

# Adverse neonatal outcomes among women living with HIV in Ontario: a population-based study

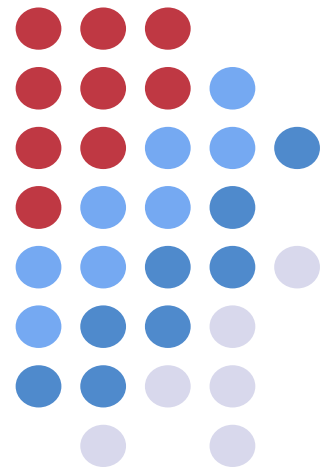
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**R Ng, E Macdonald, A Bayoumi, J Raboud, J Brophy, KI  
Masinde, M Loutfy, W Tharao, M Yudin, T Antoniou**

Department of Family and Community Medicine, St.  
Michaels Hospital

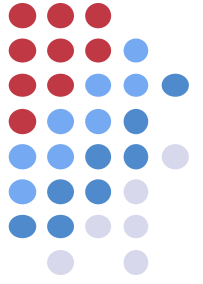
Institute for Clinical Evaluative Sciences

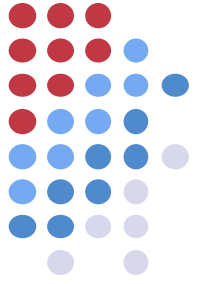
November 19, 2013: Toronto



# Conflict of Interest Disclosure

- None

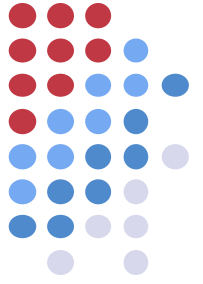




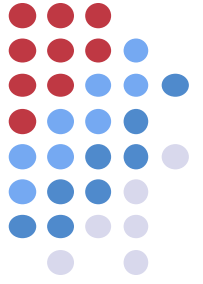
# Background

- Prevention of perinatal HIV transmission at less than 1%
- No population-based data examining other adverse neonatal outcomes
- Important gap:
  - Women: 20% of persons with HIV in care
  - Vast majority (> 80%) of child-bearing age
  - Previous research shows a majority intend to become mothers
  - More women originally from Africa, Caribbean

# Objectives

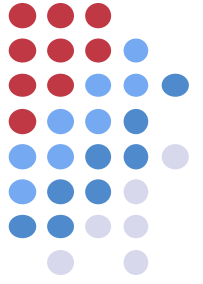


- Compare risk of preterm birth, low birth weight and small for gestational age births between women living with and without HIV in Ontario between 2002/3 to 20010/11



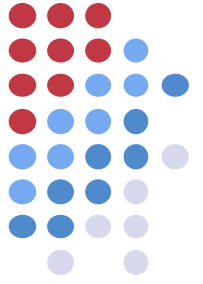
## Methods – Data sources

- Used administrative healthcare databases at Institute for Clinical Evaluative Sciences
  - Identified live births using MOMBABY database
  - Identified women with HIV aged 18 – 49 using validated case-finding algorithm
- Outcomes:
  - Demographic characteristics of mothers
  - Proportions of births that were preterm ( $< 37$  weeks), small for gestational age and low birth weight ( $< 2500$  grams)



## Methods – Analysis

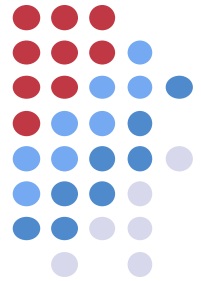
- Multivariable generalized estimating equation models with logit link to compare risk of each outcome between groups
  - Adjusted for age, adequacy of prenatal care, neighborhood deprivation, neighborhood instability, comorbidity burden, region of origin, caesarean section, induction of labour and parity



# Results

- 1,113,874 singleton births for analysis
  - 615 (0.06%) were to women living with HIV
  - 40.3% of women living with HIV originally from Africa or the Caribbean

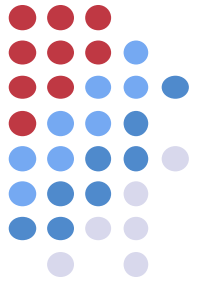
# Results – Baseline Characteristics



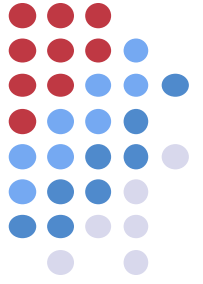
| Characteristic                   | HIV<br>n = 615 | Non-HIV<br>N = 1,113,259 | P-value |
|----------------------------------|----------------|--------------------------|---------|
| <b>Age</b>                       |                |                          | 0.004   |
| <b>18 to 34</b>                  | 458 (74.5%)    | 881,796 (79.2%)          |         |
| <b>35 to 49</b>                  | 157 (25.5%)    | 231,463 (20.8%)          |         |
| <b>Immigrant to ON</b>           | 297 (48.3%)    | 288,267 (25.9%)          | < 0.001 |
| <b>Caesarean section</b>         | 231 (37.6%)    | 302,504 (27.2%)          | < 0.001 |
| <b>Induction of labour</b>       | 111 (18.0%)    | 234,315 (21.0%)          | 0.07    |
| <b>Adequacy of Prenatal care</b> |                |                          | < 0.001 |
| <b>Adequate</b>                  | 370 (25.8%)    | 271,294 (36.5%)          |         |
| <b>Inadequate</b>                | 624 (43.6%)    | 265,225 (35.7%)          |         |
| <b>Intermediate</b>              | 347 (56.4%)    | 640,507 (57.5%)          |         |



# Results – Baseline Characteristics

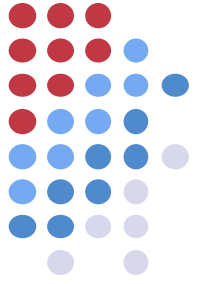


| Characteristic                           | HIV<br>n = 615 | Non-HIV<br>N = 1,113,259 | P-value |
|--|----------------|--------------------------|---------|
| <b>Neighborhood deprivation quintile</b> |                |                          | <0.001  |
| 1 (lowest)                               | 66 (10.7%)     | 290,837 (26.1%)          |         |
| 2  | 70 (11.4%)     | 228,756 (20.5%)          |         |
| 3  | 90 (14.6%)     | 210,132 (18.9%)          |         |
| 4  | 117 (19.0%)    | 188,042 (16.9%)          |         |
| 5  | 254 (41.3%)    | 181,208 (16.3%)          |         |



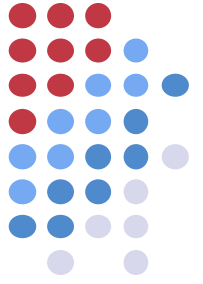
# Results

- Preterm Birth
  - 14.6% (HIV) vs. 6.3% (non-HIV)
  - aOR: 1.70 (95% CI: 1.34 to 2.16)
- Small for gestational age infants
  - 14.6% (HIV) vs. 10.3% (non-HIV)
  - aOR: 1.43 (95% CI: 1.12 to 1.82)
- Low birth weight
  - 12.5% (HIV) vs. 4.6% (non-HIV)
  - aOR: 1.85 (95% CI: 1.44 to 2.38)



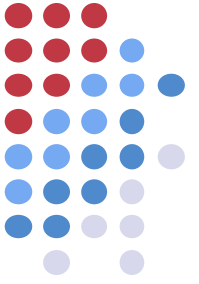
# Limitations

- Could not identify births that occur out of hospital
- No clinical data, no information on determinants of adverse neonatal outcomes
- Potential for misclassification



# Discussion & Conclusions

- Higher risk of adverse neonatal outcomes among women living with HIV vs. women not living with HIV
- Next steps:
  - KTE forum – community members, social scientists, basic scientists, clinicians
  - Qualitative research



# Acknowledgments

- Co-investigators
  - Rick Glazier, Mona Loutfy, Jason Brophy, Ahmed Bayoumi, Mark Yudin, Erin MacDonald, Brandon Zagorski, Wangari Tharao, Khatundi Masinde
- Funding
  - Ontario HIV Treatment Network (OHTN)