Congenital Anomalies Surveillance System of Québec

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Overview

- Congenital Anomalies Surveillance in Québec
  - Current status of surveillance in Québec
  - MOA
  - Workplan
  - Data

- Research Program
  - Data
  - Publications
  - Ongoing
  - Future projects
Congenital Anomalies Surveillance
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):

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prevalence per 10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neural tube defects</td>
<td>2.8</td>
</tr>
<tr>
<td>Heart defects</td>
<td>123.6</td>
</tr>
<tr>
<td>Cleft palate</td>
<td>6.6</td>
</tr>
<tr>
<td>Cleft lip</td>
<td>6.7</td>
</tr>
<tr>
<td>Down Syndrome</td>
<td>9.8</td>
</tr>
</tbody>
</table>
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
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)

  - **Objective:** To determine how neonatal abstinence syndrome is related to birth defects.

  - **Objective:** To determine if maternal asthma was associated with the risk of having an infant with central nervous system defects.
• 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.
• **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
To contact the Bureau d'information et d'études en santé des populations

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