2018 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

Use of a Multidisciplinary Care Model for Pregnant Women Living with HIV & Their Infants

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Disclosures

Presenter has no financial interests to disclose.

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Learning Objectives

At the conclusion of this activity, the participant will be able to:

1. Recognize the unique challenges experienced by pregnant and postpartum women living with HIV.
2. Identify an intervention that may be effective in addressing barriers to ART adherence and retention in care for these women and their infants.
3. Understand the importance of multidisciplinary team-based care and discuss barriers to its implementation.

Background

Perinatal Guideline Recommendations:

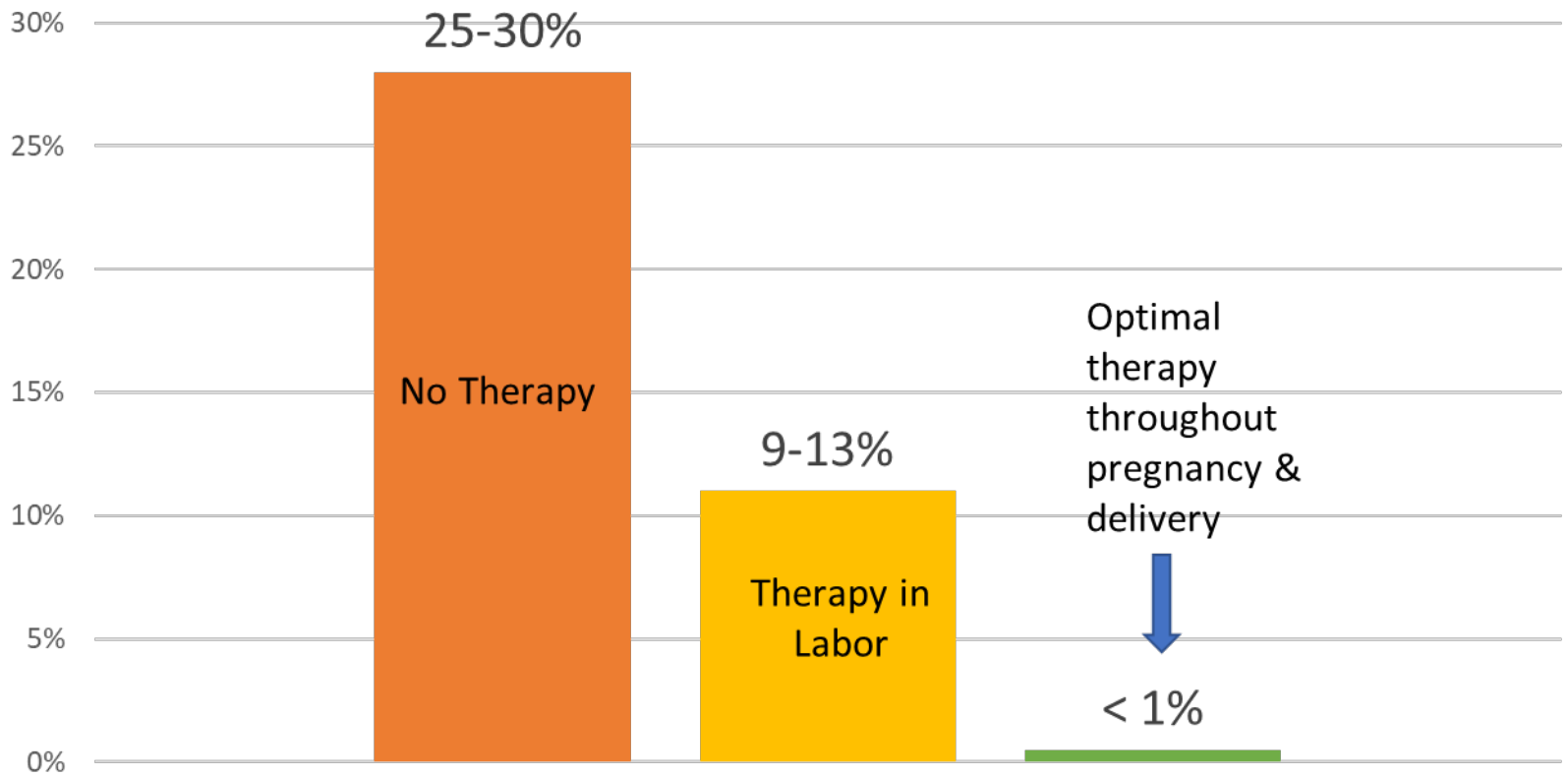
- All pregnant women living with HIV should receive antiretroviral therapy (ART) as early in pregnancy as possible to prevent perinatal transmission **(AI)**
- Coordination of services among prenatal care providers, primary care and HIV specialty care providers, and when appropriate, mental health services…and public assistance programs is essential to ensure women living with HIV adhere to their ARV drug regimens **(AII)**

Background

Perinatal Guideline Recommendations:

- Scheduled cesarean delivery at 38 weeks' gestation is recommended for pregnant women living with HIV who have HIV RNA levels >1,000 copies/mL near the time of delivery **(AII)**
- All newborns perinatally exposed to HIV should receive postpartum ARV drugs to reduce the risk of perinatal transmission **(AI)**
- Virologic diagnostic testing is recommended for all infants with perinatal HIV exposure at the following ages:
  - 14 to 21 days **(AII)**
  - 1 to 2 months **(AII)**
  - 4 to 6 months **(AII)**

Optimal Intervention = Prevention of Perinatal Transmission



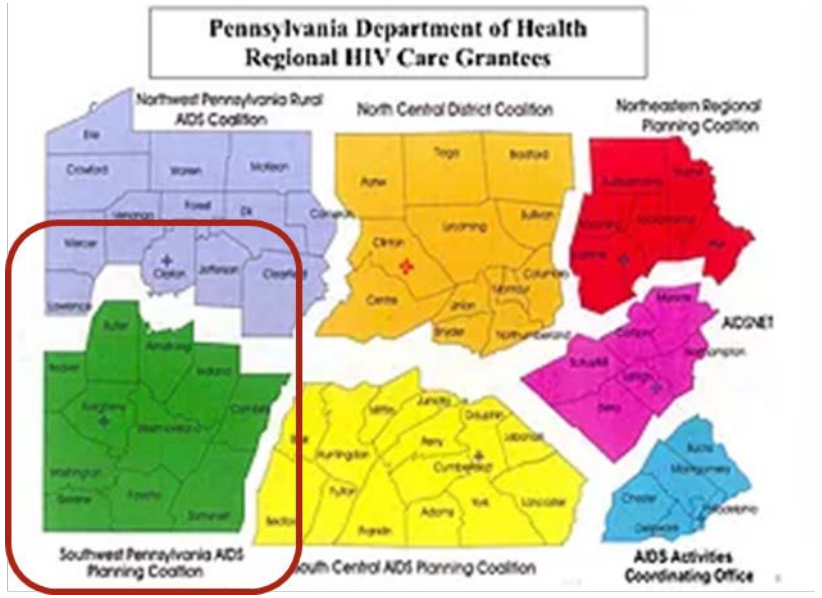
Wade,et al. 1998 NEJM 339;1409-14
Guay, et al. 1999 Lancet 354;795-802
Fiscus, et al. 2002 Ped Inf Dis J 21;664-668
Moodley, et al. 2003 JID 167;725-735

Slide courtesy Dr. Katie Bunge, University of Pittsburgh

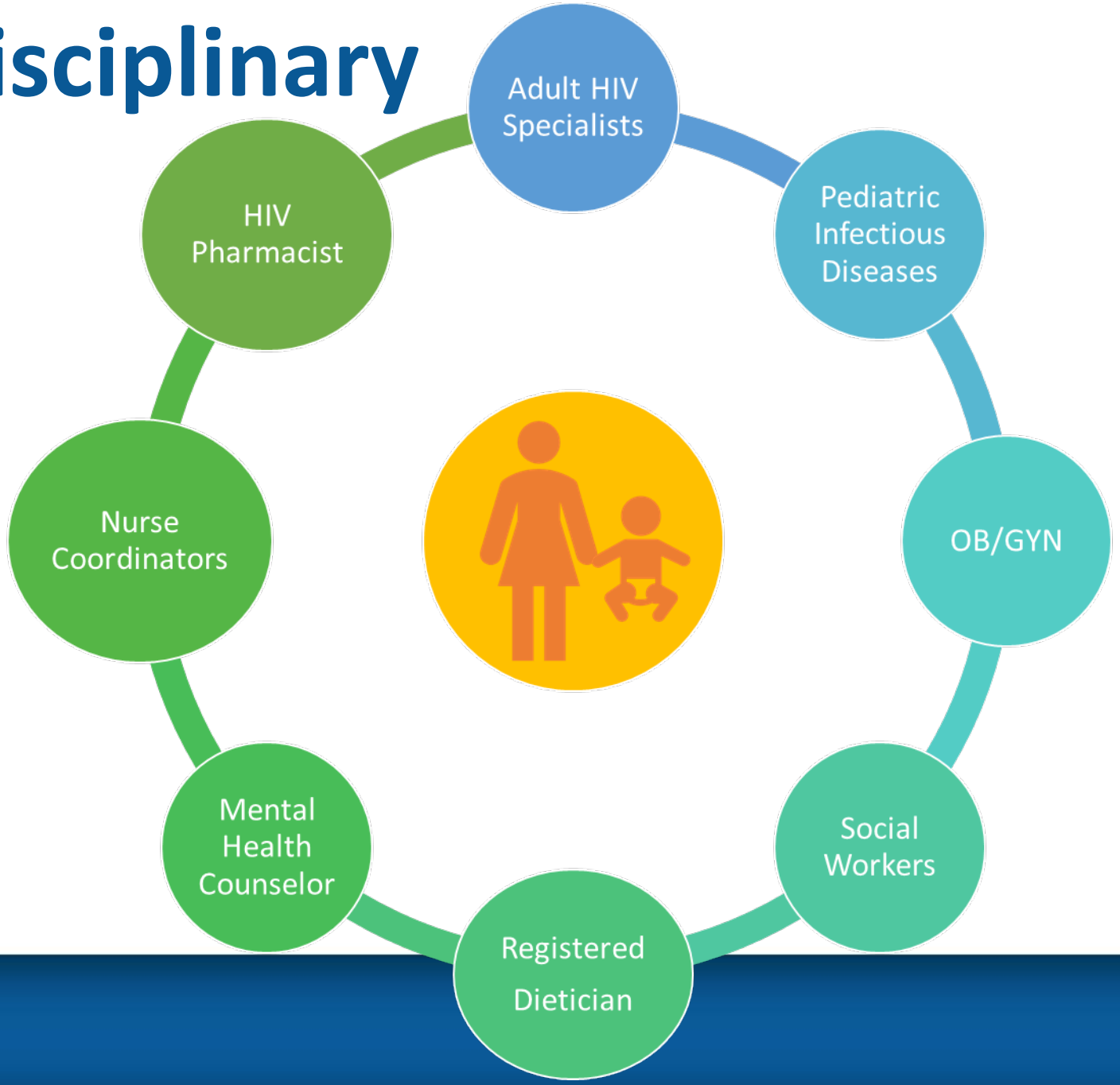
Background

- For 17 years, our Ryan White Part D program has conducted a monthly multi-disciplinary case conference to discuss the care of pregnant and postpartum women living with HIV and their infants receiving care at our sites

  - Involves a variety of care providers
  - Spans multiple medical facilities
  - Covers 11 county catchment area



Multidisciplinary Team



Sites

Riverview Park
Allegheny Cemetery
LAWRENCEVILLE
UPMC Children's Hospital of Pittsburgh
GARFIELD
Woolslair Elementary School
TROY HILL
BLOOMFIE
POLISH HILL
Mattress Factory Museum
National Aviary
Children's Museum of Pittsburgh
STRIP DISTRICT
The Andy Warhol Museum
Ohio River
Point State Park
Pittsburgh
Carnegie Mellon University
SQUIRREL HILL NORTH
Phipps Conservatory and Botanical Gardens
UPTOWN
Grandview Overlook
Station Square
Pittsburgh Phillips K-5 Elementary School
MT WASHINGTON
Emerald View Park
Beechview - Seldom Seen Greenway

Case Conference Format

- Before the monthly meeting a list of all currently pregnant or recently delivered women living with HIV is generated along with indicators including:
  - Ongoing health conditions
  - Last CD4 count and last HIV viral load
  - Any known psychosocial issues
  - Upcoming appointments (HIV, OB, Peds (antenatal, postnatal))
  - Special concerns (i.e. language barrier)

- Providers meet in person and/or via telephone conference line and discuss each case

Case Example: AT

AT is a 24 year old white female with a history of perinatally-acquired HIV returning to care as she is newly pregnant.

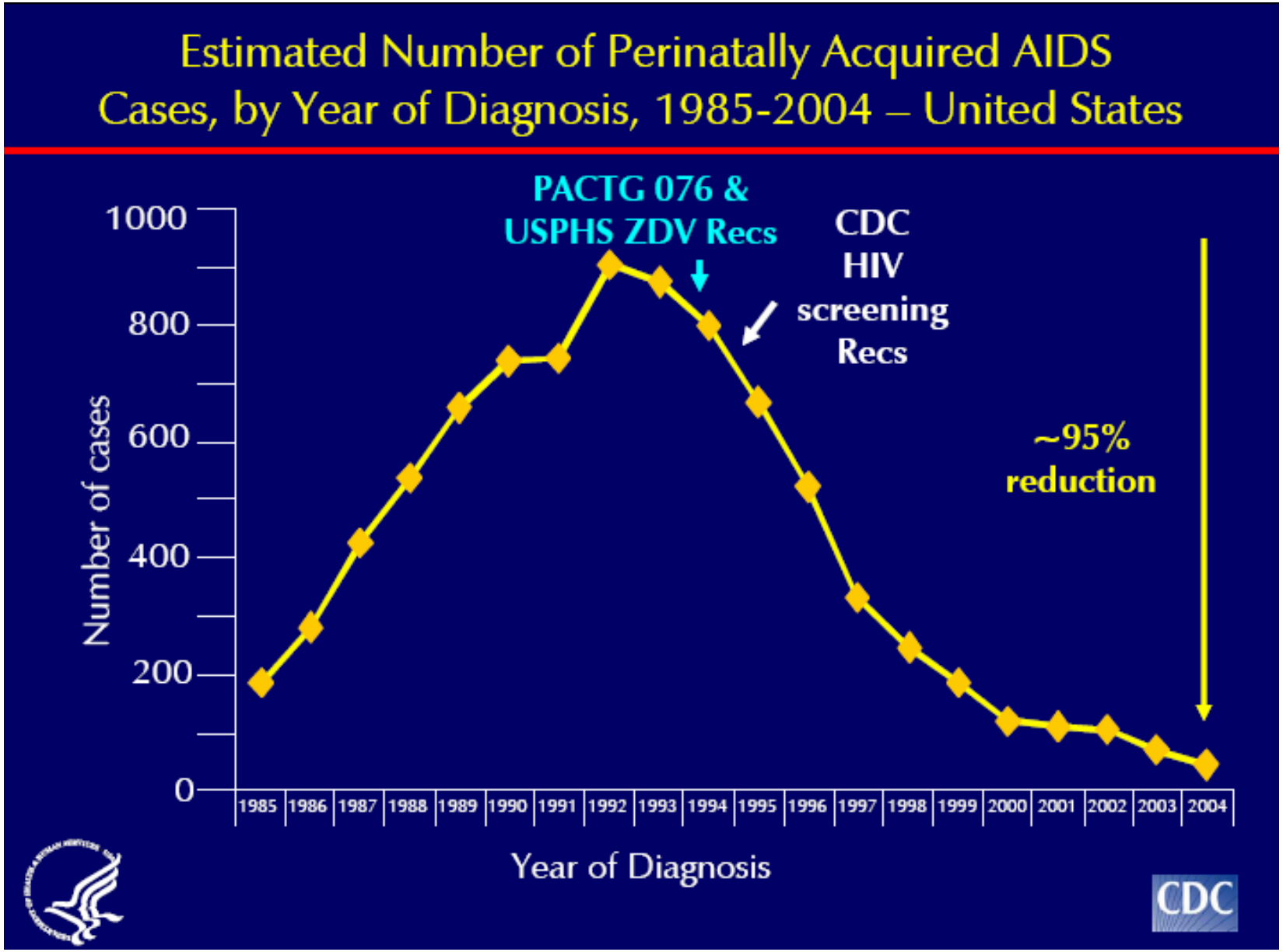
Past Medical History

- HIV
  - Struggled with ART adherence since childhood
  - Multi-drug resistant HIV (NRTI,NNRTI,PI,INSTI mutations)
  - Non-adherent to ART during 2 prior pregnancies
- Recurrent urinary tract infections
- Gestational hypertension
- 2 prior cesarean deliveries
- Cervical dysplasia

Case Example: AT

Social History

- Two children under age 5 at home
- Financial stress
- History of interpersonal violence with partner/father of her children
  - Patient reports partner has an alcohol problem and is not reliable for childcare
- Tobacco abuse


Estimated Number of Perinatally Acquired AIDS Cases, by Year of Diagnosis, 1985-2004 – United States
PACTG 076 & USPHS ZDV Recs
CDC HIV screening Recs
~95% reduction
Number of cases
1000
800
600
400
200
0
1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004
Year of Diagnosis
CDC

Perinatally Infected Women

Perinatal Guideline Recommendations:

- Using the same guiding principles that are used for heavily ART-experienced adults, optimal ART regimens should be selected based on resistance testing, prior ART history, and pill burden. **(AII)**

- Pregnant women with perinatally acquired HIV warrant enhanced focus on adherence interventions during and after delivery. **(AIII)**

Case Example: AT

- November 2017
  - Patient presents for initial pre-natal appointment at 7 weeks gestation, reports she's out of ART → Pharmacist arranges home delivery of meds
  - CD4 count 257 / 20% and viral load 35,922

- December 2017
  - Ultrasound reveals twin pregnancy
  - Case conference providers discuss optimal ART regimen in the setting of multi-drug resistant virus

Case Example: AT

- January 2018
  - Patient hospitalized and had several ER visits for shortness of breath attributed to bronchitis
  - Bactrim prophylaxis arranged given CD4 now 145 / 25%
  - Pulmonology referral made although AT does not attend

- March 2018
  - Urinary tract infection with Bactrim-sensitive E. coli suggests non-adherence with Bactrim
  - AT reports adherence to ART and Bactrim although HIV viral load is 24,000
  - Case conference discusses aerosolized pentamidine as an alternative to Bactrim

Case Example: AT

- April 2018
  - AT hospitalized again for shortness of breath, treated for asthma exacerbation, establishes with pulmonology
  - AT meets with Pediatric ID specialist who shares plan for infant interventions with case conference: triple drug therapy planned with dosing dependent upon prematurity and weight

Case Example: AT

- May 2018
  - Given continued viremia (16,000 copies/ml), MDR virus, conference team plans to hospitalize patient for directly observed ART prior to planned cesarean section (along with IV AZT)
  - Social work assists patient with crisis nursery enrollment to alleviate her concerns re: the need for childcare preventing her hospitalization

Case Example: AT

- June 2018
  - Patient is hospitalized 1 week prior to delivery for directly observed ART
  - Aerosolized pentamidine administered given low CD4
  - Twins are born via planned cesarean with IV AZT administered
  - Expanded ART initiated for both infants
  - AT undergoes tubal ligation per her wishes

Case Example: AT

- July 2018
  - Pediatric ID specialist informs conference members that the female twin is underweight with significant thrush
  - HIV viral load at 4 weeks is negative for both infants
- August 2018
  - Patient seen for postpartum visit with PCP. AT reports feeling overwhelmed, but is unwilling to engage with a therapist
- September 2018
  - Patient sees PCP for follow up
  - Patient engages with mental health therapist
  - Thrush resolved and female infant is gaining weight

Pregnancy & Continuity of Care Indicators

- Developed by Part D Team to assess Program performance
- Reviewed on periodic basis by core team
- Presented annually at Quality Management Committee
- Facilitated by use of common electronic health record
- Updated according to DHHS Guidelines recommendations

Pregnancy & Continuity of Care Indicators

- Prenatal Counseling
  - Referral to counseling with Pediatric ID specialist
  - Mother received counseling with Pediatric ID specialist
- Adherence
  - Adherence with ARV addressed every trimester
  - Adherence quantitatively assessed
- ARV Management: Mother
  - ARV regimen implemented antepartum
  - AZT implemented intrapartum if indicated
  - ARV continued postpartum

Pregnancy & Continuity of Care Indicators

- ARV Management: Infant
  - Pediatric Infectious Disease service notified of infant delivery
  - Infant received zidovudine (or expanded regimen) after delivery
    - Infant received zidovudine (or expanded regimen) within 8 hours
    - Infant medications ordered correctly
    - Pharmacy filled ordered medication
    - Patient received 6 week supply of medication prior to hospital discharge

Pregnancy & Continuity of Care Indicators

- Labs: Mother
  - CD4 in each trimester
  - Viral Load in each trimester
  - Viral Load <50 cps/mL at delivery
  - PCP prophylaxis if CD4 <200/mm^3
  - MAC prophylaxis if CD4 <50/mm^3
- Labs: Infant
  - HIV DNA PCR obtained prior to hospital discharge
  - Pediatric Infectious Disease specialist received birth PCR results

Pregnancy & Continuity of Care Indicators

- OB screening
  - Gonorrhea/Chlamydia screening during pregnancy
  - Syphilis screening during pregnancy
  - Hepatitis C screening during pregnancy
  - Pap smear if indicated during pregnancy
  - Colposcopy if indicated within 8 weeks of delivery
- Nutrition assessment at least once during pregnancy
- Mental Health screen completed during pregnancy
- Tobacco use
  - Tobacco use discussed
  - Smoking cessation discussed if indicated

Pregnancy & Continuity of Care Indicators

- Post-partum: Mother
  - Contraception Discussed
  - Post-partum OB visit within 12 weeks of delivery (ideally 4-6 wks)
  - Post-partum Mental Health screen within 12 wks of delivery (ideally 4-6)
  - Post-partum visit with HIV Provider within 12 weeks of delivery
- Post-partum: Infant
  - Pediatric ID visit with PCR at 2-3 weeks of age
  - Pediatric ID visit with PCR at 1 to 2 months of age
  - Pediatric ID visit with PCR at 4 to 6 months of age

Pregnancy Outcomes

Over the last 5 years, we've achieved:

- 100% success in timely delivery of zidovudine or expanded ART to exposed infants
  - Developed standardized order sets for newborn units, including NICU
  - Social workers ensure a 6 week supply is given to the family prior to discharge
- All women received appropriate ART once in care
- Maternal viral load monitoring occurred in each trimester 92% of the time
- Postpartum viral load monitoring of infants (at 2 weeks, 1 month, and 4-6 months) 98% of the time

Pregnancy Outcomes

Over the last 5 years, we've achieved:

- Zero HIV transmissions! (41 women, 47 pregnancies)
- No transmission of HIV to any mother *in care* for over 20 years.

Areas for Improvement

- Low uptake of postpartum mental health screen (38%)
- Low uptake of postpartum medical visits (75%)

Barriers to Case Conference Implementation

- Numerous medical providers are involved in the care of pregnant and postpartum women living with HIV and their infants
- Patients often utilize more than one health system
- Records from other health systems may not be readily available
- Must designate a ‘lead’ clinician who will maintain the list of pregnant women
- Engaging ‘outside’ clinicians

Conclusions

- A multidisciplinary care model including can:
  - Improve provider communication
  - Lead to process improvement
    - Ensured access to pediatric supply of zidovudine prior to discharge
    - Standardized order sets on neonatal units
    - Pediatric HIV specialist notified when any exposed infant delivered
  - Improve patient outcomes

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