# COVID-19 Pregnancy Status Reporting Workgroup

Monday, February 28

1:00pm ET


Council of State and Territorial Epidemiologists

# Agenda

I. Welcome and Introductions (chat box)

II. Kickoff Call Brief Re-Cap & Introduction to Workgroup Charter

III. ELR and Pregnancy Status Reporting

IV. Open Forum: Reactions and Questions

V. Adjourn

# Housekeeping

- This call is being recorded for internal notetaking purposes.
- Feel free to use the chat box for comments and questions throughout the call as well as the “Raise Hand” feature.
- Reminder that all resources and the call schedule (4th Mondays at 1pm ET) are available on Basecamp- links in the reminder email.
- Consultant recruitment in progress- RFP posted on Basecamp.

# Kickoff Call Brief Recap & Introduction to Workgroup Charter

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# ELR and Pregnancy Status Reporting

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# Pregnancy Status in ELR:

## Georgia's experience during COVID-19

CSTE COVID-19 Pregnancy Status Reporting Workgroup / J. Michael Bryan / February 28, 2022

# Why Georgia Uses ELR to Identify Pregnant Cases

- Monitoring health of vulnerable populations is a public health priority
- Pregnancy status in initial case reports is often incomplete
- Surveillance of, and public health interventions serving, pregnant women and their infants generally behind overall surveillance and interventions
    - Cannot predict next emergent condition
- How to target maternal and child health programs with unknown case status?
- How to respond without timely notification of pregnancy status?
- Actionable value if ELR consistently and correctly captures pregnancy status
- Perceived low burden on order facility and laboratory

# Method of Identifying Pregnancy

- If first positive laboratory result, then pregnancy status will automatically transfer into PUI

1. Observation Segment (OBX) (see below) – standard
   - COVID-19 HHS request: Ask on Entry (AoE) questionnaire
   - LOINC: 82810-3
   - Relatively new: receive? process or ingest? analyze?
2. End of message in an unused field – flexible
   - Possible locations: PV1 segment or any field past Ethnicity

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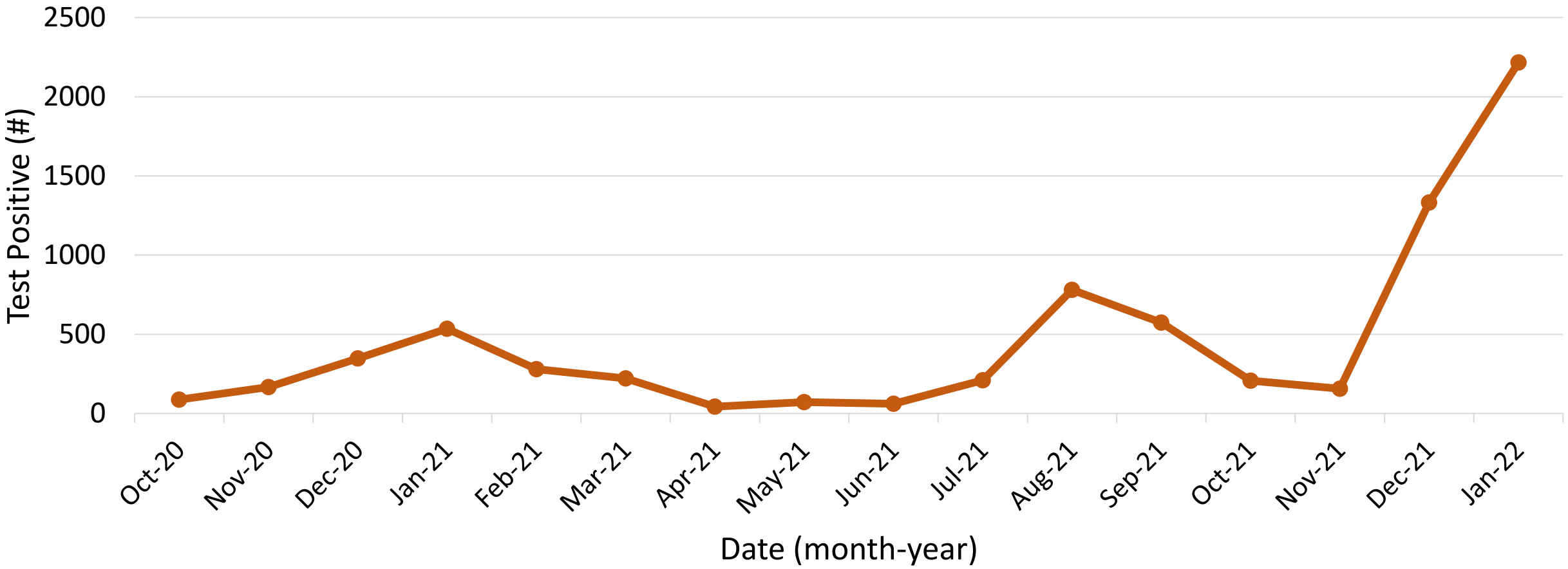
MSH|^~\&|1.2.840.114350.1.13.330.3.7.2.695071^ISO|PIEDMONT ATLANTA HOSPITAL LAB^11D0664397^XX|||20211208064448|LABBA
PID|1||_____16|F||2106-3^White|_____||||||||||||||||||||N^Not Hispanic|
ORC|RE|^EPC^1.2.840.|20471^Beaker^1|21P71^Beaker^1|||||||1902812^^^^NPI^^^^NPI||^^^^^^|20211208060032||||||PIEDMONT
OBR|1|^EPC^1.2.840.|21P-3^Beaker^1|^^^LAB4523^COVID-19 (IN HOUSE)^BEAKEREAP|||202112080602000|||||||1902812993^BALL
OBX|1|ST|95417-2^First Test?^LN||Unknown|||||F|||20211208060028
OBX|2|ST|95418-0^Employed in Healthcare?^LN||Unknown|||||F|||20211208060028
OBX|3|ST|95419-8^Symptomatic?^LN||No|||||F|||20211208060028
OBX|4|ST|77974-4^Is the patient hospitalized?^LN||No|||||F|||20211208060028
OBX|5|ST|95420-6^Has the patient been in the ICU during this encounter?^LN||No|||||F|||20211208060028
OBX|6|ST|95421-4^Resident in a congregate care setting?^LN||Unknown|||||F|||20211208060028
OBX|7|ST|82810-3^Is patient pregnant?^LN||Unknown|||||F|||20211208060028
OBX|8|ST|94500-6^SARS-CoV-2 RNA Resp Ql NAA+probe^LN^^^^2.68||Negative||Negative||||F|||20211208060200||LABBACKGROUN
SPM|1|^21&Beaker&1.2.840.114350.1.13.330.2.7.3.798268.320&ISO||Swab^Swab||||NAG^Nasopharynx|||||||||20211208060200|2
```

# Number of Pregnant Persons that Test Positive, COVID-19, October 2020 - January 2022 (N=93,327)



# Electronic Laboratory Reporting as a Surveillance Method for Hepatitis B in Pregnancy

Julie E. Lazaroff, MPH
Perinatal Hepatitis B Prevention Unit
Bureau of Immunization
NYC DOHMH

# Public Health's Role in Perinatal Hepatitis B Prevention

- Transmission from mother to child
- Preventive interventions
  - Post-exposure prophylaxis within 12 hrs.
  - Vaccination and testing for infants
  - Hepatitis B medical management
- CDC funded Perinatal Hepatitis B Prevention programs
  - Surveillance
  - Health education
  - Case management

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# Hepatitis B Screening in Pregnancy

- **NYS Public Health Law 2500-e**

  -Test for HBsAg

  - All pregnant patients – first trimester
  - At delivery if unknown - specimens must be marked as “mother/delivery“
- CDC, ACOG, AASLD Recommendation

  -Test for HBV DNA quantitative

  - 1st trimester and 26-28 weeks gestation

NYC Health

# Provider Reporting Requirements

**NYC Health Code, TITLE 10. SUBPART 69-3.**

- Prenatal care providers
  - Report pregnant patients with HBsAg+ results
  - Record HBsAg results in the medical record
- Delivery facilities
  - Report patients with newborn children with HBsAg+ results
  - Record the maternal HBsAg test result on the Newborn Metabolic Screening Form for all deliveries

NYC Health

# Laboratory Reporting Requirement and Technical Guidance

- **NYC Health Code, TITLE 24. Article 13, §13.03**
  - Requires laboratories to report patient's pregnancy status if it is "known and clinically relevant" or "when pregnancy is probable" (first included in 2008 and amended in 2014)
- NYC laboratory technical guidance
  - Insert the text "pregnant" or "prenatal" into the OBR-13 or OBR-31 fields of the HL7 message if pregnancy status is confirmed or probable

NYC Health

# Indicators of Probable Pregnancy Available to Laboratories

- HBsAg testing is ordered as part of a pre-natal panel
- Individual prenatal HBsAg test (if offered by laboratory) is ordered.
- A pregnancy related diagnostic code (ICD-10) is indicated on the laboratory requisition.
- Pregnancy status of the patient is indicated on the requisition form that collects this information.
- Specimen is sent stat from the Labor and Delivery Unit of the hospital; the specimen indicates "mother/delivery"

NYC Health

# Role of Laboratories and Providers

- Laboratories
  - Prenatal panels that include Hep B
  - Identify and flag pregnancy status
- Providers
  - Order prenatal panels that include Hep B
  - Include pregnancy related ICD codes when ordering HBsAg and HBV DNA tests
  - Report cases of hepatitis B in pregnant/post-natal patients

NYC Health

# Codes for Labs

- Presence of HBsAg, HBeAg or HBV DNA
  - LOINCs for test names
  - SNOMEDs for positive results
  - Quantitative Values, Units and Reference Ranges
- Probable/Confirmed Pregnancy Indicators
  - LOINCs for prenatal panels
  - Pregnancy Related ICD-10 Codes
  - Pregnancy status in prenatal order entry/at time of delivery

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# Receiving ELR Messages with Pregnancy Status

- NYS DOH forwards ELR messages electronically through ECLRS
- PHBP database (Maven™) automatically receives Hep B ELR containing pregnancy status flags
- Reports are investigated to confirm Hep B infection, pregnancy status and residence in NYC jurisdiction
  - RHIOs, request report forms from ordering providers, interview patients

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# Electronic Laboratory Reports (ELR) with Pregnancy Flags as Initial Source of Report for Hepatitis B Infected Pregnant Patients NYC, 7/1/2021-12/31/2021

| Measure | # | % |
|---|---|---|
| Total number of identified cases of hepatitis B infected pregnant patients | 426 | |
| Number of cases initially reported by Electronic Laboratory Report (ELR) with a pregnancy flag* | 211 | 49.5% |
| Relevant Clinical Info (OBR-13) | 156 | 73.9% |
| Reason for Study-OBR-31 or Comments | 55 | 26.1% |

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# Limitations

- Laboratories – may only use of one method to identify pregnancy status
- Laboratories do not always follow technical guidance regarding text strings
- ICD codes inserted in messages are not the number codes, but the text
- Laboratories make changes to their information systems → reporting failures
- New laboratories start reporting – need to certify
- Providers may not be aware of how laboratories send pregnancy status to health departments

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# Need for Ongoing HD Work and Next Steps

- Ongoing monitoring of laboratory data to find pregnancy related strings
- Ongoing technical support and coordination at health departments is required
- Analyze ECLRS for names of laboratories
- Conduct outreach to laboratories
- Outreach to providers regarding test types to order and how to indicate pregnancy status

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# References


- https://www.cdc.gov/mmwr/volumes/67/rr/rr6701a1.htm?s_cid=rr6701a1_w
- https://www.cdc.gov/hepatitis/hbv/pdfs/PrenatalHBsAgTesting_508.pdf
- Liao TS, Hashmi A, Lazaroff J, Hennessy R, et al. Effect of Policy Change to Require Laboratory Reporting With Pregnancy Indicated for Syphilis and Hepatitis B Virus Infection, New York City, January 2013–June 2018. Public Health Reports. 2020;135(1_suppl):182S-188S. doi:10.1177/0033354920932542


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# Contact Information

Julie E. Lazaroff, MPH, Unit Chief
Perinatal Hepatitis B Prevention Unit, Immunization
New York City Department of Health and Mental Hygiene
(347) 396-2476 (ph)
(347) 396-8846 (fax)
jlazarof@health.nyc.gov

# Philadelphia Laboratory Reporting of Pregnancy Status - Hepatitis B &C (& COVID-19)

Danica Kuncio, MPH

CSTE COVID-19 Pregnancy Status Workgroup Call

February 28th, 2022

# LRPS via ELR in Philly

## Major Reference Labs

- ICD-10 coding embedded in HL7 messaging
- Quest uses a prenatal Hepatitis B screen to flag→ sends excel list to jurisdictions

## Hospital Labs

- Include message re: pregnancy/ICD-10 in test result comments
- Use statistical software to create list

- Manual entry in MAVEN (database)
- Changed Philadelphia reporting regulation to require “reporting of pregnancy in a person living with hepatitis B or hepatitis C”

# LRPS Sensitivity Analyses- Hepatitis B

| | | PHBPP Mother HBV+ and Pregnant | | |
|---|---|---|---|---|
| | | **Yes** | **No** | **Total** |
| **HBV+ with HL7 Messaging Indicating Pregnancy** | **Yes** | 149 | 1 | 150 |
| | **No** | 11 | 1,137 | 1,148 |
| | **Total** | 160 | 1,138 | 1,298 |

Sensitivity= 93.1%

Specificity= 99.9%

Positive Predictive Value= 99.3%

Negative Predictive Value= 99.0%

Methods: Laboratory-confirmed Hepatitis B status and Provider-confirmed pregnancy status; 2015-2016 Philadelphia cases

*Data courtesy of the Philadelphia Department of Public Health- Division of Disease Control*

# LRPS Sensitivity Analyses- Hepatitis C

| | | Birth Parent HCV+ and Pregnant | | |
|---|---|---|---|---|
| | | **Yes** | **No** | **Total** |
| **HCV+ with HL7 Messaging Indicating Pregnancy** | **Yes** | 271 | 8 | 279 |
| | **No** | 201 | 67 | 268 |
| | **Total** | 477 | 75 | 552 |

Sensitivity= 57.4%

Specificity= 89.3%

Positive Predictive Value= 97.1%

Negative Predictive Value= 25%

Methods: Laboratory-confirmed Hepatitis C status and Provider-confirmed pregnancy status; 2015-2016 Philadelphia cases

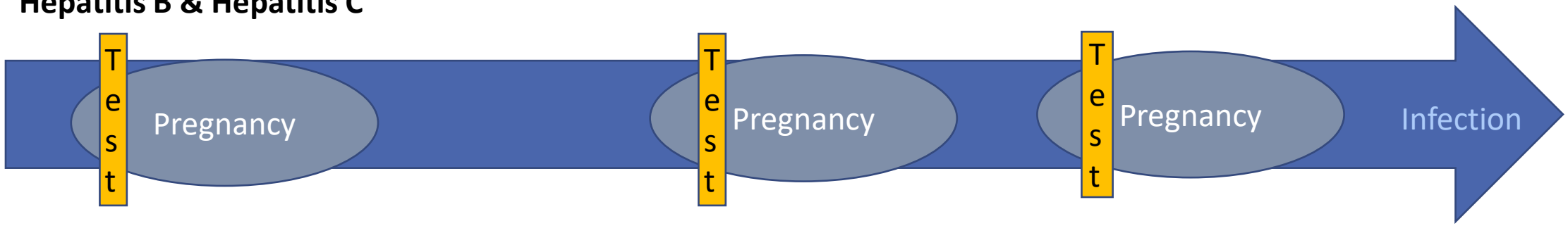
*Data courtesy of the Philadelphia Department of Public Health- Division of Disease Control*

# LRPS Challenges and Advantages

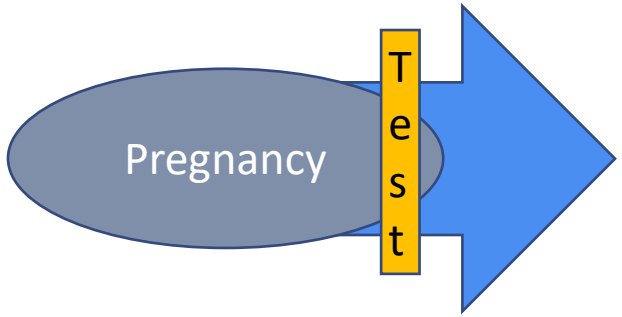
- **Sensitivity etc. is superior to other methodologies**
  - Particularly when associated with ICD-10
- **Always one of multiple methods→ nothing is perfect**
- **We prefer manual entry - pregnancy is not a one-time measure for chronic diseases**
  - Need to know pregnancy status at time of every test AND whenever pregnant w/ concurrent chronic infection
  - Our system can’t easily import a status in the same way

# Chronic vs. Acute Disease Considerations

**Hepatitis B & Hepatitis C**




**COVID-19**



# Thank You!

**Danica Kuncio**

Danica.Kuncio@phila.gov

**Acknowledgements**

Dana Higgins

Emily Waterman

# Discussion & Open Forum

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# Questions to Consider

Providers, labs, HDs, others:

- What are some barriers/challenges that exist for ELR of pregnancy status? Some successes/work arounds?
- Known limitations of using ELR to ascertain pregnancy status?
- Benefits/barriers of using ELR to ascertain pregnancy status?
- Person-time required for ELR vs. other methods of pregnancy reporting?
- Validity of using ELR to ascertain pregnancy status for case reporting?
- Experience in other conditions to ascertain pregnancy status via ELR

CSTE National Office
2635 Century Parkway NE, Suite 700
Atlanta, Georgia 30345

T 770.458.3811
F 770.458.8516
misrael@cste.org