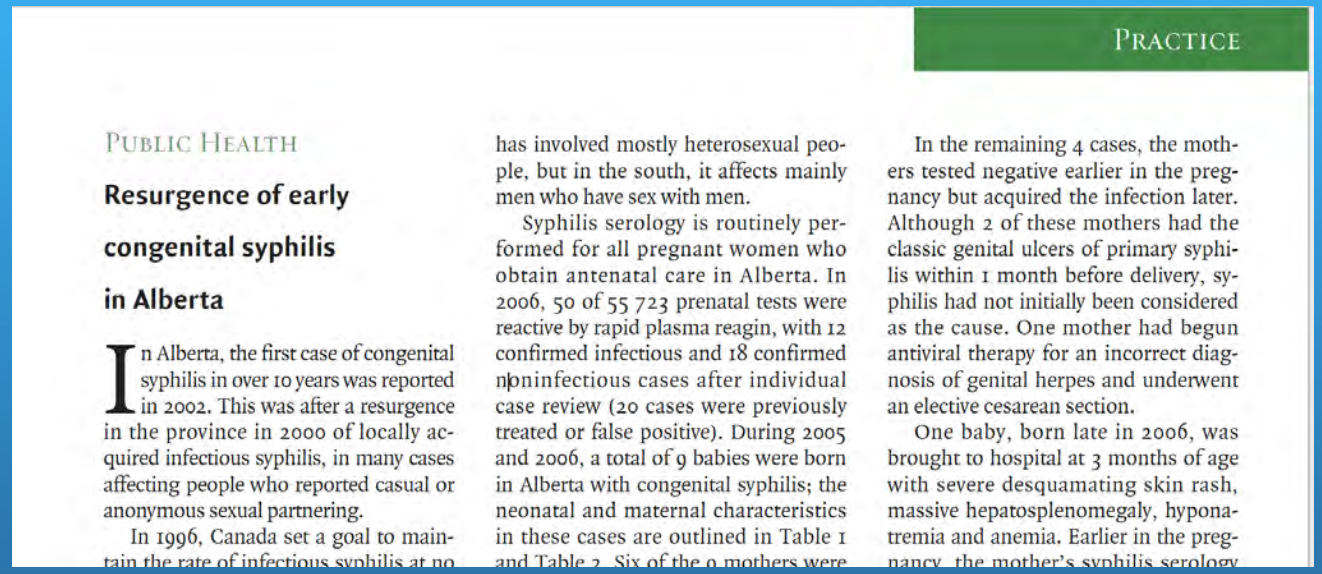
Heterosexual outbreak of infectious syphilis: epidemiological and ethnographic analysis and implications for control

D M Patrick, M L Rekart, A Jolly, S Mak, M Tyndall, J Maginley, E Wong, T Wong, H Jones, C Montgomery, R C Brunham

Sex Transm Infect 2002;**78**(Suppl I):i164–i169

Sex Transm Infect: first published as 10.

The following year (1997) Vancouver announced a largely heterosexual outbreak of syphilis with B.C's cases of infectious syphilis rising from 0.5 to 3.4 per 100,000 by 1999.



PRACTICE

PUBLIC HEALTH

Resurgence of early congenital syphilis in Alberta

In Alberta, the first case of congenital syphilis in over 10 years was reported in 2002. This was after a resurgence in the province in 2000 of locally acquired infectious syphilis, in many cases affecting people who reported casual or anonymous sexual partnering.

In 1996, Canada set a goal to maintain the rate of infectious syphilis at no

has involved mostly heterosexual people, but in the south, it affects mainly men who have sex with men.

Syphilis serology is routinely performed for all pregnant women who obtain antenatal care in Alberta. In 2006, 50 of 55 723 prenatal tests were reactive by rapid plasma reagin, with 12 confirmed infectious and 18 confirmed noninfectious cases after individual case review (20 cases were previously treated or false positive). During 2005 and 2006, a total of 9 babies were born in Alberta with congenital syphilis; the neonatal and maternal characteristics in these cases are outlined in Table 1 and Table 2. Six of the 9 mothers were

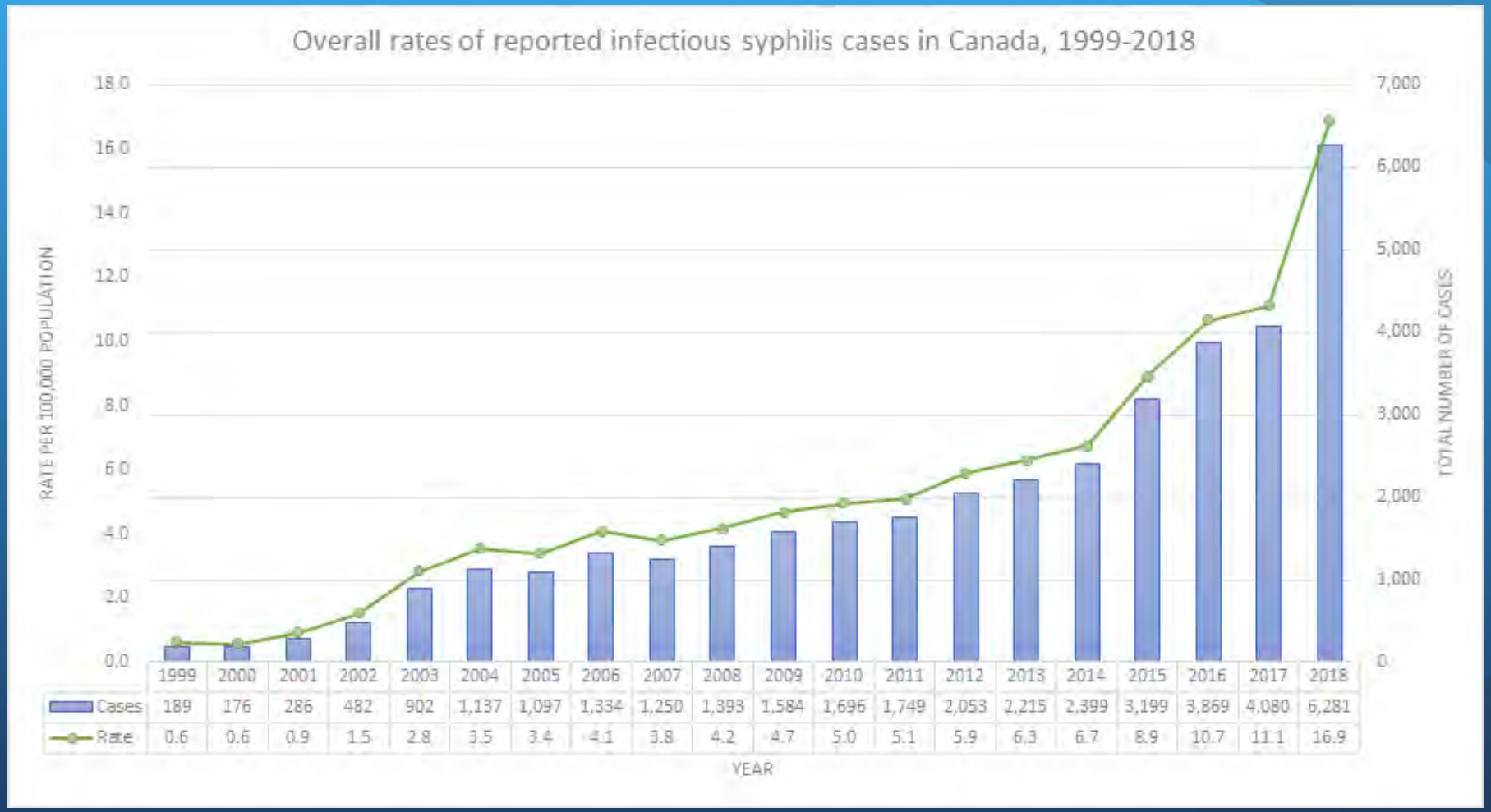
In the remaining 4 cases, the mothers tested negative earlier in the pregnancy but acquired the infection later. Although 2 of these mothers had the classic genital ulcers of primary syphilis within 1 month before delivery, syphilis had not initially been considered as the cause. One mother had begun antiviral therapy for an incorrect diagnosis of genital herpes and underwent an elective cesarean section.

One baby, born late in 2006, was brought to hospital at 3 months of age with severe desquamating skin rash, massive hepatosplenomegaly, hyponatremia and anemia. Earlier in the pregnancy, the mother's syphilis serology

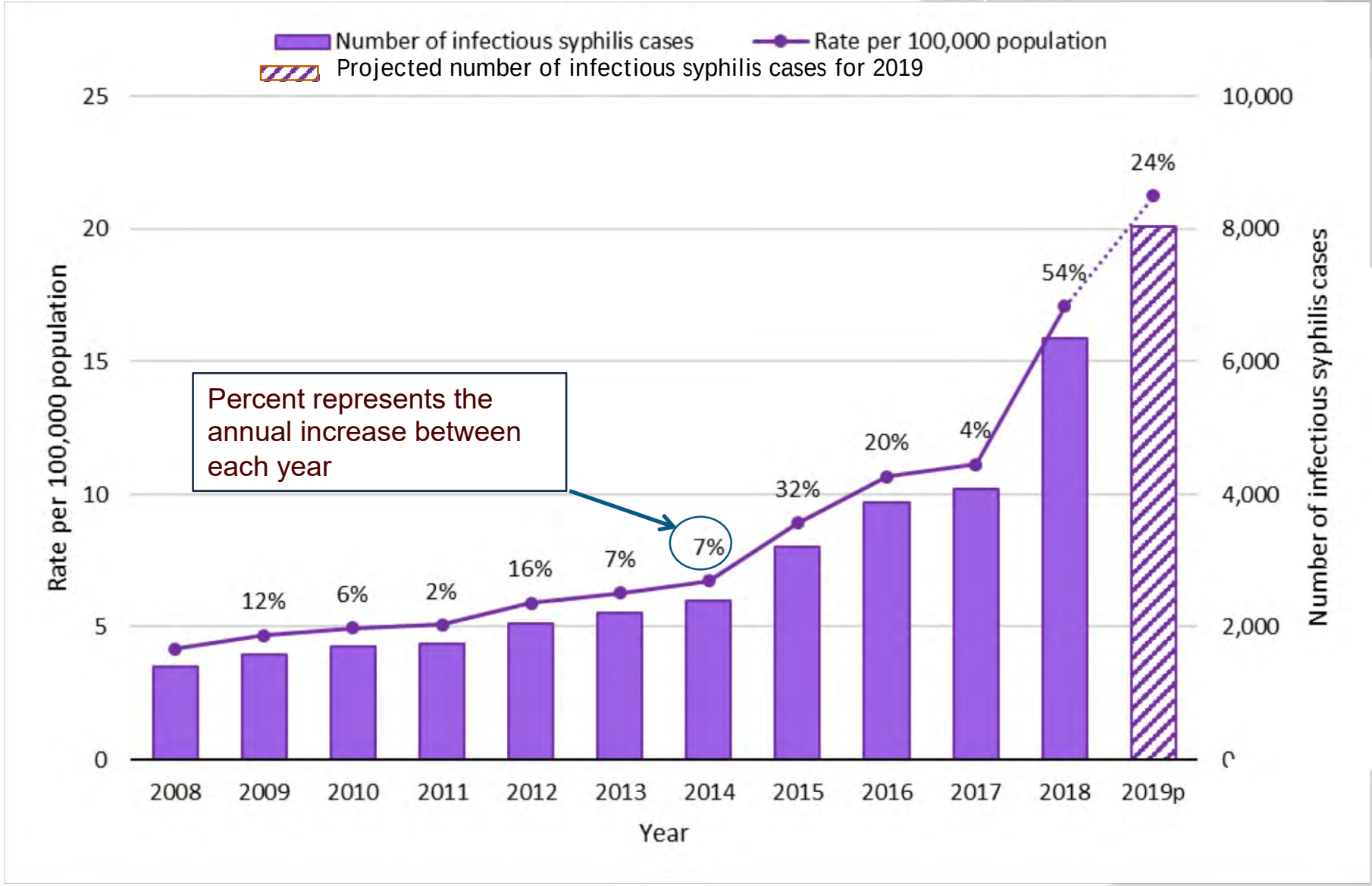
Singh et al CMAJ 2007

Between 1996 and 2006, Alberta also experienced a rise in infectious syphilis cases from 0 in 1996 to 6.5 per 100,000 in 2006

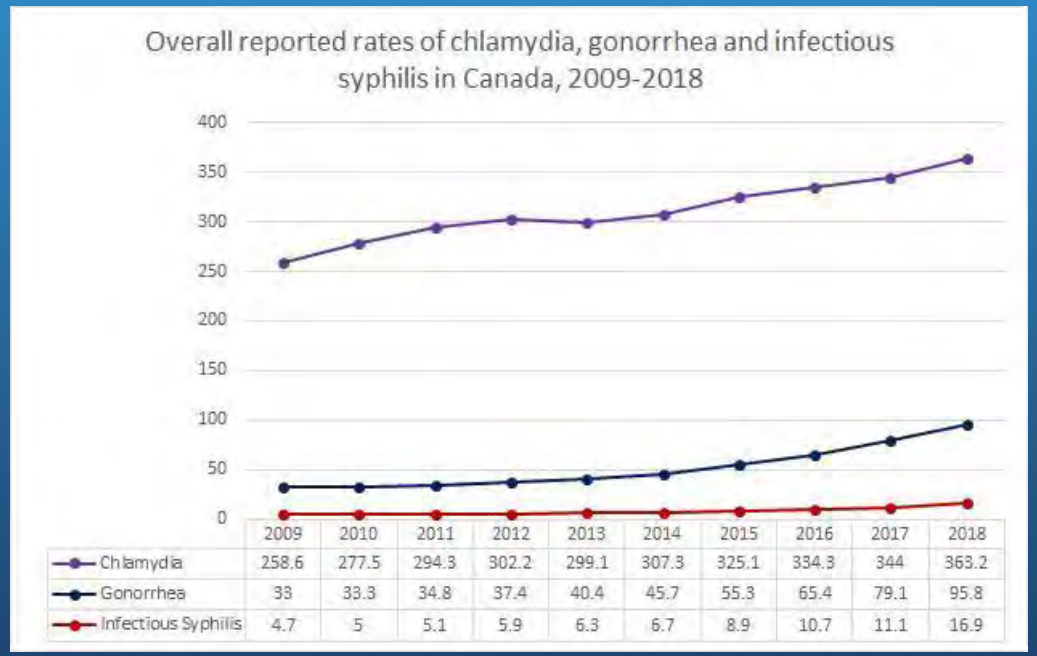
Reported rates of infectious syphilis in Canada, 1999-2018



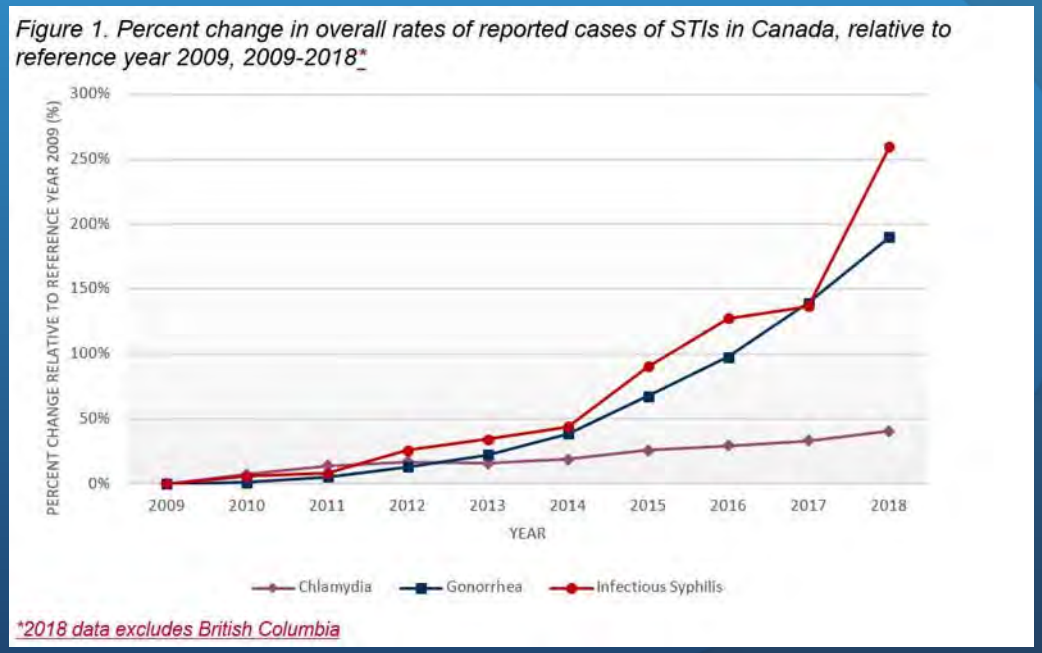
has increased significantly in the past
(compared to 3,199 in 2015)



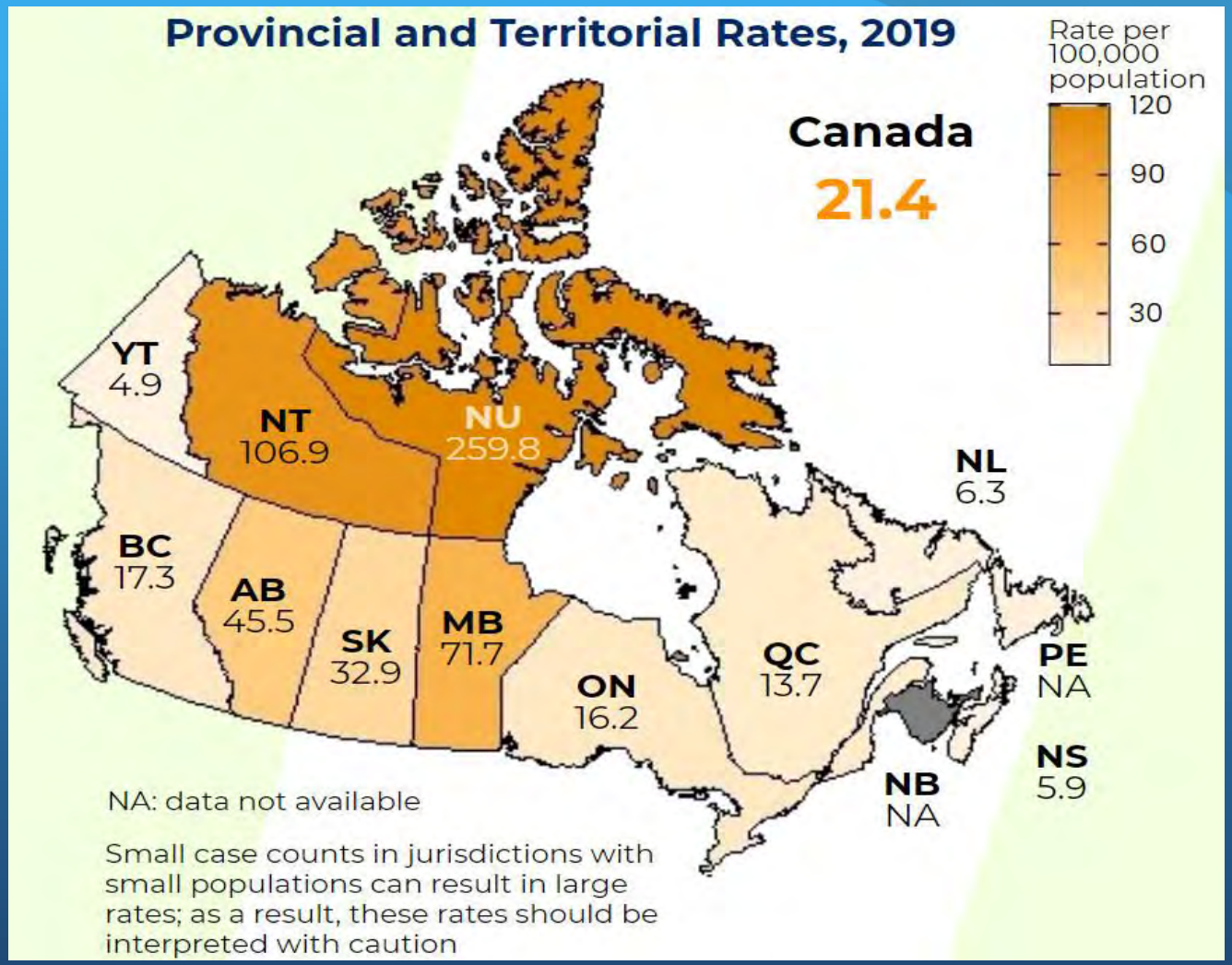
Chlamydia remains the most common notifiable disease in Canada but rates of syphilis have increased more than chlamydia or gonorrhea



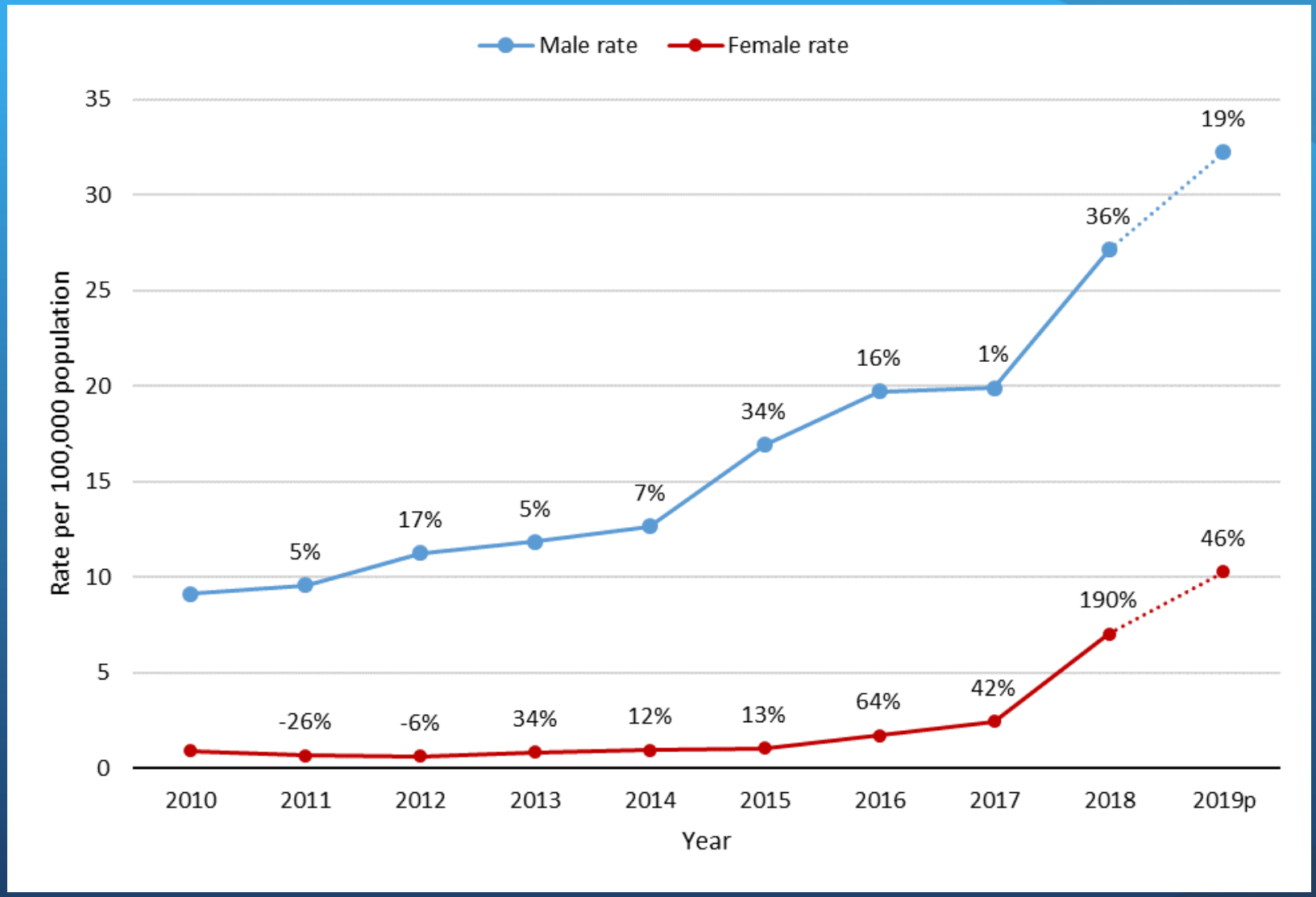
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Chlamydia	258.6	277.5	294.3	302.2	299.1	307.3	325.1	334.3	344	363.2
Gonorrhea	33	33.3	34.8	37.4	40.4	45.7	55.3	65.4	79.1	95.8
Infectious Syphilis	4.7	5	5.1	5.9	6.3	6.7	8.9	10.7	11.1	16.9



In 2019, the highest rates were seen in the Prairie provinces, NWT and Nunavut

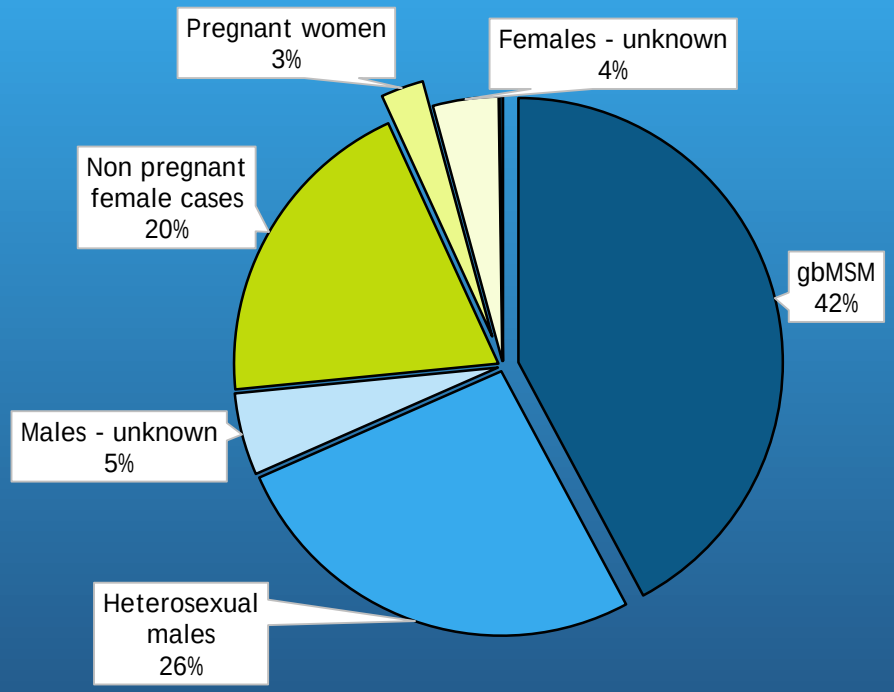


Male rates of infectious syphilis remain higher but female rates are increasing faster



In 2019, male cases represented 76% of all cases (compared to 94% in 2015)

Proportion of infectious syphilis cases by subpopulation, Canada 2019

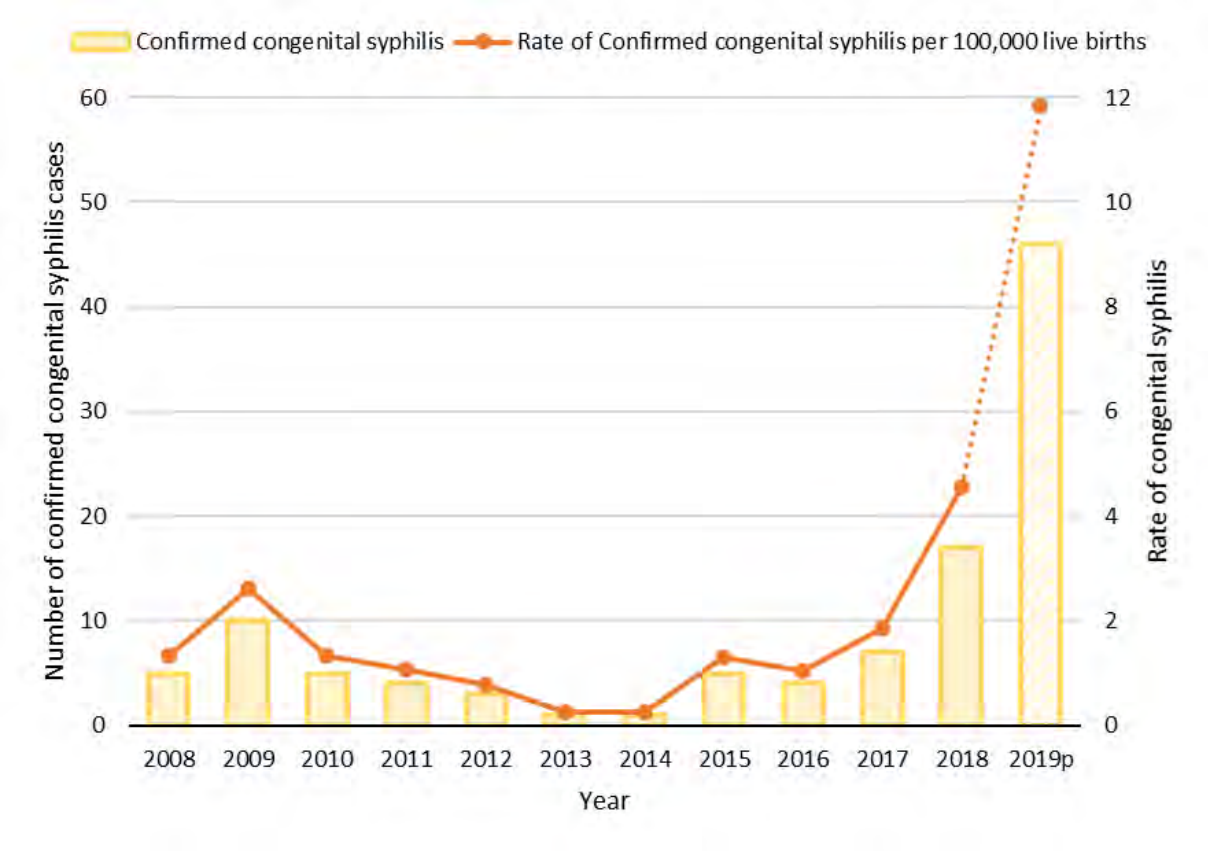


BUT differences in subpopulations by region of country

*2019 data are preliminary
Subpopulation data include data from all provinces and territories with the exception of Quebec, PEI and Nunavut
‡gbMSM: Gay, bisexual and other men that have sex with men

In 2018, 17 confirmed cases of early congenital syphilis were observed
For 2019, 45 confirmed cases were reported

There were at least 130 infectious syphilis cases in pregnant women in 2019



There was an additional **25 probable** congenital syphilis cases reported in 2019*

*AB, SK, MB and QC have probable congenital syphilis case definitions

Question 2

Which of the following is not likely to be an explanation for the observed rise in syphilis cases?

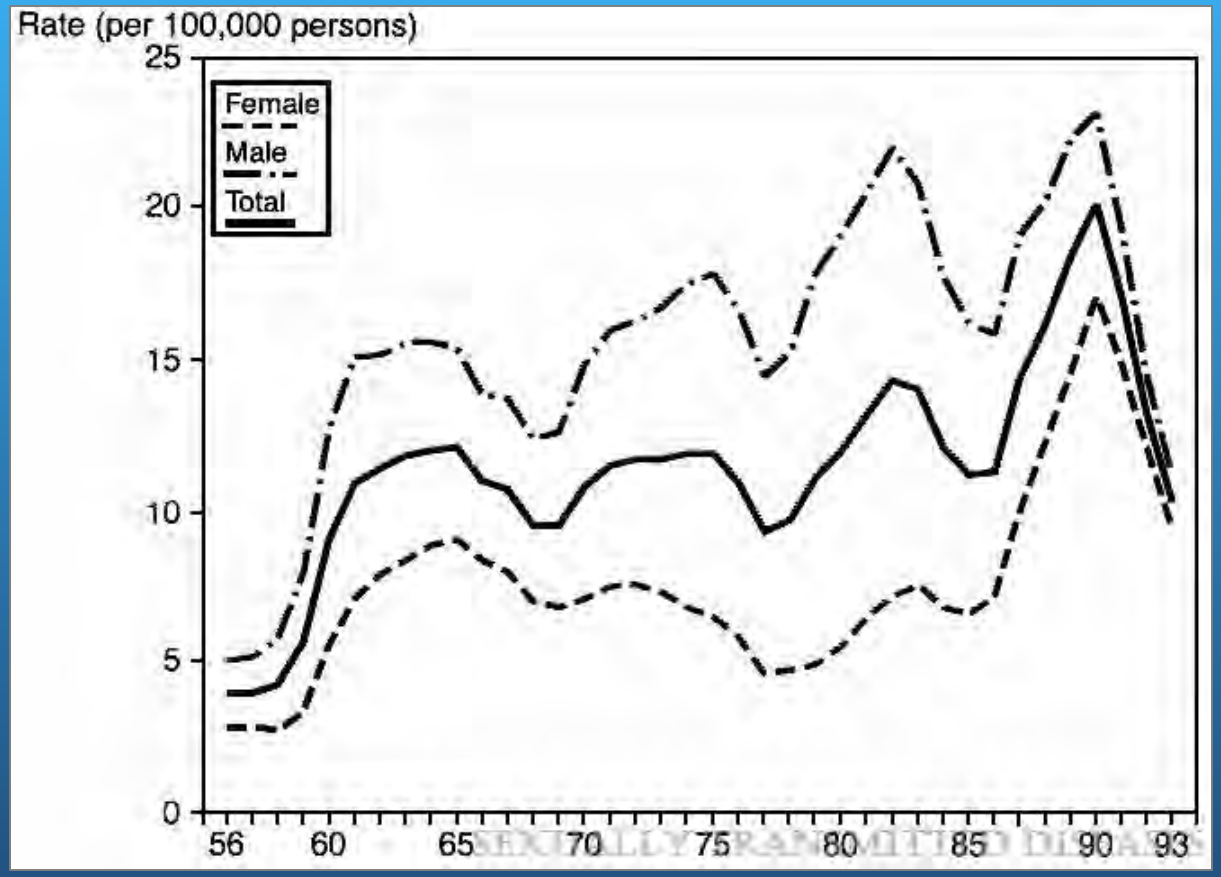
A) Syphilis outbreaks cycle and so it does not matter what we do, they will come and go

B) We have a better screening test for syphilis

C) Canadians are having more (condomless) sex

D) None of the above

Rates of primary and secondary syphilis by gender, United States, 1956-1993.

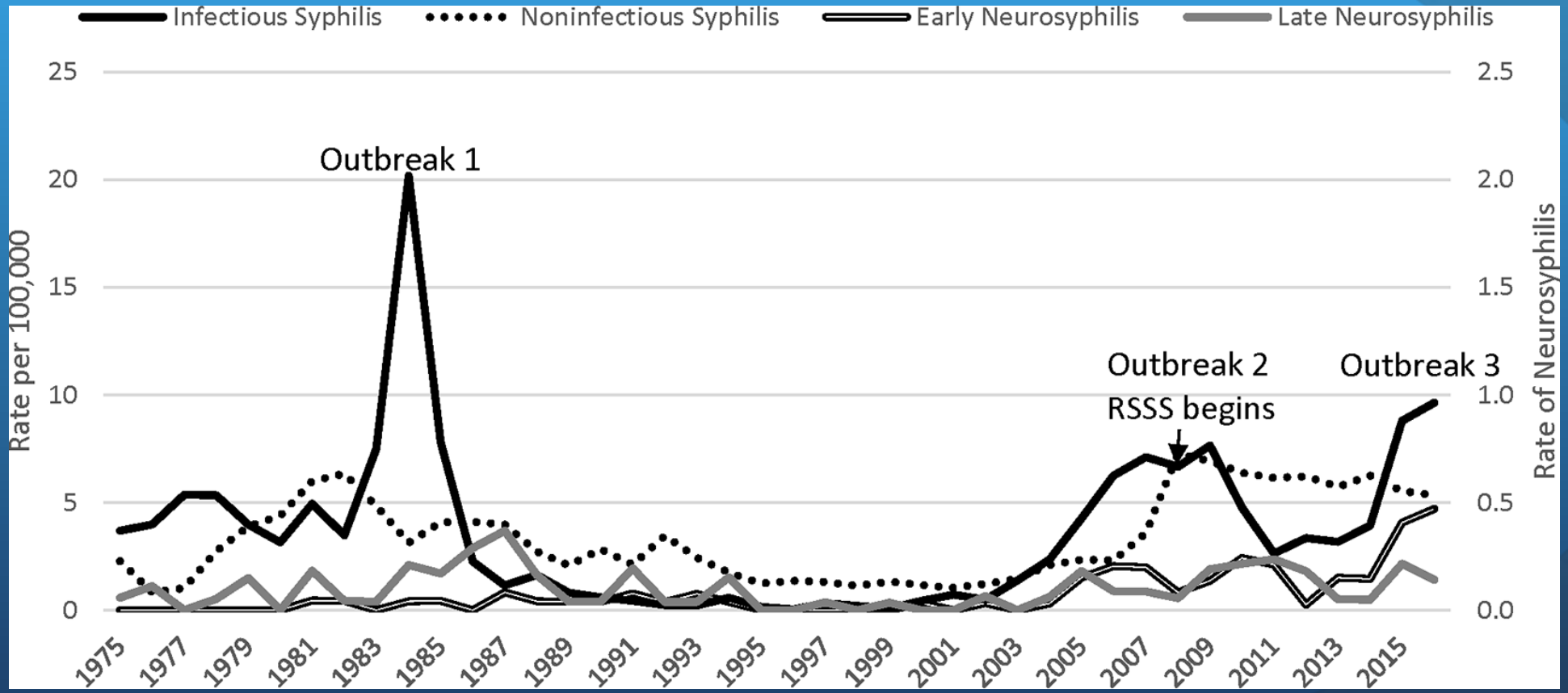


Epidemiology of Syphilis in the United States, 1941-1993

NAKASHIMA, ALLYN K.; ROLFS, ROBERT T.; FLOCK, MELINDA L.; KILMARX, PETER; GREENSPAN, JOEL R.

Sexually Transmitted Diseases23(1):16-23, January-February 1996.

Rate per 100 000 population of syphilis by type and diagnosis year (Alberta, Canada, 1975-2016). RSSS, Reverse sequence syphilis screening.



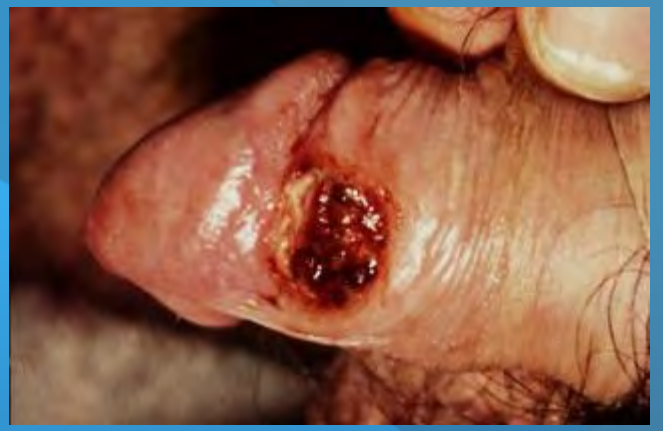
Landry et al, 2019

Why are we seeing a resurgence of syphilis everywhere?

“Although syphilis does not discriminate based on age, race, ethnicity or sexual orientation, certain behaviours **increase a person’s risk of infection.”**

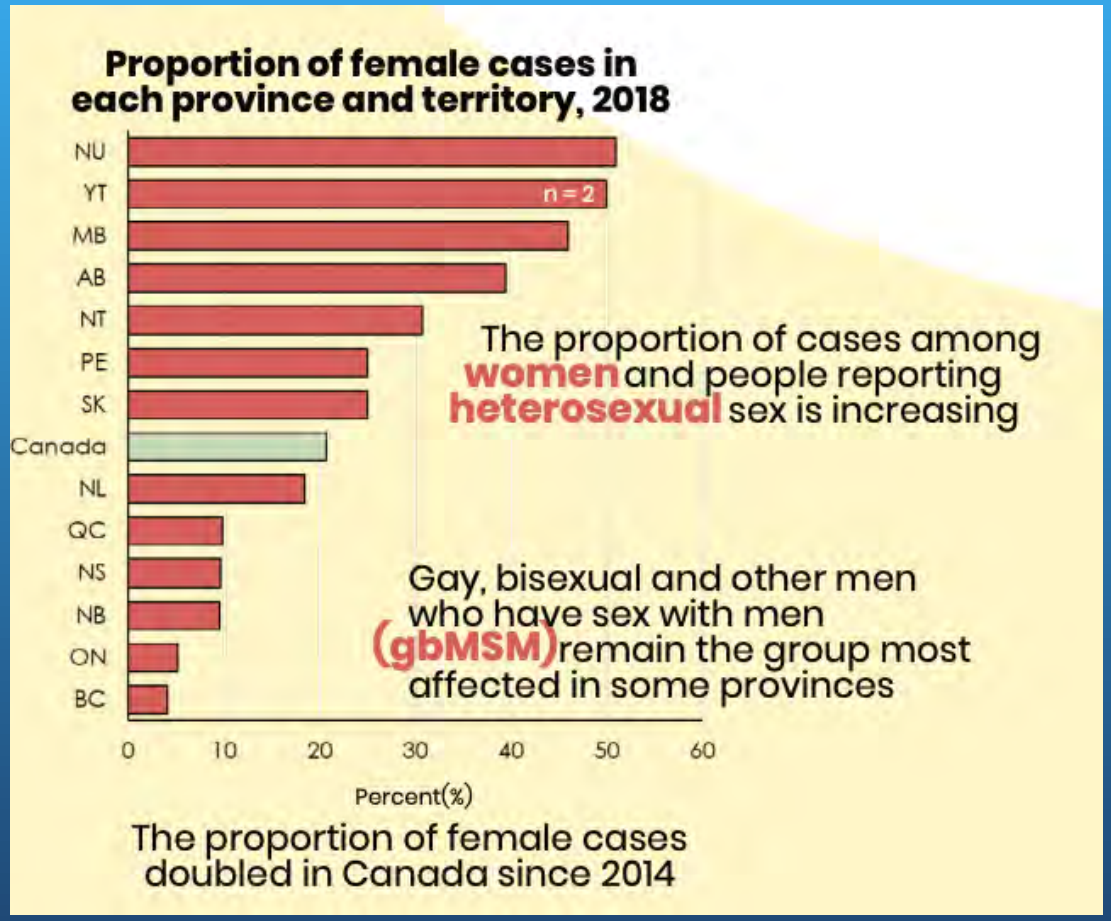
Singh, CMAJ 2019

Case # 1: Phillip



- 28 year old male on HIV PrEP
- Reports sex with males only since age 16
- 4 week history of single genital ulcer (painful)
- ~10 male sexual partners in the last 6 months; uses Grindr, Squirt
- Uses condoms about 20% of the time for receptive and insertive anal sex; no condoms for oral sex
- No substance use

Significant geographic variation in infectious syphilis among gbMSM in Canada



https://www.canada.ca/content/dam/phac-aspc/documents/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2019-45/issue-11-november-7-2019/ccdrv45i11-eng.pdf

Possible explanations for rise in infectious syphilis among gbMSM

- U=U [HIV infected persons with an undetectable viral load cannot transmit to others] (Rodger, Jama 2016)
- HIV pre-exposure prophylaxis (PrEP) (Grant, NEJM, 2010)
- The availability of mobile dating apps which make it easier to arrange sexual partners (Tsai, Arch Sex Behav, 2019; Wang BMC Public Health, 2018)

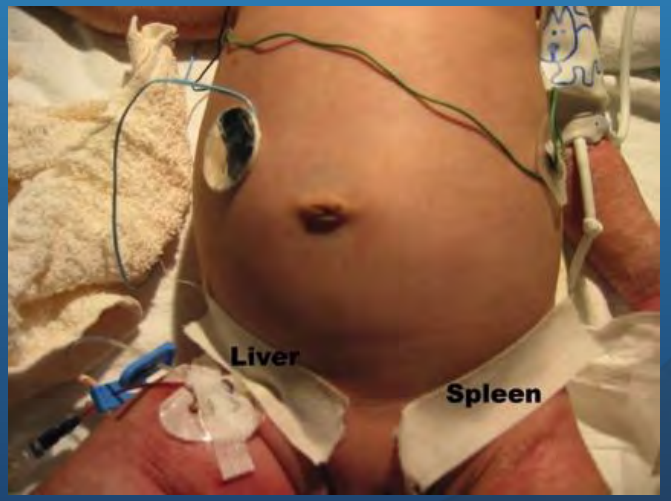
Resultant increase in the number of sex partners, condomless sex, and the resurgence of STIs, including syphilis (Traeger, JAMA, 2019).

What about heterosexual persons?

Intersecting epidemics among gbMSM and heterosexual persons but predominance by population varies geographically in Canada

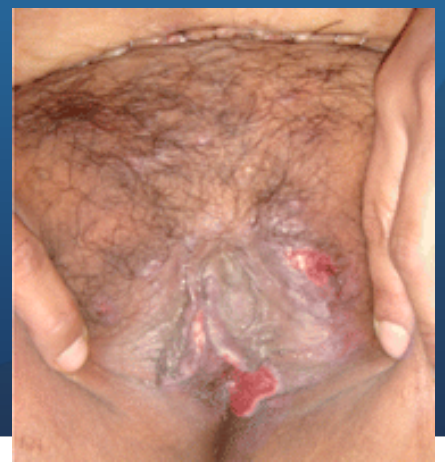
Case # 2

- 25 year old woman
- Comes into hospital in labour.
- An urgent cesarean section is required.
- Infant has physical abnormalities:



Case # 2 cont’

- Mother and infant are then tested for syphilis and both found to be positive.
- Mother:
  - Indigenous, unstable housing **- was staying at a women's’ shelter prior to coming in, injects meth/”down”, no prenatal care**
  - Had genital rash for 1 month **- was told that this was a “rash” from the women's’ shelter**



Question 3

What is the risk of transmission of primary syphilis from a pregnant woman to her unborn child?

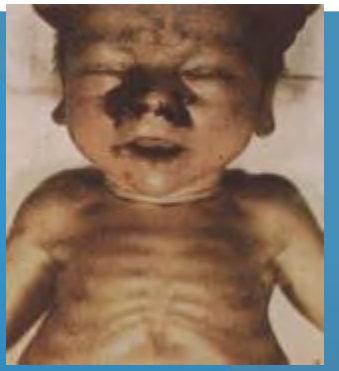
A. 5%

B. 25%

C. 50%

D. 100%

Impact of congenital syphilis



Risk of transmission of syphilis in pregnancy(Kassowitz's law) :

- 70-100% with primary
- 40% with early latent syphilis

- *Transmission can occur as early as 9 weeks but risk of transmission increases with increasing gestational age - highest risk in last 4 weeks of pregnancy*
- Adverse pregnancy outcome: spontaneous abortion, still birth, premature delivery or perinatal death
- Adverse outcome in neonate: ranges from asymptomatic to multi-organ system involvement

Congenital syphilis: just the tip of the iceberg

UNSTABLE HOUSING

MENTAL HEALTH ISSUES

GEOGRAPHY

RURAL AND REMOTE RESIDENCE
PRAIRIE PROVINCES.

STIGMA

HISTORICAL TRAUMA
DISCRIMINATION IN HEALTH CARE

ACCESS TO AND USE OF PRENATAL CARE

INADEQUATE OR NONE

SOCIOECONOMIC STATUS

LOWER INCOME.

SUBSTANCE USE

ALCOHOL, TOBACCO, METHAPHETAMINES

https://www.canada.ca/content/dam/phac-aspc/documents/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2020-46/issue-10-oct-1-2020/ccdrv46i10a09b-eng.pdf

Intersection between drug use and syphilis

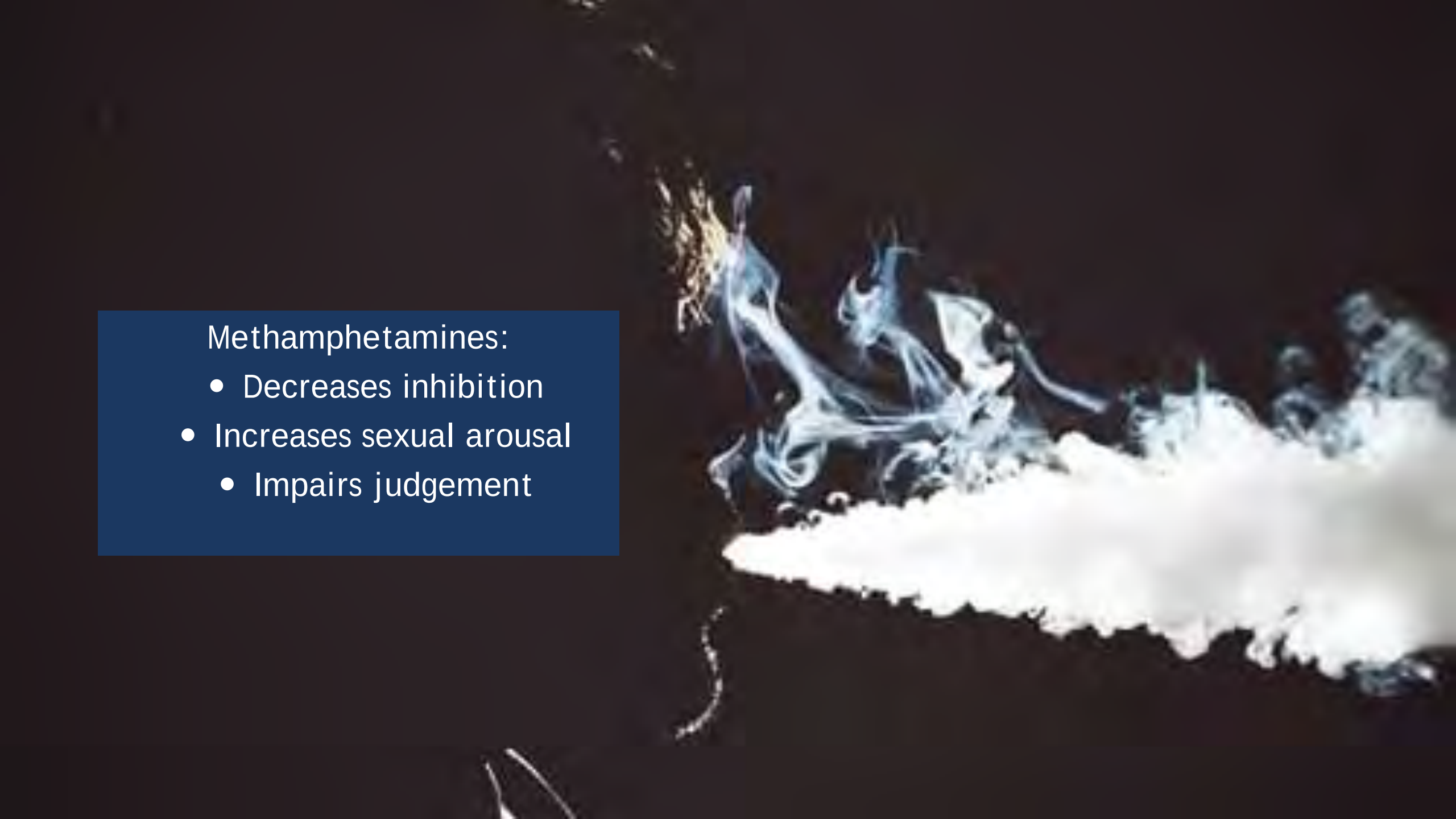
Syphilis

Drug use especially meth associated with multiple or concurrent sexual patners, inconsistent condom use and exchanging sex for drugs or money

Stimulant drugs (meth, cocaine)

A significant proportion of syphilis cases occurring in heterosexual persons is due to engaging in illicit drug use

Kidd, 2019
CDC, 2006
Zule, 2007
Flom, 2001



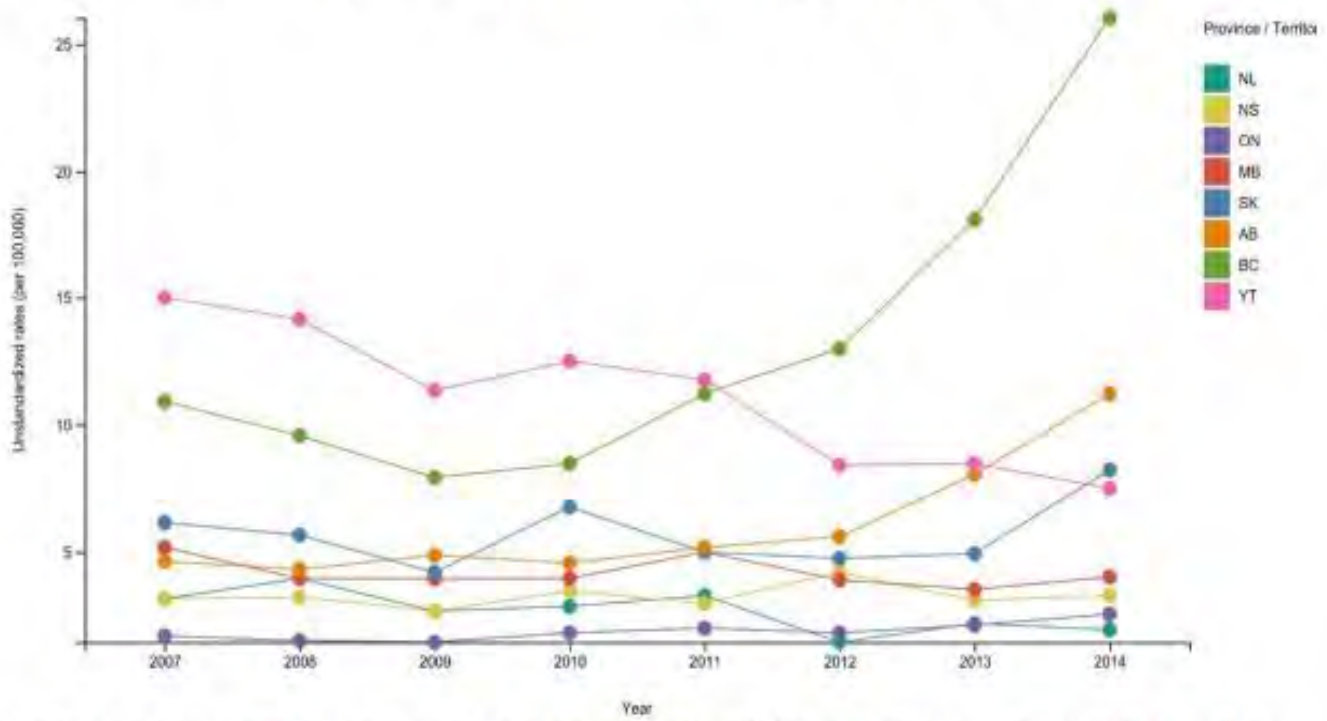
Methamphetamines:

- Decreases inhibition
- Increases sexual arousal
- Impairs judgement

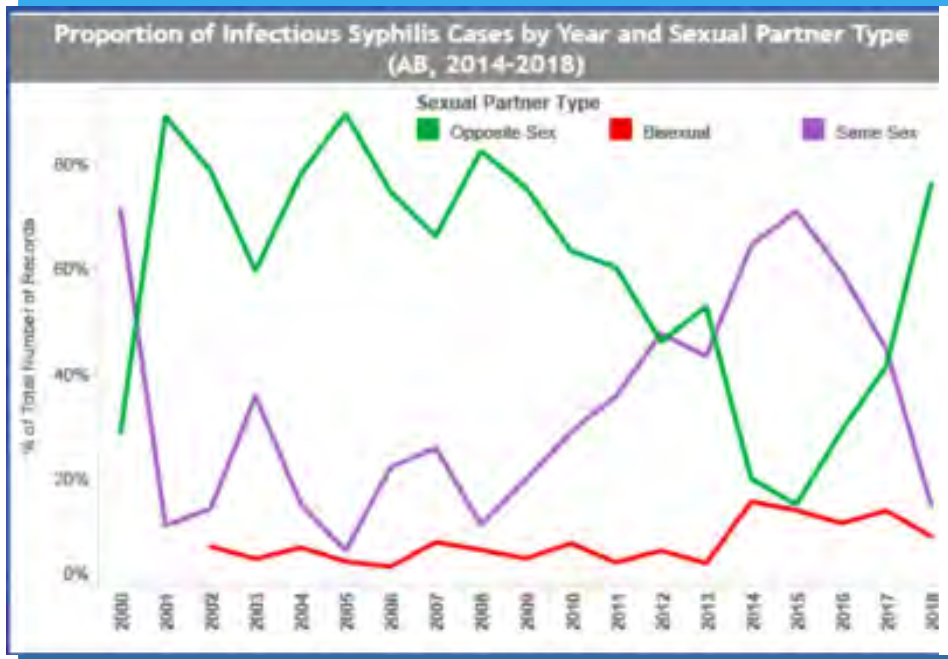
Prevalence of meth use in Canada: Health Care

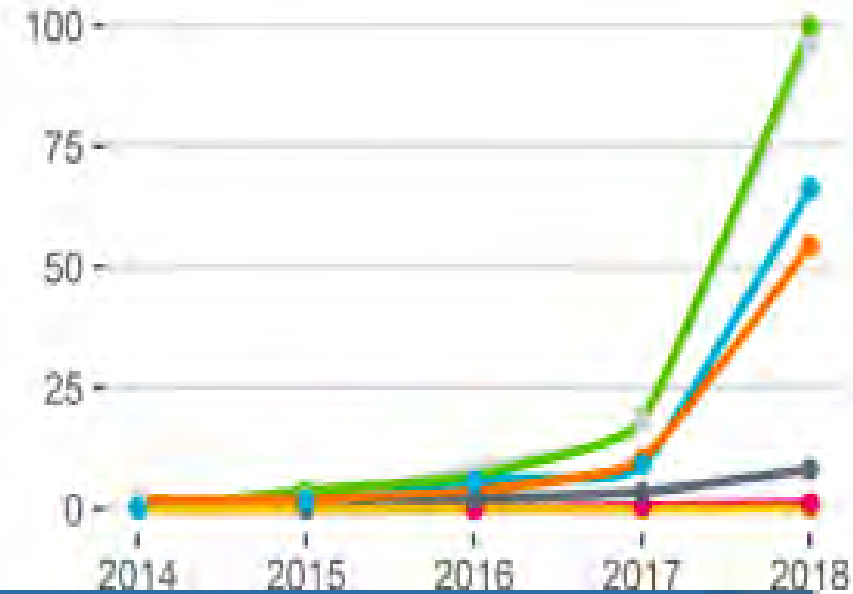
- Prairie provinces & BC seem to be hit the hardest
- In Alberta:
  - 168% ↑ in ED visits related to methamphetamine use
  - Number of individuals using has more than doubled

Figure 3: Rate of inpatient hospitalizations attributable to CNS stimulants (excluding cocaine) among reporting CCENDU provincial and territorial sites (excluding Quebec), 2007–2014



Source: Canadian Substance Use Costs and Harms Scientific Working Group. (2019). Canadian substance use costs and harms data visualization tool, 1.0.0. (Prepared by the Canadian Institute for Substance Use Research and the Canadian Centre on Substance Use and Addiction.) Ottawa, Ont.: Canadian Centre on Substance Use and Addiction.

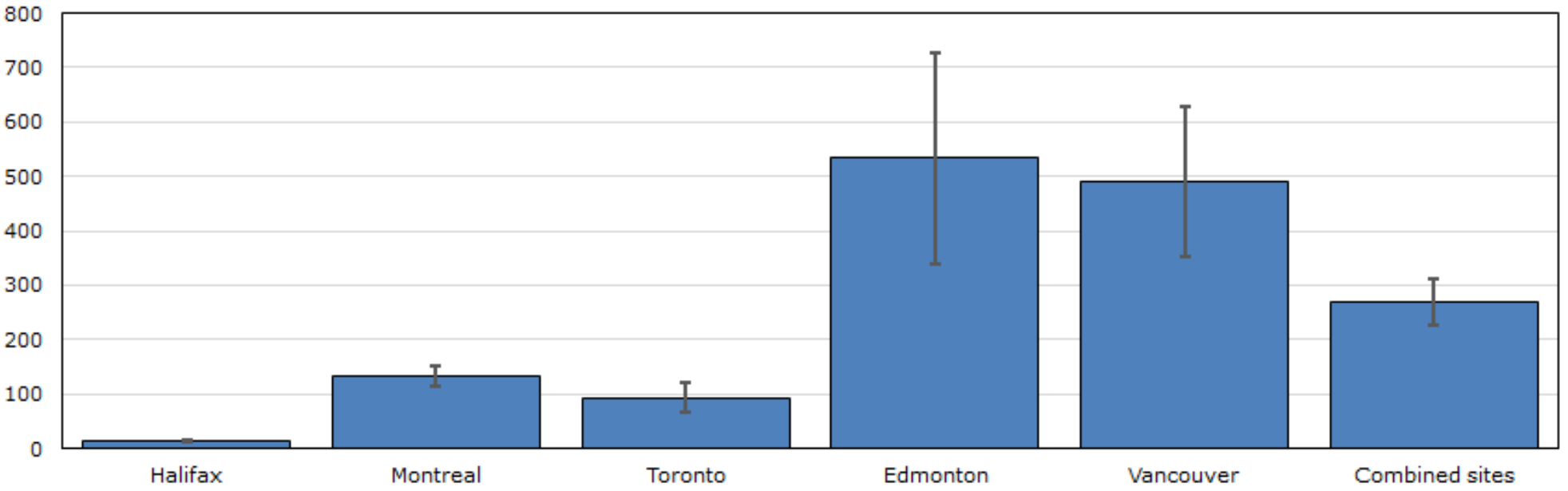




Syphilis and meth use rates in Edmonton

Prevalence of meth in wastewater in Canada

Chart 6
Methamphetamine load per capita, by city, March 2018 to February 2019



Source: Statistics Canada, 2019.

https://www150.statcan.gc.ca/n1/pub/11-621-m/11-621-m2019004-eng.htm

Syphilis in Alberta… in July 2019

Syphilis has skyrocketed across Alberta – except in Calgary – and officials are trying to figure out why

CANADA

Syphilis outbreak declared in Alberta amid 'rapid increase' in cases

EDMONTON JOURNAL

Worst since 1948: Edmonton the epicentre of syphilis outbreak declared in Alberta

Congenital Syphilis in Alberta

90 infants diagnosed with congenital syphilis since 2015.

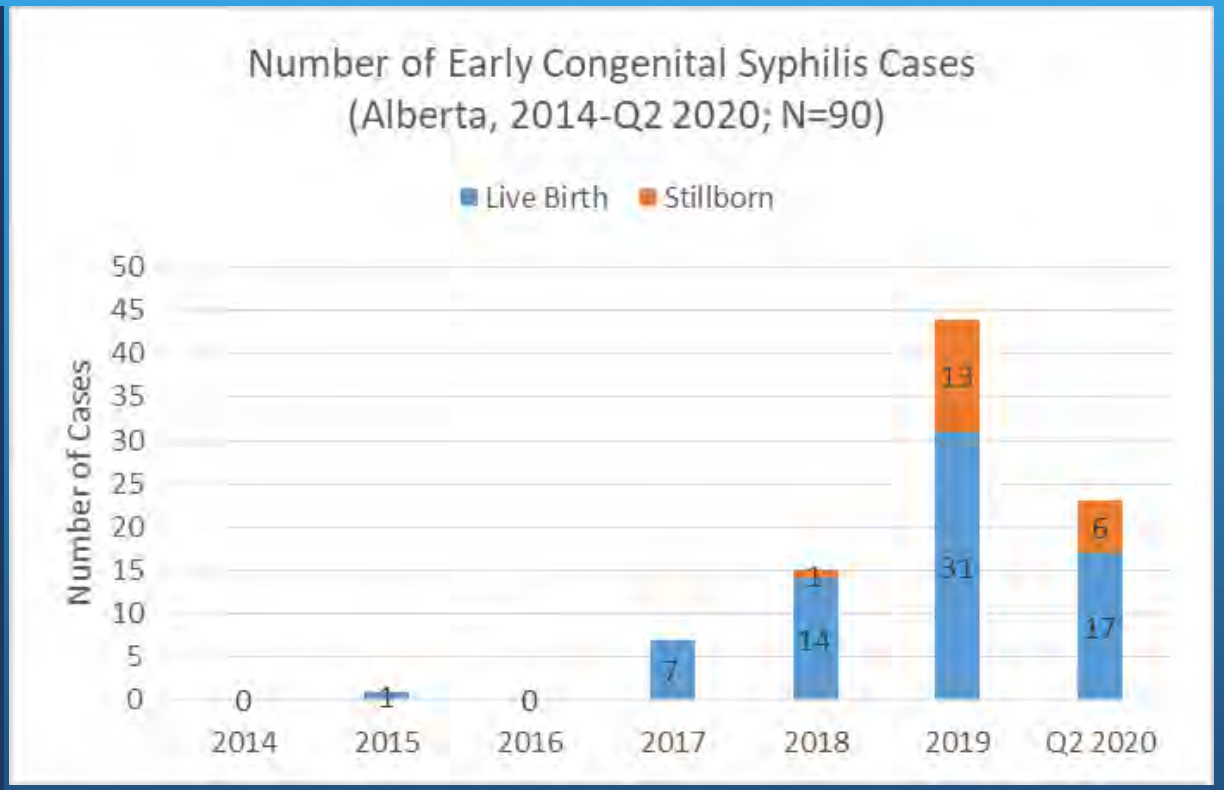
2019: 45 cases (88 per 100,000 live births)

2020: 30 cases (59 per 100,000)

20 cases resulted in infant deaths.

The expected number of cases is zero.

- Many infections were acquired/diagnosed late in pregnancy.
- Many social and health challenges for mothers (e.g. substance use, violence, corrections, instable housing, mental illness



2020 data is preliminary and numbers are expected to increase.
IHDA August 4, 2020.

So what are some possible solutions?

Good and timely surveillance is critical to guide interventions

Issue	Reason this is a challenge
Limited availability of quality and timely national data on syphilis	13 provinces and territories (P/Ts) collecting data in different ways
Information on ethnicity not available from all P/Ts	Prevention and control cannot be targeted in a culturally appropriate way
Information not (always) available on sexual orientation	Prevention and control cannot be targeted in an appropriate way

Prevention

- No vaccine available for syphilis
- SECONDARY PREVENTION

The 29th Annual Canadian Conference on HIV/AIDS Research
Le 29e Congrès annuel canadien de recherche sur le VIH/sida

Requested Presentation: **Oral** | Track: **Clinical Sciences** | Subject: **STDs (Chlamydia, gonorrhea, syphilis)**

Preliminary results of the Dual Daily HIV and Syphilis Pre-Exposure Prophylaxis (DuDHS) Trial.

Tessa Lawson Tattersall1, Saira Mohammed2, Joshua Edward1, Aidan Ablona1, Mark Hull2, Troy Grennan1, 3
1. Clinical Prevention Services, BC Centre for Disease Control, Vancouver, BC, Canada, 2. BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, 3. Department of Infectious Diseases, University of British Columbia, Vancouver, BC, Canada

Abstract

- Use of doxycycline in addition to HIV PrEP in MSM
- Preliminary results show that doxycycline prophylaxis decreased incidence of syphilis and chlamydia but increased incidence of gastrointestinal side effects (mild)

Need to heighten awareness of providers

Practitioners should maintain a high index of suspicion and a low threshold for syphilis screening for syphilis, e.g. among those at risk

Improved education and access to testing of those at risk of acquiring infection

Some examples from Alberta:

- Opt-out STBBI testing in provincial corrections, evening STI clinics and outreach and incentive testing.
- Expansion of role of community based organizations whose primary role was to support persons living with HIV to include other sexually transmitted and blood borne infections

Dedicated and sustained resources for STI programs

Some challenges with the COVID-19 pandemic:

- Staff deployed or have voluntarily moved to support pandemic activities
- Fewer patient visits and therefore less STI screening being done
- Global shortage of APTIMA test kits for gonorrhea and chlamydia(test kits being use for COVID-19 testing)

Addressing the social determinants of health (SDH)

Health effects of intergenerational trauma

- Increased suicide attempts and poor mental health status
- Decline in social cohesion
- Affects parenting and attachment styles
- Increase in addictions
- Children may experience greater abuse, neglect and household dysfunction which increases depressive symptoms

Bombay A, 2014; Reading JL, 2007; Bombay, 2007

Socioeconomic inequalities in health among Indigenous people in Canada

- The prevalence of poor/fair health status among indigenous people living off reserve increased from 18% in 2001 to 22 in 2012

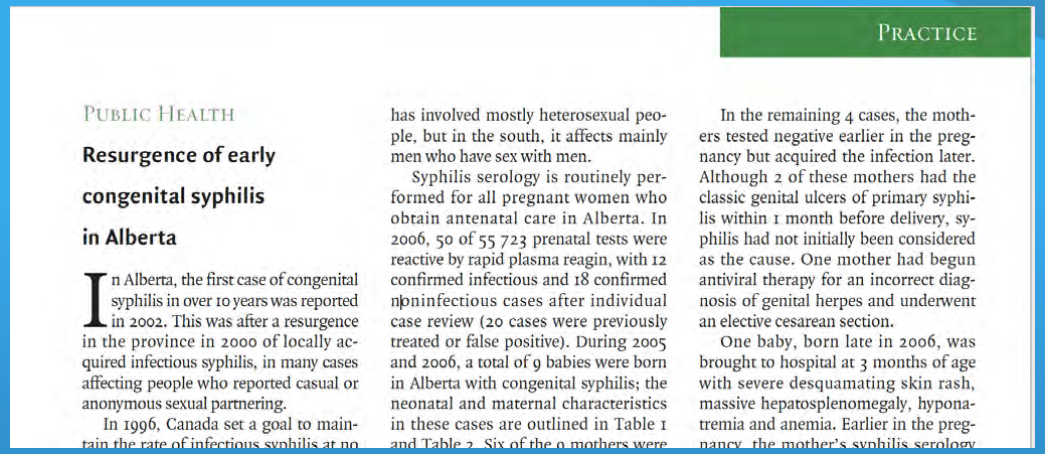
  - Besides income itself, occupational status and educational attainment most important factors

Hajizadeh M et al 2018.

Addressing the social determinants of health (SDH) – just highlighting a few things

- Access to stable housing and income supports

- Using a harm reduction approach to address the intersection of mental health, addictions and STIs including syphilis
  - Example: pregnant women, congenital syphilis and addictions



PRACTICE

PUBLIC HEALTH

Resurgence of early congenital syphilis in Alberta

In Alberta, the first case of congenital syphilis in over 10 years was reported in 2002. This was after a resurgence in the province in 2000 of locally acquired infectious syphilis, in many cases affecting people who reported casual or anonymous sexual partnering.

In 1996, Canada set a goal to maintain the rate of infectious syphilis at no

has involved mostly heterosexual people, but in the south, it affects mainly men who have sex with men.

Syphilis serology is routinely performed for all pregnant women who obtain antenatal care in Alberta. In 2006, 50 of 55 723 prenatal tests were reactive by rapid plasma reagin, with 12 confirmed infectious and 18 confirmed noninfectious cases after individual case review (20 cases were previously treated or false positive). During 2005 and 2006, a total of 9 babies were born in Alberta with congenital syphilis; the neonatal and maternal characteristics in these cases are outlined in Table 1 and Table 2. Six of the 9 mothers were

In the remaining 4 cases, the mothers tested negative earlier in the pregnancy but acquired the infection later. Although 2 of these mothers had the classic genital ulcers of primary syphilis within 1 month before delivery, syphilis had not initially been considered as the cause. One mother had begun antiviral therapy for an incorrect diagnosis of genital herpes and underwent an elective cesarean section.

One baby, born late in 2006, was brought to hospital at 3 months of age with severe desquamating skin rash, massive hepatosplenomegaly, hyponatremia and anemia. Earlier in the pregnancy, the mother's syphilis serology

Singh et al CMAJ 2007

- Between 1996 and 2006, Alberta also experienced a rise in infectious syphilis cases from 0 in 1996 to 6.5 per 100,000 in 2006
- Many individuals street involved, not accessing care in traditional health venues
- From 2005-6:
  - 9 babies born with congenital syphilis
    - 6/9 born to First Nations women
    - 4/9 did not access prenatal care
    - 4/9 mother tested negative for syphilis in early pregnant but acquired the infection near term

The Heart of the Streets

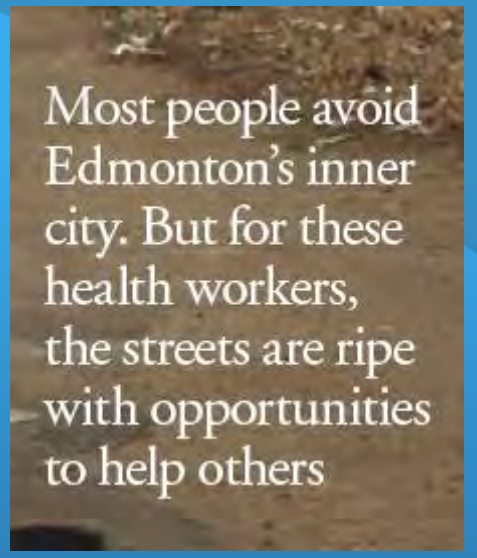
By Dennis Hryciuk | PHOTOGRAPHY BY 3Ten

Edmonton's inner city is an area that many of us read about, but never venture into. A walk through the Boyle McCauley area means confronting issues like homelessness, substance abuse, prostitution, crime and poverty.

Yet it's an area that health workers Tracy Par-

identification get the appropriate documents; or trying to find out what might be medically wrong with someone who has trouble putting his or her ailments into words.

"It's never the same," says Yellowknee. "The diversity is rewarding. Every day is different because of the range of clientele." Despite work-



Your Health, 2008

Photo taken by Ken Armstrong

Every year in Edmonton, approximately 100 women are pregnant while experiencing homelessness, mental health and addictions issues

Reasons for pregnant women with syphilis not accessing prenatal care

- **Fear of having Children's Services become involved and losing** custody of the child (major reason).
- Extreme guilt about where they are and what they are doing
- Fear of stopping drug use, as it has been how they have coped with current and past abuses and stress
- Being homeless - other survival priorities take precedent (food, clothing, shelter), and other barriers exist (transportation, communication)
- Previous negative experience with a health care provider
- Lack of knowledge about pregnancy issues and the importance of prenatal care

Evolution of programming in Alberta for pregnant women with unstable housing and substance use disorder

- 2009: Outreach program through needle exchange program (Women in the Shadows)
- 2011: H.E.R (Healthy Empowered Resilient) Program established (https://www.catie.ca/en/pc/program/her?tab=learned)

Pregnancy Pathways

Housing Intervention for Pregnant or Early Parenting Women who are Precariously Housed.

- 2018: Pregnancy Pathways pilot - only housing program in the City of Edmonton offering a harm reduction approach to pregnant women who use substances
  - ~ 2/3 self identify as indigenous

"the program provided a sense of safety, that the staff provided meaningful supports other than housing, and it addressed some of their needs for social interactions. Operating from a harm reduction model was seen by the women as beneficial and allowed them to feel supported"

http://homewardtrust.ca/wp-content/uploads/2019/07/Caine-Singh-Bouwman-Oake-et-al-2019.-Pregnancy-Pathways-report-1.pdf

Non traditional ways of reaching at risk populations

Get Checked Online [BC Centre for Disease Control]

Convenience and control: Online sexually transmitted infection testing offers many benefits

February 20, 2019

Online sexually transmitted infection (STI) testing removes some of the barriers that prevent people from getting tested while still providing key information about health and wellness, according to users.

Researchers with the BC Centre for Disease Control (BCCDC) and University of British Columbia (UBC) published three studies evaluating the user experience of a free and confidential online testing called GetCheckedOnline, during the first few years of its operation.

http://www.bccdc.ca/about/news-stories/news-releases/2019/convenience-and-control-online-sexually-transmitted-infection-testing-offers-many-benefits

Use of point of care tests (POCT) for syphilis

- No Health Canada approved POCT for syphilis in Canada
- POCT for syphilis available in many other parts of the world

CIHR funded study (STAR study) in Nunavut and Nunavik to assess the use of a dual syphilis test

Project title:	Stopping Syphilis Transmission in Arctic communities through Rapid Diagnostic Testing (STAR study)
Principal investigator(s):	Yansouni, Cedric P
Co-investigator(s):	Goldfarb, David M; Maheu-Giroux, Mathieu; Morin, Veronique; Serhir, Bouchra; Singh, Ameeta E; Wong, Thomas

One of the biggest challenges in these communities: long turn around for test results (7-21 days)

https://webapps.cihr-irsc.gc.ca/decisions/p/project_details.html?applId=388947&lang=en

Point of care tests for Syphilis and HIV (PoSH) study in Edmonton and Northern Alberta

Evaluating 2 POCT:

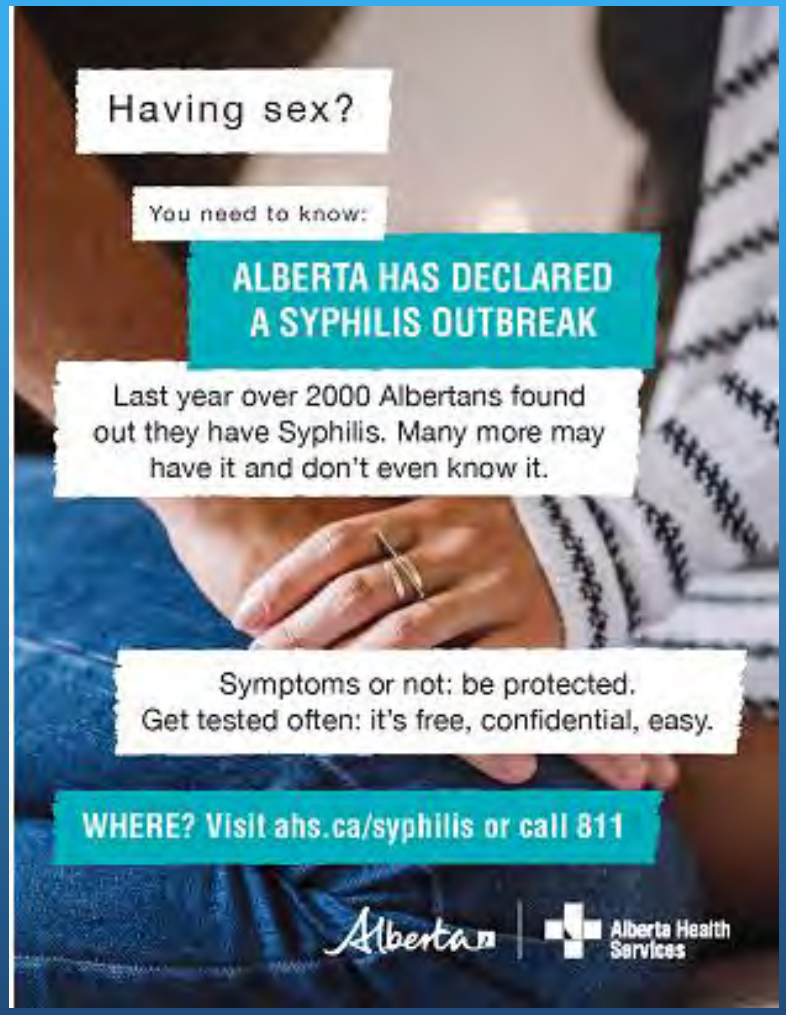
- Both provide test results for syphilis and HIV within 5 minutes
- Both Canadian companies

- Edmonton Remand Centre, Edmonton STI clinic, 2 inner city emergency departments and 2 First Nations Communities
- Study size: 1500 participants

Alberta Syphilis Response

Activities include:

- Awareness: multiple presentations to healthcare providers, community visits, multiple media campaigns
- Access to Testing and Treatment: implemented implemented opt-out STBBI testing in corrections, expanded evening clinics and outreach, incentive testing.
- Collaboration: Test and Treat guidelines, Strategic Clinical Networks, zone public health engagement, community partners, First Nations Inuit Health, Alberta Health.



Question 1

Which of the following STIs has the *highest* reported incidence in Canada:

A. Chlamydia
B. Gonorrhea
C. Genital herpes
D. Genital warts
E. Syphilis

Question 2

Which of the following is not likely to be an explanation for the observed rise in syphilis cases?

A) Syphilis outbreaks cycle and so it does not matter what we do, they will come and go

B) We have a better screening test for syphilis

C) Canadians are having more (condomless) sex

D) None of the above

Question 3

What is the risk of transmission of primary syphilis from a pregnant woman to her unborn child?

A. 5%

B. 25%

C. 50%

D. 100%

The risk of transmission of syphilis depends on the gestational age and syphilis stage;
if the pregnant woman acquires syphilis in the last 4 weeks of pregnancy, the risk of transmission is 70-100%

Conclusions

- Syphilis is back with a vengeance in Canada
- Prevention and control of syphilis will require multi-sectoral involvement and the involvement of communities/subpopulations affected by syphilis in the greater context of health and wellness

Acknowledgments

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- Jennifer Gratrix and Cari Egan, Alberta Health services for Alberta slides
- Dr. Troy Grennan and Tessa Lawson Tattersall from BCCDC for information on Dual Daily HIV and Syphilis Pre-Exposure Prophylaxis (DuDHS) Trial

Questions??

https://www.gethealthystayhealthy.com/articles/syphilis-on-the-rise