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# Aboriginal children's acute care hospitalization in Canada, 2006 to 2008

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Preliminary results. Please do not cite or share without author's permission.



# Background

- Aboriginal children experience different health outcomes compared to non-Aboriginal children.
- Higher rates of: respiratory tract infections, asthma hospitalization, injury (Banerji et al., 2001; Reading, 2009; Oliver & Kohen, 2012).
- Previous national level studies with administrative data unable to look at sub-populations.
- Little research on Aboriginal children's hospitalization at the national level.



## Research Questions

- 1) What are the rates of acute-care hospitalization for Aboriginal children and youth in Canada?
- 2) What are the leading most responsible diagnoses of acute-care hospitalizations for Aboriginal children and youth?
- 3) How do the rates and reasons of acute-care hospitalization for Aboriginal children and youth compare to the rates and reasons for non-Aboriginal children and youth?



## Data Source

- 2006 Census linked to Discharge Abstract Database
- Discharge Abstract Database (DAD) (CIHI)
  - DAD 2006/07 through 2008/09
  - All discharges from acute care hospitals (~3 million records per year) (excludes Quebec)
  - Clinical diagnostic and intervention information, limited demographic
- 2006 Census (Statistics Canada)
  - Long form includes demographic information, including Aboriginal identity



# Record linkage

- DAD linked to census with a unique statistical linkage key – date of birth, sex, and postal code
- Validation
  - 94% of 2006 census records eligible for linkage
    - Lower (90%) for Aboriginal respondents
- Coverage analysis
  - Hard to know - missed links or no hospitalization?
  - 80% of hospitalizations in 2006/2007 linked to a census respondent
    - 72% for children under 1
    - 74% for youth 15 to 19

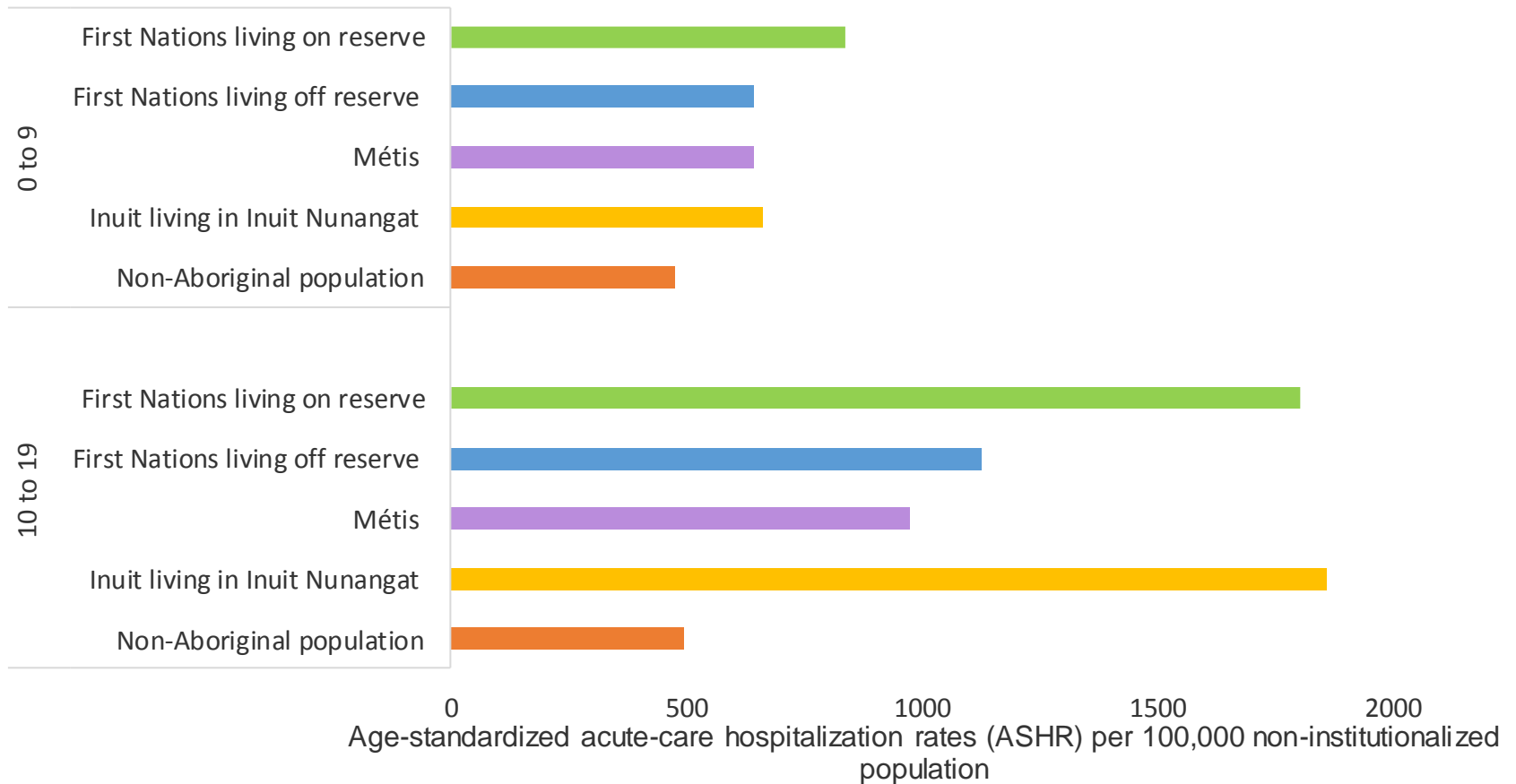


## Research Questions

- 1) What are the rates of acute-care hospitalization for Aboriginal children and youth?
  - Age-standardized hospitalization rates per 100,000 population
  - Separately for First Nations living off reserve, First nations living on reserve, Métis, and Inuit living in Inuit Nunangat
  
- 2) What are the leading most responsible diagnoses of acute-care hospitalizations for Aboriginal children and youth?
  - 'most responsible diagnosis' classified using ICD – 10 CA diagnostic chapters



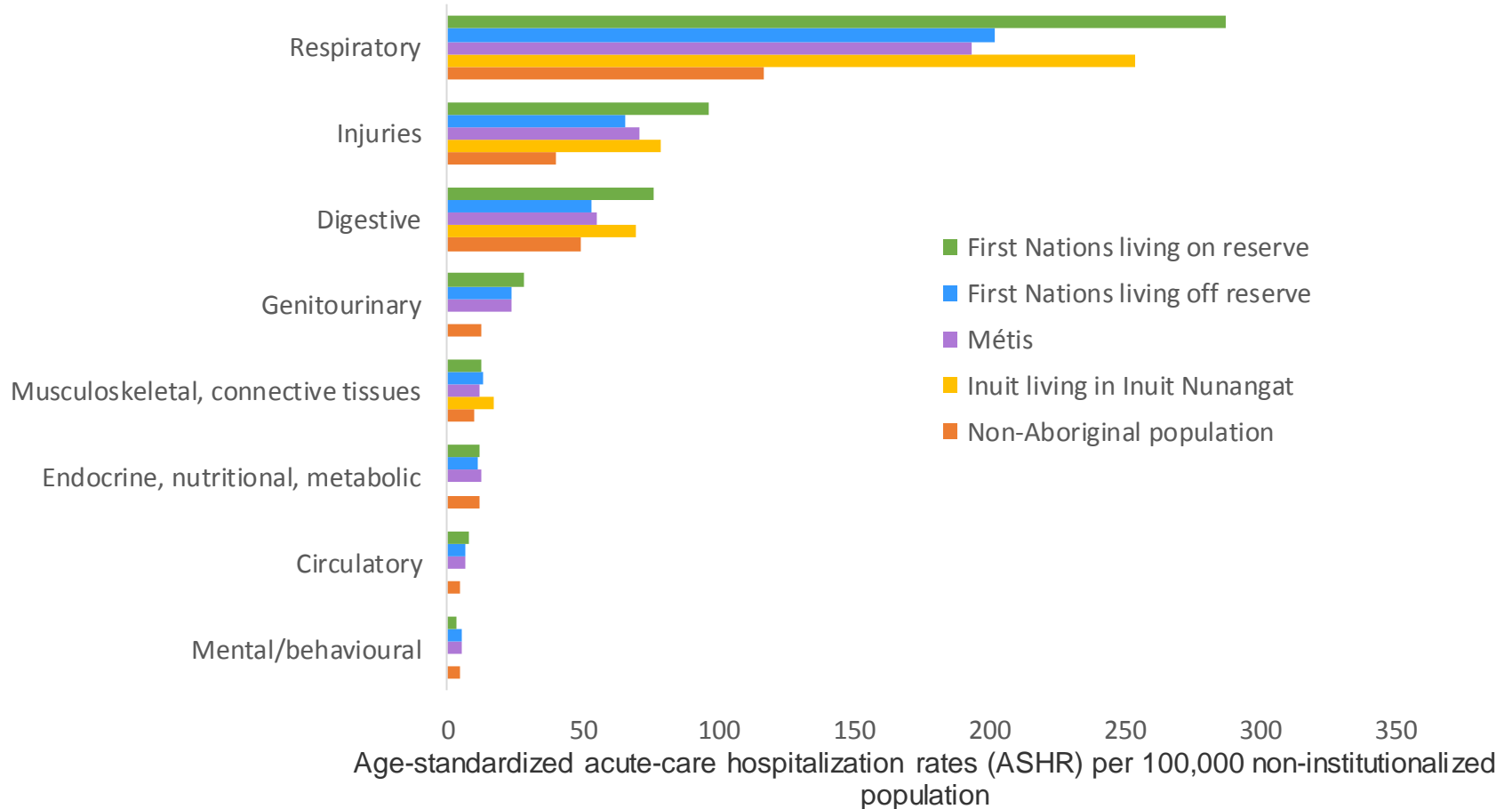
# Hospitalization rates higher for 10 to 19 year olds compared to 0 to 9 year olds



Source: Census of Population 2006, Census-linked Discharge Abstract Database 2006/2007, 2007/2008, 2008/2009 pooled.



# Hospitalization rates for 0 to 9 year olds highest for respiratory conditions

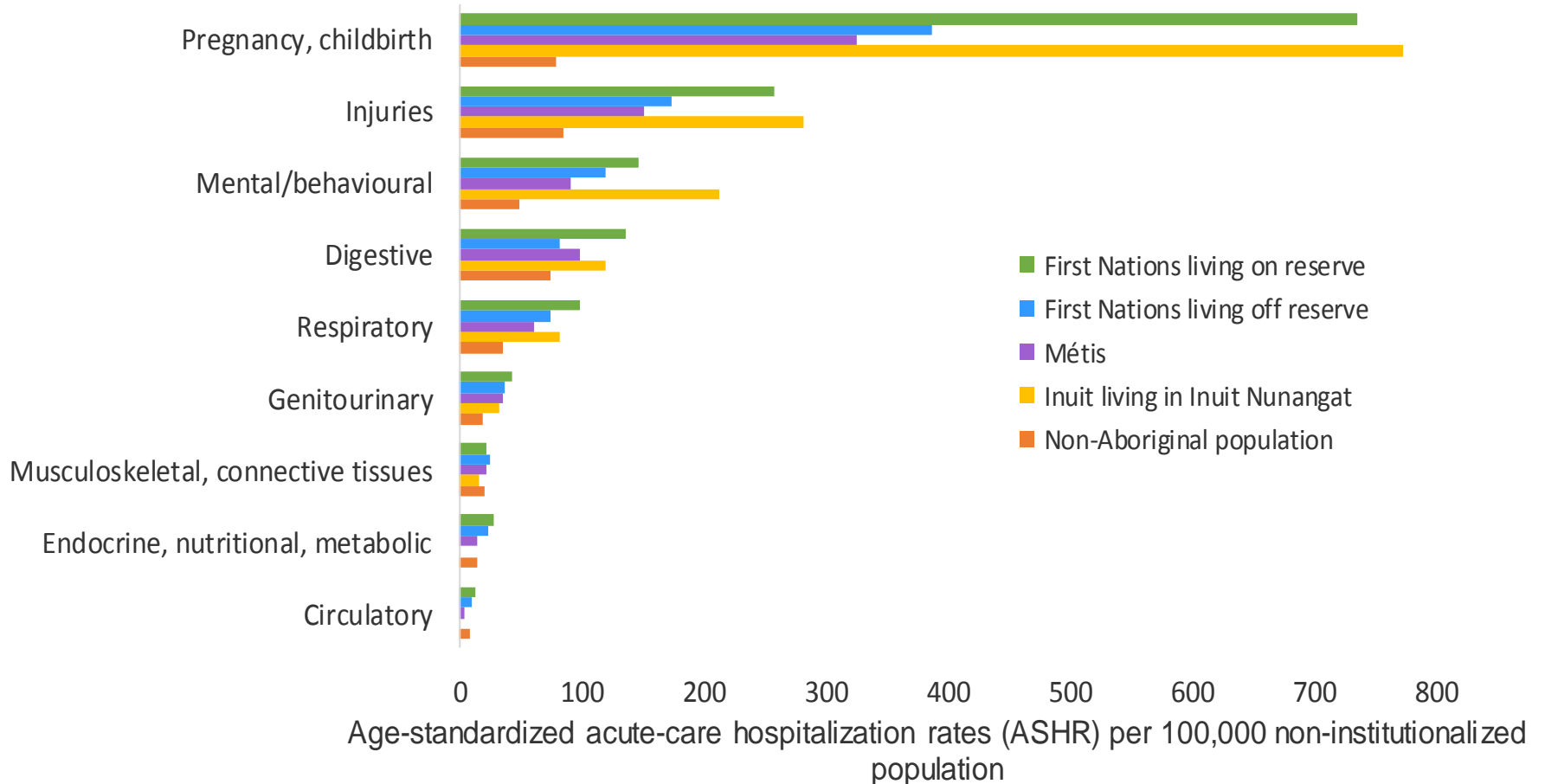


Source: Census of Population 2006, Census-linked Discharge Abstract Database 2006/2007, 2007/2008, 2008/2009 pooled.





# Hospitalization rates for Aboriginal 10 to 19 year olds highest for pregnancy, childbirth



Source: Census of Population 2006, Census-linked Discharge Abstract Database 2006/2007, 2007/2008, 2008/2009 pooled.

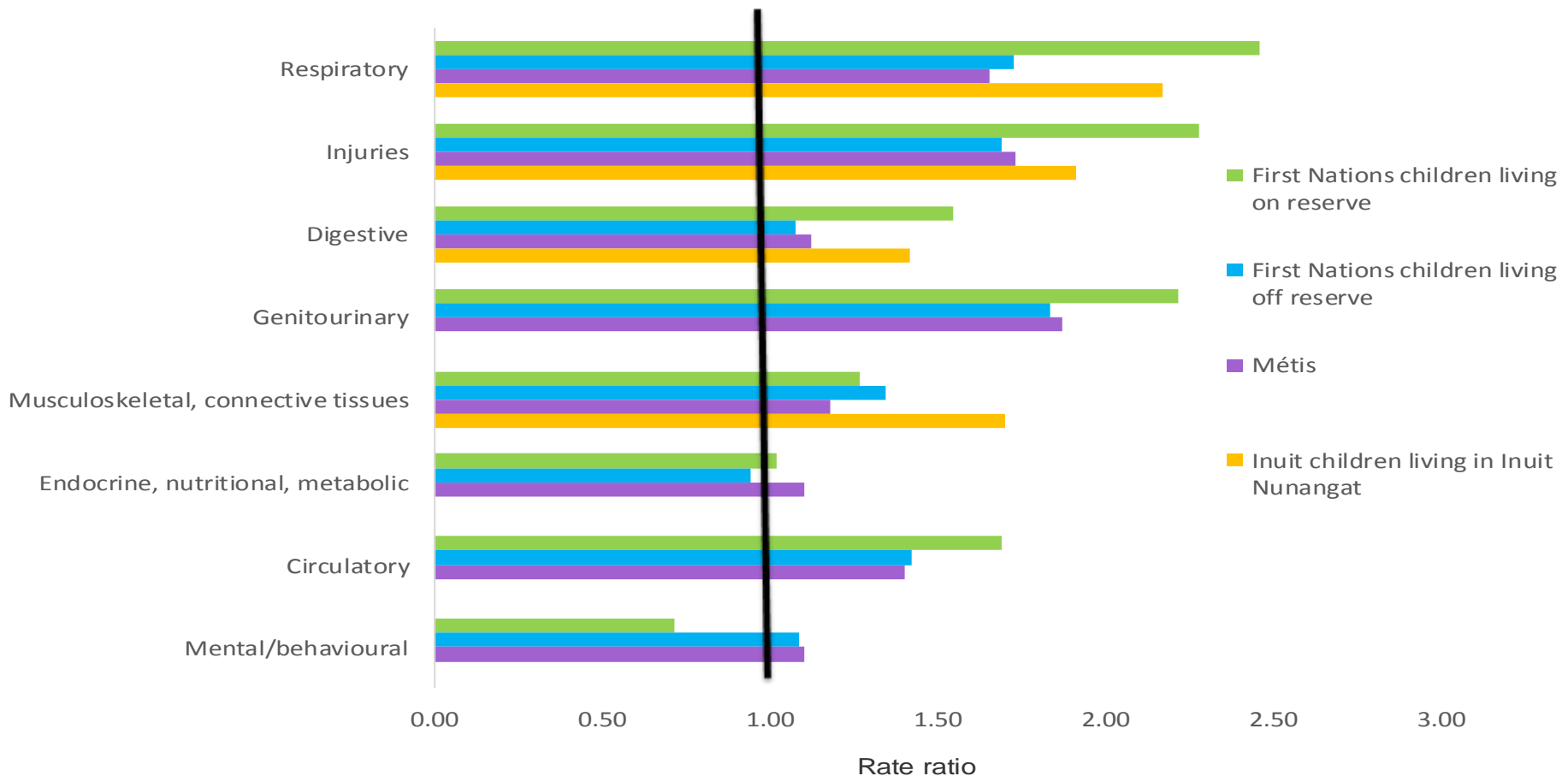


## Research Questions

- 3) How do the rates and reasons of acute-care hospitalization for Aboriginal children and youth compare to the rates and reasons for non-Aboriginal children and youth?
  - Rate ratios compare the rate of hospitalization for each Aboriginal group to the rate for non-Aboriginals.
  - A rate ratio of 1.00 means no disparity, with higher rate ratios indicating higher disparity.



# Disparities exist in hospitalization rates between Aboriginal and non-Aboriginal children aged 0-9

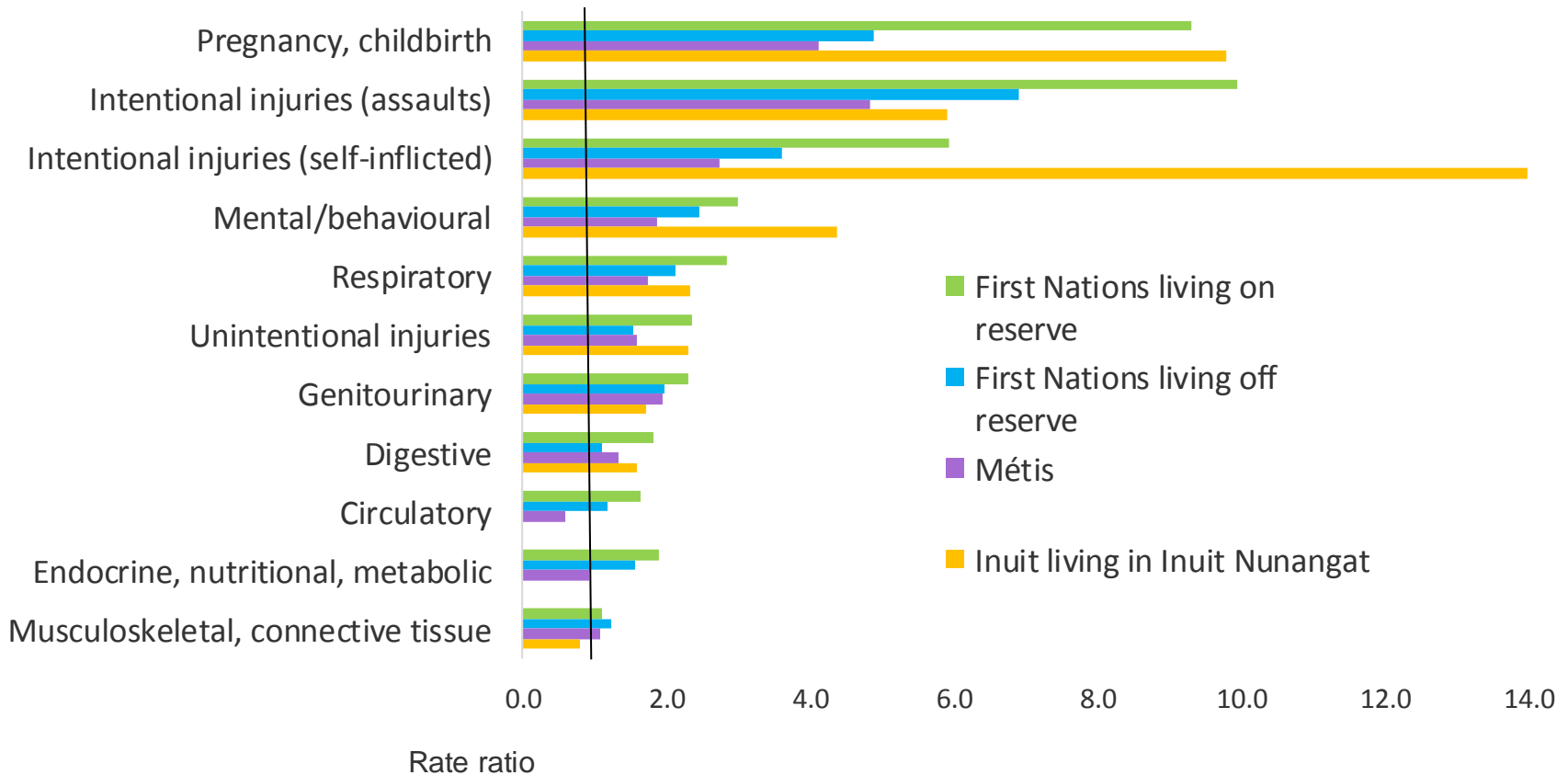


Source: Census of Population 2006, Census-linked Discharge Abstract Database 2006/2007, 2007/2008, 2008/2009 pooled.

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# Disparities exist in hospitalization rates between Aboriginal and non-Aboriginal youth aged 10-19



Source: Census of Population 2006, Census-linked Discharge Abstract Database 2006/2007, 2007/2008, 2008/2009 pooled.



# Limitations

- Lower coverage results for Aboriginal children and youth - rates may be underestimated.
- Exclusions - residents of 22 reserves; residents of Quebec.
- For Ontario, mental health hospitalizations reported differently; may be underreported in the present study.

## Conclusion

- First study to provide information on Aboriginal children and youth's hospitalization rates for all of Canada, excluding Quebec.
  
- Hospitalization rates higher among Aboriginal children and youth compared to non-Aboriginal children and youth.
  - rates for children 1.3 to 1.8 times higher.
  - rates for youth 2.0 to 3.8 times higher.



## Conclusion (continued)

- 0 to 9 year olds: leading cause of hospitalization was for conditions of respiratory system (rates 1.7 to 2.5 times higher).
- 10 to 19 year olds: disparities for numerous conditions:
  - Pregnancy and childbirth (4.1 to 9.8 times higher)
  - Assaults (4.8 to 10.0 times higher)
  - Self-inflicted injuries (2.7 to 14.2 times higher)
  - Mental and behavioural disorders (1.9 to 4.4 times higher)
- Future research could examine rates and reasons by gender or region and reasons for disparities.