

Perinatal Quality Collaborative Vermont

presents the Improving Care of Newborns with Substance Exposure (ICoNS) Statewide Call

Changing Guidelines: An update on Newborn Exposure to Hepatitis C and HIV

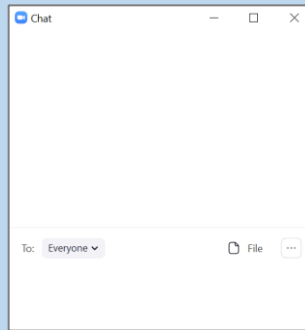
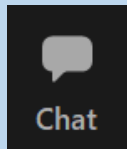
Speakers

☼ Adrienne Pahl, MD ☼ Molly Rideout, MD ☼ Daniel Daltry, MSW

Housekeeping

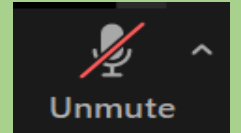
Chat

Use the *Chat* box to type a question.



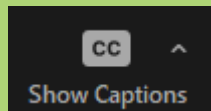
Microphone

You will be muted when you join. If you wish to verbally ask your question during the Q&A portion of the presentation, please unmute your microphone.



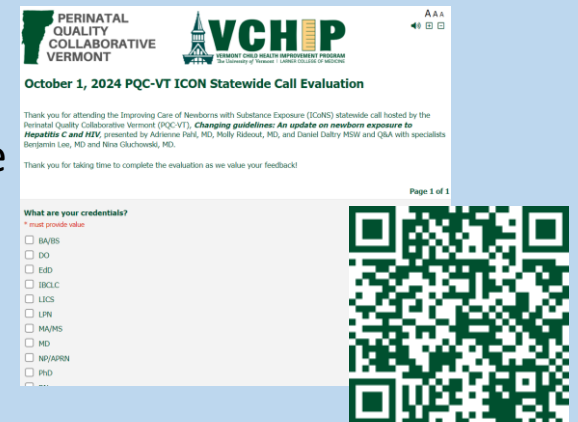
Captioning

Click *Show Captions* from your navigation bar to view automated captions.



Evaluation

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Objectives

- Discuss prevalence and epidemiological trends of Hepatitis C and HIV infections among pregnant persons in the US
- Discuss new guidelines related to perinatal exposure to Hepatitis C and testing of infants
- Review new guideline for perinatal HIV exposure and breastfeeding

Newborn Exposure
to Hepatitis C
*and Updated CDC
Testing Guidelines*

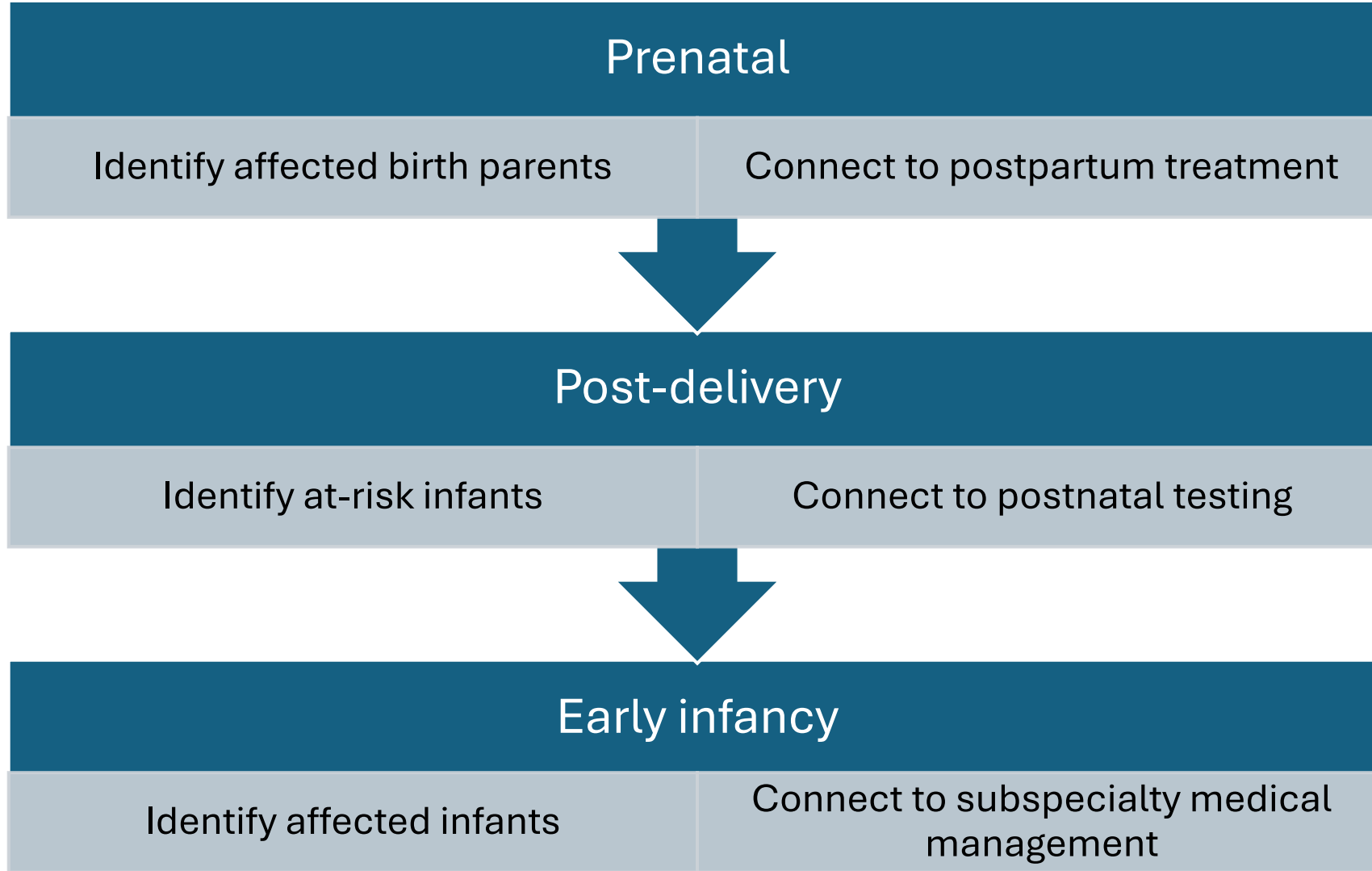
Disclosures

I have no relevant financial relationships to disclose or conflicts of interest to resolve

Perinatal Hepatitis C

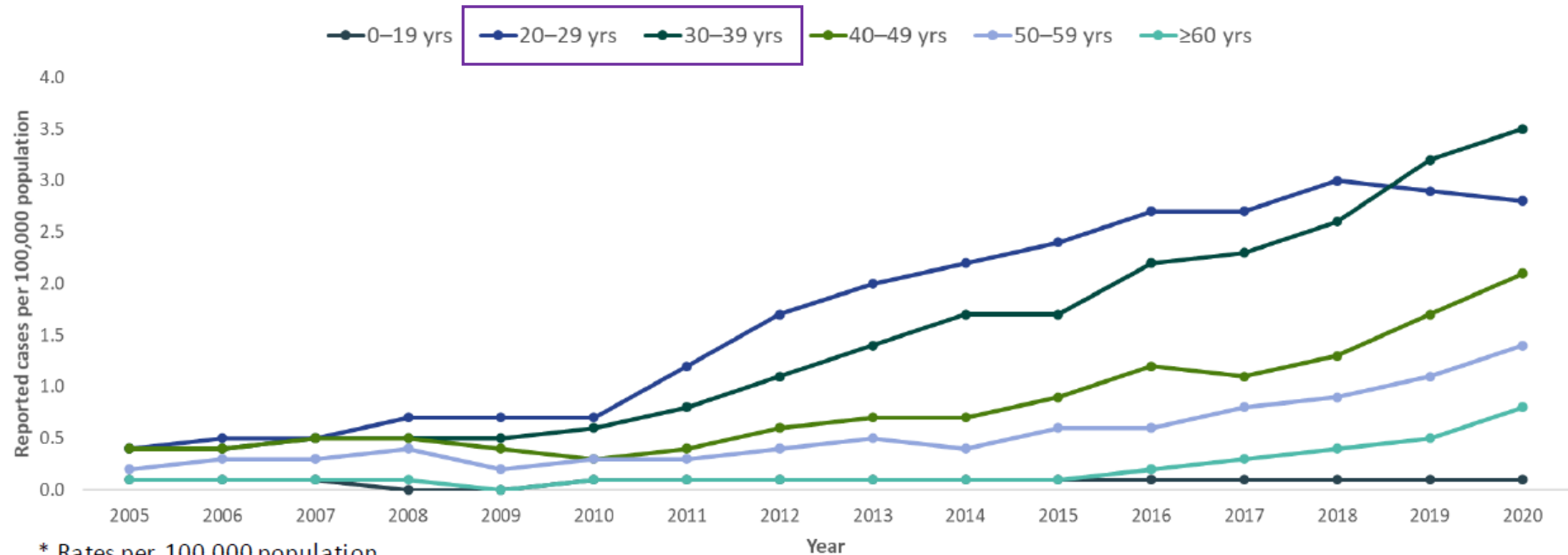
- *Proper identification of perinatally infected children, referral to care, and curative treatment are critical to achieving the goal of hepatitis C elimination.*

Perinatal Hepatitis C Management Goals



Hepatitis C Infections are Increasing in Reproductive Age Adults

Rates* of reported cases† of acute hepatitis C virus infection, by age group — United States, 2005–2020



* Rates per 100,000 population.

† Reported confirmed cases. For the case definition, see <https://ndc.services.cdc.gov/conditions/hepatitis-c-acute/>.

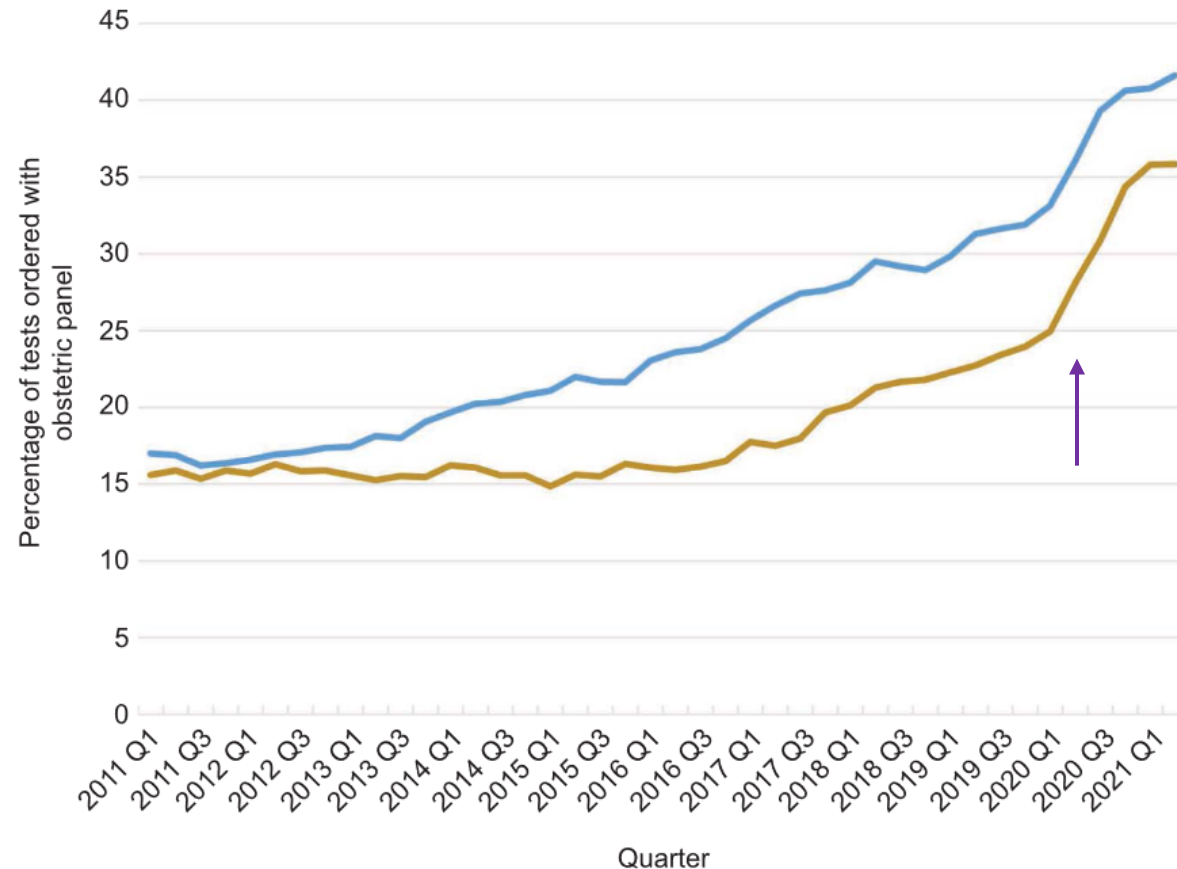
Major Risk for Children is Perinatal Exposure

- Adults
 - Most common reported risk factor for acute infection is injection drug use
 - Rate of death is highest in American Indian / Alaskan Native and Non-Hispanic Black
- Children
 - Most acute infections are acquired perinatally

Risk behaviors/exposures [†]	Risk identified
Injection drug use	1,017
Multiple sexual partners	167
Surgery	142
Sexual contact [§]	83
Needlestick	64
Men who have sex with men [¶]	44
Household contact (nonsexual) [§]	17
Dialysis patient	69
Occupational	9
Transfusion	1

Source: <https://www.cdc.gov/hepatitis/statistics/2020surveillance/index.htm>

2020: CDC Recommends Hepatitis C Testing During Every Pregnancy



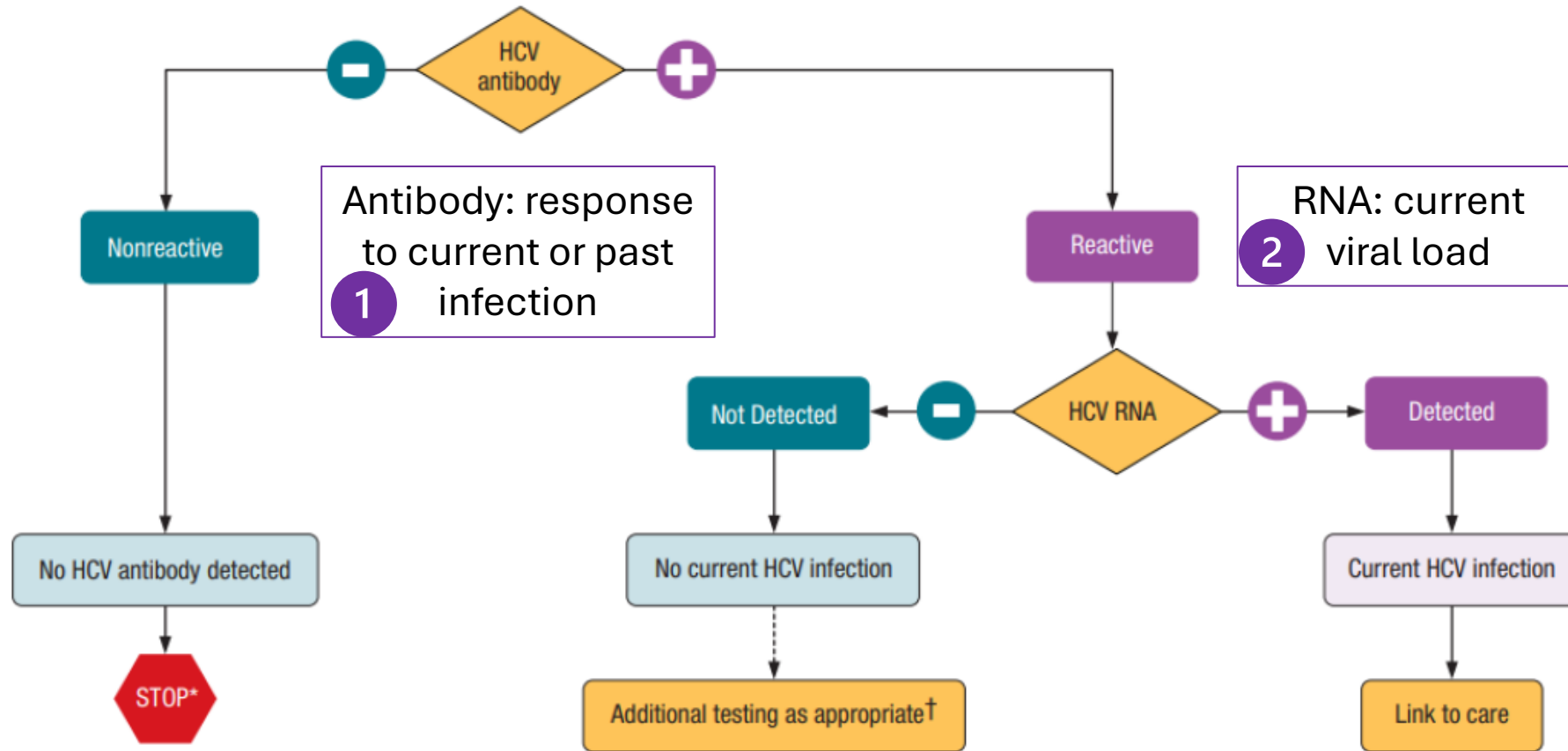
Quest diagnostics, n=5,048,428

Blue line = Commercial insurance

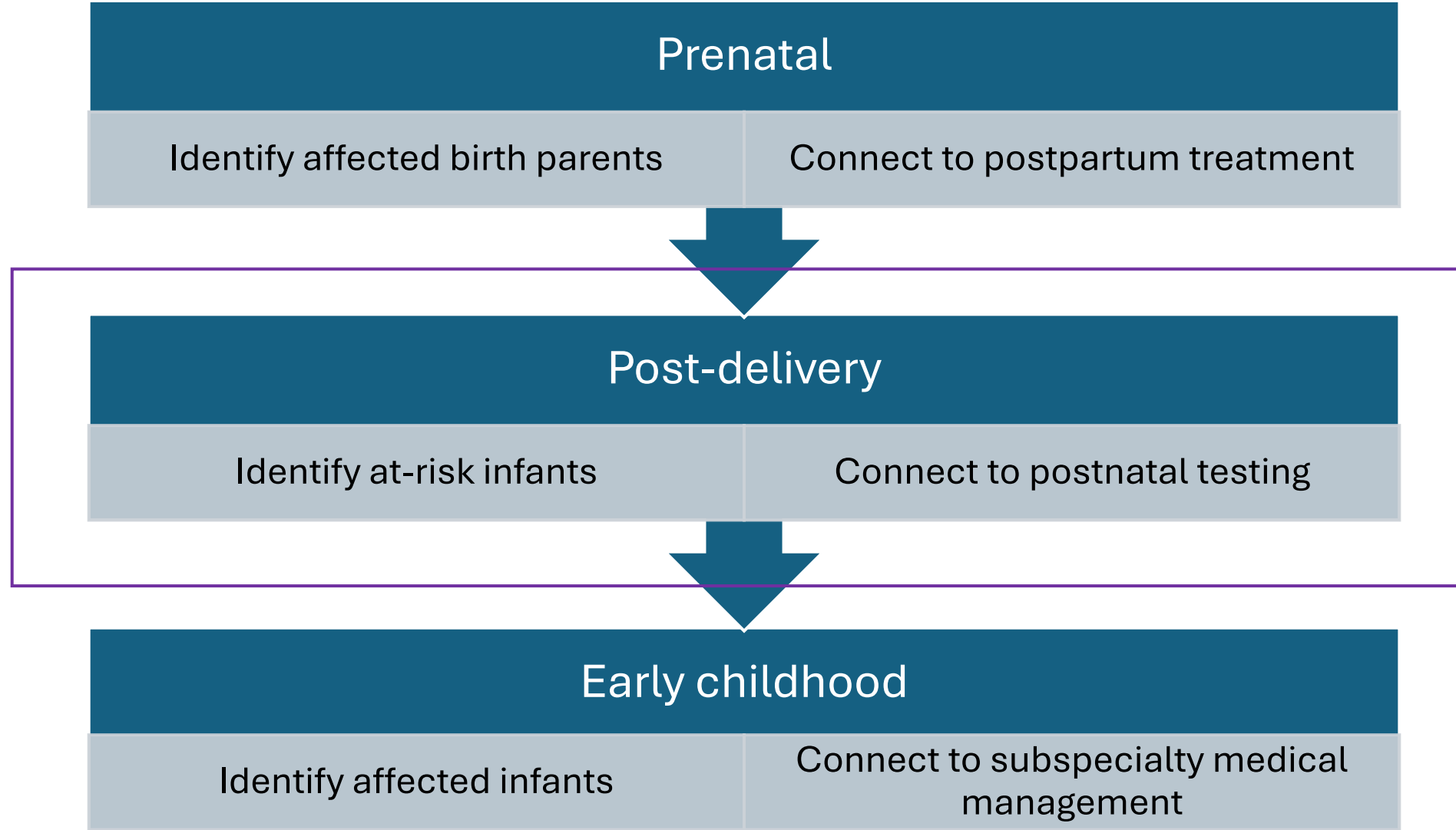
Gold line = Medicaid insurance

Arrow = April, 2020 CDC
recommends universal prenatal
Hepatitis C testing

Two Tiered Testing Approach



Perinatal Hepatitis C Management Goals



Patient Case

- 29 year old woman presents with no prenatal care and delivers a male infant 3050 grams who appears term based on a Ballard assessment
- Laboratory tests are obtained from the parent on admission:
 - Urine toxicology positive for fentanyl
 - Blood type A positive, Antibody negative
 - Hepatitis B surface antigen negative
 - HIV negative
 - RPR non-reactive
 - Hepatitis C antibody positive
- Child Welfare is involved and plans to take custody.
- Mother leaves hospital and cannot be found to discuss results

What would you do next for the infant due to the Hepatitis C result?

- a. No infant testing is recommended because maternal Hepatitis C is not confirmed by RNA test
- b. Test infant HCV RNA immediately and refer for follow up with a specialist
- c. Recommend infant HCV RNA at 2-6 months of age
- d. Recommend infant HCV antibody at 18 months of age

CDC reviewed evidence from 2001 – 2021

Infant testing is recommended for:

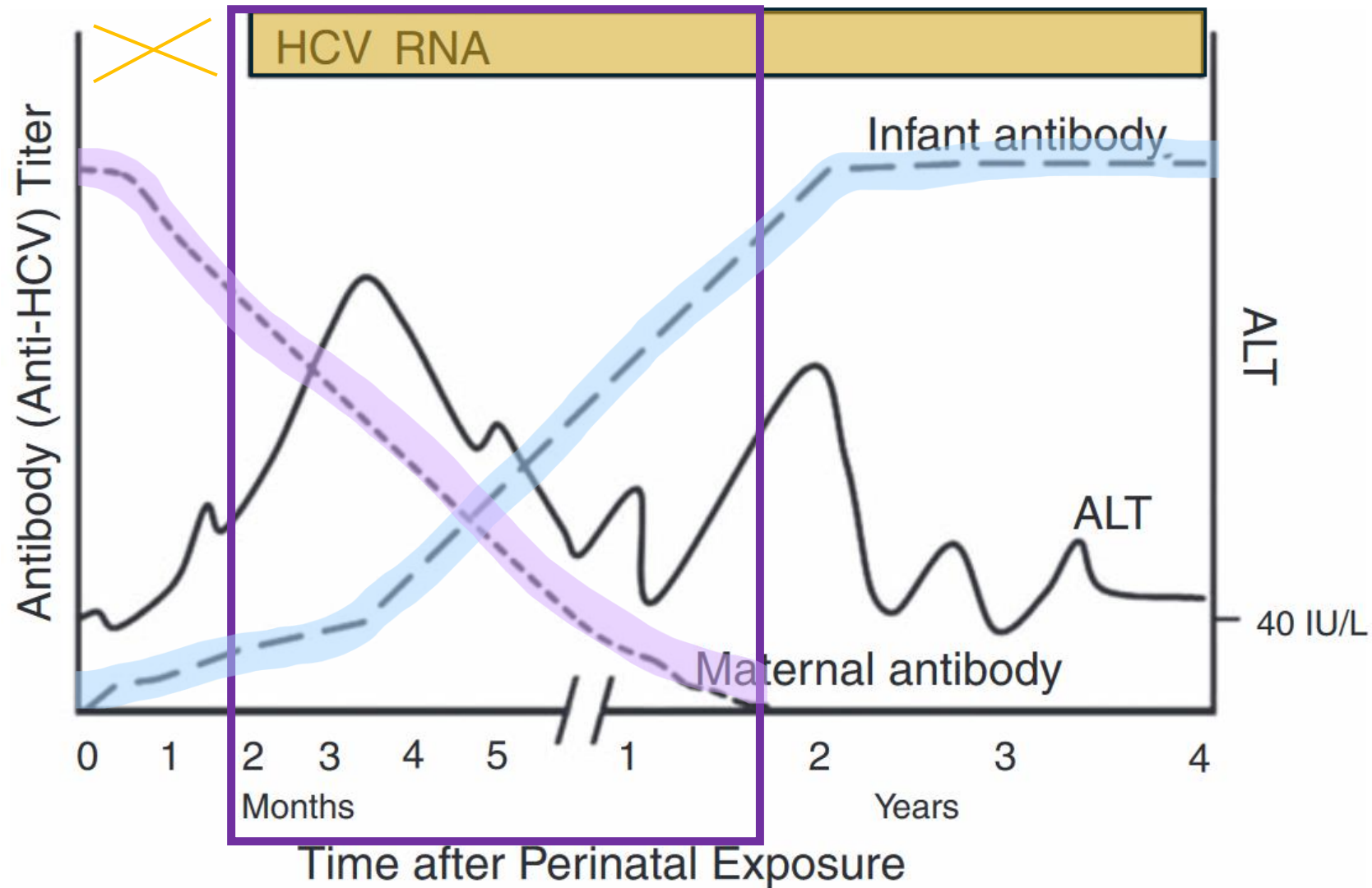
- Confirmed HCV infection: any HCV RNA detected during pregnancy
- Probable HCV infection: anti-HCV test reactive in pregnancy in the absence of HCV RNA results

Pregnant persons	Median %	Range	Number of Studies Reviewed
Proportion tested	47.6%	0.7-98.4%	16
Prevalence of reactive anti-HCV or diagnosis	1.1%	0.1-70.8%	35
Prevalence of detectable HCV RNA	68.2%	29.6-81.3%	11

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Timing of Testing



What would you do next for the infant due to the Hepatitis C result?

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Prior Guidelines Recommend Antibody Testing at 18 months or older

Organization	NAT for HCV RNA at age $\geq$ 2-6 months	Confirm anti-HCV at age $\geq$ 18 months	Anti-HCV with reflex NAT for RNA at age $\geq$ 18 months	Re-test for HCV RNA prior to initiating treatment	Test siblings
IDSA / AASLD (2020)	Consider	Yes	Yes	Yes	Yes
AAP (2021)	Consider	Yes	Yes	---	---
AAFP (2010)	Yes	---	Yes	---	---
NASPGHAN (2020)	Consider	---	Yes	Yes	Yes

Debate about timing

2-6 month HCV RNA

- RNA testing is more expensive
- Could detect intermittent or transient viremia, 25-50% of infants with detectable RNA will no longer have detectable RNA by age 4
- Low sensitivity with potential false negatives reported in the past, so 18 month testing was also recommended

18 month HCV Antibody (with reflex)

- High loss to follow up in the time period between birth and 18 months
- Fewer routine well visits are scheduled in the second year of life
- Gold standard definitive test

CDC reviewed evidence from 2001 – 2021

- Very high loss to follow-up with exposed infants often not receiving recommended follow up testing after 18 months

Perinatally exposed children	Median %	Range	Number of Studies Reviewed
Proportion referred for testing	16.7%	1.9-31.4%	2
Proportion tested	30.1%	8.6-53.1%	12
Rate of perinatal transmission	4.7%	0-11.1%	13

CDC reviewed evidence from 2001 – 2021

- Recent large study found current 2-6 month RNA testing to be 100% sensitive and specific (Gowda, 2021)
 - Conclusion: 18 month testing may not be needed if 2-6 month RNA testing is negative
- Overall, when compared with testing at 18 months, testing at-risk infants at 2-6 months:
 - Increases perinatally exposed infants diagnosed with HCV infection
 - Cost saving on a population level

2023: CDC recommends RNA testing at 2-6 months

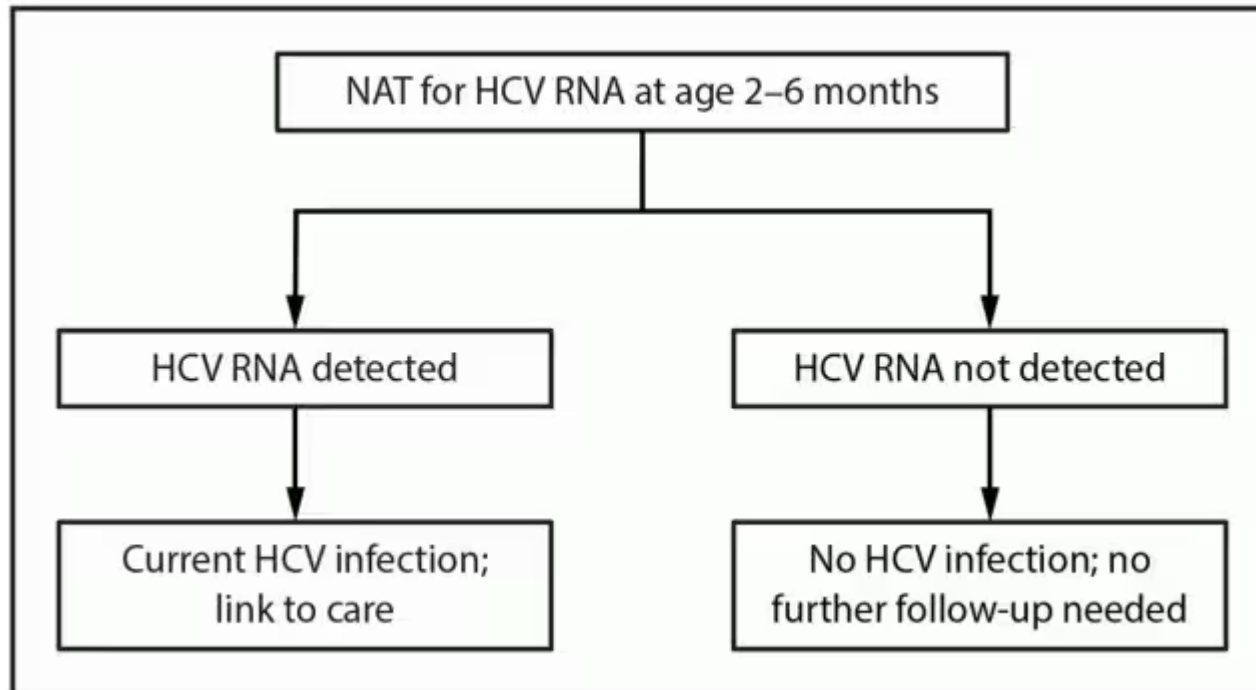
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CDC (2023)*	Yes	No	If not tested previously	Yes	Yes

*AAP (2023) recommends following CDC guidelines

What would you do next for the infant due to the Hepatitis C result?

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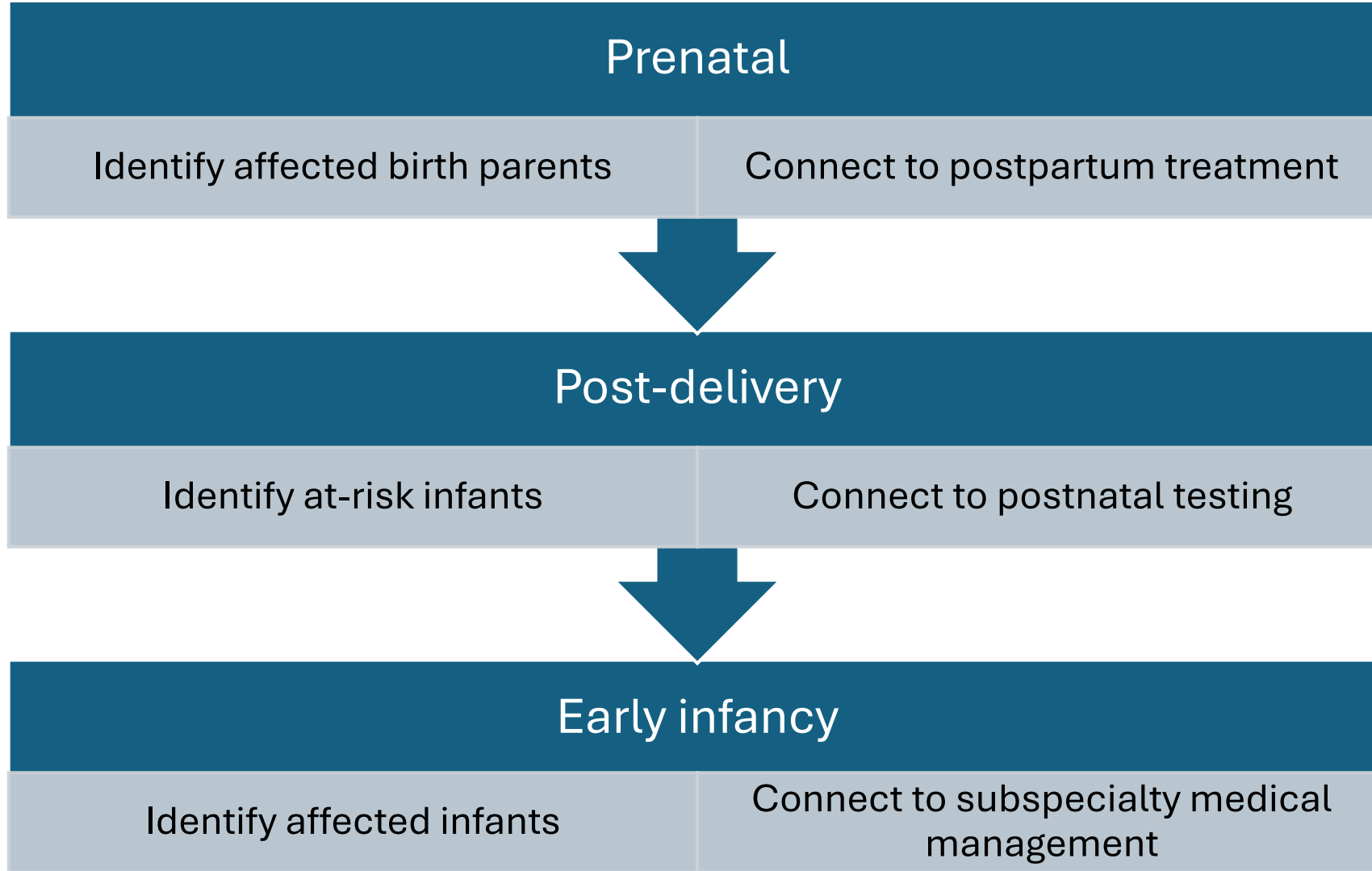
2023: CDC Recommendation



If not tested at 2-6 months:

- 7-17 months: RNA
- 18 months or more: Antibody with reflex to RNA

Perinatal Hepatitis C Management Goals



Summary

- The CDC recommends universal screening in every pregnancy for Hepatitis C
- For infants born in the context of confirmed or probable Hepatitis C, the CDC recommends Hepatitis C RNA testing at 2-6 months of age

It is essential to clearly *identify* infants at risk for Hepatitis C and **connect** infants to follow up testing

Newborn Exposure to HIV *and Updated CDC Breastfeeding Guidelines*

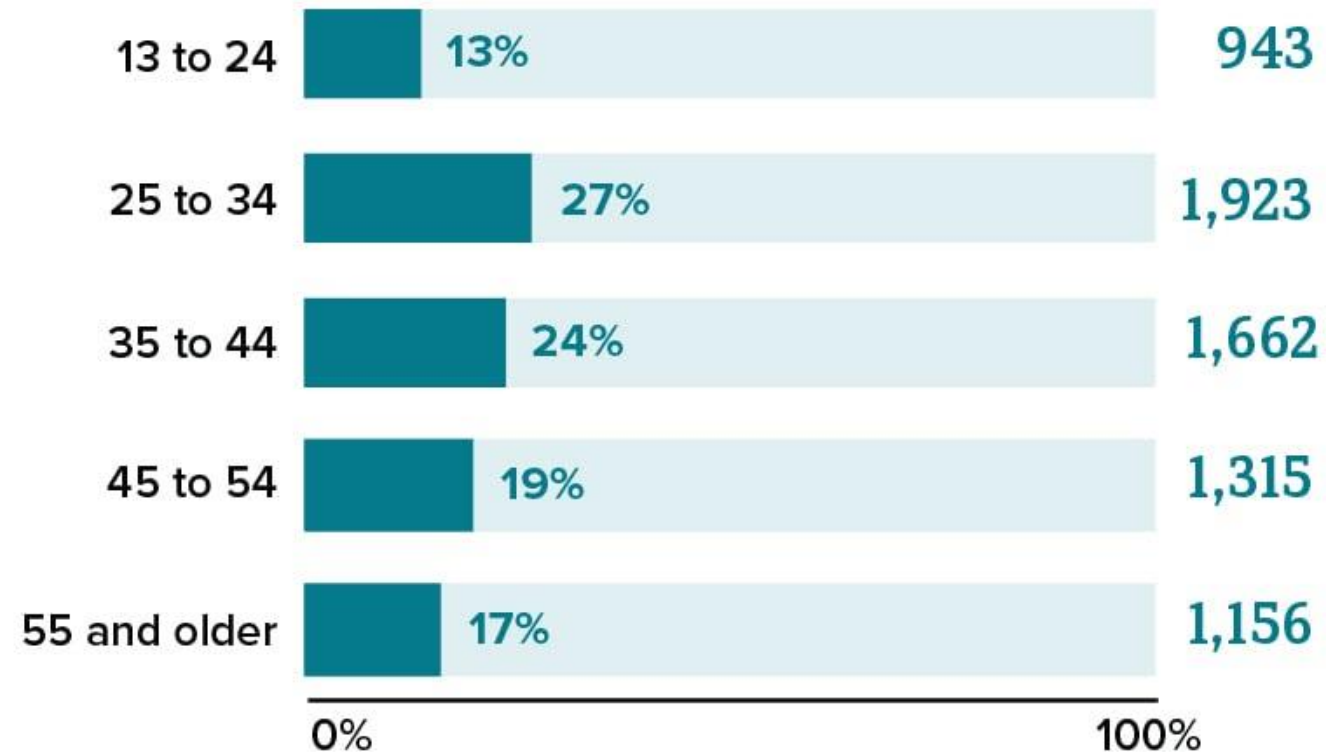
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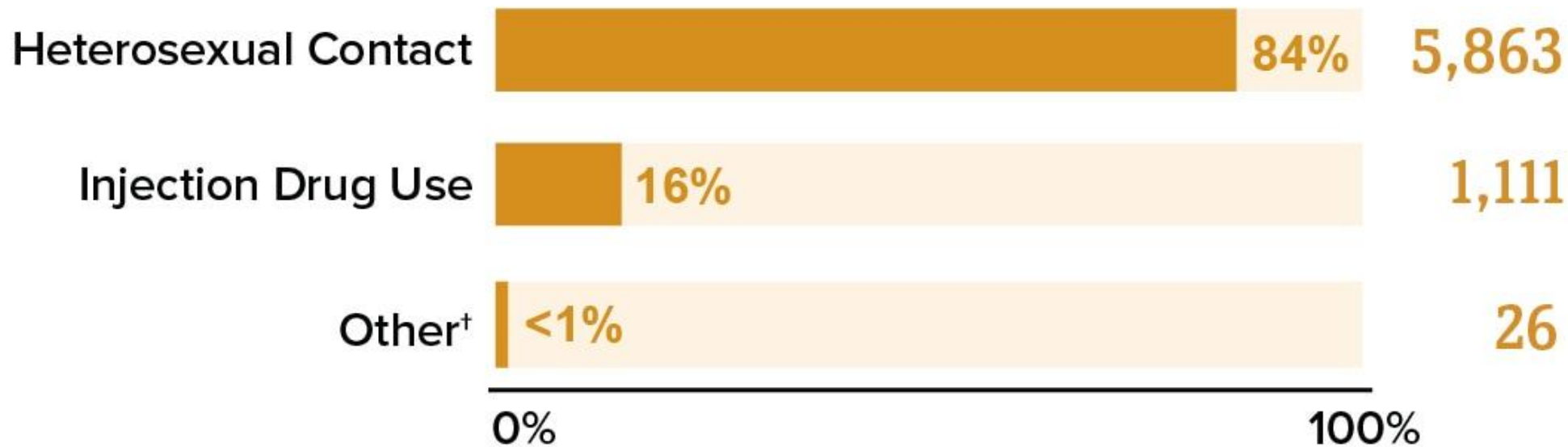
Breaking the Stigma



Women aged 25 to 34 had the highest number of new HIV diagnoses.



Most new HIV diagnoses among women were attributed to heterosexual contact.





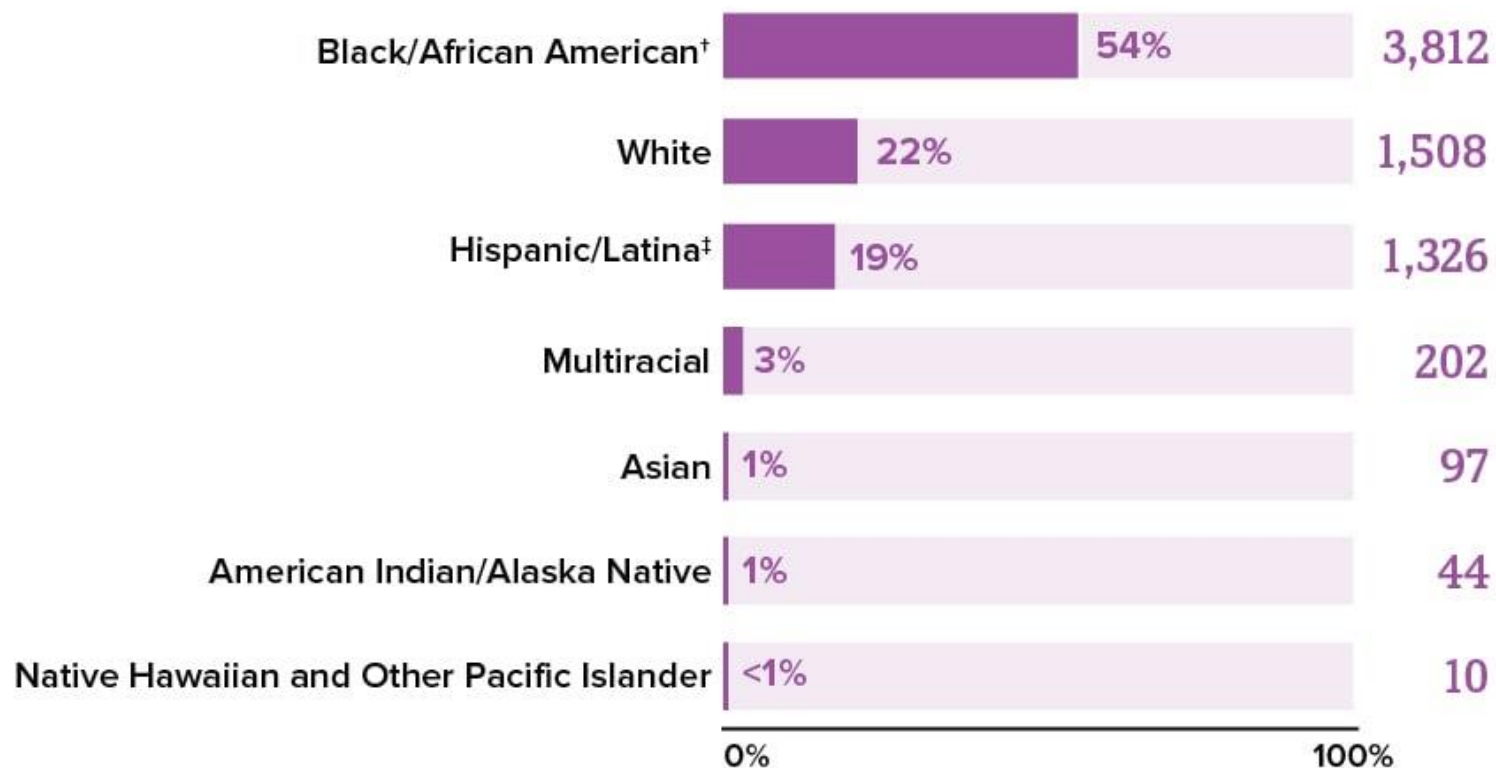
of women who could benefit from PrEP were prescribed PrEP in the US in 2019.

Ending
the
HIV
Epidemic

Overall Goal: Increase the estimated percentage of people with indications for PrEP classified as having been prescribed PrEP to at least 50% by 2025 and remain at 50% by 2030.

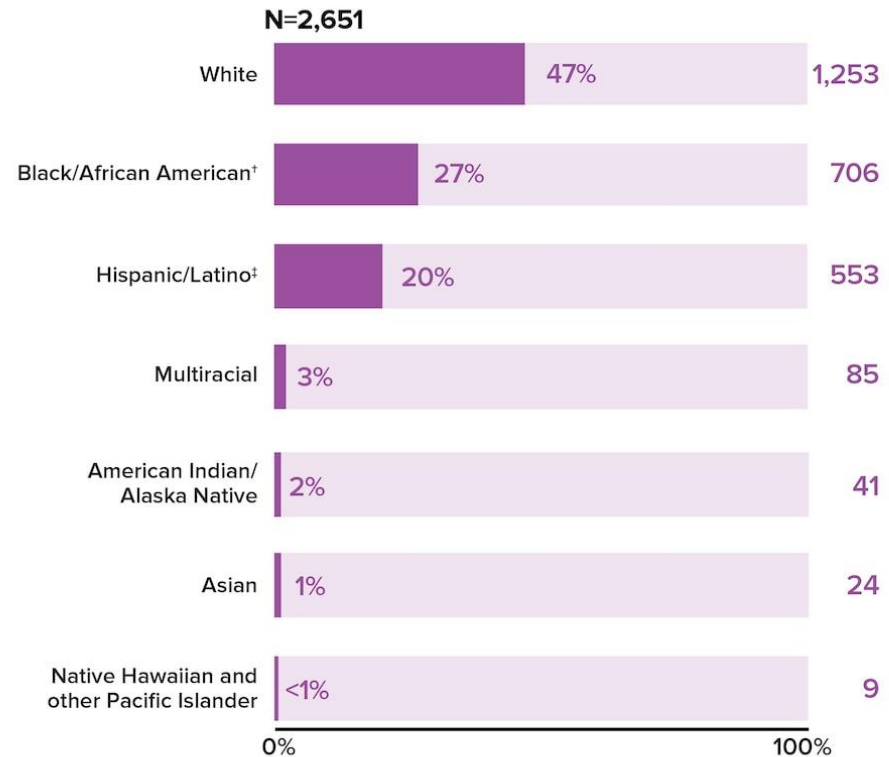


Black/African American women continue to be disproportionately affected by HIV.



HIV diagnoses among people who inject drugs in the US and 6 territories and freely associated states by race and ethnicity, 2022*

White people accounted for the highest number of new HIV diagnoses among people who inject drugs.



Total may not equal 100% due to rounding.

* Among people aged 13 and older.

† Black refers to people having origins in any of the Black racial groups of Africa. African American is a term often used for people of African descent with ancestry in North America.

‡ Hispanic/Latino people can be of any race.

Source: CDC. Diagnoses, deaths, and prevalence of HIV in the United States and 6 territories and freely associated states, 2022. *HIV Surveillance Report*, 2024; 35.

Patient Case



- 30 yo P2 woman, 38 weeks pregnant, planned repeat c-section
 - Diagnosed with HIV during first pregnancy
 - Taking antiretroviral therapy (ART) consistently, undetectable viral load throughout pregnancy, most recent test one week ago
 - First child is 5 yo, HIV negative
 - Did not BF first child but expresses strong desire to BF this baby
 - Knows of friends with HIV who BF infants despite medical advice
-

What is your advice?



- A. Inform her that breastfeeding is contraindicated since there is a risk of transmission
 - B. Encourage her to breastfeed since the risk of transmission is extremely low
 - C. Discuss risks and benefits of breastfeeding with HIV to make an individualized decision
-

What is your advice?



- A. Inform her that breastfeeding is contraindicated since there is a risk of transmission
- B. Encourage her to breastfeed since the risk of transmission is extremely low
- C. Discuss risks and benefits of breastfeeding with HIV to make an individualized decision

HIV and Pregnancy & Delivery

- ACOG Guideline (2018) to screen all pregnant persons
- Confirmed HIV prior to delivery:
 - treatment of newborn within 6h
- If no HIV testing done/available:
 - Test birthing person OR newborn
 - If preliminary test positive-> **treatment ASAP**, send confirmatory PCR)



CNN.org

HIV and Breastfeeding

Since **2010** the WHO has recommended **breastfeeding** as the preferred mode of infant feeding for persons living with HIV globally

- Higher rates of mortality in formula-fed infants in a study done in sub-Saharan Africa (1)
- Concerns regarding access to formula and risk of diarrheal illness with contaminated water supply
- Combined breastfeeding and formula feeding not recommended! (*increased transmission from GI inflammation*)

HIV and Breastfeeding

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- CDC recommended against breastfeeding with HIV in US (1985-2023)
 - AAP Policy Statement (2022): Persons in the United States should not breastfeed or feed expressed breast milk to their infants if they have HIV infection
 - Risk of HIV transmission assumed to be higher than risks from formula feeding (GI infection & malnutrition)
-



Respect for Patient Autonomy

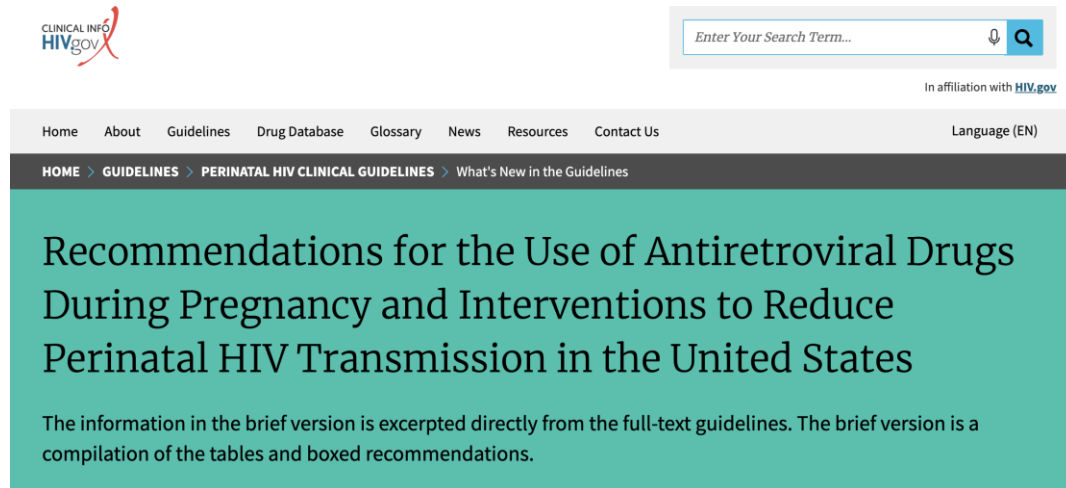
Reported motivations to breastfeed include :

- Health benefits to both the lactating parent and infant
- Bonding with infant
- **Avoiding disclosure of HIV+ status**, especially in cultures where breastfeeding is the norm
- Barriers to formula access

Authors of a 2016 study of African women living with HIV in the UK write:

“In abstaining from breastfeeding, participants felt an acute sense of personal loss, often crying when discussing their decision and describing themselves as ‘sad’, ‘unhappy’ and ‘devastated’.”

HIV and Breastfeeding: New Guidelines



January, 2023



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of Pediatrics



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Infant Feeding for Persons Living With and at Risk for HIV in the United States: Clinical Report

Lisa Abuogi, MD, MS, FAAP,^a Lawrence Noble, MD, FAAP,^b Christiana Smith, MD, MS, FAAP,^a
COMMITTEE ON PEDIATRIC AND ADOLESCENT HIV, SECTION ON BREASTFEEDING

PEDIATRICS Volume 153, number 6, June 2024





**US Dept of Health and Human Services (DHHS) Panel on Treatment of HIV During Pregnancy and Prevention of Perinatal Transmission*

“Infant Feeding for Individuals with HIV in the United States” (2023 Update)

- People with HIV should receive evidence-based counseling to support **shared decision making** about breast versus formula feeding
- Achieving and maintaining **viral suppression via ART** during pregnancy and delivery decreases breastfeeding transmission risk to **less than 1% but not to zero**
- Replacement feeding is recommended when people with HIV are not on ART or do not have a suppressed viral load during pregnancy (or at least in 3rd trimester)

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2024 AAP Clinical Report: Infant Feeding for Persons Living with and at Risk for HIV in the United States

- Pediatricians should be prepared to offer a family-centered, non-judgmental, harm reduction approach to **support people with HIV on ART with sustained viral suppression***
- Pediatricians should **recommend against breastfeeding** for people with HIV who are not on ART or who have **not achieved adequate viral suppression**

*at least two consecutive HIV RNA VL tests <50 copies/mL taken at least 4 weeks apart AND with the most recent being at or after 36 weeks and within 4 weeks prior to delivery

Minimizing Transmission Through Breastfeeding

- No mixed feedings (breastmilk + formula or solids) under 6 months of age
 - **Twice as likely or more to acquire HIV**
 - Increased inflammation in the GI tract
 - Less frequent latching: increased viral load in milk (from milk stasis)
- Avoid mastitis
 - Higher HIV viral load in breast milk with mastitis
 - Breastfeeding on demand; promptly address mastitis and nipple damage
- Wean over 2-4 weeks
 - Rapid weaning associated with increased viral shedding





No Breastfeeding unless on ART with suppressed viral load*

- Formula or donor human milk is recommended when people with HIV are not on ART and/or do not have a suppressed viral load during pregnancy and delivery (at a minimum throughout the third trimester)

*suppressed= less than 50 copies/mL

Patient Case (continued..)



- 30 yo P2 38 weeks pregnant, planned repeat c-section
- C-section complicated by intrapartum hemorrhage
- Mother has decided to breastfeed, baby latches well
- Baby started on zidovudine (AZT) shortly after delivery
- At 48h, baby has lost 9% of birth weight, mother not able to express colostrum, working with lactation consultant



What advice will you give?

- A. Pump every 2-3 hours and give baby any expressed breast milk.
 - B. Supplement with formula until her milk comes in
 - C. Supplement with donor milk until her milk comes in
-

What advice will you give?



- A. Pump every 2-3 hours and give baby any expressed breast milk.
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Shared Decision-Making



National Elf Service

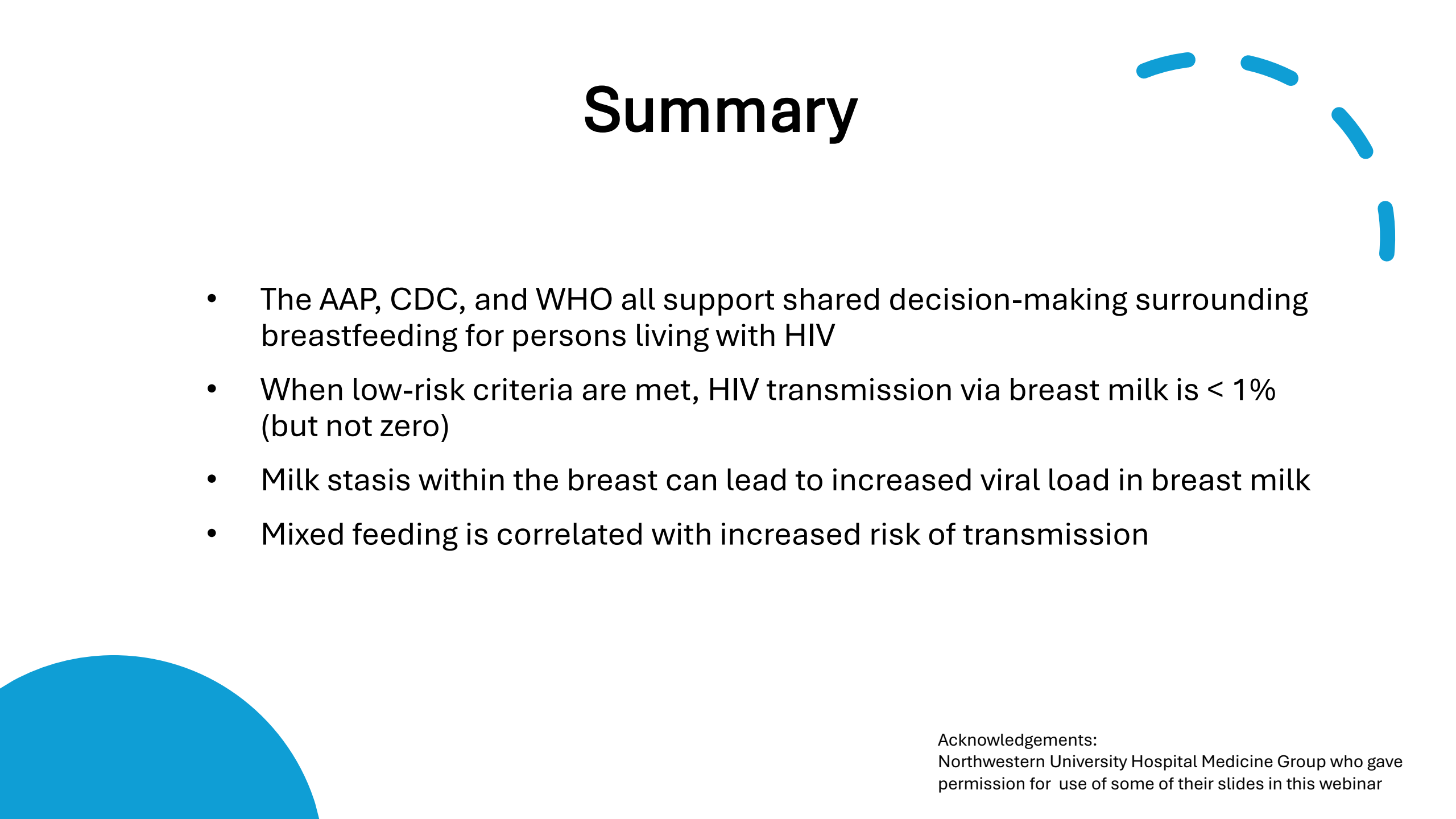
- Individuals with HIV who are on ART with a sustained undetectable viral load and who choose to **breastfeed** should be supported in this decision
 - Individuals with HIV who choose to **formula feed** should be supported in this decision. *(Providers should ask about potential barriers to formula feeding and explore ways to address them)*
 - Engaging **Child Protective Services** or similar agencies is **inappropriate** for the infant feeding choices of an individual with HIV
-



Patient Case (continued..)

- Baby received donor milk supplements in the hospital
 - Social work and lactation consultant worked to secure donor milk supplements at discharge
 - Mother pumps regularly until her milk comes in on day #5
 - Baby has follow-up HIV PCR testing that is negative at 2 and 4 weeks
-

Summary



- The AAP, CDC, and WHO all support shared decision-making surrounding breastfeeding for persons living with HIV
- When low-risk criteria are met, HIV transmission via breast milk is $< 1\%$ (but not zero)
- Milk stasis within the breast can lead to increased viral load in breast milk
- Mixed feeding is correlated with increased risk of transmission

Acknowledgements:
Northwestern University Hospital Medicine Group who gave permission for use of some of their slides in this webinar



Perinatal Hepatitis C and HIV Surveillance in Vermont

**Fall 2024 Statewide Call – Improving Care of
Newborns with Substance Exposure**

October 2nd, 2024

Disclosures

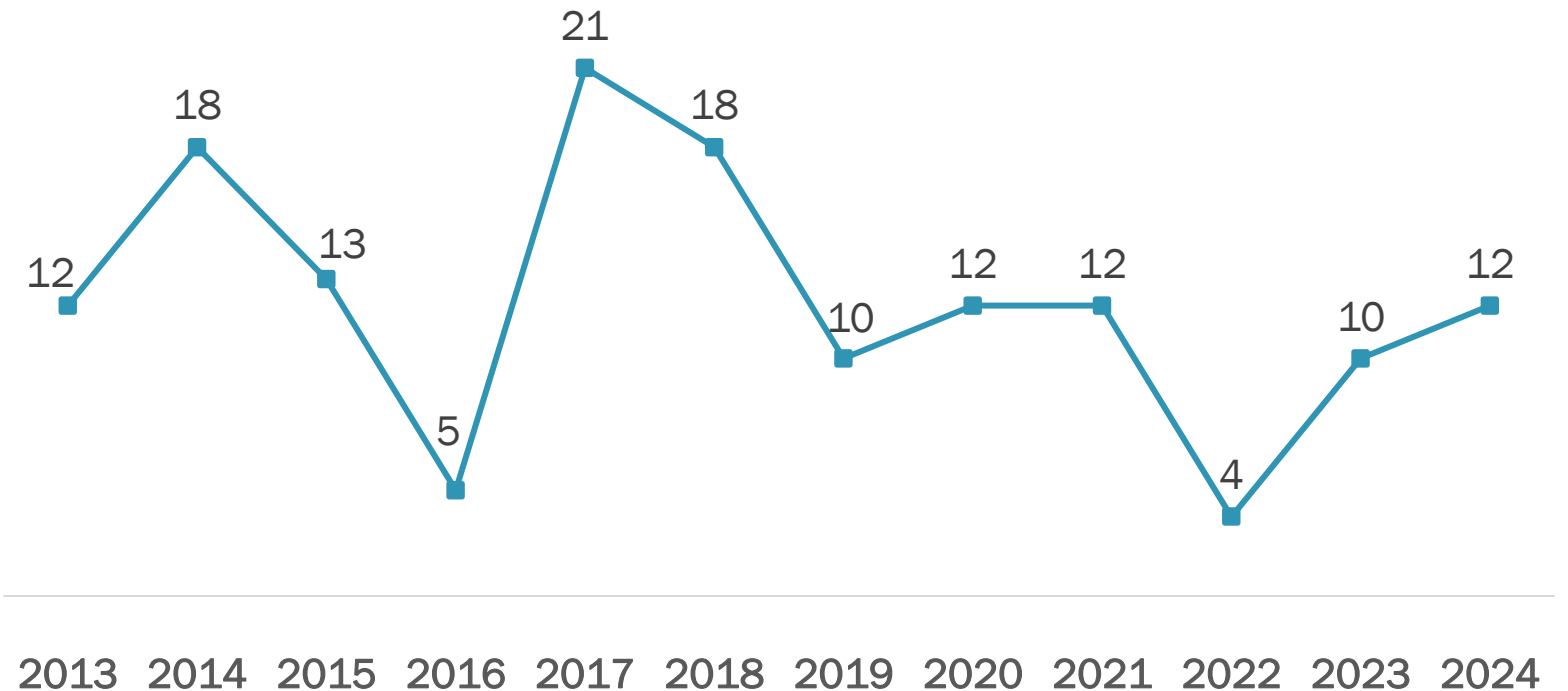
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HIV Incidence and Prevalence

731 people in VT were living with a diagnosis of HIV infection in 2023

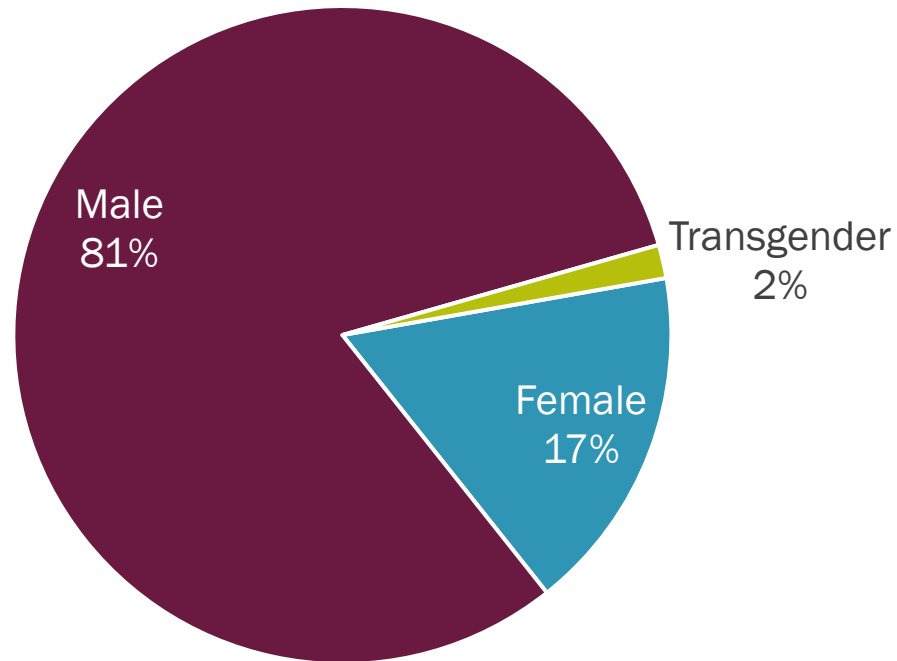
- Case rate – 113 per 100,000
- 135 total diagnoses made in VT between 2013-2023

New HIV Diagnoses in Vermont, 2013-2024 (YTD)



HIV perinatal surveillance

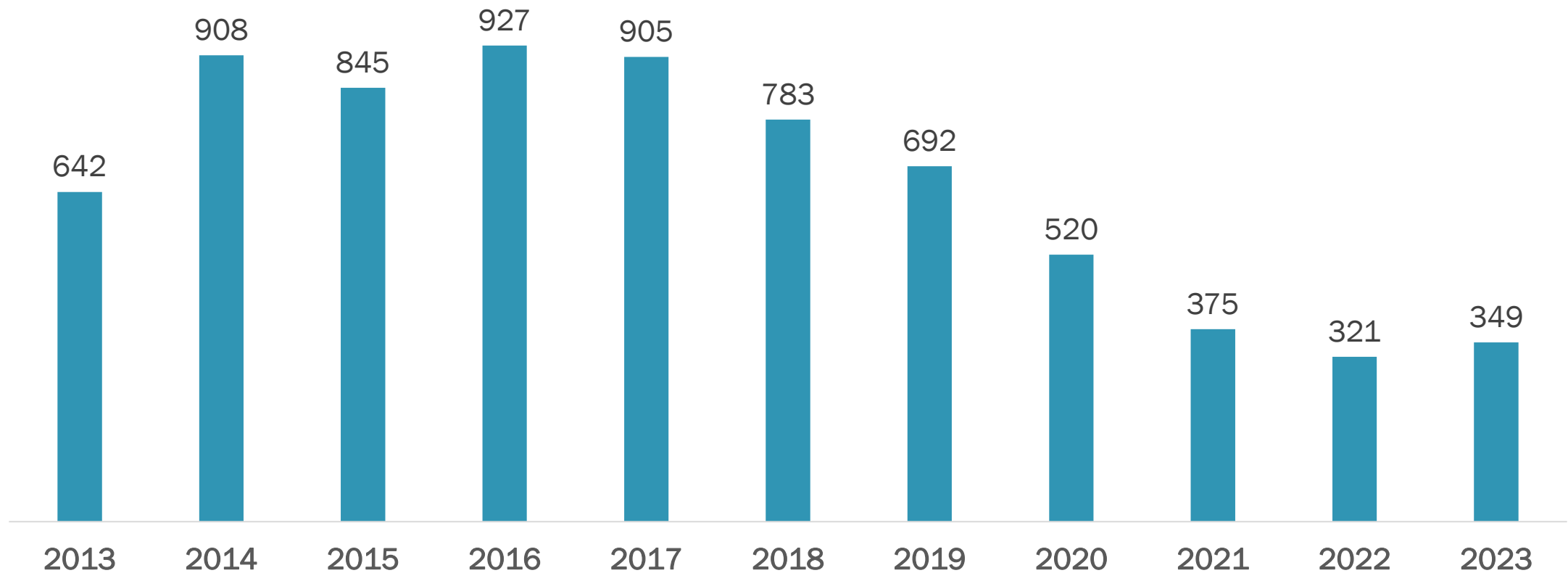
Vermont PLWDHI by Gender, 2023



- 120 female PLWDHI in VT in 2023
- 49 were between ages 15-49 (childbearing age)
- 2 perinatally exposed infants identified in 2022-23
 - Both mothers were virally suppressed at time of birth
- All pediatric cases in recent years were diagnosed elsewhere before moving to VT

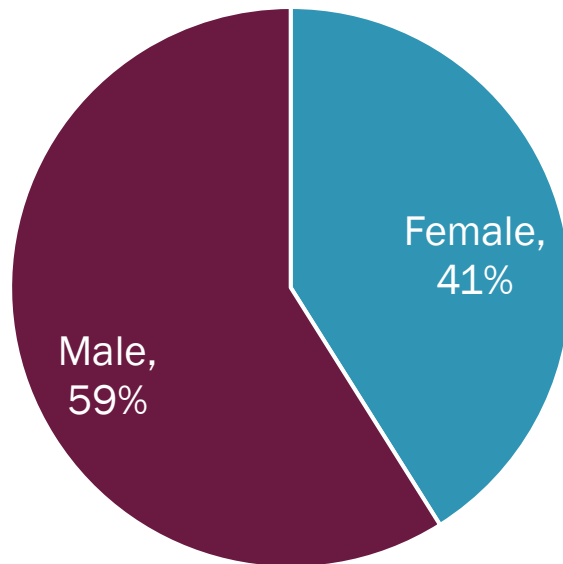
HCV Prevalence

Newly Identified Hepatitis C Cases in Vermont, 2013-2023



HCV Perinatal Surveillance

Newly Identified Cases of Hepatitis C Cases in Vermont by Gender, 2013- 2023



2967 females (41%) were diagnosed with HCV



2157 females (73% of female cases) were of childbearing age

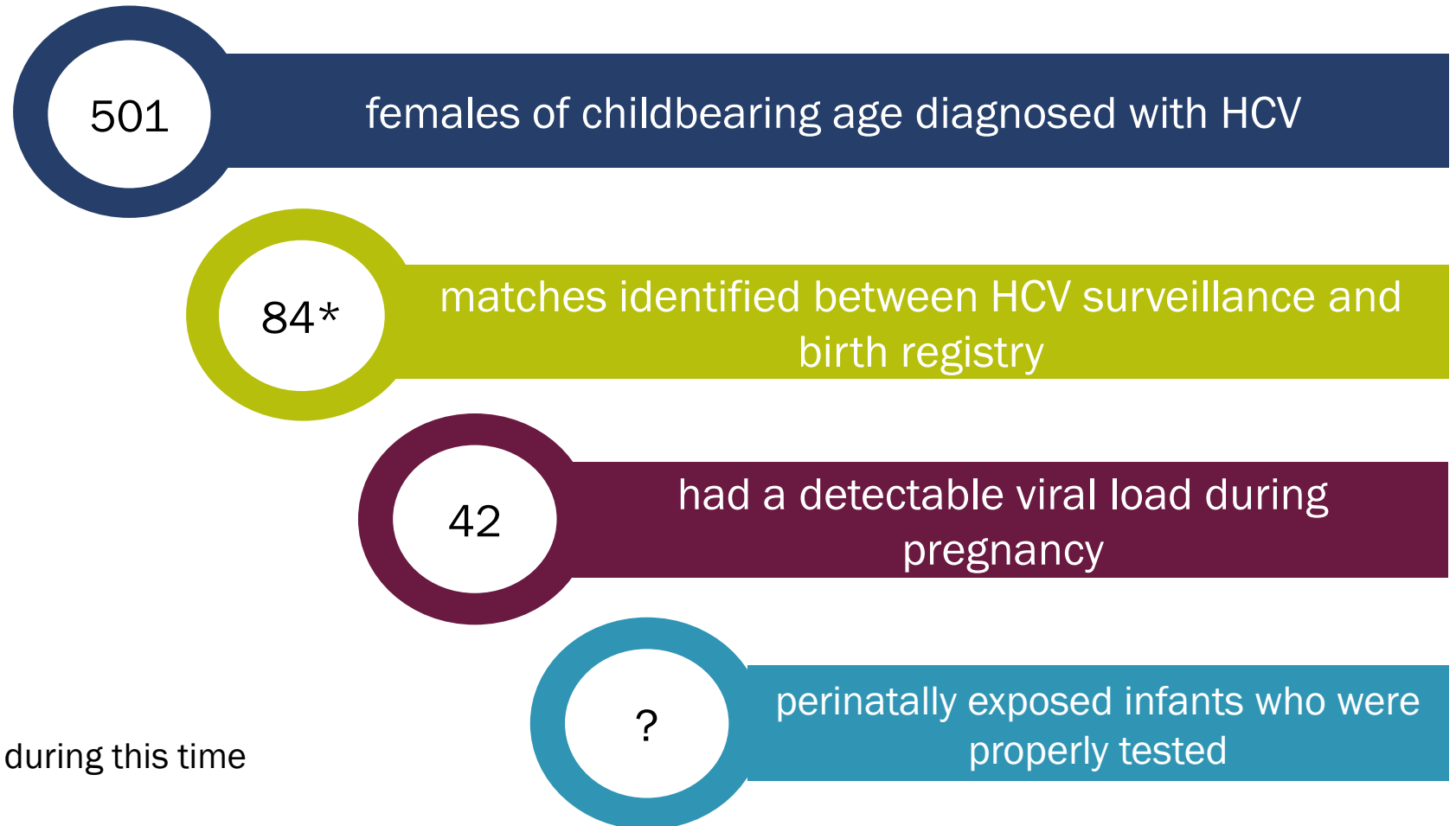
HCV Data Limitations

- Full case investigation for new diagnoses has not been possible
 - Most cases are missing pregnancy status, risk factor ascertainment, contact tracing, etc.
- Surveillance methods have changed over time
 - Acute vs. chronic case classification
 - Confirmed vs. probable cases
- Historical lack of negative RNA results
 - Unable to develop accurate care continuum
- Longitudinal monitoring not currently feasible
 - Treatment/viral clearance/reinfection difficult to track

Birth Registry Match

Females of childbearing age diagnosed with HCV between 2020 – June 2024 crossmatched with birth registry data from October 2019 – June 2024

*5 people had multiple pregnancies during this time



Birth Registry Match Limitations

- Matches may not have occurred due to differences in names or DOBs between registries
- Births occurring during the time of analysis but among birthing persons diagnosed **before** 2020 were not captured
 - It is likely that many more births occurred among persons with HCV during this time period
- Births among people who were diagnosed with HCV in VT but moved out of state before or during pregnancy were not captured
- Not enough information to determine infection status for all matches
 - 17 matches did not have enough information to confirm whether they had an active infection during pregnancy

HCV Treatment

In VT, for Medicaid patients who qualify for simplified treatment, any doctor may prescribe HCV treatment. For patients who do not qualify for simplified treatment, prescriptions must be written by or in consultation with a specialist.

To learn more about HCV treatment:

[HCV Education for Medical Professionals in Vermont \(UVMMC!\)](#)

[Perinatal Hepatitis C \(Medscape\)](#)

[Hepatitis C Virus Disparities \(Medscape\)](#)

[Hepatitis C Online Training for Clinicians \(University of Washington\)](#)



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Questions?



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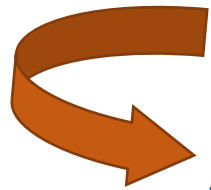
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Thank you!

Please Complete the Evaluation 😊



Check the chat for the link

<https://redcap.link/dhlm3xgu>

Or

Scan the QR code

