Using an Evidence-Informed Approach to Improve Chlamydia Rates in Niagara

Rachel Skellet, BPH MSc

Sandy Dupuis, BSc MSc

Agenda

- EIPH process in Niagara and the role of the epidemiologist
- Understanding the local context
- Rapid review
- Applicability and transferability
- Conclusions

EIPH in Niagara

The beginning…

Niagara's Local Context

- Sexually Transmitted Infections (STIs) have been identified as one of the top health issues in Niagara → one of Niagara's top ten health issues

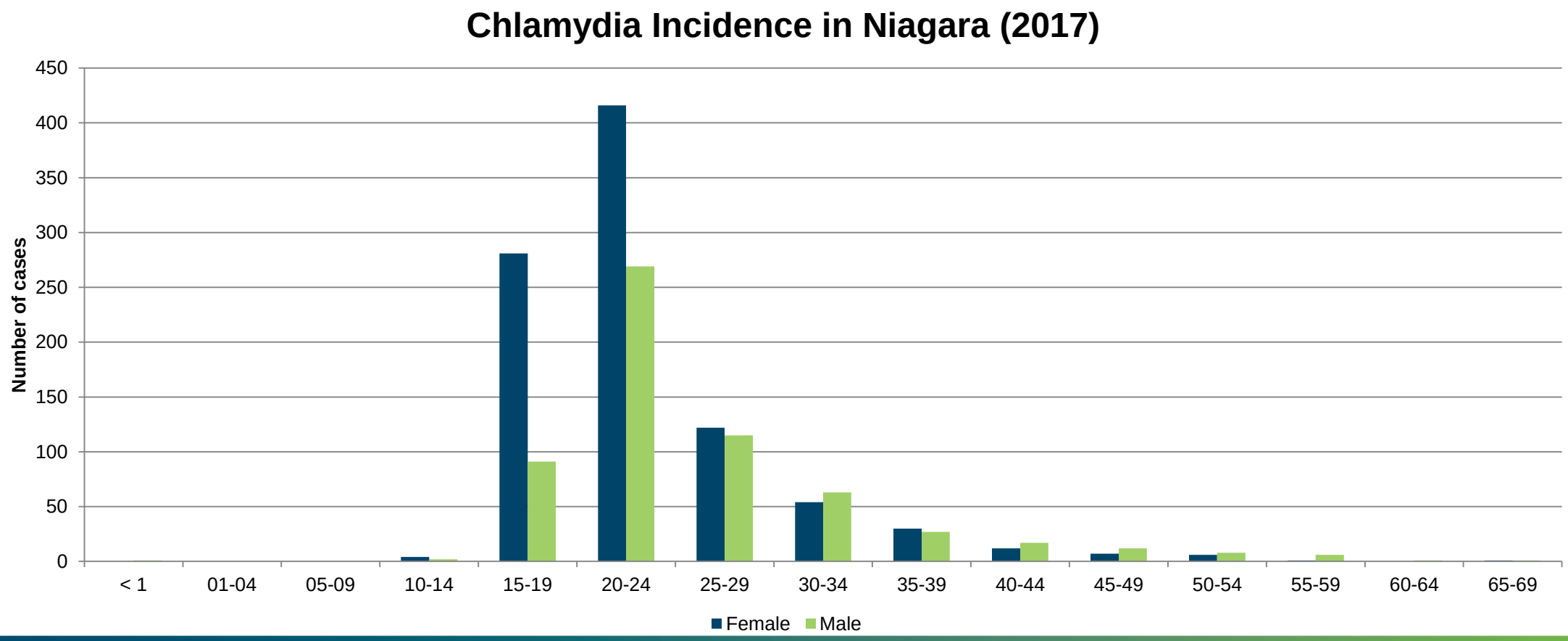
- Within STIs, chlamydia is the most commonly diagnosed infection

- Even though chlamydia is a commonly-diagnosed infection, more women seek testing and treatment than men in Niagara

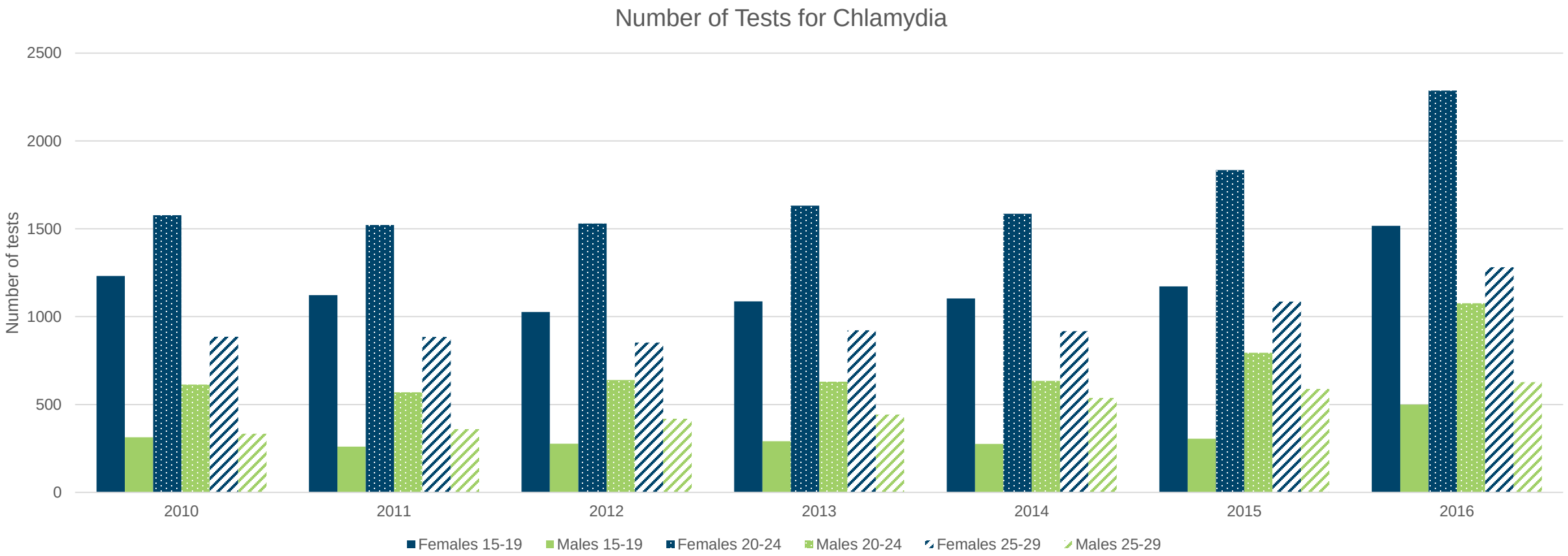
Chlamydia – Most Prevalent STI

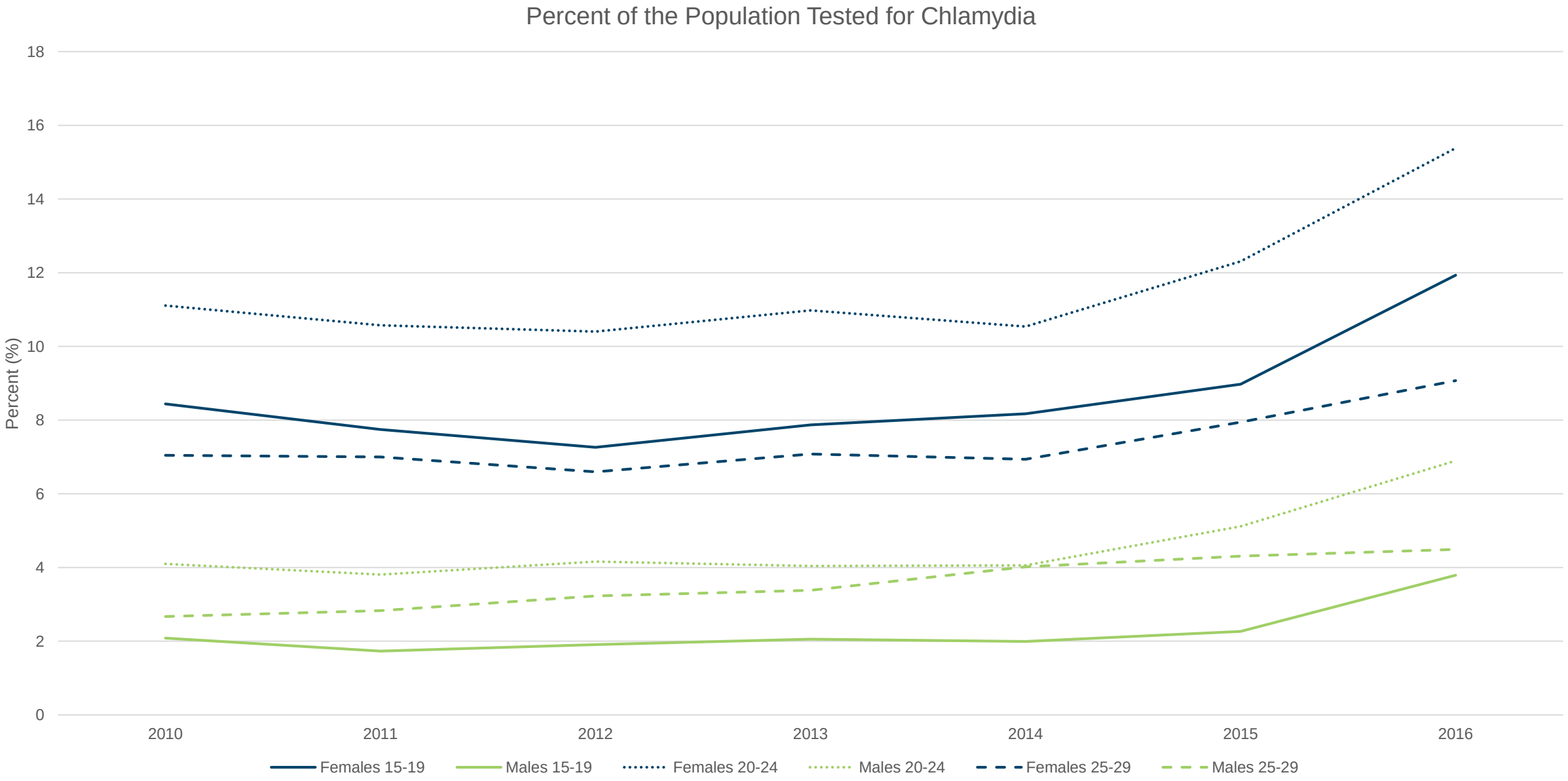
Niagara	1	2	3	4	5
0<1 years	Salmonellosis	Giardiasis	Campylobacter Enteritis	*Not Reportable***	*Not Reportable***
1-4 years	Giardiasis	Campylobacter Enteritis	Salmonellosis	Streptococcus Pneumoniae	Cryptosporidiosis
5-9 years	Salmonellosis	Giardiasis	Campylobacter Enteritis	*Not Reportable***	*Not Reportable***
10-14 years	Salmonellosis	Campylobacter Enteritis	Chlamydia	Pertussis	*Not Reportable***
15-19 years	Chlamydia	Gonorrhea	Campylobacter Enteritis	Salmonellosis	Hepatitis C
20-24 years	Chlamydia	Gonorrhea	Hepatitis C	Campylobacter Enteritis	Salmonellosis
25-44 years	Chlamydia	Hepatitis C	Gonorrhea	Campylobacter Enteritis	Giardiasis
45-64 years	Hepatitis C	Campylobacter Enteritis	Chlamydia	Streptococcus Pneumoniae	Salmonellosis
65-74 years	Campylobacter Enteritis	C. Difficile	Streptococcus Pneumoniae	Salmonellosis	Hepatitis C
75-84 years	C. Difficile	Campylobacter Enteritis	Streptococcus Pneumoniae	Salmonellosis	Hepatitis C
85+ years	C. Difficile	Streptococcus Pneumoniae	Campylobacter Enteritis	Salmonellosis	*Not Reportable***

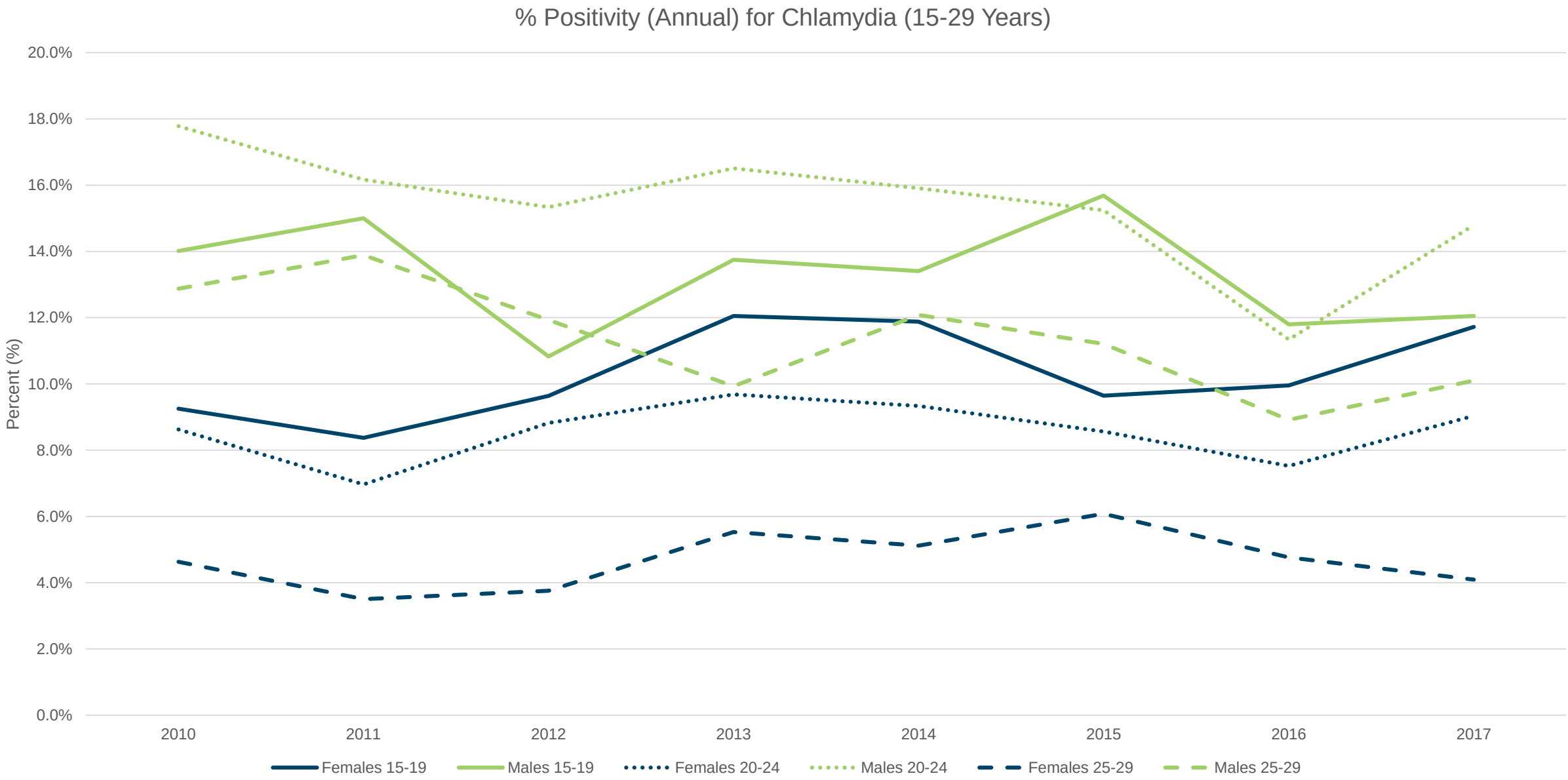
Female Incidence Higher Than Males



Females Seek Testing More Often




Percent of the Population Tested for Chlamydia
Percent (%)
18
16
14
12
10
8
6
4
2
0
2010
2011
2012
2013
2014
2015
2016
Females 15-19
Males 15-19
Females 20-24
Males 20-24
Females 25-29
Males 25-29


% Positivity (Annual) for Chlamydia (15-29 Years)
20.0%
18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
Percent (%)
2010
2011
2012
2013
2014
2015
2016
2017
Females 15-19
Males 15-19
Females 20-24
Males 20-24
Females 25-29
Males 25-29

Project Team

Team Member	Role
Epidemiologist and data analyst	- Provide data (surveillance and service delivery data) to aid in understanding the local context
Rapid Review team	- Complete the rapid review of the literature
Manager	- Provides direction to the team - Decision maker - Advocate for additional resources
Health promoter, primary care advisor, outreach nurse, sexual health nurse, sexual health team lead	- Provides understanding of community preferences (ex. current clients, potential partnerships)

EIPH in Niagara

Next steps… →

Diving into the research

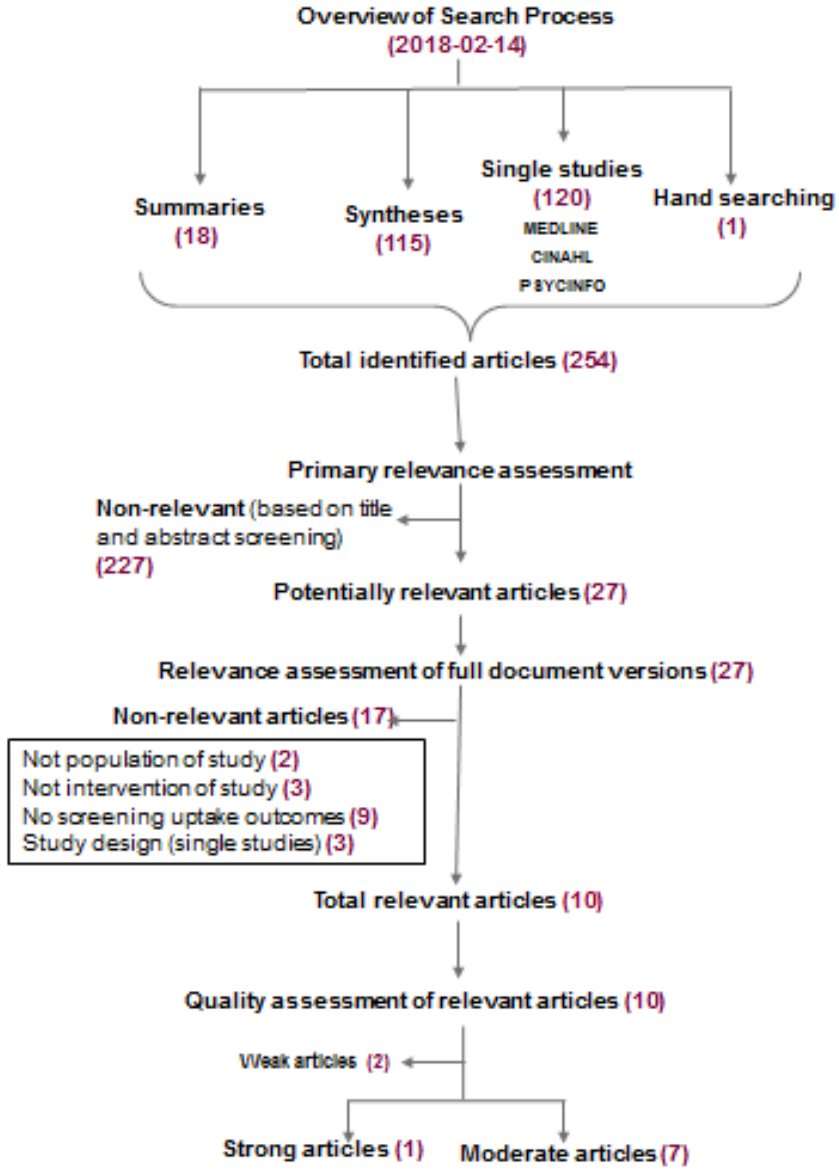
- Niagara Region Public Health participated in NCCMT's Knowledge Brokering Mentorship program in 2017-2018
- Project team consisted of 4 staff who were trained in EIPH and completed a rapid review on a topic of their choice
- Knowing that the sexual health program had a research question, the group completed a rapid review for this topic


STEPS OF
EVIDENCE-
INFORMED
PUBLIC HEALTH
DEFINE
SEARCH
APPRAISE
SYNTHESIZE
ADAPT
IMPLEMENT
EVALUATE

PICO

- What community-based interventions can increase uptake of chlamydia screening in males aged 20-29?

Methods


Overview of Search Process
(2018-02-14)
Summaries
(18)
Syntheses
(115)
Single studies
(120)
MEDLINE
CINAHL
PSYCINFO
Hand searching
(1)
Total identified articles (254)
Primary relevance assessment
Non-relevant (based on title and abstract screening)
(227)
Potentially relevant articles (27)
Relevance assessment of full document versions (27)
Non-relevant articles (17)
Not population of study (2)
Not intervention of study (3)
No screening uptake outcomes (9)
Study design (single studies) (3)
Total relevant articles (10)
Quality assessment of relevant articles (10)
Weak articles (2)
Strong articles (1)
Moderate articles (7)

Quality Appraisal

Study	Quality Rating
Connolly et al (2012)	Weak
Denno et al (2012)	Moderate
Gudka et al (2013)	Moderate
Hengel et al (2013)	Moderate
Jamil et al (2013)	Moderate
Jamil et al (2014)	Weak
Kapadia et al (2013)	Strong
Lee et al (2015)	Moderate
Long et al (2016)	Moderate
Phillipson et al (2016)	Moderate

Recommendations

- Provide incentives
- Partner with pharmacies to have home-based testing kits available to clients
- Provide opportunistic testing in the community, specifically with schools
- Use digital interventions
- Provide home-based testing kits through community outreach

EIPH in Niagara

Putting it all together…

Applicability & Transferability – Example

Construct	Factors	Questions to Ask	Notes
Applicability	Political acceptability or leverage	-Will the intervention be allowed or supported in current political climate? -Will there be a public relations benefit for local government? -Will this program enhance the stature of the organization? -Will the public and target groups accept and support the intervention in its current format?	-acceptability is dependant on the incentive provided -many felt that given the magnitude of the issue, and the target population a small incentive is justifiable
	Social Acceptability	-Will the target population be interested in the intervention? Is it ethical?	-yes & ethical
	Available essential resources (personnel and financial)	-Who/What is available/essential for the local implementation? -Are they affordable? -What is needed to tailor the intervention to be offered? -What are the full costs (supplies, systems, space requirements for staff, training, technology/administrative supports) per unit of expected outcome? -Are the incremental health benefits worth the costs of the intervention?	-up until this point incentives have been provided by the location we have attended - no incentives have been provided by Public Health -health benefits are worth the costs of the intervention
	Organizational expertise and capacity	-Is the current strategic plan/operational plan in alignment with the intervention to be offered? -Does this intervention fit with its mission and local priorities? -Does it conform to existing legislation or regulations (either local or provincial?) Does it overlap with existing programs or is it symbiotic?) -Any organizational barriers/structural issues or approval processes to be addressed? -Is the organization motivated (learning organization)?	-aligns well with STI logic model -aligns with OPHS -yes

Applicability & Transferability – Example

Construct	Factors	Questions to Ask	Notes
Transferability	Magnitude of the health issue	-Does the need exist? -What is the baseline prevalence of the health issue locally? -What is the difference in prevalence of the health issue (risk status) between study and local settings?	-low testing rates in males -increasing chlamydia rates in young men and women in Niagara
	Magnitude of the “reach” and cost effectiveness of the intervention	-Will the intervention broadly “cover” the target population?	-if targeted to the population it can -also depends on incentive provided
	Target population characteristics	-Are they comparable to the study population? -Will any difference in characteristics (ethnicity, socio-demographic variables, number of persons affected) impact intervention effectiveness locally?	-yes

Next Steps (EIPH)

- The project team is working on implementing the ideas that came out of the research/applicability and transferability tools
  - Working on different incentives that may be possible
  - Building partnerships with pharmacies to reach the target audience
  - Considering other partnership opportunities for opportunistic testing
  - Working with our school health nurses to better understand how to reach their target audience

Epidemiology and EIPH

- The data provided by the epidemiologist to the project team was very influential in starting the EIPH process
  - Helped define the question that was used to tackle the research section of the EIPH process
- The epidemiologist was also a part of the research team, but doesn't have to be
  - This depends on the level of expertise that the research team has and how comfortable they feel with interpretation of the results
- Overall, the EIPH process has taken a significant amount of time and staff resources, but program staff have been engaged to ensure action is taken based on the results of pulling together the data and research