

Update on STBBI Diagnostics and Screening Testing 2015

JARED BULLARD MD FRCPC

PEDIATRIC INFECTIOUS DISEASES AND MEDICAL MICROBIOLOGY

ASSOCIATE MEDICAL DIRECTOR, CADHAM PROVINCIAL LABORATORY

ASSISTANT PROFESSOR, MEDICAL MICROBIOLOGY AND PEDIATRICS & CHILD HEALTH

MAY 21, 2015

SEX AND STIGMA MATTERS 2015



Conflict of Interest Disclosure

Honoraria from Janssen and Merck for Manitoba HIV Program
Continuing Medical Education



Objectives

1. Review testing patterns for STBBIs in Manitoba from 2000 to 2014
2. Discuss findings from the Discrepancies in Testing Practices for Sexually Transmitted and Blood-Borne Infections in Manitoba Study
3. Discuss ways to optimize concurrent testing practices in Manitoba based on these findings





STBBI Testing

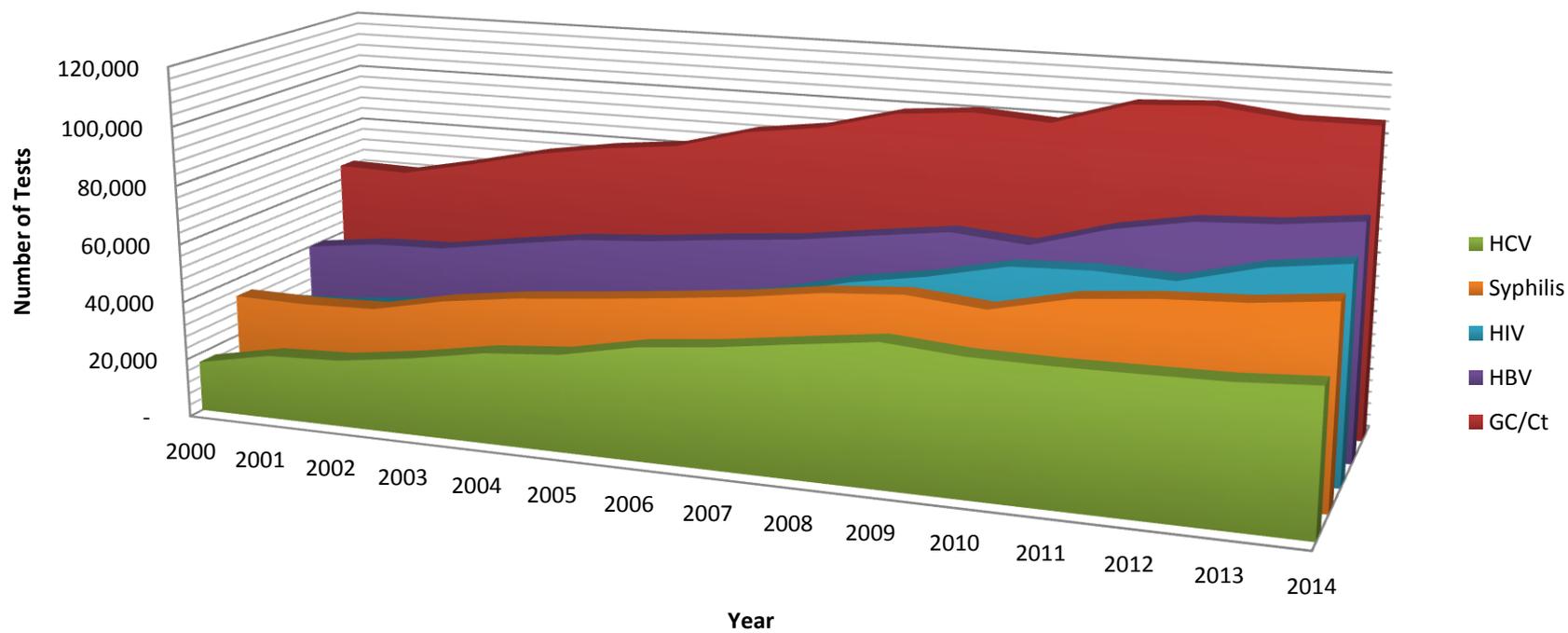
NAAT:

- *Chlamydia trachomatis*, Gonorrhoea

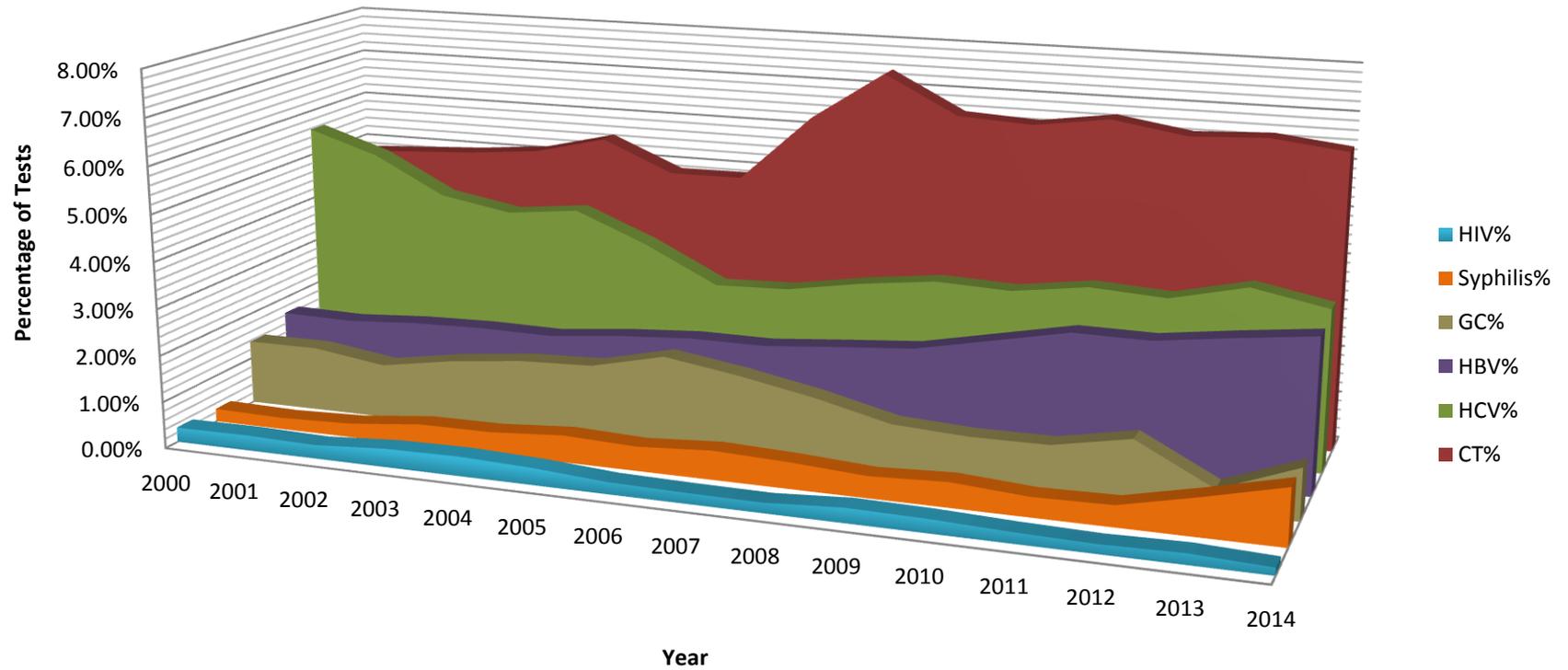
Serology:

- Hepatitis B
- Hepatitis C
- HIV
- Syphilis

STBBI Testing Rates in Manitoba 2000 to 2014



Testing Prevalence of STBBIs in Manitoba 2000 to 2014



STBBI Testing Prevalence in 2014

Chlamydia (6.3%)

HCV (3.4%)

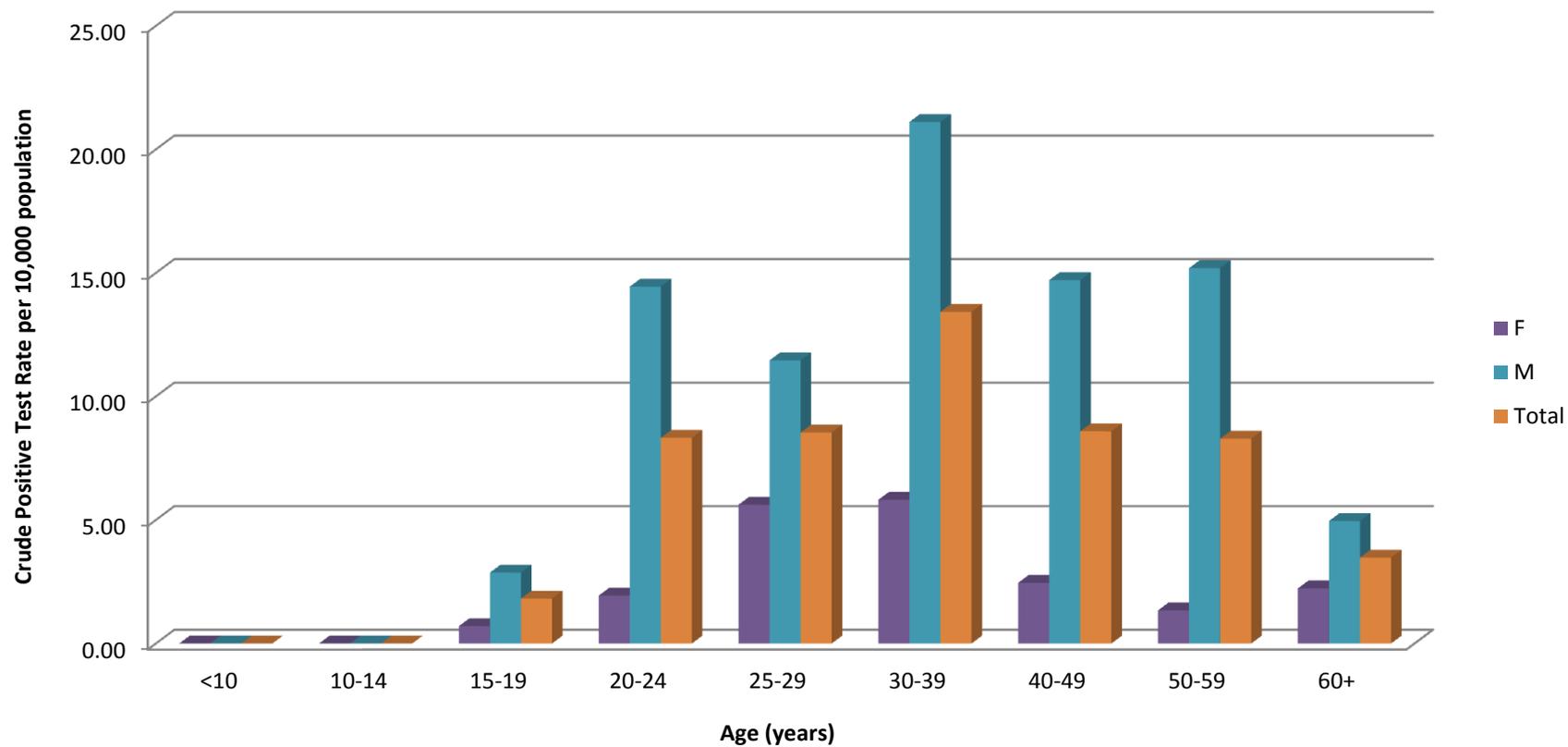
HBV (3.3%)

Syphilis (1.2%)

Gonorrhea (1.1%)

HIV (0.16%)

Rates of Positive Syphilis Tests by Sex in Manitoba 2014



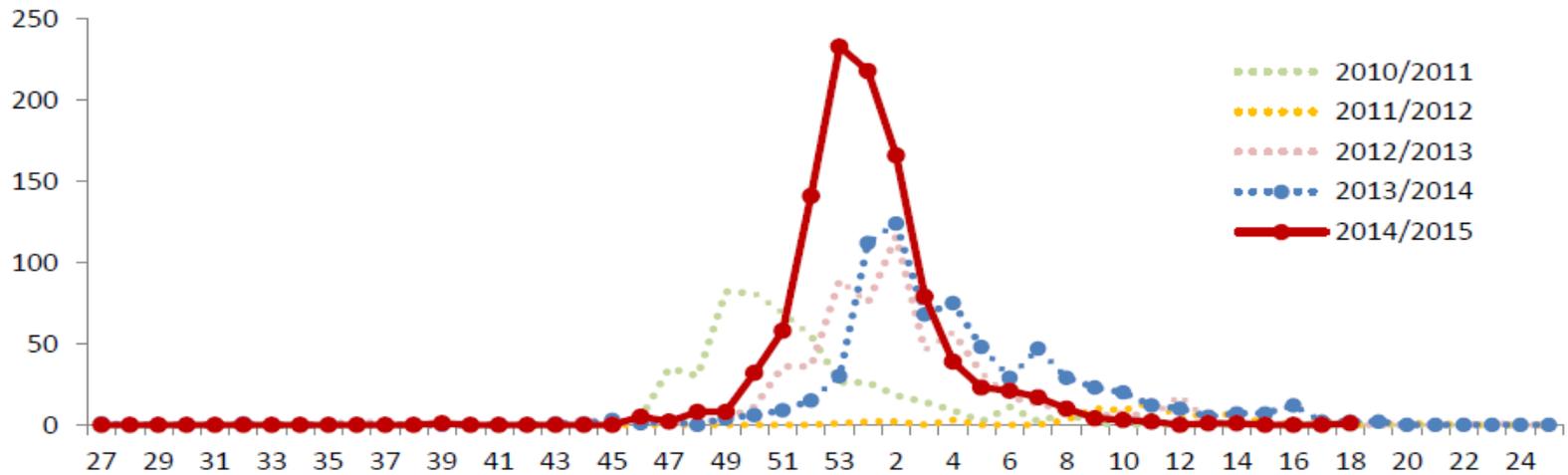


Figure 1. Cases of laboratory-confirmed influenza A by week

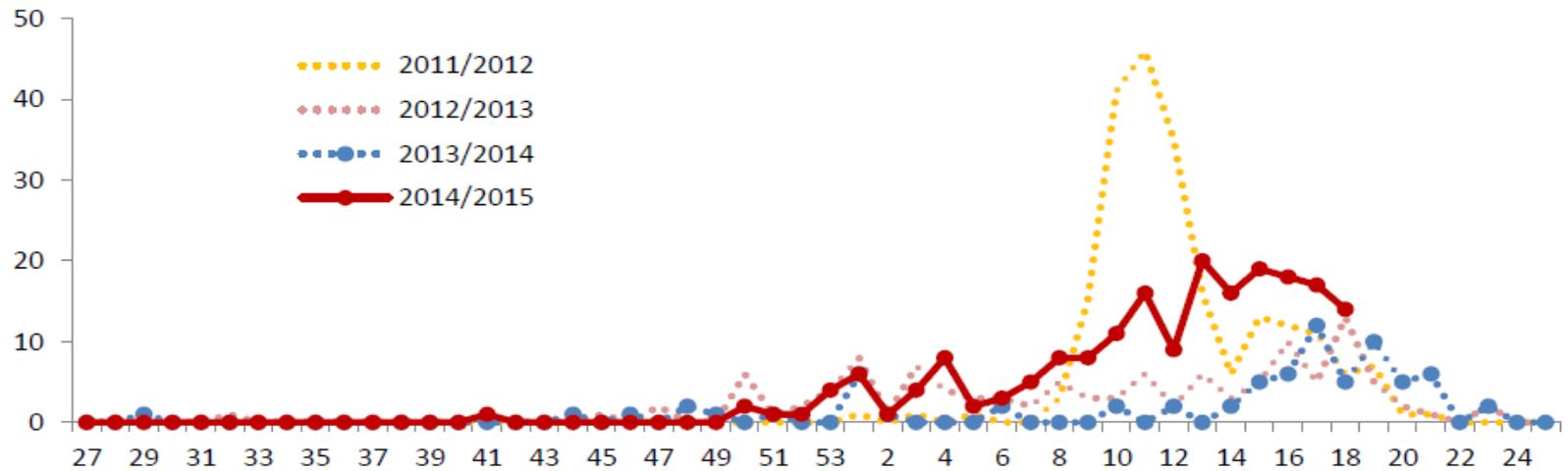
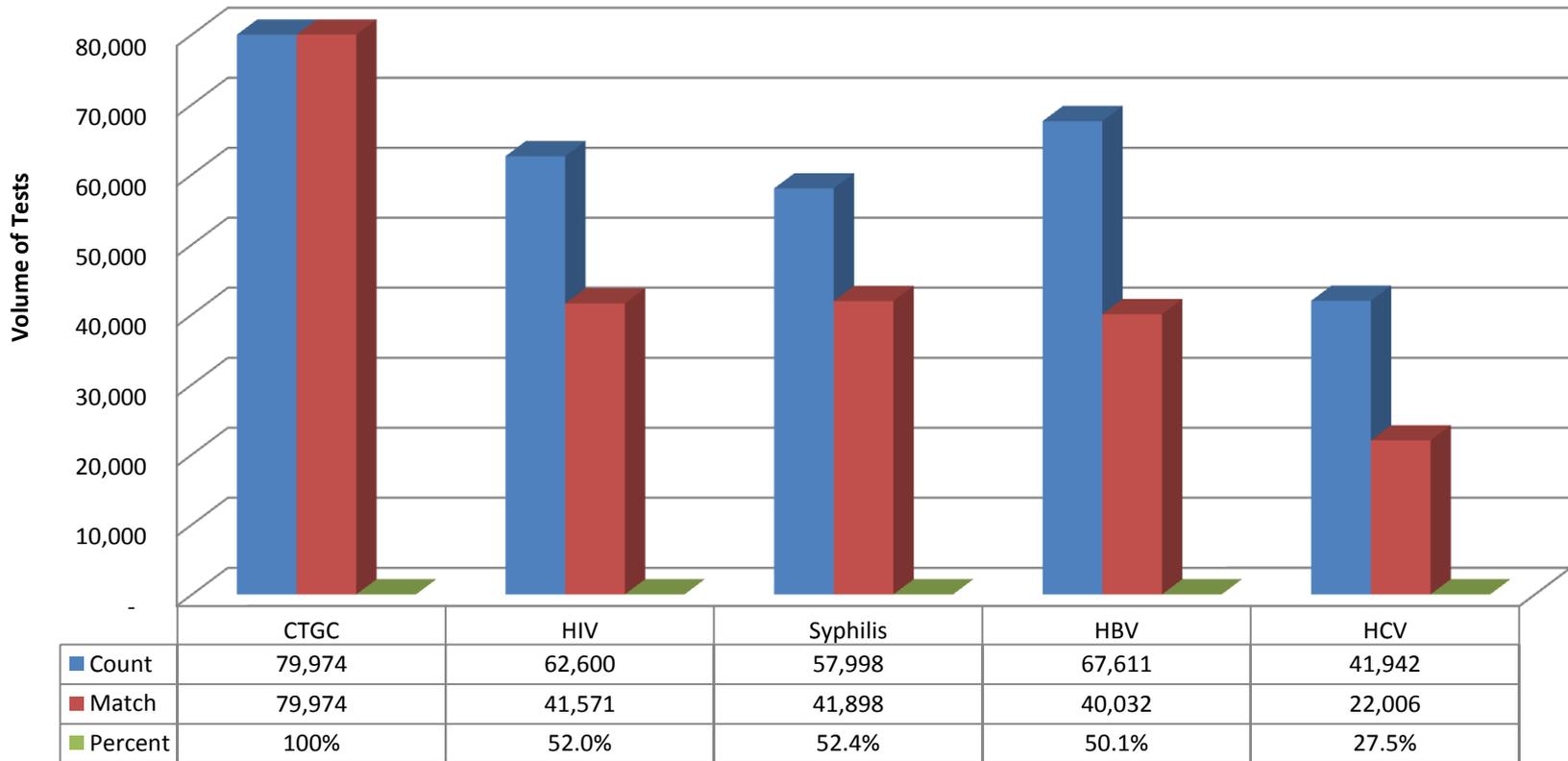
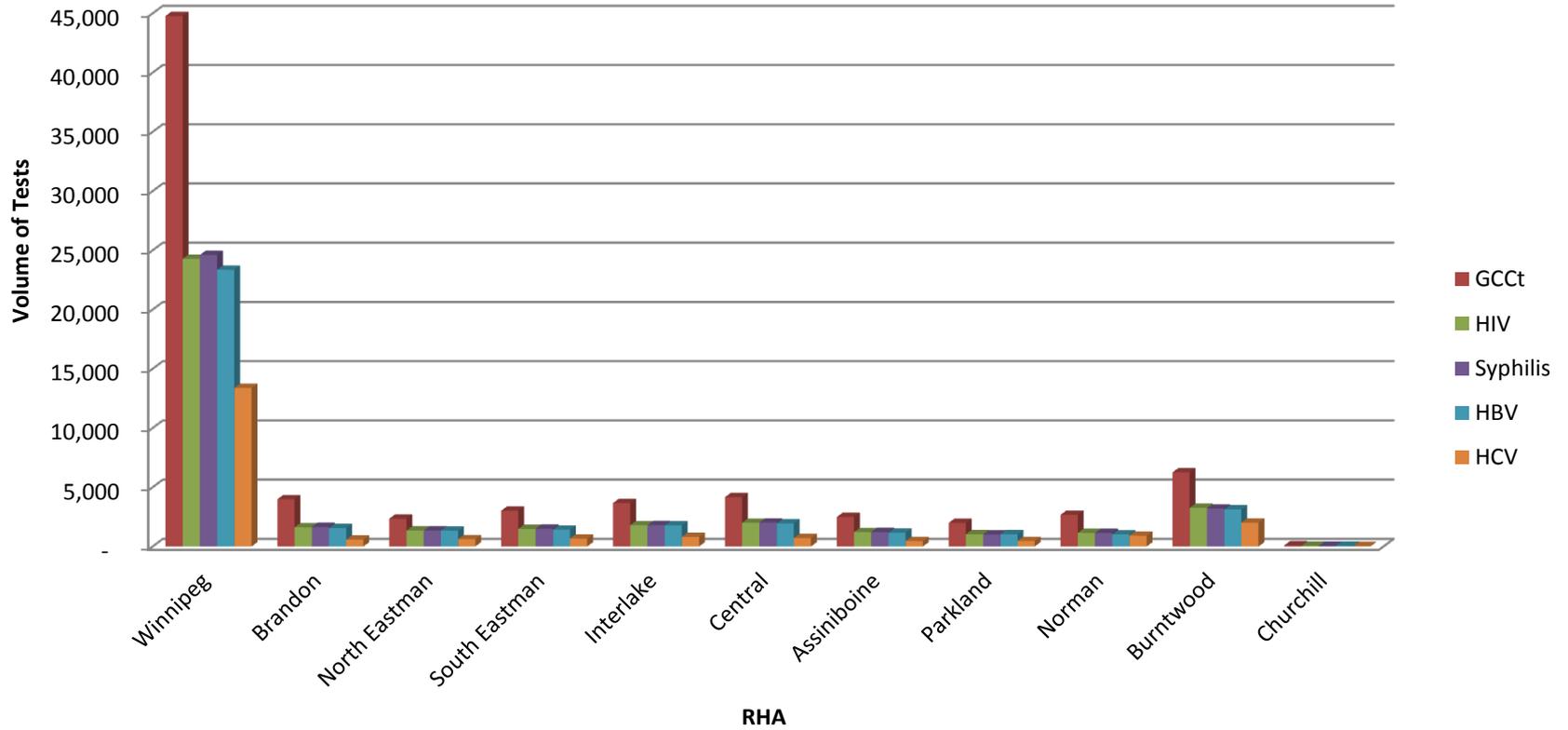


Figure 2. Cases of laboratory-confirmed influenza B by week

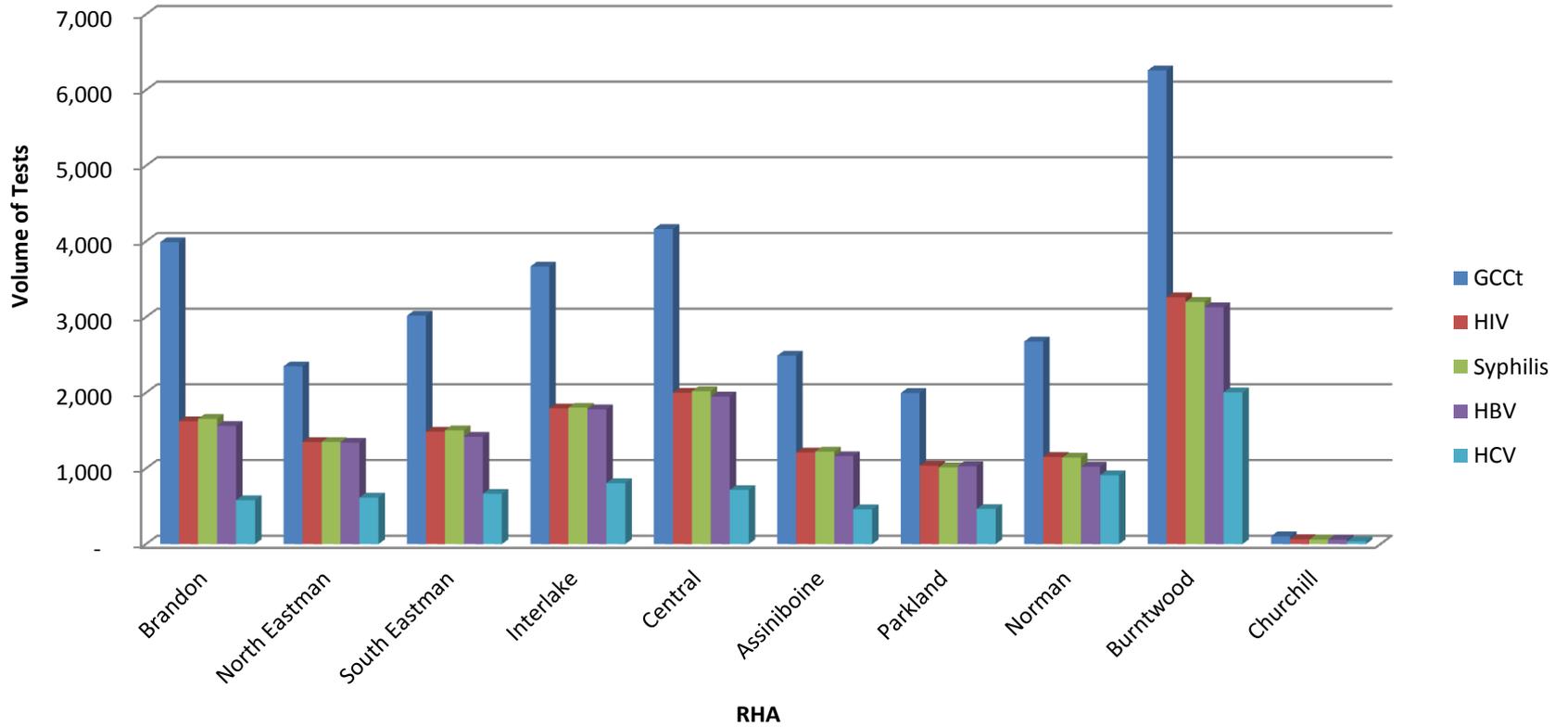
Concordant STBBI Testing in Manitoba 2014



Matched STBBI Tests in Manitoba by RHA 2014



Matched STBBI Tests in Manitoba by RHA 2014





Discrepancies in Testing Practices for Sexually Transmitted and Blood-Borne Infections in Manitoba: A Retrospective Database Review

JARED BULLARD, KELLEE HODGE, MICHAEL ISAAC, PIERRE PLOURDE,

CRAIG ROSS, PAUL VANCAESELEE, BOHDANNA KINASEVYCH

Why did we do it?



Why did we do it?

Testing volumes for HIV, syphilis and hepatitis B (blood-borne pathogen/BBPs) were approximately 50% of testing volumes for gonorrhea and chlamydia (GCCT)

Talked informally to other public health labs to see if this was unique to Manitoba:

- Other Western Provinces (BC, Alberta, Saskatchewan) reporting 80-95% concordant test volumes for GCCT and BBPs

Why are we seeing this?

- Urine samples versus blood?
- Something to do with doctors?
- Something to do with where the testing is performed in the province?
- Something to do with the patients being tested?

Use results to help direct resources and education

Why did we do it?

Collaborative effort between CPL/Manitoba Health and the WRHA:

- Jared Bullard
- Kellee Hodge
- Michael Isaac
- Pierre Plourde
- Craig Ross
- Paul Van Caesele
- Bohdanna Kinasevych

All have an interest in optimizing STBBI testing

What did we do?

CPL provides STBBI testing for the whole province, College of Physicians and Surgeons has database of MB practitioners

Tests \neq Cases/Patients

Took STBBI testing data for January 1 to December 1 2012 (n=140,430):

- Excluded those under 13 years of age
- Randomly selected 6000 to achieve statistical power
- Excluded those with more than 1 STBBI test in the year
- Determined if those who had GCCT testing had BBP testing within 30 days
- Final number of cases = 2723
- Performed statistical analysis to see what factors were significant and could help predict rates of concordance

What did we find?

Patient Characteristics

Mean age	32.7 years (SD 13.6)	
Minimum age	13	
Maximum age	97	
	N	%
Female	2048	75.2%
Male	675	24.8%

What did we find?

Provider Characteristics

	N	%
RHA		
Interlake-Eastern	257	9.4
Northern/Churchill	489	18.0
Prairie Mountain Health	538	19.8
Southern Health	327	12.0
Winnipeg	1112	40.8
Year of graduation		
Before 1990	1818	72.6
1990 - 1999	464	18.5
After 1999	223	8.9
Field of practice		
General practice	2048	75.2
Non-surgical specialty	211	8.4
Obstetrics and gynecology	234	9.3
International Medical Graduate	1519	55.8

What did we find?

Concordant testing by patient characteristics

	Yes	No	Test Statistic
Mean age	28.1 years	30.3 years	T = 4.389 p = .000
Gender (all)			
Male	57.7%	42.3%	
Female	27.0%	73.0%	$\chi^2 = 119.2$ p = .000
Gender (excluding cervical swabs)			
Male	57.7%	42.3%	
Female	58.1%	41.9%	$\chi^2 = .012$ p = .911
RHA			
Interlake/North Eastman	33.1%	66.9%	
Northern/Churchill	33.4%	66.6%	
Prairie Mountain Health	26.9%	73.1%	
South Central	29.0%	71.0%	
Winnipeg	40.8%	59.2%	$\chi^2 = 19.049$ p = .001

What did we find?

Concordant testing by provider characteristics

	Yes	No	Test Statistic
RHA			
Interlake/North Eastman	38.3%	61.7%	
Northern/Churchill	31.0%	69.0%	
Prairie Mountain Health	28.0%	72.0%	
South Central	29.8%	70.2%	
Winnipeg	35.3%	64.7%	$\chi^2 = 9.970$ p = .041
Field of practice			
General practice	33.2%	66.8%	
Non-surgical specialty	34.1%	65.9%	
Obstetrics and gynecology	25.1%	74.9%	$\chi^2 = 4.754$ p = .093
Year of graduation			
Before 1990	33.2%	66.8%	
1990 - 1999	27.8%	72.2%	
After 1999	34.4%	67.6%	$\chi^2 = 3.622$ p = .163
International Medical Graduate			
	33.1%	66.9%	$\chi^2 = .422$ p = .516

What did we find?

	Yes	No	Test Statistic
Community Area			
St. James/Assiniboia	45.5%	54.5%	
Assiniboine South	38.5%	61.5%	
Fort Garry	27.3%	72.7%	
St. Vital	31.3%	68.8%	
St. Boniface	22.8%	77.2%	
Transcona	25.0%	75.0%	
River East	26.9%	73.1%	
Seven Oaks	18.8%	81.3%	
Point Douglas	56.5%	43.5%	
Downtown	30.7%	69.3%	
River Heights	35.0%	65.0%	$\chi^2 = 14.01$ p = .173
Field of practice			
General practice	37.2%	62.8%	
Non-surgical specialty	32.4%	67.6%	
Obstetrics and gynecology	20.4%	79.6%	$\chi^2 = 11.625$ p = .003
Year of graduation			
Before 1990	35.6%	64.4%	
1990 - 1999	25.9%	74.1%	
After 1999	39.5%	60.5%	$\chi^2 = 5.63$ p = .060
International Medical Graduate			
	39.2%	60.8%	$\chi^2 = 3.18$ p = .075
Salaried			
	56.4%	43.6%	$\chi^2 = 11.66$ p = .001

What did we find?

Rate of concordant STBBI testing for entire sample 32.5% (probably closer to 58%)

Women tested for STBBIs more than men

General practitioners order most STBBI tests

Younger patients more likely to have concordant STBBI testing

Testing in the WRHA more likely to be concordant

Testing by OBS/GYN specialists associated with most discrepant STBBI testing

What does this mean?

Patient factors

- Promote testing in men
- Promote asking for more comprehensive testing in older patients and those outside WRHA

Practitioner factors

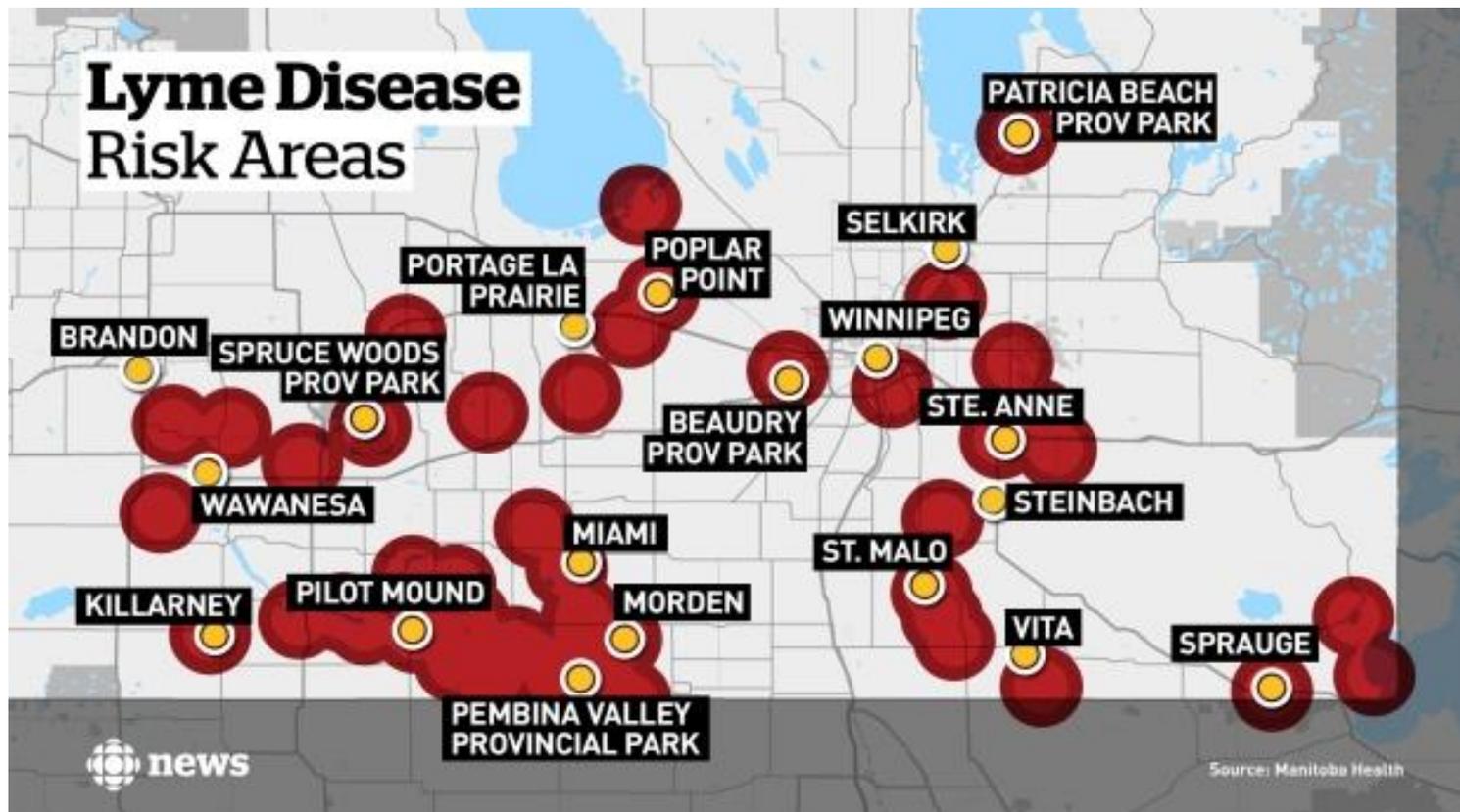
- Encourage OBS/GYNE practitioners to offer comprehensive STBBI testing
- Promote comprehensive testing outside of Winnipeg
- Consider engaging practitioners aged between 41-50 years?

What does this mean?

Laboratory/Testing factors

- Testing ordered but not completed?
- Phlebotomy services on site?
- Other provinces “true” STBBI testing patterns
- Consider other testing options

Lyme Disease Risk Areas



Objectives

1. Review testing patterns for STBBIs in Manitoba from 2000 to 2014
2. Discuss findings from the Discrepancies in Testing Practices for Sexually Transmitted and Blood-Borne Infections in Manitoba Study
3. Discuss ways to optimize concurrent testing practices in Manitoba based on these findings

Any Questions?
