

## Background

- The risk of mother to child transmission of HIV ranges from 15% to 45%, without any interventions<sup>1</sup>. With all proper interventions followed, the risk of mother to child transmission of HIV can be reduced to <1%<sup>2</sup>.
- The prevention of vertical HIV transmission from mother to child, in the United States, involves:
  - HIV testing during pregnancy: in Georgia, 1<sup>st</sup> and 3<sup>rd</sup> trimester testing are mandated by law.
  - Antiretroviral therapy (ART) during pregnancy
  - Infant zidovudine prophylaxis for 2-6 weeks depending on the situation
- For women with plasma HIV RNA >1000 copies/mL or unknown near the time of delivery, additional recommendations include:
  - Intravenous zidovudine before and during delivery
  - Cesarean section
  - A second or third infant antiretroviral depending on the situation
- Recommendations on breastfeeding, which consider maternal plasma HIV RNA levels throughout pregnancy, have been recently updated<sup>3</sup>.
- Perinatal HIV exposure surveillance has been conducted in GA since 2016, with approximately 190-195 women with HIV giving birth identified each year.

### Objective:

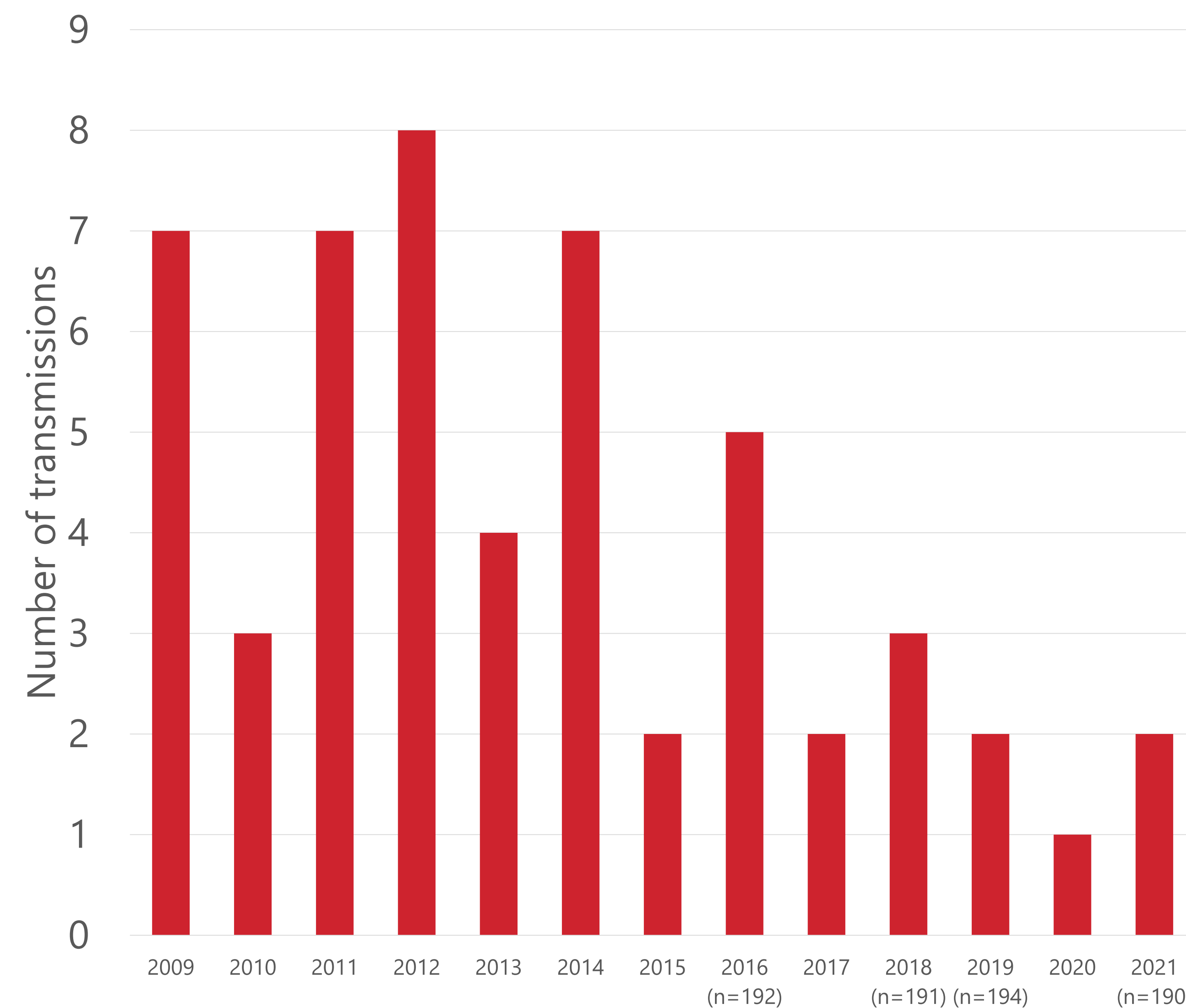
- Describe the decrease in perinatal transmissions in Georgia
- Describe information on prevention gaps based on perinatal HIV exposure surveillance, conducted since 2016
- Describe remaining prevention challenges based on transmissions during 2017-2021

## Methods

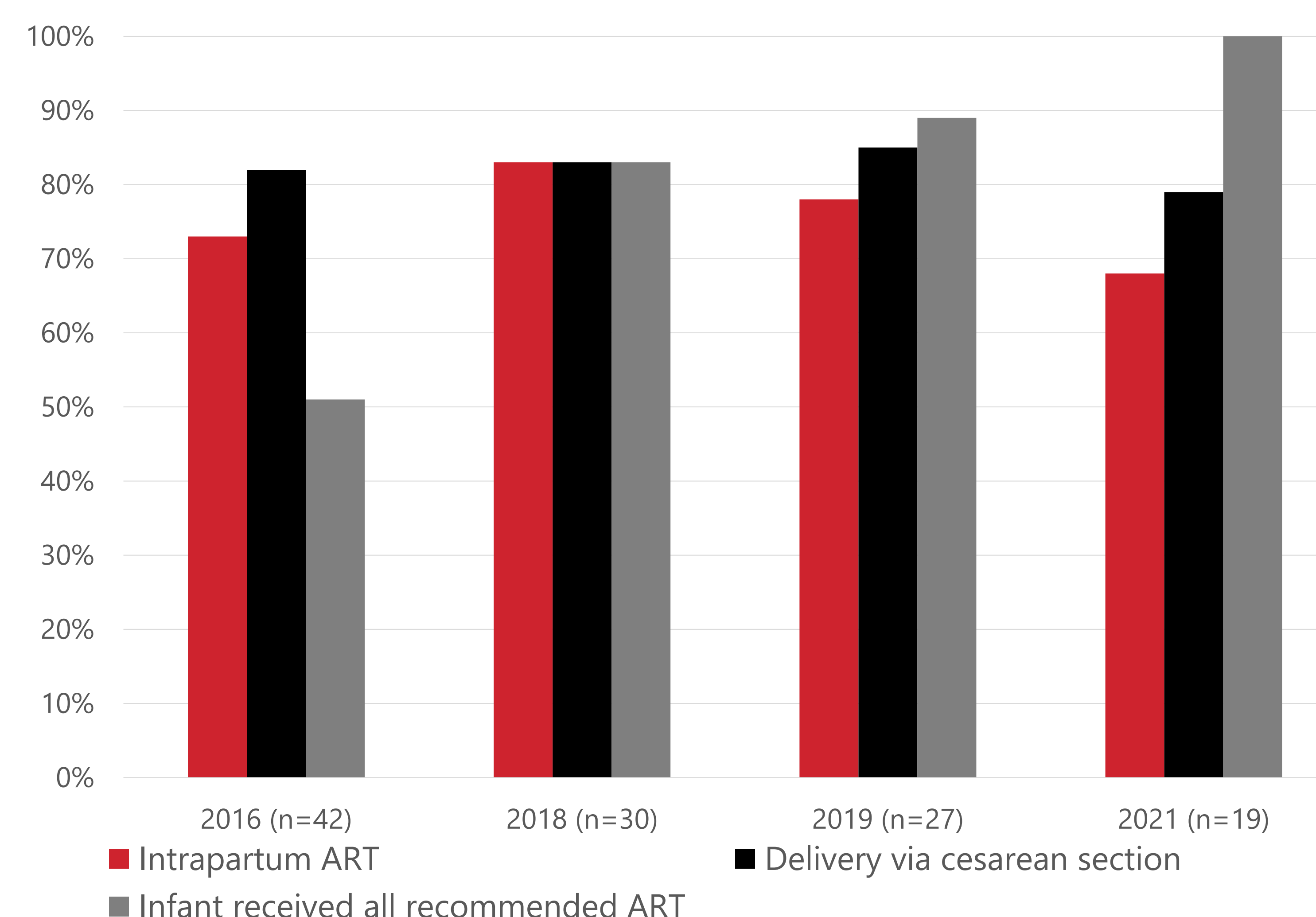
- Perinatal HIV surveillance in Georgia is conducted using four data sources:
  - birth certificate data
  - registry match to the HIV surveillance system
  - pharmacy alert systems, alerting HIV perinatal surveillance when infant antiretrovirals are ordered
  - active reporting of exposed and infected infants directly from hospitals or providers
- Once the list of HIV-exposed infants are identified, the following data sources are reviewed:
  - Maternal labor and delivery (L/D) charts
  - Infant birth charts
  - Prenatal care records, when available in the L/D charts
  - Statewide HIV surveillance data
  - Birth certificate data
- Perinatal HIV exposure surveillance was conducted for the calendar years of 2016, 2018, 2019, and 2021.

## Results

**Figure 1: Perinatal HIV infections, Georgia, 2009-2021**



**Figure 2: Interventions received for mothers with plasma HIV RNA > 1000 copies/mL at the time of labor and delivery, by year, Georgia**



## Results, continued

- The number of perinatal HIV infections has markedly decreased since 2012. The transmission rate for perinatal HIV transmission in Georgia is estimated to be 1.0% in 2021. The percent of mothers with plasma HIV RNA ≤1000 copies/mL by labor and delivery has gradually increased (from 78% in 2016 up to 90% in 2021).
- Among the ten infants that acquired perinatal HIV between 2017-2021 (Figure 1):
  - Four mothers were diagnosed before pregnancy but were unable to reduce HIV RNA levels to ≤1000 copies/mL by labor and delivery: reasons include homelessness, drug use, and stigma.
  - Three mothers did not receive 3<sup>rd</sup> trimester testing, after initially testing negative in the 1<sup>st</sup> trimester.
  - Two mothers were diagnosed during pregnancy: one was diagnosed late, and the other did not stay in HIV care.
  - One mother acquired HIV after testing negative in the 1<sup>st</sup> and 3<sup>rd</sup> trimester.
- Reasons for mothers not receiving recommended interventions (Figure 2) include:
  - Imminent vaginal delivery, or emergent cesarean sections were the most common reasons why a mother did not receive intrapartum ART.
  - The mother's HIV status unknown to healthcare provider, the mother refusing treatment, or her HIV diagnosis was determined at/after delivery (due to little or no prenatal care) were other repeated reasons.

### Limitations

- The list of HIV-exposed infants may be incomplete
- Records received varied in completeness, particularly for pediatric ART, resulting in an underestimation. This was subsequently remedied by more active follow up of missing information

## Conclusions and Discussion

- There has been decrease in annual cases of perinatal HIV transmission in Georgia between 2012 to 2021. Statewide efforts to educate providers on the importance of perinatal HIV guidelines and 3<sup>rd</sup> trimester testing have contributed to the reduction in transmission.
- In order to maintain the trend of reducing perinatal transmission, the two most important factors include:
  - Assisting women with HIV in reducing plasma HIV RNA levels to ≤1000 copies/mL and maintaining reduced plasma HIV RNA level
  - Full implementation of 3<sup>rd</sup> trimester testing for HIV
- In most instances where a mother with HIV with plasma HIV RNA levels >1000 copies/mL did not receive interventions at the time of delivery, there was a valid reason the intervention was not provided.

### References:

- World Health Organization, Mother to Child Transmission of HIV <http://www.who.int/hiv/topics/mtct/en/>
- Department of Health and Human Services, Recommendations to Reduce Perinatal HIV Transmission in the United States <https://clinicalinfo.hiv.gov/en/guidelines/perinatal/introduction?view=full>
- Department of Health and Human Services, Recommendations to Reduce Perinatal HIV Transmission in the United States <https://clinicalinfo.hiv.gov/en/guidelines/perinatal/infant-feeding-individuals-hiv-united-states>