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Evaluating whether the Children's Oral Health Initiative (COHI) affects the rates of pediatric dental surgery to treat severe early childhood caries in Manitoba

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Background:

The Children's Oral Health Initiative (**COHI**) is a federal program offered in half of Manitoba's First Nations communities since 2004.

Objective:

Our research objective is to determine whether communities participating in COHI have lower rates of dental surgery to treat Severe-Early Childhood Caries (**S-ECC**) than First Nations communities without COHI.

Methods:

Population administrative health and social services data identified children < 6 years of age living in Manitoba First Nations communities that received in-hospital dental surgery to treat S-ECC under general anesthesia (ICD-10/ICD-9 or anesthesia tariff). Rates of dental surgery were calculated for periods before (1994-2003) and after (2004-2015) the introduction of COHI. First Nations without COHI serve as controls. Generalized linear models with a person years log offset to account for each person's follow-up time when used. This time trend analyses determines whether COHI is associated with significant changes in rates of surgery. Community variables, including: community structure, size, location and degree of isolation, access to health services, self-governance and other known determinants of S-ECC and dental surgery are considered in both the comparative models and the time trend analyses. Analysis to control for the influence of multiple covariates is ongoing.

Results:

Preliminary results suggest that rates to treat S-ECC have been increasing, regardless of whether or not COHI is available in the community. The average rates of pediatric dental surgery per 100 children in COHI communities were as follow: 5.38 (1994/95-1998/99); 8.65 (1999/00-2003/04); 12.04 (2005/06-2009/10) and 12.08 (2010/11-2014/15). Similarly, in Non-COHI communities rates were: 5.27 (1994/95-1998/99); 9.56 (1999/00-2003/04); 12.32 (2005/06-2009/10) and 12.82 (2010/11-2014/15) respectively.

Conclusion:

Preliminary results suggest that communities with COHI do not have significantly lower rates of dental surgery to treat S-ECC. However, including other known risk factors of S-ECC in further statistical analyses will help to determine whether COHI leads to lower rates of surgery under general anesthesia.