

# **Repeat Pregnancies and HIV Care Engagement among Postpartum HIV-infected Women in Atlanta, Georgia, 2011-2015**

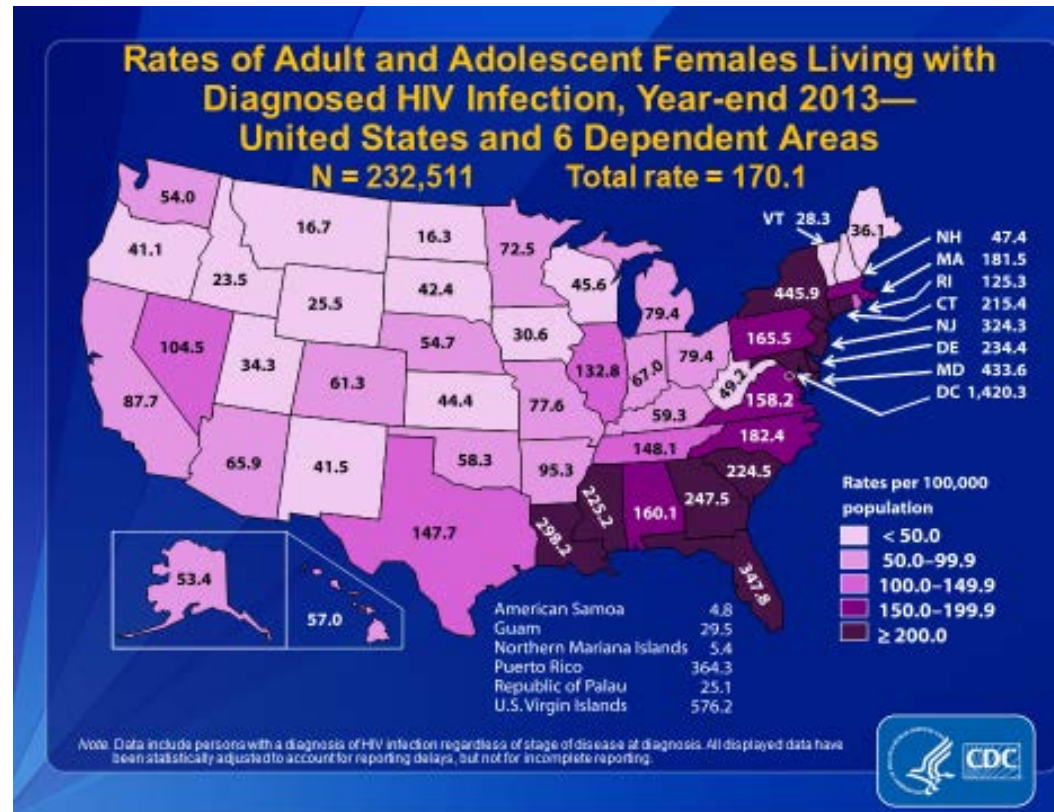
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# HIV Infection in Pregnant Women

- Pregnancy rates higher in the combination ART era<sup>1</sup>
- Only 1/3<sup>rd</sup> of HIV-infected women have viral suppression<sup>2</sup>
- Perinatal transmissions continue to occur in Georgia<sup>3</sup>



CDC HIV Surveillance Report, 2013

# Postpartum HIV Care

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- **HIV-infected women frequently fall out of care during the postpartum period<sup>1-3</sup>**
- **Contributes to HIV-related morbidity, increased transmission risk to partners and infants during subsequent pregnancies**
- **Prompt postpartum engagement in HIV care associated with retention and viral suppression<sup>2</sup>**

# Postpartum Family Planning

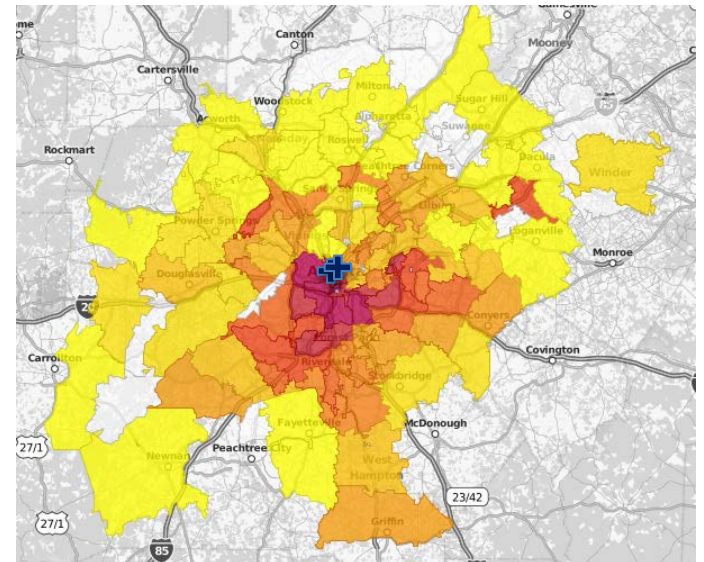
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- **Rapid repeat pregnancy is associated with adverse maternal and neonatal outcomes**
- **Early postpartum provision of effective contraceptives are critical for reducing this risk**

# Grady Infectious Diseases Program

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- **Urban, Ryan White-funded, HIV care clinic in downtown Atlanta**
- **>5,500 patients (27% women)**
- **Pregnant women referred to HIV/OB services at Grady Health System (~40-50 deliveries per year among HIV-infected women)**



# Objectives

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**Overall goal: develop recommendations to improve quality of HIV and reproductive health care and facilitate integration of services**

- **Examine the frequency and predictors of repeat pregnancies among postpartum HIV-infected women**
- **Determine associations between repeat pregnancies and long-term HIV care outcomes**

# Methods

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- Reviewed medical records of HIV-infected women who delivered at Grady Memorial Hospital in Atlanta, Georgia
  - Delivered from January 1, 2011 to December 31, 2015
  - Delivered  $\geq 20$  weeks gestation for “index” pregnancy
  - Did not report plans to follow-up for HIV care outside our healthcare system
- Collected demographic, pregnancy, HIV, and reproductive health data through November 2016
- Examined associations between having at least one repeat pregnancy and sociodemographic and clinical variables using multivariate logistic regression
- Separate models examined associations between repeat pregnancy and HIV care engagement outcomes at 12 and 24 months postpartum

# Definitions

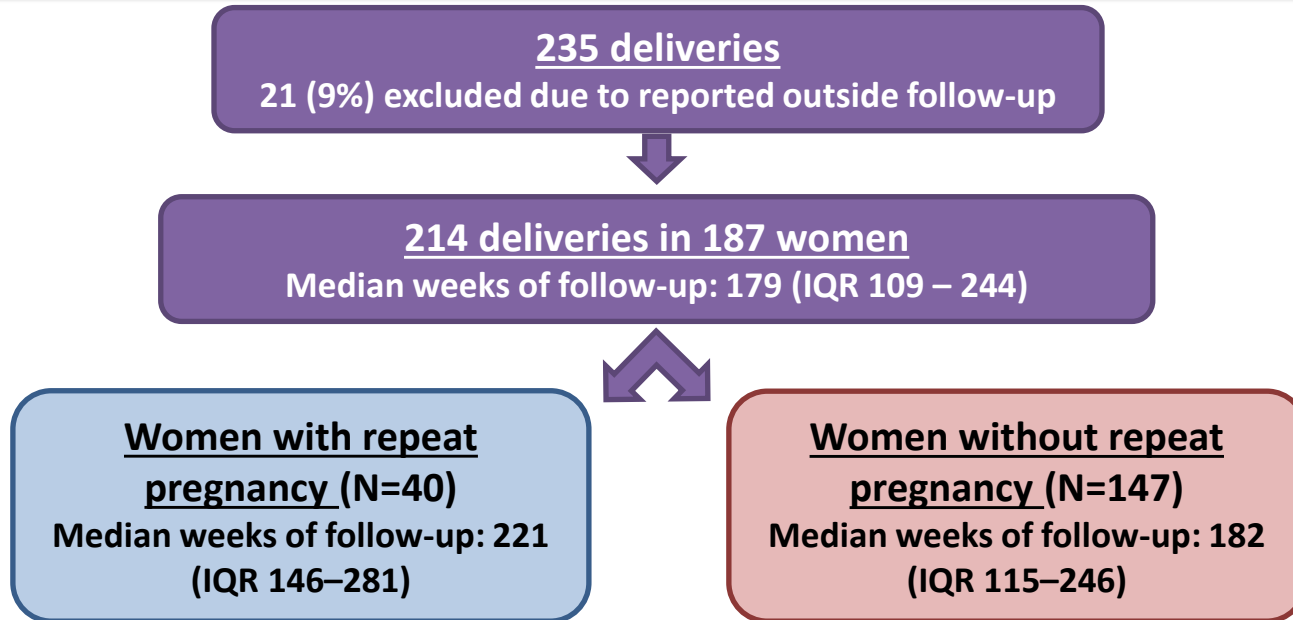
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- *HIV care engagement variables:*
  - Postpartum HIV care engagement = first HIV care visit after delivery
  - Retention in HIV care = two HIV care visits or viral load measurements > 90 days apart at 12 and 24 months postpartum
  - Viral suppression = Last HIV-1 RNA level within the time interval < 200 copies/mL
- *Repeat pregnancy:*
  - Any pregnancy diagnosed after the “index” delivery during the follow-up period



# Results

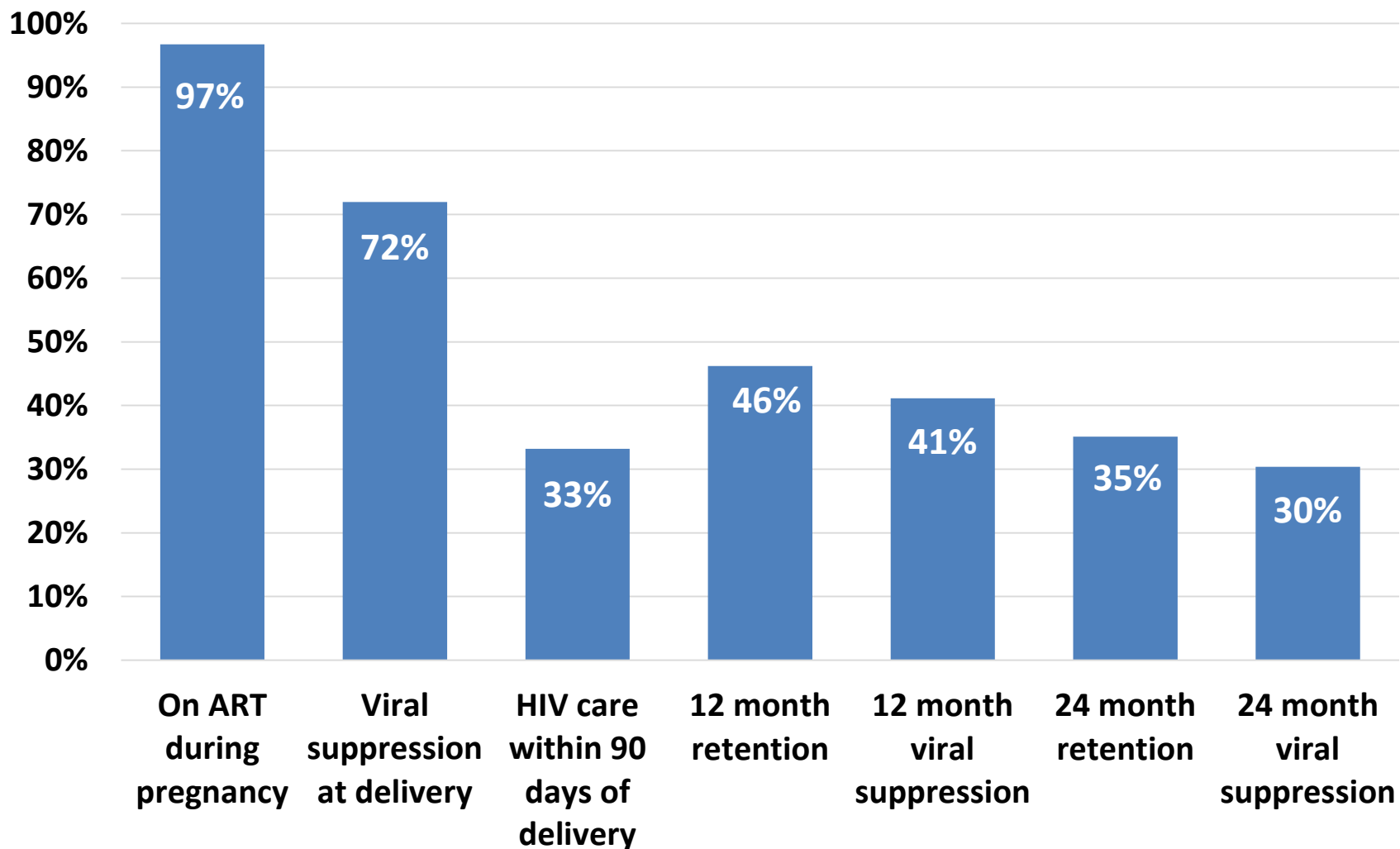
# Repeat Pregnancies During Follow-up



<b><u>Number of repeat pregnancies</u></b>	
1	35
2 or more	5
<b><u>Timing of repeat pregnancy</u></b>	
Median days (IQR)	309 (187–564)
Within 2 years	32 (80%)
Within 1 year	22 (55%)

# Postpartum HIV Care Continuum

## (N=214 deliveries)



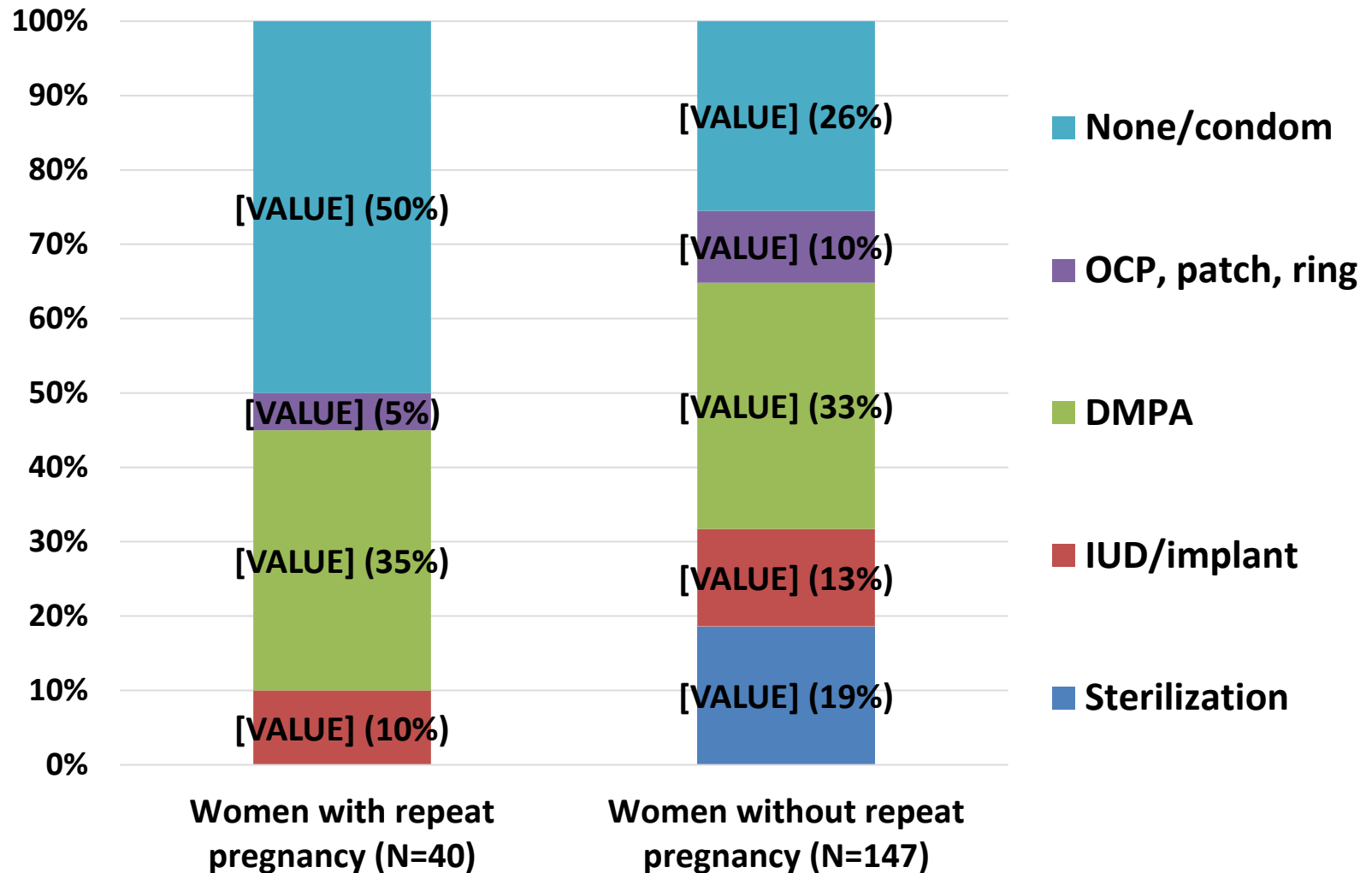
# Demographic and HIV Characteristics

Characteristic (n, % or mean, SD)	Women with repeat pregnancy, N=40	Women without repeat pregnancy, N=147	Total (N=187)
Age at delivery (years)	25 (4.4)	29 (6.2)	28 (6.1)
Race/ethnicity			
African-American (non-Hispanic)	35 (88%)	113 (78%)	148 (80%)
White (non-Hispanic)	2 (5%)	9 (6%)	11 (6%)
Hispanic	1 (3%)	13 (9%)	14 (8%)
Other/ Unknown	2 (5%)	10 (7%)	12 (6%)
Number of previous live births	1.1 (1.0)	1.6 (1.7)	1.5 (1.6)
Woman with congenital HIV infection	5 (13%)	14 (10%)	19 (10%)
HIV diagnosis at index pregnancy	7 (18%)	35 (24%)	42 (23%)
Time since HIV diagnosis (years)	4.8 (6.1)	5.6 (6.3)	5.5 (6.2)

# Pregnancy and Postpartum Characteristics

Characteristic (n, % or mean, SD)	Women with repeat pregnancy, N=40	Women without repeat pregnancy, N=147	Total (N=187)
<b>At pregnancy diagnosis</b>			
On antiretroviral therapy	10 (27%)	53 (37%)	63 (35%)
CD4 cell count, cells/mm <sup>3</sup>	455 (229)	388 (270)	403 (262)
Viral suppression	13 (33%)	49 (34%)	62 (34%)
<b>Number of prenatal care visits</b>	8.7 (3.6)	8.0 (3.8)	8.1 (3.8)
<b>Delivery</b>			
CD4 cell count, cells/mm <sup>3</sup>	511 (220)	410 (244)	433 (242)
Viral suppression	32 (80%)	94 (65%)	126 (68%)
Cesarean delivery	14 (35%)	82 (57%)	96 (52%)
Gestational age >37 weeks	36 (90%)	119 (83%)	155 (84%)
Contraception plan	35 (88%)	137 (96%)	172 (94%)
Contraception provision	23 (58%)	89 (62%)	112 (61%)
<b>Postpartum</b>			
Attended obstetric visit	29 (73%)	109 (75%)	138 (75%)
Time to HIV care visit (days)	179 (131)	123 (104)	137 (113)
Attending HIV care visit within 90 days	9 (23%)	51 (36%)	60 (33%)
ART treatment interruption	29 (76%)	62 (59%)	91 (64%)

# Contraception Provision Within 90 Days Postpartum

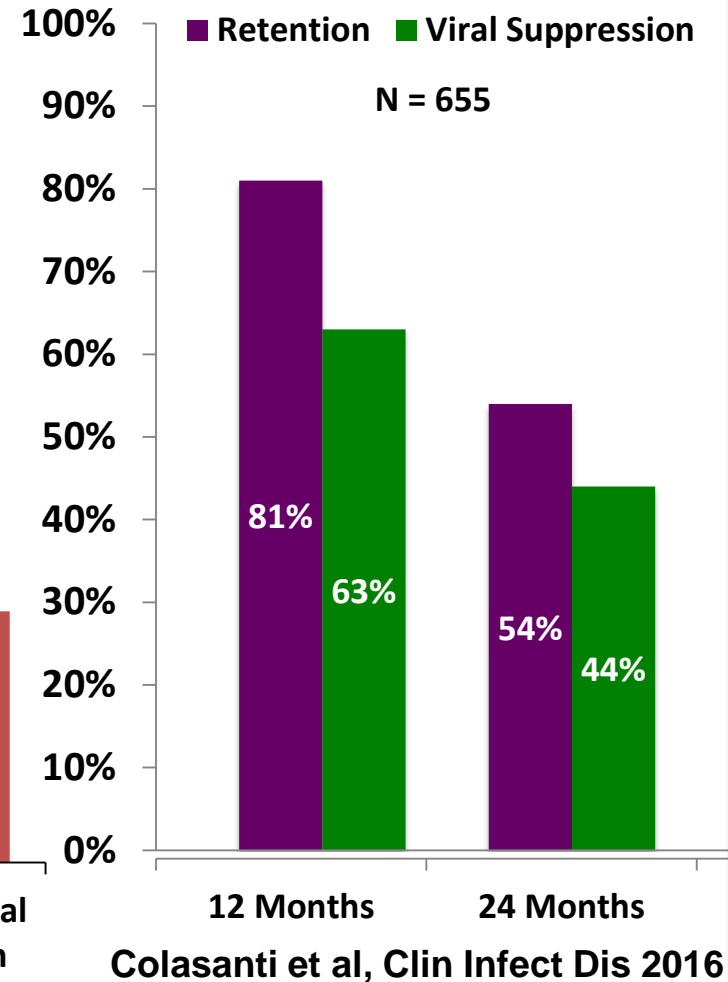
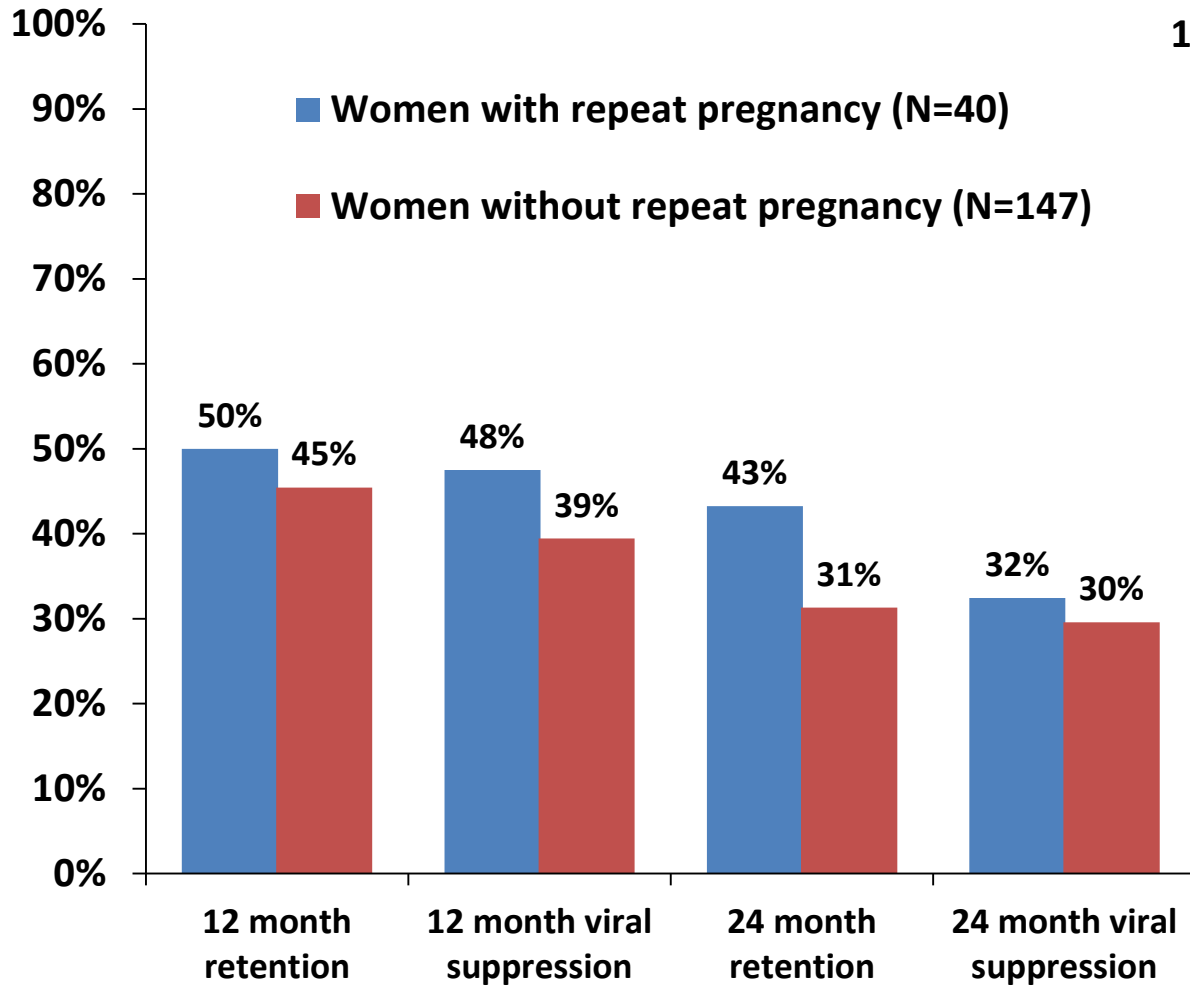


# Factors Associated with Repeat Pregnancy

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Characteristic (n, % or mean, SD)	Women with repeat pregnancy, N=40	Women without repeat pregnancy, N=147	Adjusted OR (95% CI)
Age < 25 years	21 (53%)	36 (25%)	4.61 (1.63, 13.1)
Cesarean delivery	14 (35%)	82 (57%)	0.33 (0.13, 0.85)
Undetectable viral load at delivery	32 (80%)	94 (65%)	2.41 (0.68, 8.51)
CD4 >350 cells/mm <sup>3</sup> at delivery	31 (78%)	76 (56%)	5.68 (1.85, 7.09)
Contraception plan at delivery	35 (88%)	137 (96%)	0.43 (0.08, 2.40)
Postpartum ART interruption	29 (76%)	62 (59%)	2.44 (0.84, 7.09)
Time to postpartum HIV care visit, per day	178 (131)	123 (104)	1.00 (1.00, 1.01)

# Repeat Pregnancy and HIV Care Outcomes





# Limitations

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- **Single center, retrospective study**
  - **Could not capture data from women who sought care for HIV or a repeat pregnancy outside our healthcare system**
  - **Results may not be generalizable**
- **Pregnancy intention not known**
- **Some sociodemographic variables important for reproductive health and HIV care outcomes could not be captured by retrospective chart review**
- **Temporal changes in contraceptive provision or HIV care delivery may have affected results**

# Conclusions

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- **Repeat pregnancy occurred in over 20% of postpartum HIV-infected women**
  - Mostly rapid repeat pregnancies occurring in the first year
  - Occurred despite postpartum contraception provision
  - Associated with better immune status, but also lack of prompt postpartum HIV care
- **Long-term postpartum HIV care retention and viral suppression were low in this population**
- **Repeat pregnancy was not associated with worse long-term HIV care outcomes**
  - Likely due to women benefiting from intensive care during the subsequent pregnancy

# Implications

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- **Interventions needed to improve reproductive health services for postpartum HIV-infected women**
  - Decrease barriers to immediate postpartum contraceptive provision
  - Improve integration of HIV and reproductive health services
- **Prompt transition to postpartum HIV care can optimize both HIV and reproductive health care**
- **Reproductive health needs should be addressed on an ongoing basis for postpartum women receiving HIV care**

# Acknowledgements

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