

Congenital Anomalies Surveillance System of Québec

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- Congenital Anomalies Surveillance in Québec
 - Current status of surveillance in Québec
 - MOA
 - Workplan
 - Data
- Research Program
 - Data
 - Publications
 - Ongoing
 - Future projects





Current status of surveillance in Québec

 The Ministry of Health and Social Services has data on congenital anomalies in Quebec, but this information is not part of a national surveillance system, and is not reported or published.

Prevalence in 2004-2008 (includes stillbirths and infants diagnosed before the age of 1 year):

	Prevalence per 10,000
Neural tube defects	2.8
Heart defects	123.6
Cleft palate	6.6
Cleft lip	6.7
Down Syndrome	9.8



Congenital Anomalies Surveillance in Québec - MOA

- Agreement between the PHAC and the Ministry of Health and Social Services (MSSS).
- The MSSS mandated the Institut national de santé publique du Québec (INSPQ) to establish a surveillance system.



Congenital Anomalies Surveillance in Québec - Workplan

Year 1 – 2018

• Preparation of the surveillance plan

Year 2 – 2019

• Data access and linkage

Year 3 – 2020

- Data validation
- Statistical analyses
- Share Québec data with CCASS



Congenital Anomalies Surveillance in Québec – Data

- Passive surveillance system
- Data linkage
 - Hospitalization and emergency data
 - Vital statistics (Births, stillbirths (>500 g), and deaths)
 - Physician fee-for-service
 - CLSC data (information on midwife deliveries)
- Link infant with mother
- Follow-up of infant





Research Program – Data

Cohort of women who delivered in Québec 1989-2018

- Based on the hospital discharge abstract
- Mother linked with newborn
- Follow-up of mother's hospitalization (1989-2018)

Cohort of infants born in Québec 1989-2018

- Based on the hospital discharge abstract
- Follow-up of infant's hospitalization (2006-2018)



Research Program – Publications (1/2)

- Correlation of Neonatal Abstinence Syndrome With Risk of Birth Defects and Infant Morbidity. J Stud Alcohol Drugs. 2018;79(4):553-560.
 - **Objective:** To determine how neonatal abstinence syndrome is related to birth defects.
- Prepregnancy asthma and the subsequent risk of central nervous system defects in offspring. Birth Defects Res. 2019 Mar 15;111(5):254-260.
 - Objective: To determine if maternal asthma was associated with the risk of having an infant with central nervous system defects.



Research Program – Publications (2/2)

- Maternal proximity to extremely low frequency electromagnetic fields and risk of birth defects. Eur J Epidemiol. 2019 [Epub ahead of print]
 - **Objective:** To determine if residential proximity to power grids is associated with the risk of birth defects.



Research Program – Ongoing (1/2)

- Stillbirth among Arabs in Canada, 1981-2015.
 - **Objective:** To determine whether Arab women have a higher risk of stillbirth due to congenital anomalies.
- Future risk of cancer in women who have children with birth defects.
 - **Objective:** To assess risk of maternal cancer after having a newborn with a congenital anomaly.



Research Program – Ongoing (2/2)

- Bariatric surgery and the risk of congenital anomalies in subsequent pregnancies.
 - **Objective:** To determine if bariatric surgery influences the risk of birth defects.
- Association of first trimester anaesthesia with risk of congenital heart defects in offspring.
 - **Objective:** To determine if first trimester surgery influences the risk of birth defects



Research Program – Future projects

- Industrial emissions and the risk of congenital anomalies
- Hyperemesis gravidarum and the risk of congenital anomalies
- Eating disorders in the mother and the risk of congenital anomalies
- Future collaborations with CCASS



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