Syphilis in Pregnancy and Congenital Syphilis – What Does the Landscape Look like Post-Implementation?

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Healthy Mothers and Healthy Babies
February 22, 2020

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Learning Objectives

- Review the uptake of the screening guidelines in BC
- Explore the lessons learned regarding implementation
- Review the epidemiology since the implementation

Conflicts of Interest

- All presenters have no conflicts of interest to disclose

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Background

- The rate of infectious syphilis has been rising since 2010
  - Predominantly among gbMSM

- From 2017 to 2019, cases of infectious syphilis among females doubled. Additionally, in 2019, the first case of congenital syphilis was reported—the first case since 2013.

- In response, BC's Provincial Health Officer declared a syphilis outbreak in the province in July 2019.

- Part of the outbreak response has been the development of interim, revised guidelines for syphilis screening in pregnancy recommending the addition of a second test at delivery.

Epidemiology of Syphilis

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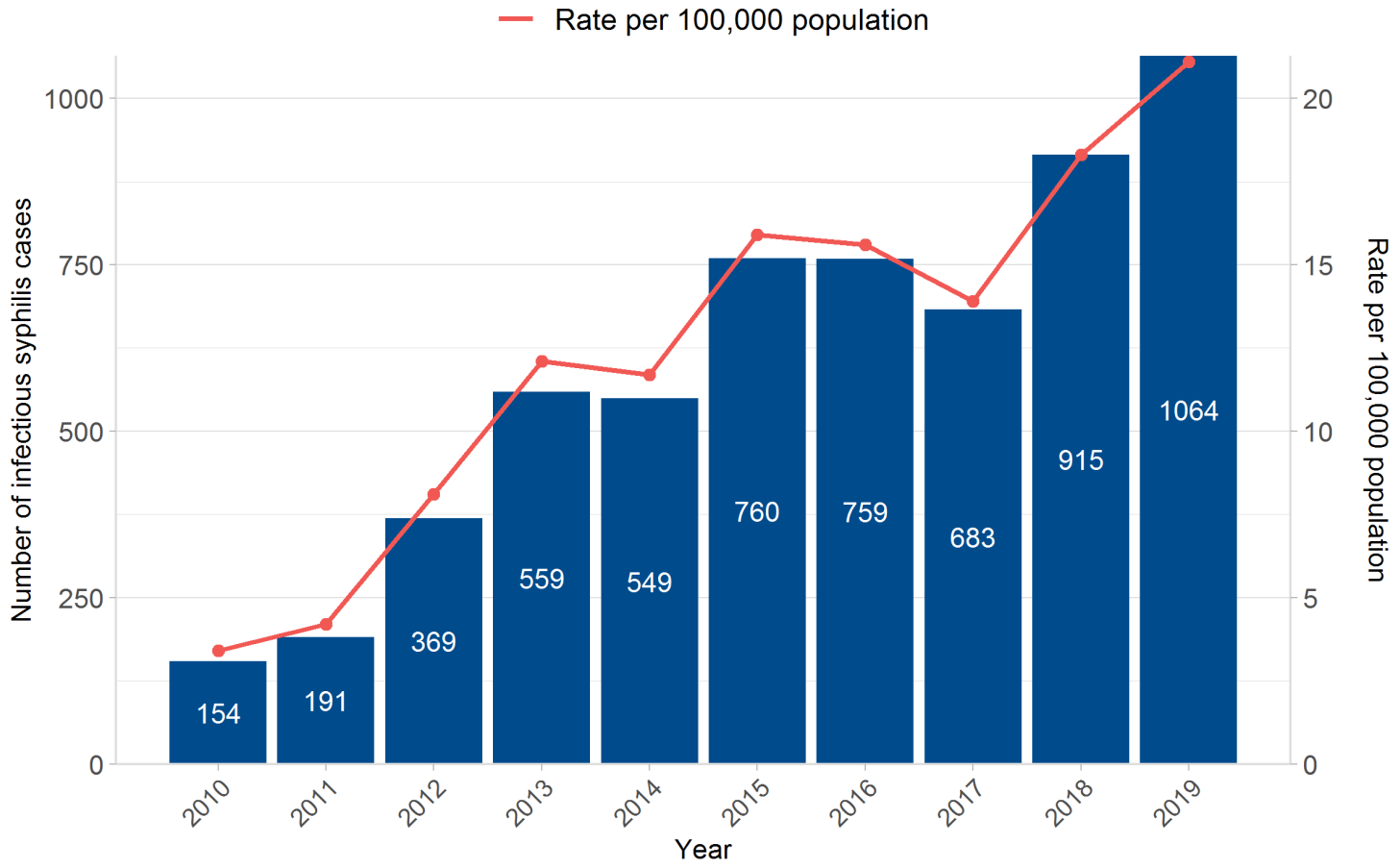
Infectious Syphilis Cases in BC, 2010-2019



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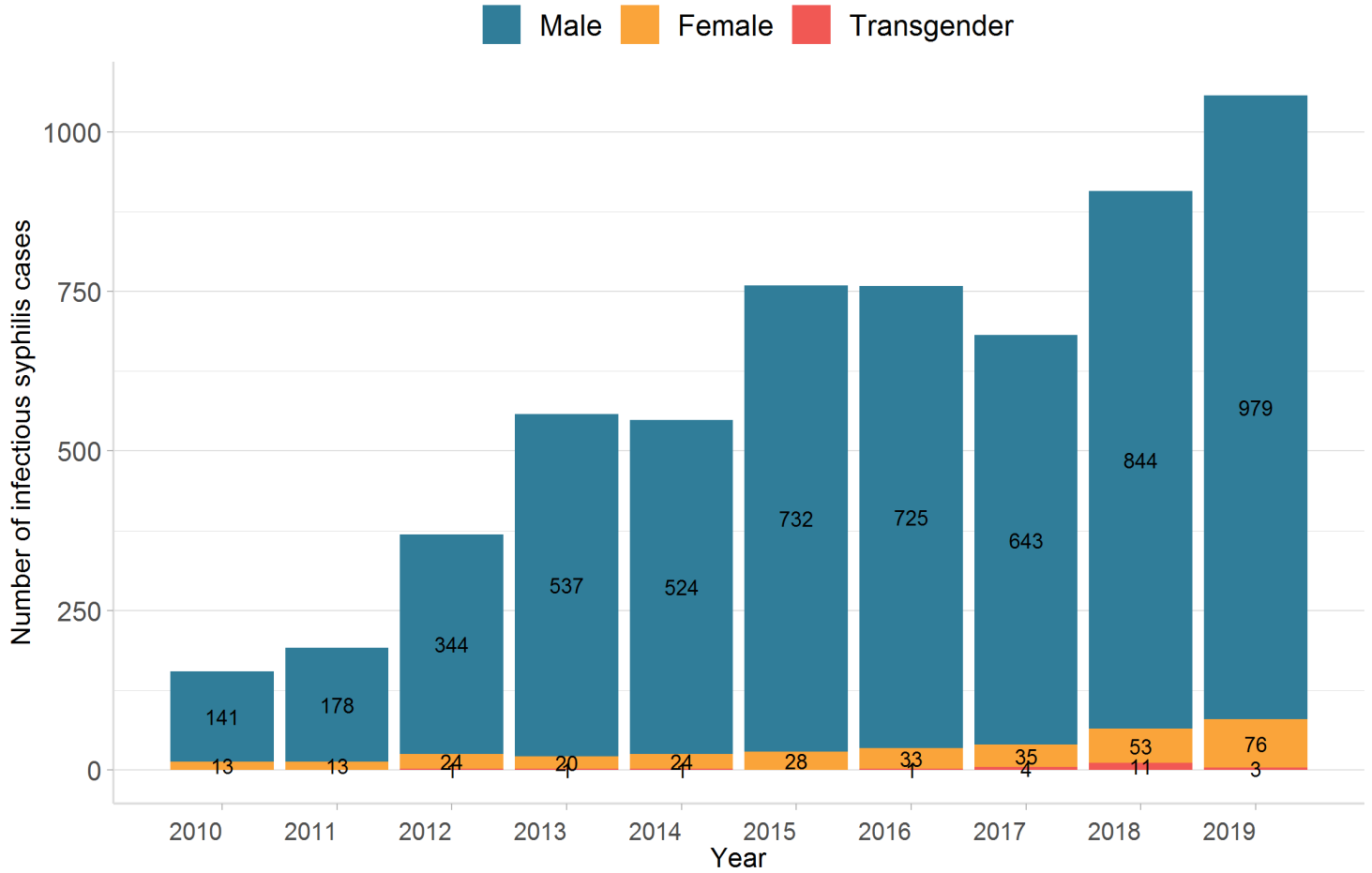
Preliminary data, subject to change

Infectious Syphilis Cases in BC by Gender, 2010-2019



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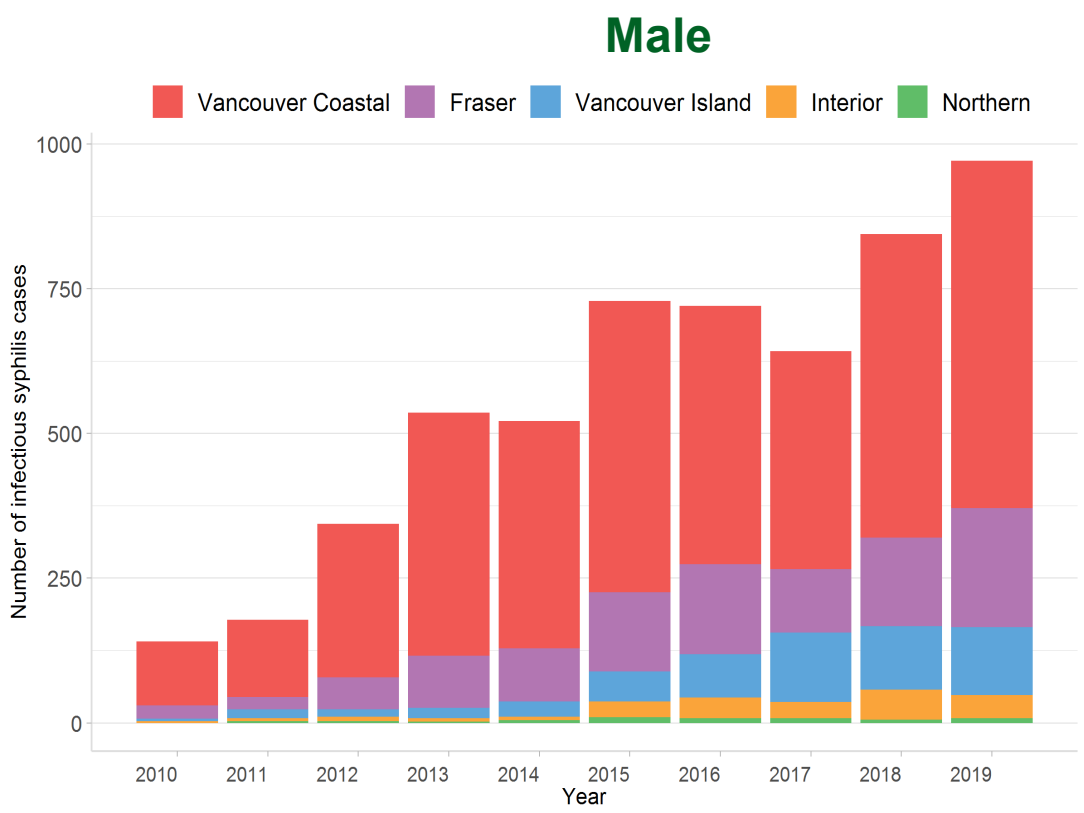
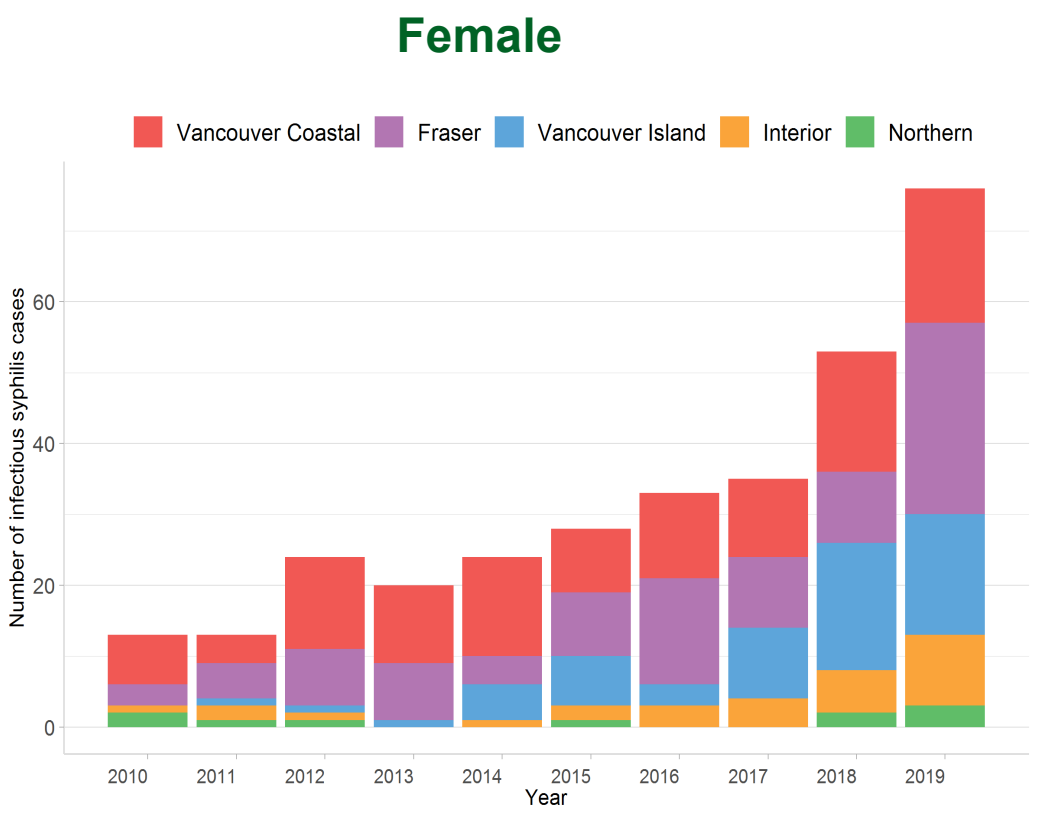
Preliminary data, subject to change. 2019 numbers projected from Q1-3

New Cases of Infectious Syphilis by Region and Gender, 2010-2019





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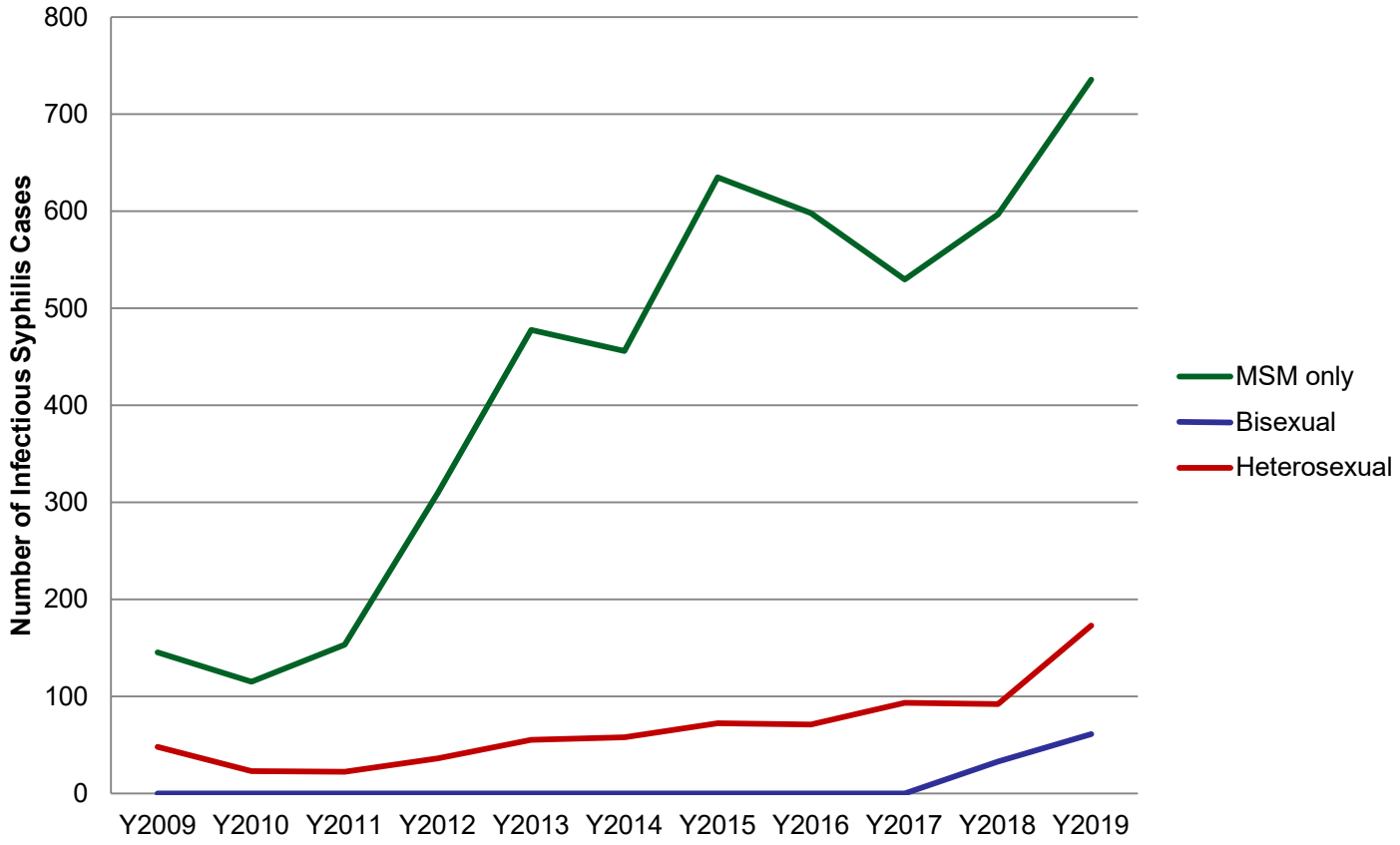
New Cases of Infectious Syphilis by Sex of Partners, 2009-2019



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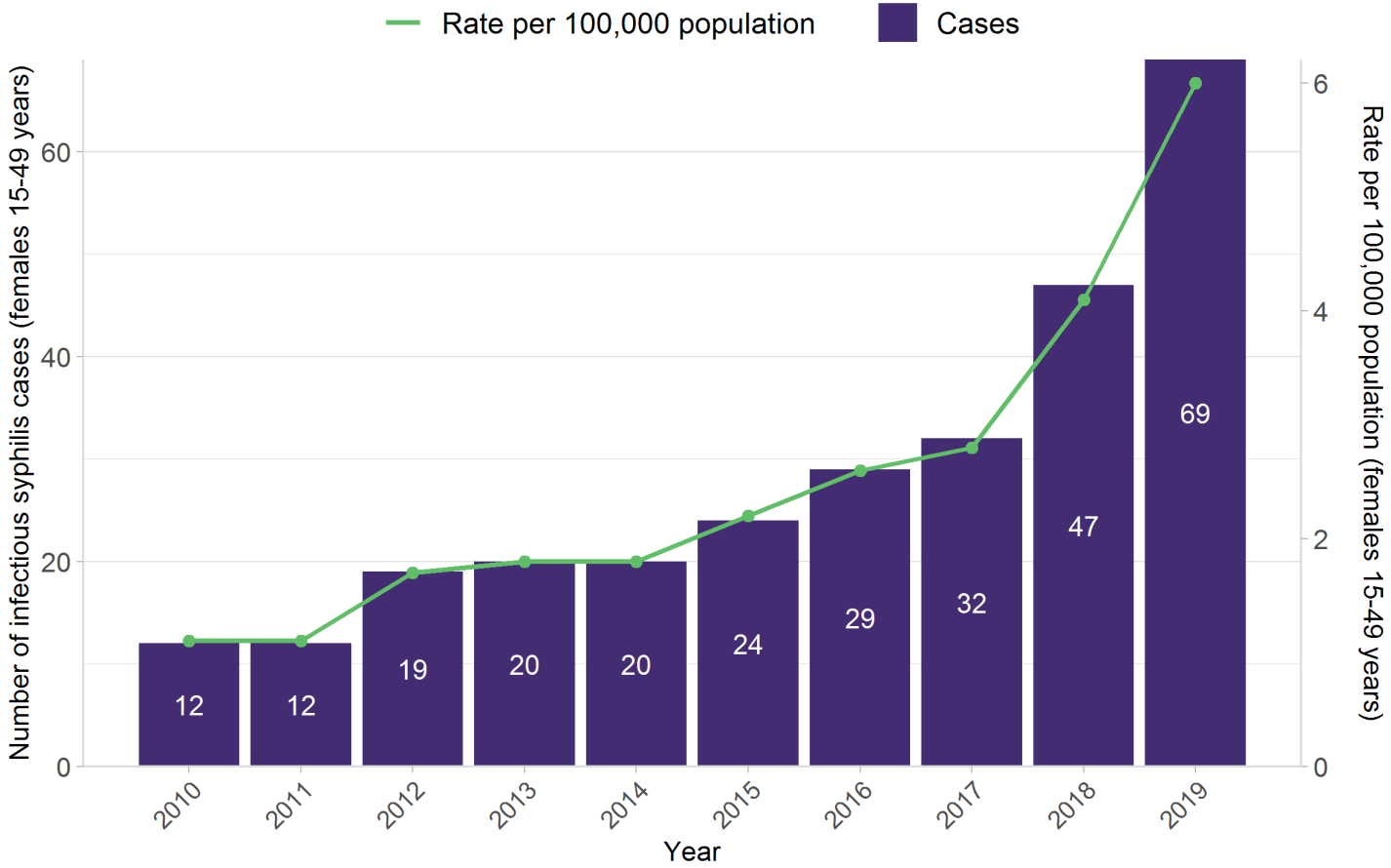
Infectious Syphilis among Females of Reproductive Age, 2010-2019



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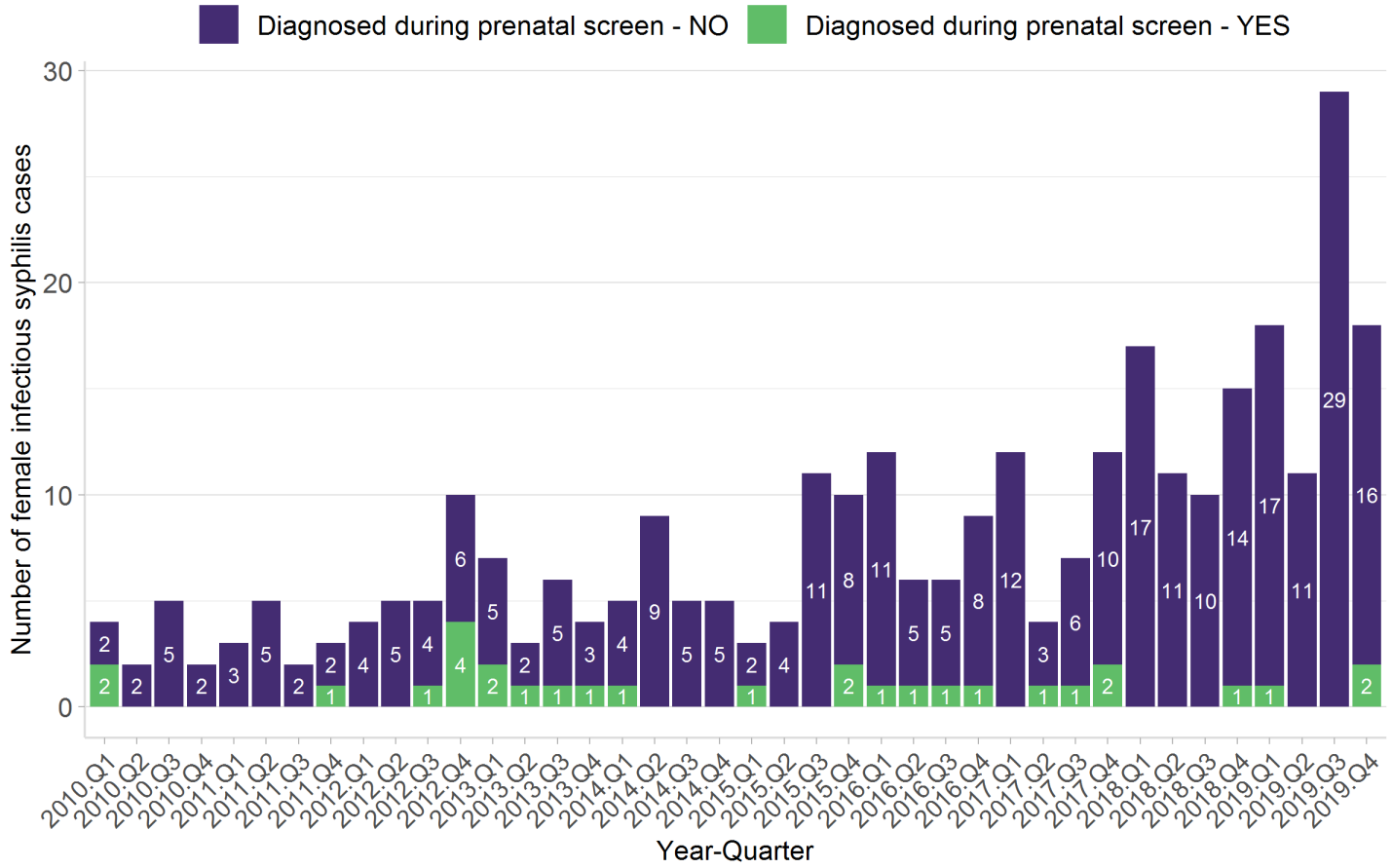
Infectious Syphilis diagnosed during Prenatal Screening, 2010-2019



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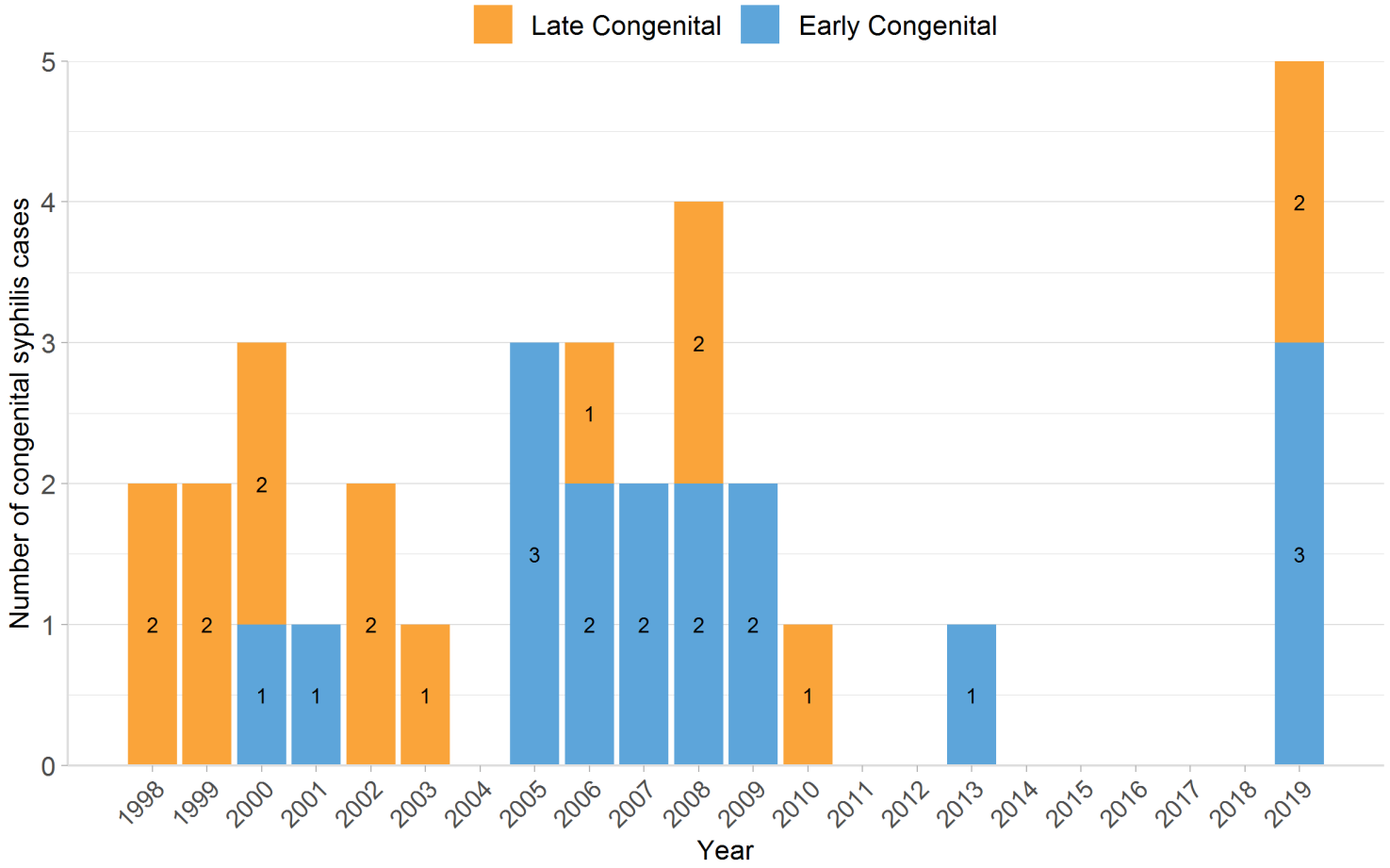
Congenital Syphilis Reports in BC, 1998-2019



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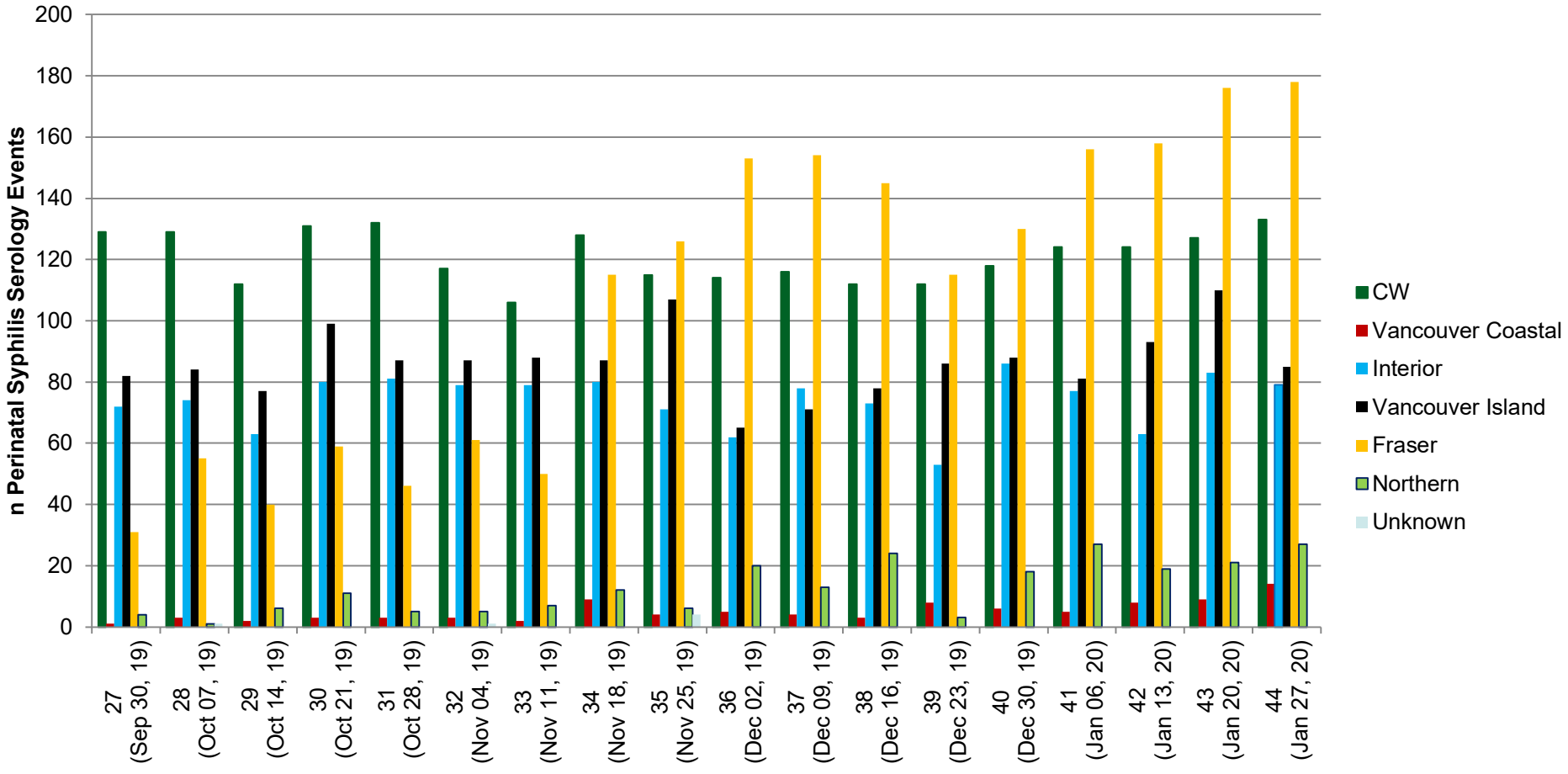
Preliminary data, subject to change

Syphilis Screening at Delivery by Week, Sept 2019 to Jan 2020



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**Data as of Feb 7, 2020*

Review of Cases

- **Case 1: Late congenital, asymptomatic**
  - 31F diagnosed with late latent syphilis (RPR nonreactive) on STI screen
  - Treated; noted to have ~2-year-old child
  - Trimester 3 screen done three months prior to delivery was negative for syphilis; unclear if any previous screening done
  - Child's RPR at diagnosis (March 2019) was 1:4; treated for late congenital syphilis, and no apparent sequelae
- **Case 2: Early congenital, stillborn**
  - 24F diagnosed with syphilis out-of-province in corrections (RPR 1:32)
  - Five months earlier, had delivered stillborn at 28w in BC; no prenatal/delivery syphilis serology done
  - Archived maternal serology from stillbirth: RPR 1:32
  - Autopsy and placenta: *T. pallidum* PCR reactive

Review of Cases

- **Case 3: Early congenital, symptomatic**
  - 32F diagnosed with syphilis (RPR 1:128) at 32w gest; no prior screen
  - Presented to hospital x 2 consecutive days but left left AMA. Admitted 4d later in labour. No treatment given until labour.
  - Baby born with hepatomegaly and skin lesions
- **Case 4: Late congenital, asymptomatic**
  - 19F, new immigrant, 27w gestation. No known prior prenatal care.
  - Noted to have 30m child at home; reactive syphilis serology.
  - Treatment provided; no sequelae and work-up negative.
- **Case 5: Early congenital, asymptomatic**
  - 24F with no prenatal care; delivered near-term baby in ambulance
  - Diagnosed 8d post-partum with syphilis when transferred to BCWH
  - Infant work-up negative except placenta reactive via PCR; treatment given

Reflections on Cases

- **<u>Common Themes</u>**
  - Lack of, or suboptimal, prenatal care
  - Street involvement
  - Homelessness, precarious housing status
  - Little engagement with health care
  - Corrections
    - Directly
    - Indirectly (partners)
  - Substance use

Guidelines: Background & Rationale

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Reminder: BCCDC Centralized Syphilis Management

- Reactive syphilis test
  - ≥1:8: results called in urgently to BCCDC clinician
  - <1:8: results by paper copy to BCCDC clinician and then contact to ordering clinician

- All reactive results reviewed
  - New case?
    - YES. Staging/management plan relayed to ordering provider.
    - Follow-up by syphilis RN for treatment completion, partner notification, arrangement of other investigations (e.g. LP).

GUIDELINE GOALS & OBJECTIVES

- The **overarching goal** of these interim guidelines is to maximize detection and prevention of congenital syphilis, while maintaining a responsible approach to screening.
- **Main objectives**:
  1. Determine the epidemiology of maternal and congenital syphilis in British Columbia.
  2. Ensure timely identification and treatment of maternal and congenital syphilis.

OBJECTIVE 1: RATIONALE

- Driving question: How many missed cases of maternal/congenital syphilis with current T1 screening?
- Congenital syphilis associated with 40% chance of spontaneous abortion.
- Transplacental transmission rate up to 90% with early syphilis; most not clinically apparent at birth.
- Syphilis window period up to 90d; may take months for early maternal syphilis to become serologically/clinically apparent.
- Not always possible to identify or engage with women at ongoing risk.

OBJECTIVE 2: RATIONALE

- Syphilis can have devastating consequences for mom and baby.
- Most infants born with congenital syphilis are asymptomatic at birth; most untreated will develop symptoms within a few months.
- Treatment at birth prevents *almost all* late complications.
- 99% of time, adequate maternal treatment is curative of fetal infection.
- Risk factors:
  - Preterm delivery
  - Early syphilis stage
  - Short interval (<1 month) between treatment and delivery

GUIDELINE LANGUAGE

All pregnant individuals should have syphilis screening performed at **two time points**:

1. During the first trimester of pregnancy or at the first prenatal visit (existing recommendation); and

2. At delivery – at time of admission for delivery or any time after 35 weeks for those planning home births (new recommendation).

Objective 1: Determine the *current* epidemiology in BC

- Driving question: How many missed cases of maternal/congenital syphilis with current T1 screening?
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Guideline development – other places in Canada and elsewhere

- All jurisdictions with an increasing rate of syphilis in reproductive age women (with or without increase in congenital syphilis) have recommended screening at least twice in pregnancy
  - First trimester does not account for later conversion
  - Other jurisdiction have seen a significant percentage of congenital cases where congenital syphilis was diagnosed early ONLY by late third trimester screening (first trimester negative)
  - Screening at time of delivery allows for adequate time to do case finding in the neonate and initiate treatment for neonate and mother to prevent vast majority of sequelae.
  - Common point of contact with the health care system (in particular access to lab without having patient have another lab visit)

SCREENING REMINDERS

- Some cases (not just BC) did NOT have routine screening – it is currently recommended to screen at first prenatal visit (earlier the better) for ALL pregnant women
- The case of stillbirth did not have syphilis screening during the work up for the stillbirth. All cases of unexplained stillbirth should have syphilis screening given current trends in syphilis prevalence in BC
- High risk women should have enhanced screening (first trimester, mid pregnancy and at delivery)
- All LOW RISK women are recommended to have syphilis screening at first visit and at delivery

Implementation – Current/Existing Recommendation

- Screening in the first trimester
- Retest with each pregnancy
- BCCDC screening requisition (found online)
- If using community lab requisition – use the PRENATAL requisition

The correct requisition is critical to determine current screening rates and to track results per pregnancy

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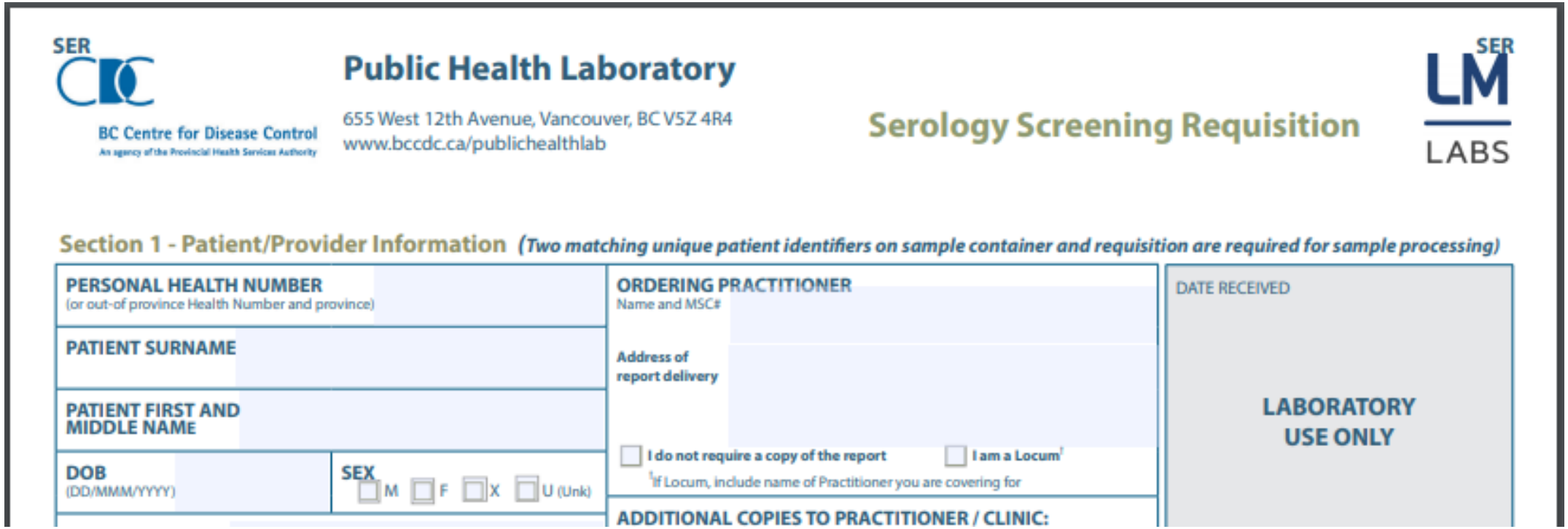
Serology Screening Requisition Public Health Laboratory



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Public Health Laboratory

655 West 12th Avenue, Vancouver, BC V5Z 4R4
www.bccdc.ca/publichealthlab

Serology Screening Requisition

SER LM LABS

Section 1 - Patient/Provider Information *(Two matching unique patient identifiers on sample container and requisition are required for sample processing)*

PERSONAL HEALTH NUMBER
(or out-of province Health Number and province)

PATIENT SURNAME

PATIENT FIRST AND MIDDLE NAME

DOB
(DD/MMM/YYYY)

SEX ☐ M ☐ F ☐ X ☐ U (Unk)

ORDERING PRACTITIONER
Name and MSC#

Address of report delivery

☐ I do not require a copy of the report ☐ I am a Locum[1]

[1]If Locum, include name of Practitioner you are covering for

ADDITIONAL COPIES TO PRACTITIONER / CLINIC:

DATE RECEIVED

LABORATORY USE ONLY

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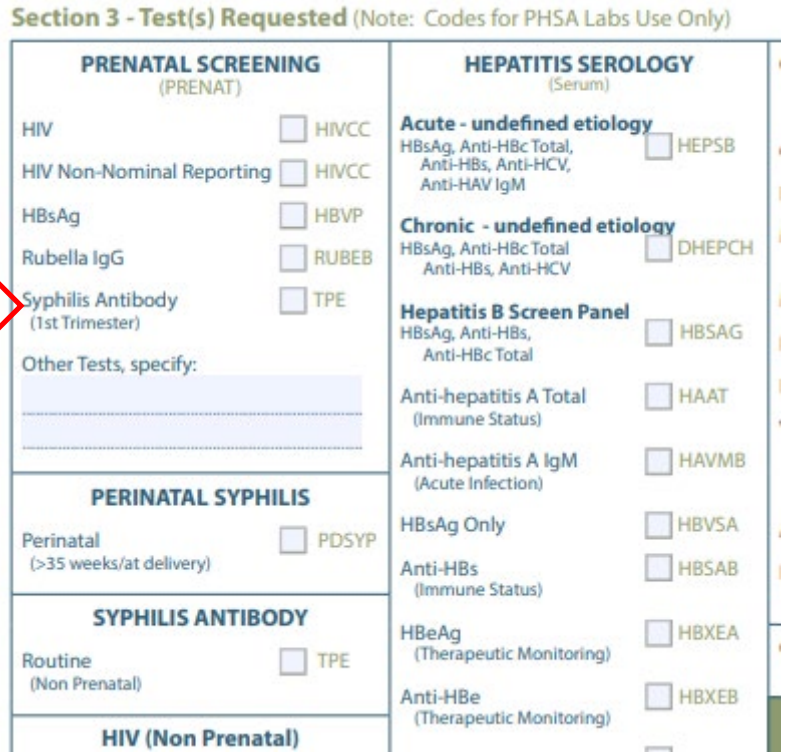
Current Routine T1 test



Section 3 - Test(s) Requested (Note: Codes for PHSA Labs Use Only)

PRENATAL SCREENING (PRENAT)

HIV	HIVCC
HIV Non-Nominal Reporting	HIVCC
HBsAg	HBVP
Rubella IgG	RUBEB
Syphilis Antibody (1st Trimester)	TPE

Other Tests, specify:

PERINATAL SYPHILIS

Perinatal (>35 weeks/at delivery)	PDSYP

SYPHILIS ANTIBODY

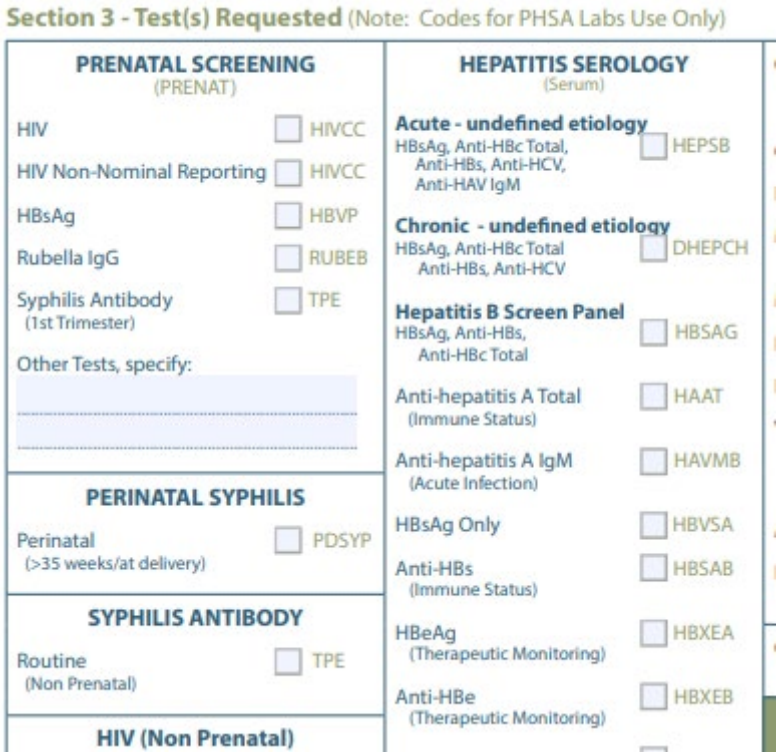
Routine (Non Prenatal)	TPE

HIV (Non Prenatal)

HEPATITIS SEROLOGY (Serum)

Acute - undefined etiology HBsAg, Anti-HBc Total, Anti-HBs, Anti-HCV, Anti-HAV IgM	HEPSB
Chronic - undefined etiology HBsAg, Anti-HBc Total Anti-HBs, Anti-HCV	DHEPCH
Hepatitis B Screen Panel HBsAg, Anti-HBs, Anti-HBc Total	HBSAG
Anti-hepatitis A Total (Immune Status)	HAAT
Anti-hepatitis A IgM (Acute Infection)	HAVMB
HBsAg Only	HBVSA
Anti-HBs (Immune Status)	HBSAB
HBeAg (Therapeutic Monitoring)	HBXEA
Anti-HBe (Therapeutic Monitoring)	HBXEB

New recommended at delivery test



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PERINATAL SYPHILIS

Perinatal (>35 weeks/at delivery)	PDSYP

SYPHILIS ANTIBODY

Routine (Non Prenatal)	TPE

HIV (Non Prenatal)

HEPATITIS SEROLOGY (Serum)

Acute - undefined etiology HBsAg, Anti-HBc Total, Anti-HBs, Anti-HCV, Anti-HAV IgM	HEPSB
Chronic - undefined etiology HBsAg, Anti-HBc Total Anti-HBs, Anti-HCV	DHEPCH
Hepatitis B Screen Panel HBsAg, Anti-HBs, Anti-HBc Total	HBSAG
Anti-hepatitis A Total (Immune Status)	HAAT
Anti-hepatitis A IgM (Acute Infection)	HAVMB
HBsAg Only	HBVSA
Anti-HBs (Immune Status)	HBSAB
HBeAg (Therapeutic Monitoring)	HBXEA
Anti-HBe (Therapeutic Monitoring)	HBXEB

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Implementation

- Operationalizing the “on admission for delivery” (new recommendation) was left to the Has
- When it is done in hospital – please use the BCCDC requisition or if it is not available note gestational age on requisition if possible
- Ensure the longitudinal obstetrical provider is clearly marked on the requisition as they will be contacted for follow up
- Fraser has implemented as part of the PP orders – good uptake
- BCW has done on admission – high uptake but more duplicates with patients discharged in early labour

- Outpatient screens after 35 weeks – BCCDC requisition

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Summary:

- Syphilis is increasing in women of reproductive age
- All patients with a positive syphilis test should have a pregnancy test
- All women with a positive pregnancy test should have a syphilis test
- Screening is recommended a minimum of TWICE in pregnancy – at the first prenatal visit and again at time of admission for delivery (or anytime after 35 weeks for planned home birth)
- Patients who the provider deems to be at risk should be screened a third time or as needed based on exposure risk
- Identification of syphilis and prompt treatment can help prevent or mitigate the long term complications for both the mother and infant

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- http://www.perinatalservicesbc.ca/

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QUESTIONS ?

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