Syphilis screening for low-risk clients visiting a sexual health clinic:

A focused practice question

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Healthy Sexuality Program
Communicable Diseases
Region of Peel Public Health

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**Key Messages**

Key messages from this review of syphilis screening reveal:

1. Peel’s crude incidence rate of infectious syphilis is lower than the Ontario average at 2.4 per 100,000 population, versus Ontario’s at 6.3.

2. The literature regarding screening low-risk populations is limited. The three guidelines reviewed were fairly consistent in their messaging of who to screen but did not address clients with low risk.

3. Literature and varied expert opinions recommend screening clients attending STI clinics to avoid missing any emerging outbreaks and infectious cases, as consequences can be severe. Clients attending a sexual health clinic are often at a higher risk for STIs compared to the general population and attend the clinic expecting a full STI screening.

4. Public Health acts as a role model for community physicians on the provision of gold standard STI testing and care.

5. Peel Healthy Sexuality clinic chart data reveals that clients who tested positive for infectious syphilis were at higher risk and would have been screened for syphilis regardless of findings.

6. The current electronic data collection systems in Healthy Sexuality clinics do not allow for identification of risk(s), reason for testing or other key variables for easy analysis or evaluation. Any investigation must be completed manually through chart reviews.
1 Background

Peel Public Health’s Healthy Sexuality clinics encourage syphilis screening for all clients visiting for sexually transmitted infection (STI) testing, regardless of their risk profile.

In 2014, 3531 blood tests were completed for syphilis screening across the 5 Healthy Sexuality Clinics. Fifty-two (52), or 1.5%, of these tests had a reactive result, which can indicate current or past infection with syphilis. The crude incidence rate for infectious syphilis in Peel in 2014 was low at 2.4 people per 100,000 population. (The Toronto rate was 20.7, Ottawa was 5.1, Halton was 2.2 and York Region was 1.6).

A syphilis result can be difficult to interpret, usually relying on more than one blood test as well as a clinical exam and thorough health history. Once syphilis is diagnosed, blood tests will always show evidence of infection, hence determining if a test result represents a current infectious case or is a past, now non-infectious case is important in order to determine appropriate treatment and sexual partner follow-up.

Given the resource implications of performing routine testing, our low clinic case finding, and current low incidence rate, a review of clinic syphilis screening practices was undertaken. Along with a literature review and appraisal, a simultaneous chart review of the 52 identified reactive syphilis results from 2014 was conducted. The chart review examined the reason these clients were tested, their risk factors, as well as demographics such as age and sex. The chart review provides a picture of the issue from the perspective of Healthy Sexuality clinical results.
While certain sexual behaviours or factors leading to a higher risk of acquiring syphilis are well documented in the literature, this focused practice question (FPQ) seeks to clarify the value and need for routine screening of all clients attending Peel sexual health clinics, including those at low risk of acquiring syphilis. Clients at lower risk for syphilis acquisition would include individuals that: are heterosexual with solely heterosexual partners, WSW (women who have sex with women), have low numbers of sexual partners, and do not have anonymous partners. The results of this FPQ will inform next steps for Peel Public Health regarding whom to screen for syphilis.

2 Literature Review Question

Is it efficacious (case-finding, cost, clinic efficiency) to screen low risk clients for syphilis?

<table>
<thead>
<tr>
<th>Population</th>
<th>General population ≥ 16 years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Syphilis screening based on risk assessment</td>
</tr>
<tr>
<td>Control</td>
<td>Routine screening of population for syphilis</td>
</tr>
<tr>
<td>Outcome</td>
<td>Identification of syphilis</td>
</tr>
</tbody>
</table>

3 Literature Search

A search by the knowledge brokers, ARP and manager was first conducted to identify existing clinical guidelines. The following web sites were searched: Centre for Disease Control and Prevention, USA (CDC), British Columbia Centre for Disease Control (BCCDC), Public Health Agency of Canada (PHAC), National Institute for Health and Care Excellence (NICE), International Union Against Sexually Transmitted Infections (IUSTI), World Health Organization (WHO), National Guidelines Clearinghouse and
HealthEvidence.ca

A second literature search was conducted by Peel Health librarians in the following databases: EBM Reviews – Cochrane Database of Systematic Reviews <2005 to May 2015>, Global Health <1973 to 2015 Week 27>, Ovid Healthstar <1966 to May 2015>, Ovid MEDLINE(R) <1946 to July Week 1 2015>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <July 10, 2015>.

The searches were limited by date (as noted above), English language and type (synthesized research and guidelines).

Refer to Appendix A for the complete search strategy.

### 4 Relevance Assessment

The search results were screened for relevance by two reviewers based on the following inclusion criteria:

- Type of studies: Synthesized research and guidelines
- Populations: Adults
- Settings: Community clinics
- Exposures or interventions: Syphilis screening (excluding prenatal testing, HIV testing, congenital syphilis), syphilis assessment
- Date of publication: Last 10 years

### 5 Results of the Search

The search identified four guidelines and three systematic reviews. A decision was made not to search single studies. Of the four guidelines, three were relevant for appraisal. One guideline was an update to a previous guideline, focussing only on treatment and therefore excluded. After an assessment of the three systematic reviews,
none were relevant; two focused on HIV and one focused on syndromic management of vaginal discharge.

6 Critical Appraisal

Appraisal was completed by four reviewers: a manager and ARP involved in the focused practice question and two clinical supervisors. Two reviewers appraised each of the guidelines and entered their scores into the AGREE II scoring tool. A meeting was then held with the group of four reviewers to compare scoring in order to arrive at a mutually agreed upon overall score. The three guidelines all received a moderate score of four out of a possible seven.

Guidelines included:

1. CDC MMWR Sexually Transmitted Diseases Guideline 2015
   - rated low in applicability
2. Canadian Guidelines on Sexually Transmitted Infections
   - rated low in rigour of development. A phone call to the organization resulted in confirmation that rigour was not included in the document or available on the PHAC website.
3. 2014 European Guidelines on Management of Syphilis
   - rated low in applicability

7 Description of Included Studies

After the search and relevance assessment, there were no studies selected for inclusion.
8 Synthesis of Findings

Of the three guidelines, both the Canadian and European guidelines outline extensive lists of those where a diagnosis of syphilis should be considered. There appears to be a consensus on those at higher risk however these lists, although extensive, do not address those at low risk.

*Sexually Transmitted Diseases Guidelines* from USA address special populations throughout various sections of the guideline but do not address those at risk in the syphilis section. “Universal screening for syphilis should be conducted on basis of local areas and institutional prevalence of early (primary, secondary, and early latent) infectious syphilis” (page 13). They suggest routine screening of asymptomatic adolescents for certain STDs is generally not recommended, excluding young men who have sex with men and pregnant females (page 12).

The *Canadian Guidelines on Sexually Transmitted Infections* does not necessarily define who should be tested for syphilis but outlines potential risk factors when you could consider a syphilis diagnosis and therefore test a client for syphilis. Individuals with multiple sex partners are included in this list, however there is not an accompanying definition of multiple sex partners. Section 2 of the guideline discusses those with “a new partner or more than 2 sexual partners in the past year” and “serial monogamy”.

The *2014 European Guideline on the Management of Syphilis Testing* recommends syphilis testing for a number of specific populations (pregnant women, persons with BBIs, etc.), those patients who engage in sexual behaviours that put them at higher risk.
(e.g. MSM, sex workers, etc), all patients with a newly diagnosed STI, and all attendees at sexual health clinics. Rationale for the latter is not provided. Refer to Appendix B for Data Extraction Table.

9 Limitations

The information found on the topic does not address those at low risk for syphilis. There is consensus from all sources on specific groups of those at higher risk who should be tested. The definitions of multiple partners are not clear for each guideline.

10 Other Evidence

a) Expert Opinions

Due to the lack of evidence in synthesized studies and unclear direction regarding low-risk individuals in the three guidance documents, expert opinions were sought. Two Canadian experts in the field of STIs, Drs. Tom Wong and Ameeta Singh, were consulted on the issue. Their answers did not necessarily specify any low risk groups but directed us to consider the local context (disease prevalence and risk groups), that individuals attending STI clinics are often "higher" risk than the general population, and given the resurgence of syphilis in parts of Canada, the chance of potentially missing cases in persons in whom a specific "risk" factor is not identified. It was noted that a cost effective (CE) analysis has never been done with regards to syphilis screening in low risk populations, except in pregnant women and blood donors, and it was recommended, if possible, that Peel
undertake a CE analysis to investigate this question. Refer to Appendix C for the email response.

b) Environmental Scan

An email seeking to understand syphilis screening practices in STI clinics was sent to larger Ontario health departments as well as some major Canadian cities. Of the 8 responses, almost all offer and/or encourage syphilis screening for all clients attending their clinics. One health department, while screening all men, performed a more detailed risk assessment on women screening only those with casual partners, high number of partners, and/or those who had partners with unknown sexual practices e.g. MSM. Cautionary comments related to decreasing syphilis screening in lower risk populations included the potential to miss outbreaks in lower-risk populations, clients who do not disclose all of their risk factors to practitioners, and the role of sexual health clinic expertise in surveillance of a virulent infection. Refer to Appendix D for Responses from Health Units.

c) Local Context of Syphilis in Peel Region

From a local perspective, from 2010 to 2014, the median number of infectious cases reported to Peel each year was 34 (range 32-46). Peel’s age standardized incidence rate was consistently lower than Ontario as a whole. Toronto’s rate is higher than any in Ontario. Peel’s rate has declined over the past few years, 29% lower in 2014 as compared to 2010. The crude incidence rate for syphilis in 2014
was 2.4. Male rates are consistently higher than females in most age groups. (Sexually Transmitted Infections in Peel 2010-2014). Refer to Appendix E for Syphilis in Peel.

d) Results of Chart Review 2014

Of the 3531 syphilis screening tests performed at Healthy Sexuality Clinics in 2014, 52 results were reactive. These charts were pulled and examined for age, sex, reason for testing and risk factor(s). Forty-two clients represented the 52 test results. 81% were males. Ages varied, with 69% 40 years of age or less. Of the 52 results, 46 were repeat blood tests following a previously reactive result. Only 6 were new cases. Of the 6:

- 1 male, contact of heterosexual and previously treated
- 1 female, sexual assault while travelling
- 1 male contact, MSM, HIV+
- 1 female contact
- 1 male, symptomatic, heterosexual, recent travel
- 1 male, symptomatic MSM

All of the above identified cases would fall into the higher risk categories as outlined in the guidelines.
Applicability and Transferability (A&T) Meeting

A modified A&T meeting was held to discuss the findings and allow for input into overall program recommendations and direction. Attendees at the meeting included program Managers, Supervisors, Public Health Nurses (2), Associate Medical Officer of Health, Analyst: Research & Policy (3), and the clinic Medical Director.

Refer to Appendix F: Applicability and Transferability Meeting November 17, 2015.
11 Recommendations

1. Continue to encourage regular syphilis screening for all clients seeking STI testing given:
   - lack of evidence to limit testing to specific populations only
   - guidelines recommend screening individuals who have had multiple partners or those that are attending a STI clinic
   - consequences of a potential missed case in whom a specific risk factor was not identified, particularly given the resurgence of syphilis in parts of Canada
   - clients attending a Peel HS clinic are seeking a full STI screening
   - clients attending a sexual health clinic are often at a higher risk for STIs compared to the general population
   - public health’s role in modelling gold standard STI care for community physicians
   - the role of public health in surveillance of a virulent infection

2. Consider methods to collect data to determine a risk profile on all clients that are screening for syphilis which is linked to their test results.

3. Should expertise allow, conduct a cost effective (CE) analysis on syphilis screening in low risk populations.
References

Appendices

Appendix A: Search Strategy

Appendix B: Data Extraction Tables

Appendix C: Expert Opinion

Appendix C: Brief Environmental Scan

Appendix E: Local Context

Appendix F: Applicability and Transferability Meeting
Appendix A: Search Strategy


Search Strategy:

--------------------------------------------------------------------------------
1     exp Syphilis/ (38316)
2     "syphili*".ti,ab. (38798)
3     exp Risk Assessment/ (415817)
4     exp Cost-Benefit Analysis/ (128230)
5     exp Mass Screening/ (213392)
6     exp "Sensitivity and Specificity"/ (821799)
7     "Diagnostic Techniques and Procedures"/ or Diagnostic Tests, Routine/ (19756)
8     "risk assess**".ti,ab. (81701)
9     "screen**".ti. (248302)
10    "universal screen**".ti,ab. (3383)
11    "screen* capacit**".ti,ab. (175)
12    exp Triage/ (16881)
13    "low-risk**".ti,ab. (79447)
14    "non-high risk**".ti,ab. (629)
15    exp Sexually Transmitted Diseases/di [Diagnosis] (64592)
16    exp Treponema pallidum/ (10239)
17    "treponema pallidum".ti,ab. (6176)
18    1 or 2 or 15 or 16 or 17 (110137)
19    3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 (1669945)
20    13 or 14 (80022)
21    18 and 19 and 20 (328)
22    ("review**" or "meta analys**") .ti. (625609)
23    21 and 22 (6)
24    remove duplicates from 23 (3)

Guideline Search:
CDC – “syphilis and low risk”; “2015 AND MMWR”
http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6403a1.htm

BC CDC “BC CDC AND syphilis” / guidelines and forms/ link to 2014 document:

**PHAC** “PHAC AND syphilis” / link to section 5


**NICE** AND syphilis

IUSTI guidelines:

NICE guidance and syphilis – no results

NICE guidance / find guidance/ infections/ STI /


- internal search for syphilis and syphilis
- syphilis assessment – 8 results, none relevant
- STI assessment – 8 results, none relevant
- STI screening –

Reviewed doc for relevance; focuses on chlamydia, gonorrhea, and HIV; and under 18 years of age conceptions

**WHO** AND syphilis

ACOG: http://www.acog.org/Patients/FAQs/Gonorrhea-Chlamydia-and-Syphilis (focus on pregnant women; not relevant)

WHO guidelines
http://apps.who.int/iris/bitstream/10665/42782/1/9241546263_eng.pdf?ua=1 (addresses management of active cases so not relevant)

**National Guidelines Clearinghouse (Sue June 25/15)**

Browse by topic/bacterial infections/syphilis screening
- 5 results – none relevant

http://www.guideline.gov/browse/by-topic-detail.aspx?id=6033&ct=1&term=syphilis+and+%22screening%20for%20syphilis%22

**Healthevidence.org**
http://www.healthevidence.org/search.aspx
search “syphilis” 20 results, non relevant
# Appendix B: Data Extraction Table

<table>
<thead>
<tr>
<th>Guideline title</th>
<th>Sexually Transmitted Diseases Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>Centre for Disease Control (CDC), MMWR</td>
</tr>
<tr>
<td>Date</td>
<td>2015</td>
</tr>
<tr>
<td>Country</td>
<td>USA</td>
</tr>
<tr>
<td>AGREE II Rating</td>
<td>Scope and Purpose: 17/21</td>
</tr>
<tr>
<td></td>
<td>Stakeholder Involvement: 13/21</td>
</tr>
<tr>
<td></td>
<td>Rigour of Development: 24/56</td>
</tr>
<tr>
<td></td>
<td>Clarity of Presentation: 17/21</td>
</tr>
<tr>
<td></td>
<td>Applicability: 5/28</td>
</tr>
<tr>
<td></td>
<td>Editorial Independence: 11/14</td>
</tr>
<tr>
<td></td>
<td>Overall Assessment: 4</td>
</tr>
<tr>
<td>Focus of guideline and relevant sections related to topic</td>
<td>Focus is applicable to patient-care settings that serve persons at risk for STIs, including family planning clinics and HIV care clinics, corrections and private physician’s offices. Syphilis chapter page 34 is relevant.</td>
</tr>
<tr>
<td>Generalizability</td>
<td>Based on the focus of the guideline, these can be generalized to Peel population and clinic operations.</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Special populations for syphilis testing are addressed including: all pregnant women, young men who have sex with men (YMSM), those in correctional facilities be aware of syphilis prevalence, HIV+, those with genital/anal or perianal ulcers. In the syphilis section, there was no listing of those at risk or affected by syphilis. Universal screening based on local area and institutional prevalence of infectious cases. Test those with HIV infection and clinical signs of neurosyphilis. Management of sex partners was outlined.</td>
</tr>
<tr>
<td>Limitations</td>
<td>The STD/HIV Risk Assessment is very broad. There were no specifics in the syphilis chapter regarding who to test.</td>
</tr>
<tr>
<td>Guideline title</td>
<td>Canadian Guidelines on Sexually Transmitted Infections</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------</td>
</tr>
<tr>
<td>Organization</td>
<td>Public Health Agency of Canada (PHAC)</td>
</tr>
</tbody>
</table>
| Date            | Primary Care and Sexually Transmitted Infections chapter updated February 2013  
Syphilis chapter updated February 2013 |
| Country         | Canada                                                |
| AGREE II Rating | Scope and Purpose: 18/21  
Stakeholder Involvement: 17/21  
Rigour of Development: 17/56  
Clarity of Presentation: 19/21  
Applicability: 12/28  
Editorial Independence: 2/14  
Overall Assessment: 4 |
| Focus of guideline and relevant sections related to topic | Focus is clinical and public health professional, especially nurses and physicians. Relevant sections include  
- Section 2 Primary Care and Sexually Transmitted Infections –general overview for primary care providers/staff in primary care settings on incorporating STI assessment into routine patient care  
- Section 5 Management and Treatment of Specific Infections –Syphilis – section reviews various components of syphilis including epidemiology, transmission, prevention, manifestations, diagnosis, risk factors, symptoms, pregnancy, serology, treatment, partner notification and follow-up |
| Generalizability | This guideline focus (clinician guidance) can be generalized to Peel population and clinic operations. |
| Recommendations | Section 2 - #3 Performing a Brief Patient History and STI Risk Assessment:  
STI risk factors are outlined and quite broad. The specific sexual health history assesses such elements as relationship, sexual risk behavior (sexual preference, last contact, number of partners, sexual activities), previous STI history, reproductive history, substance use and psychosocial history. This focused assessment will then assist the clinician in further evaluation of an individual patient’s risk factors and behaviours, counselling and testing recommendations.  
Section 5 Syphilis  
Diagnosis:  
Syphilis risk factors include:  
- signs or symptoms of syphilis  
- sexual contact with a known case of syphilis  
- MSM |
- Sex workers
- Street involved/homeless
- Injection drug users
- Multiple sex partners
- History of syphilis, HIV and other STIs
- Originating from or having sex with individual from country with high prevalence of syphilis
- Sexual partners of any of the above
- Aboriginal persons-in local context of epidemiology

**Limitations**

Section 2 is very broad. Section 5 does not necessarily define who should be tested but outlines those with risk factors. One can imply those with risk factors should be tested. There is no definition of multiple sex partners. Section 2 lists “a new partner or more than 2 sexual partners in the past year” and “serial monogamy”.
<table>
<thead>
<tr>
<th>Guideline title</th>
<th>2014 European Guideline on the Management of Syphilis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>International Union against Sexually Transmitted Infections</td>
</tr>
<tr>
<td>Date</td>
<td>2014</td>
</tr>
<tr>
<td>Country</td>
<td>Europe</td>
</tr>
<tr>
<td>Focus of guideline and relevant sections related to topic</td>
<td>Guidance is to be utilized by European clinicians to determine how to proceed in clinical situations. Guideline is specific to the management of syphilis. Case finding section: outlines recommendations for risk factors to consider when determining which clients to test.</td>
</tr>
<tr>
<td>Generalizability</td>
<td>European context and guideline focus (clinician guidance) can be generalized to Peel population and clinic operations.</td>
</tr>
<tr>
<td>Recommendations</td>
<td>Testing is recommended for:</td>
</tr>
<tr>
<td></td>
<td>• All pregnant women</td>
</tr>
<tr>
<td></td>
<td>• People donating blood, blood products or solid organs</td>
</tr>
<tr>
<td></td>
<td>• All patients with newly diagnosed STI</td>
</tr>
<tr>
<td></td>
<td>• Persons with HIV</td>
</tr>
<tr>
<td></td>
<td>• Persons with Hepatitis B</td>
</tr>
<tr>
<td></td>
<td>• Persons with Hepatitis C</td>
</tr>
<tr>
<td></td>
<td>• Patients suspected of early neurosyphilis (specific symptoms)</td>
</tr>
<tr>
<td></td>
<td>• Patients who engage in sexual behavior that puts them at higher risk (e.g. MSM, sex workers and all those individuals at higher risk of acquiring STIs)</td>
</tr>
<tr>
<td></td>
<td>Screening tests should also be offered to all attendees at all sexual health clinics.</td>
</tr>
<tr>
<td>Limitations</td>
<td>Does not differentiate between lower risk clients and higher risk clients attending sexual health clinics but rather recommends syphilis screening for all sexual health clinic clients.</td>
</tr>
</tbody>
</table>
Appendix C: Expert Opinion

From: amisingh7@gmail.com [mailto:amisingh7@gmail.com] On Behalf Of Dr. Ameeta Singh
Sent: October 5, 2015 11:04 AM
To: Tom Wong
Cc: Fowler, Barbara; Tom Wong; Margaret Gale-Rowe; STI_secretariat_ITS
Subject: Re: syphilis testing at Peel sexual health clinics

Good morning Ms Fowler,

This is an excellent question.

Just a couple of comments to add to Dr. Wong's comments. As he has mentioned, the indications for screening depend on a number of factors including local prevalence (including infectious vs non-infectious syphilis) in specific populations at the local level as well as the type of screening test (traditional vs reverse screening algorithms - I am not sure which you use locally). Cost effectiveness (CE) analyses often these take factors into consideration as well the potential implications of missing the diagnosis; in the case of pregnant women and blood donors, CE analyses have almost universally concluded that screening is important in these groups even with very low prevalence as the implications of a missed diagnosis are too high. In MSM, CE have also been done and reached similar conclusions given the high prevalence. Many CE analyses have not included late stage syphilis which of course while not of public health importance (not transmissible), can have potential implications (untreated) for the long term health of the individual person. I am not aware of any CE studies which have examined screening for syphilis in low risk, non pregnant, non blood donor populations.

So, in summary, you may decide to offer screening only based on specific risk factors or for currently recommended groups who may be low risk (blood donors/pregnant). My only concern about taking this approach is that individuals attending STI clinics are often "higher" risk than the general population and given the resurgence of syphilis in Canada, there is also a chance that you will potentially miss cases in persons in whom a specific "risk" factor is not identified. Ideally, a local CE analysis would be conducted to help guide your decision making but I am not sure if this is an option?

Hope this makes sense. Let me know if I can clarify anything.

Regards,
Ami

---
Dr. Ameeta Singh, BMBS(UK), MSc, FRCPC,
Clinical Professor, Division of Infectious Diseases, University of Alberta,
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Work e-mail: ameeta@ualberta.ca
Personal e-mail: amisingh7@gmail.com

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On Sun, Oct 4, 2015 at 11:03 AM, Tom Wong <Tom.Wong@phac-aspc.gc.ca> wrote:

Dear Ms. Fowler,

Thank you for your email.

The Canadian STI Guidelines identifies the potential situations for considering a syphilis diagnosis assessment such as:

- individuals with signs and symptoms compatible with syphilis
- individuals at high risk of syphilis

At the local level, the need for and the frequency of syphilis screening depends on the local epidemiology (including incidence, prevalence, test positivity etc) of specific sub-populations. As you know, screening in blood/organ donors and pregnant women women are universal in Canada.

Attached is a detailed review article by Dr. Singh and Dr. Romonowski, as well as a syphilis modelling study in HIV+MSM for your reference. There have been a number of antenatal economic analysis in the past few decades. Please note the new email address for Dr. Singh. If you have further questions, please don't hesitate to contact the STI secretariat (cc'd here).


Regards,
Tom

---------------------------------------------------

Tom Wong, MD MPH CCFP FRCPC
Member, Canadian Guidelines on STI Expert Working Group
200 Eglantine Driveway, 1913A
Tel: 613-952-9616

"Fowler, Barbara" ---2015-09-29 11:56:37 AM---Hello Drs. Singh and Wong, At Peel, we are reviewing our routine syphilis testing practices in our s

From: "Fowler, Barbara" <Barbara.Fowler@peelregion.ca>
To: 'Ameeta Singh' <ameeta.singh@gov.ab.ca>, Tom Wong <Tom.Wong@phac-aspc.gc.ca>
Date: 2015-09-29 11:56 AM
Subject: syphilis testing at Peel sexual health clinics
Hello Drs. Singh and Wong,

At Peel, we are reviewing our routine syphilis testing practices in our sexual health clinics. While we test all high-risk clients, we encourage all new clients to have the full spectrum of STI testing, including syphilis. In 2014, we performed over 3500 syphilis screens. 1.5% of these tests had some type of a reactive result – a few infectious cases, some follow-up serological results, and some latent results. In Peel our incidence rate for infectious syphilis is low – 2 per 100,000.

Given the resource implications of performing routine testing, we are reconsidering our practice. The Syphilis Chapter in the Canadian Guidelines outline risk factors for syphilis which include those clients with multiple partners. Almost all of our clients would have had more than one partner in their past so we place them in this category and encourage testing.

Our librarians completed a search of the literature for any systematic reviews on syphilis screening in low-risk patients. We could not find anything of relevancy. Are you aware of any studies in this area? What are your thoughts and recommendations regarding routine syphilis screening in low incidence populations?

Many thanks,

Barbara

Barbara Fowler, RN BScN MPH
Manager, Healthy Sexuality Program
Region of Peel Health Department
905-791-7800 x7507
barbara.fowler@peelregion.ca
Appendix D: Environmental Scan

September 29, 2015 email sent:

Hello all,

At Peel, we are reviewing our routine syphilis screening practices for low-risk clients in our sexual health clinics. While we test all high-risk clients, we encourage all new clients to have the full spectrum of STI testing, including syphilis. In 2014, we performed over 3500 syphilis screens. 1.5% of these tests had some type of a reactive result – a few infectious cases, some follow-up serological results, and some latent results. In Peel our incidence rate for infectious syphilis is low – 2 per 100,000. Given the resource implications of performing routine testing, our low clinic case finding, and current low incidence rate, we are reviewing our practices.

The Syphilis Chapter in the Canadian Guidelines outline risk factors for syphilis which include those clients with multiple partners. Almost all of our clients would have had more than one partner in their past so we place them in this category and presently encourage testing.

Our librarians completed a search of the literature for any systematic reviews on syphilis screening in low-risk patients. We could not find anything of relevancy. We have reviewed guideline documents from Canada, the US, and Europe.

We would like to gain an understanding of HU practices in Ontario and across Canada. Your answers to the following questions would be much appreciated:

1. Do you routinely screen all clients for syphilis? If not, which clients would NOT receive screening?
2. Do your staff utilize any tools to determine if they should encourage syphilis screening?
3. Are you aware of any studies in this area?
4. General feedback or thoughts on this issue?
## Questions

<table>
<thead>
<tr>
<th>Wellington-Dufferin-Guelph</th>
<th>We offer all clients but encourage high risk clients.</th>
<th>None particular to syphilis</th>
<th>No</th>
<th>Good questions! I think we all should be looking at this practice. I am eager to hear what you find.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middlesex London Health Unit</td>
<td>Yes</td>
<td>No formal tool or algorithm. Syphilis testing encouraged as a part of the nurses thorough assessment I.e. Patient request, Number of partners, MSM, type of SI, condoms use, STW, location of partners (cities, countries, bathhouse, online)</td>
<td>Not aware of any local studies</td>
<td>Important part of routine testing. Reportable virulent disease. Smaller centers could still be feeling impact of increase cases/outbreaks in large cities. If decrease population tested number of unexpected positive results from clients who may not initially be comfortable sharing their sexual history is lost. Validates importance of dedicated STI clinics with physicians and PHNs with clinical expertise.</td>
</tr>
<tr>
<td>Winnipeg Regional Health Authority</td>
<td>At the community based STI drop in clinics in Winnipeg it seems the practice is routine inclusion of syphilis in STBBI screening.</td>
<td>Due to the management of a syphilis outbreak here in Winnipeg, our current recommendations for testing: ALL pregnant women (because of the risk of congenital syphilis) ALL persons reporting unprotected sex with casual or anonymous partners should be routinely tested for sexually transmitted infections (STI) on a regular basis. ALL persons with any confirmed or suspected STI such as gonorrhea or chlamydia should be tested for syphilis and HIV</td>
<td></td>
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<tr>
<td>Hamilton</td>
<td>Syphilis screening may be performed on individuals that are considered high risk for syphilis as per Canadian Guidelines on STI 2008. Clients may also be offered testing for the purpose of post-treatment monitoring.</td>
<td></td>
<td></td>
<td>I spoke to colleagues at a recent meeting of Central West managers and they also use this approach</td>
</tr>
<tr>
<td>Location</td>
<td>Description</td>
<td>Tools Used</td>
<td>Awareness of Literature</td>
<td>Notes</td>
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<td><strong>Ottawa</strong></td>
<td>Screening - will get baseline syphilis result on all new clients. Subsequent to that, screening would be dependent on risk factors (multiple partners – and most of our clients do fit in this category also, MSM, sex with someone from an endemic area etc.) or those that request syphilis screening even after a discussion of risk factors. I don’t have statistics, but it does feel like this is a large proportion of our clients.</td>
<td>No specific tools are used.</td>
<td>Have not looked into this recently.</td>
<td>We have gone back and forth over the years in terms of the definition of “multiple partners”. The fear is always missing out on an emerging outbreak in a lower-risk population.</td>
</tr>
<tr>
<td><strong>York Region</strong></td>
<td>Provide testing for syphilis based on the risk factors identified in the Canadian Guidelines. For multiple partners, we would encourage testing for women if the multiple partners were casual partners, a large number of partners, or when unsure of their partners sexual practices eg MSM. If a client insists on testing, we will test as sometimes they do not disclose all of their story.</td>
<td>Only tools are our medical directives and policies and procedures.</td>
<td>Not aware of any literature about this.</td>
<td></td>
</tr>
<tr>
<td><strong>PCCHU</strong></td>
<td>Yes-our clients who come in for BBI testing, do receive syphilis as part of that screening. So we are also testing low risk clients</td>
<td>No</td>
<td>No</td>
<td>I look forward to your findings</td>
</tr>
<tr>
<td><strong>Simcoe Muskoka District Health Unit</strong></td>
<td>Yes we routinely screen all clients with hx of multiple partners.</td>
<td>No</td>
<td>No</td>
<td>Also discussed via email with our AMOH but can’t recall which health unit started the conversation. You are not the only health unit reviewing this practice. I look forward to the results of your scan. Good Luck!</td>
</tr>
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</table>
Appendix E: Local Context

Provided by Gregory Kujbida, MPH
Communicable Disease Epidemiologist, Infection Prevention & Surveillance
Peel Public Health

A. Rates of Infectious Syphilis In Ontario, Peel and Other Local Health Jurisdictions

Age-standardized incidence rate of infectious syphilis by health unit, 2010-2014

![Graph showing age-standardized incidence rate of infectious syphilis by health unit, 2010-2014](source)

Extracted from Sexually Transmitted Infections in Peel 2010 -2014 (draft)

B. A typical case of infectious syphilis in Peel

Examining demographics, a typical case of infectious syphilis in Peel (based on basic demographics of 2010-2014 cases combined) would be:

- 86% male
- Median age: 34
  - Age groups with the most cases:
    1. 20-24 (39 cases)
    2. 25-29 and 45-49 (29 cases each)
    3. 30-34 (22 cases)
Risk factors (2014):
- Unprotected oral sex: 74% (highest percentage of the four STIs)
- Unprotected vaginal sex: 45% (third highest percentage of the four STIs)
- Unprotected anal sex: 45% (second highest percentage of the four STIs)
- Met contact through the internet: 26% (highest percentage of the four STIs)
- Anonymous sex partner: 48% (highest percentage of the four STIs)
- MSM: 48% (highest percentage of the four STIs)
- Judgment impaired by alcohol or drugs: 16% (highest percentage of the four STIs)
- Travel outside of Ontario: 29%

Co-infections (2001-2014):
- 26% were infected with gonorrhoea either before or after being infected with syphilis (28% males, 11% females)
- 23% were co-infected with HIV (26% males, 0% females)

C. Other relevant observations
From the draft STI report, and although not related directly to syphilis, many risk factors were reported more often among chlamydia and gonorrhoea Peel Health Sexuality clinic cases than community cases. These included: unprotected oral sex, unprotected anal sex, met contact through internet, sex with same sex, and judgment impaired by alcohol or drugs. Two possible explanations for these differences include:

1. Clients who attend Peel Healthy Sexuality clinics have a higher risk profile than those who are tested by community physicians; and/or
2. Clients are more likely to discuss their risk profile in a sexual health clinic setting compared to over the phone with a Public Health Nurse
Appendix F: Applicability and Transferability

Applicability and Transferability – Syphilis Focus Practice Question
November 17, 2015
Attendees: Sue Fernane, ARP; Barbara Fowler, Manager; Sue French, Supervisor; Melissa Biksa, ARP; Adele Lane, Manager; Farrah Garrett, Supervisor; Katie Cumming, Supervisor; Andra Ashton, Supervisor; Kate Bingham, AMOH; Leigh Miller, PHN; Nicole Murphy, PHN; Jaspreet Kaur, ARP; Connie Chen, Medical Director

<table>
<thead>
<tr>
<th>Transferability (generalizability)</th>
<th>Questions</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>Magnitude of health issue in local setting</td>
<td>-What is baseline prevalence of health issue? (local context of infectious syphilis)</td>
<td>Outlined in report – low rates</td>
</tr>
</tbody>
</table>
| Magnitude of “reach” and cost effectiveness of intervention | -Will we miss anyone if we screen solely on specific risk factors?  
- Cost if missed infectious case (to client, to population, to PPH reputation? |  
• Likely miss cases if screen solely on high risk factors given clients often are unaware of full risk factors of their sexual partners and clients do not always disclose all of their risk factors  
• Implications of missing a case in a female in her reproductive years is catastrophic.  
• Client assumption when visiting an STI clinic is that we are testing for “everything”. If we don’t test the “low risk”, assumption can be made by the client that they are “fine” because they were tested at a STI clinic  
• Could miss emerging outbreaks. Have been outbreaks in areas Canada including Alberta, Manitoba, and Newfoundland |
| Target population characteristics | -Comparable study populations  
- Differences in characteristics of target populations (those at risk or with syphilis and those without) |  
• Very clear populations that are at high risk for syphilis. Literature limited regarding which populations to consider as low risk or which risk factors are of low risk  
• “Importing” of cases to Peel – due to proximity to Toronto which has a much higher incidence of infectious syphilis  
• Consider clients, such as MSM, that do not disclose their sexual practices to female partners  
• HS clinics may already be inadvertently selecting higher risk clients for syphilis screening as clients that are lower risk often decline a blood draw |
| Environmental Practice Scan | - How do comparable HDs practice? How do |  
• See environmental scan. Overall, HDs offer universal screening (all clients) while strongly encouraging those at higher risk to test. |
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<tr>
<th>Applicability (feasibility)</th>
<th>Questions</th>
<th>Notes</th>
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| Organizational expertise and capacity | - Does the intervention conform to existing legislation? OPHS? Best practices? Guidance documents? | • OPHS state public health must offer STBBI screening  
• FPQ literature review of guidance documents completed |
| Social Acceptability (Screening everyone for syphilis versus screening by risk) | - Will the target population find the intervention socially acceptable?  
- How would program be received by those attending clinic?  
- messaging for those receiving and not receiving testing?  
- assumptions about the population?  
- consider impact of program and key messages on non-target groups? | • Some clients may feel they are not being provided the best of service or feel they are being discriminated against if not receiving a test because they are not “high risk enough”  
• Clients who want testing but do not want to fully disclose all sexual activities  
• Create more standard messaging re: routine testing e.g. “once/year”  
• Currently our risk reduction messaging to clients includes having a full STI screen is not using/using condoms <100% of the time.  
• STI testing counselling includes discussing all STIs including syphilis  
• Not enough evidence to change practice to risk based screening only. Difficult to provide rationale.  
• Will be completing more blood draws given our HIV testing changes (less rapid tests, more serology) so not an additional blood draw for a client |
| Provider Acceptability      | - Will providers deem the intervention as professionally sound? (physician and nursing staff)  
- Will external partners / stakeholders find the intervention acceptable? (referring physicians, referred to physicians, community agencies) | • Knowledge and comfort related to syphilis testing low amongst community physicians with subsequent screening for syphilis very low – based on risk, associated with pregnancy screen or cognitive screen.  
• Community physicians often unaware of syphilis risk associated with oral sex  
• STI clinics are different than FP clinics. Clients who attend STI clinics are often at higher risk for STIs or disclose concerns and risks that they would not disclose to a family physician.  
• STI clinics and practitioners are leaders in providing gold standard of sexual health care provision. Difficult to encourage syphilis testing by community physicians if PPH discontinues full STI screening for some.  
• Potential for increased anxiety amongst clients and staff re: missed cases. |
- Will be completing more blood draws given our HIV testing changes (less rapid tests, more serology)

| Available essential resources (would resources be saved if limited screening?) | -What potential resources would be saved if reduced screening? | • Time to perform venipuncture and process paperwork
• Equipment
• Lab testing and reporting costs
• Following up on test results |