Environmental Health Surveillance in Quebec

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Summary

- Legal context
- Indicators of EHS in Qc
- Diffusion tools
- A look to the future
Legal context

- Public Health Act (2001) defines surveillance as an essential function of public health:
  - Article 35: The Minister and the Regional public health directors should develop a **Surveillance plan** specifying:
    - Objectives, Categories of measure, Personal data, Analysis strategy, ... ➔ «The joint surveillance plan of the health of the population and its determinants»;
    - The Minister can delegate surveillance function, or part of it, to a third party ➔ **INSPQ**
The joint surveillance plan

• 18 Regional public health directors joined in 2004;
  • over 500 indicators ...;

• Criteria for the selection of indicators:
  • Required at the provincial and regional levels;
  • Available in all public health regions and must be linked to the achievement of at least one objective of the National Public Health program 2003-2012;
  • Be approved by all domains of public health;
The joint surveillance plan...

- For each indicator a fact sheet is available:
  - Definition; Calculation method; Data sources; Stratification variables; Limits of interpretation; ...
  - All indicators must be reviewed and commented by representatives of all public health domains;

- An agreement with data owner for data transmission and diffusion is required;
Categories of indicators for EH Surveillance

1. Health outcomes:
   - Poisoning (Notifiable diseases...);
   - Mortality and morbidity;
   - Allergic rhinitis and asthma (population based surveys)...
   - ...

2. Outdoor air quality

3. Drinking water quality
1. Health outcomes:
   - Poisoning (including Notifiable diseases):
     - Death rates from carbon monoxide (CO) poisoning;
     - Number of CO poisoning episodes*;
     - Number of pesticides and other substances poisoning episodes *;
   - Rate of calls to report poisoning at the Quebec poison control center.
Notifiable diseases

- Physicians and laboratory must declare within 48 h poisoning from:
  - Alcohols (eg: isopropyl alcohol, methyl alcohol)
  - Ketones (eg: acetone, methyl ethyl ketone)
  - Esters
  - Gas and asphyxiants (eg: carbon monoxide, hydrogen sulphide...)
  - Glycols
  - Hydrocarbons and other volatile organic compounds
  - Metals and metalloids (eg: lead, mercury)
  - Pesticides (eg: organophosphate insecticides and carbamates)
1. Health outcomes (continue)

- Mortality rates for diseases related to the environment
- Potential years of life lost for...
- Hospital discharges (hospitalizations) for...
- Allergic rhinitis (population health survey):
  - Prevalence of medical diagnosis for allergic rhinitis and prevalence of symptoms;
- Asthma: survey in 12-18 years old children;
2. Ambiant air quality (data from MDDEFP)

- Proportion of days with poor air quality index (AQI ≥ 51)
- Annual numbers of days with at least one exceeding the standards or criterion (hourly and daily) for major pollutants (PM$_{2.5}$, O$_3$, NO$_2$, SO$_2$, CO);
- Annual maximum hourly concentrations by sampling stations for PM$_{2.5}$, O$_3$, NO$_2$, SO$_2$, CO;
- Atmospheric emissions of major pollutants by stationary sources;
- Atmospheric emissions of major pollutants by mobile sources (vehicles).
EHS indicators

3. Drinking water quality:

From MDDEFP:
- Number exceeding standards according to the type of contamination;
- Number and duration of boiling advices due to microbiological contamination;
- Number and duration of non-consumption advices for microbiological or physico-chemical contamination;

From an homemade internet survey:
- Number of waterborne outbreaks
Diffusion tools

- All data are update annually...
- Portal Infocentre de santé publique
- Reports...
- BISE : Bulletin d’information en santé environnementale
  http://www.inspq.qc.ca/bise/
Nombre d'appels pour intoxication au Centre antipoison du Québec selon la catégorie de produits région Ensemble du Quebec
A look to the future...

• Lot of indicators to develop
• More information available on interactive map...
Some recent publications


Notifiable diseases references

- http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/S_2_2/S2_2R2.HTM