Poison Control Centres

Receive calls from the general public and health care professionals

Manage and respond to poisoning-related inquiries and exposures

Offer interactive service enabling rapid contact, assessment and early intervention

Staffed by health care professionals specially trained in the area of toxicology

- pharmacists
- nurses
- physicians
Established use

Offer:
- direct patient care
- provision of information
- public and health care provider education

Receive:
- reports of suspected or known exposures
Classic surveillance cycle

Data collection

Action

Integration

Dissemination

Analysis and Interpretation
Data collection

Basic demographic information

Geographic information
- caller site
- exposure site

Substances
- pharmaceutical and non-pharmaceutical

Exposure calls
- reason: intentional/unintentional/adverse/unknown
- routes: dermal/inhalation/ocular/ingestion/parenteral/bite/sting
- management site: health-care facility/on site
Data collection

Treatment

Outcomes

- no effect/minor effect/moderate effect/major effect/death/no follow-up

Information-only calls
If I'd known they wanted me to use all this info— I would never have asked for it!
Classic surveillance cycle

- Data collection
- Integration
- Dissemination
- Analysis and Interpretation
- Action
Integration – United States

National Poison Data System (NPDS)

- developed by the American Association of Poison Control Centres (AAPCC)
- data repository for all US poison control centres
- 2009: 61 participating centres
- services the entire US population
- anomalies or deviations from established baseline data generate an automated e-mail alert

Centres can also carry out their own activities independent of the NPDS
Integration – Europe

France:
- 10 poison control centres and 3 toxicovigilance centres
- Toxicovigilance network coordinated by the French Institute for Public Health Surveillance
- Some poisonings (carbon monoxide and lead) are registered and followed-up at a national level

Germany:
- 9 poison control centres
- Strong legislation and links to industry
- Poisonings are reported to a surveillance unit at the Federal Institute for Risk Assessment (Berlin)
Classic surveillance cycle

1. **Data collection**
2. **Integration**
3. **Analysis and Interpretation**
4. **Dissemination**
5. **Action**
Analysis and interpretation

Detect and monitor the emergence of trends and/or novel real-time incidents in:

- drug and substance abuse
- food-borne illness
- mass poisoning
- food/medication contamination
- adverse drug reactions
- injuries from commercial and consumer products
- paediatric poisoning
Classic surveillance cycle

Data collection

Integration

Analysis and Interpretation

Dissemination

Action
Dissemination

Provide key information to:

- regulatory agencies
- consumer product and safety commissions
- drug and law enforcement agencies
- food and drug administration or their counterparts
- chemical and industry partners
- public health
Classic surveillance cycle

- Data collection
- Integration
- Analysis and Interpretation
- Dissemination
- Action
Information for action

Implement prevention and control measures
Identify areas for research
Recall consumer products
Influence policy and program planning
## Poison Control Centres – Canada, 2013

<table>
<thead>
<tr>
<th>Name Location</th>
<th>Provinces Served</th>
<th>Services Offered</th>
<th>Approximate annual call volume</th>
<th>Primary data collection tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug and Poison Information Centre (DPIC) Vancouver, BC Est. 1975</td>
<td>British Columbia &amp; Yukon</td>
<td>Poison: 24/7 Drug: 9-16 Mon-Fri</td>
<td>36,000 All services</td>
<td>Electronic (since October 2011)</td>
</tr>
<tr>
<td>Poison and Drug Information Service (PADIS) Calgary, AB Est. 1986</td>
<td>Alberta, Saskatchewan &amp; Northwest Territories</td>
<td>Poison: 24/7 Drug: 8-16:15 Mon-Fri Herbal and Medication Line: 24/7</td>
<td>40,000 All services</td>
<td>Paper-based</td>
</tr>
<tr>
<td>Ontario Poison Centre Toronto, ON Est. 1979</td>
<td>Ontario &amp; Manitoba*</td>
<td>Poison: 24/7</td>
<td>58,000</td>
<td>Electronic (since 1997)</td>
</tr>
<tr>
<td>Centre Antipoison du Quebec Quebec City, QC Est. 1986</td>
<td>Quebec</td>
<td>Poison: 24/7</td>
<td>45,000</td>
<td>Paper-based</td>
</tr>
<tr>
<td>IWK Regional Poison Centre Halifax, NS Est. 1993</td>
<td>Nova Scotia &amp; Prince Edward Island</td>
<td>Poison: 24/7</td>
<td>10,000</td>
<td>Electronic (since 2006)</td>
</tr>
</tbody>
</table>

*as of July 1, 2012

New Brunswick = 24 hr nurse hotline
Newfoundland and Labrador = associated with Janeway Children’s Health and Rehabilitation Centre in St. John’s
British Columbia

Drug and Poison Information Centre

24/7

Staffed by nurses/pharmacists and supported by medical toxicologists

Located within BCCDC

Oct 2011 – electronic client database
Detection of emerging health events – Fukushima

Calls to a drug and poison information centre after the Fukushima nuclear incident 256

Characteristics of pharmacists who enrolled in the pilot ADAPT program 260

Implementing cardiovascular risk screening programs in community pharmacies 268

Prescribing gabapentin off label: Various perspectives 280

Fukushima related calls to both the BC drug line and drug and poison information line
March 11-31, 2011

Calls

0 2 4 6 8 10 12


Drug and Poison Line
Drug Line
Monitor trends and identify emerging health events: CO

British Columbia

- no current measures to monitor or report CO poisonings

Objective

- evaluate the utility of DPIC electronic client call records for the surveillance of unintentional, non-fire related CO poisonings in BC

Specifically

- Data extraction algorithm enabling accurate detection of CO cases
- System to routinely monitor for CO aberrations
Potential to inform policy – Cosmetic pesticides

Between 2003 and 2012, 41 municipalities in BC adopted bylaws prohibiting or restricting the use of cosmetic pesticides

- 20 banned
- 21 restricted
- 119 had no bylaws

Can compare historical DPIC data from 2003-2004 with data collected in 2012

- Compare occurrence of exposure calls between municipalities where use is prohibited, restricted, or that have no bylaw
- Compare occurrence of exposure calls before and after adoption of cosmetic pesticide bylaw
- Examine demographic characteristics of individuals exposed
Data limitations

Self reporting

External validity

Lack of coordination with public health and its partners

Data linkages not easily done

Data coding practices

In Canada, in particular, some centres use paper records
Future considerations

Joint surveillance network

Highlight the value of the information found in poison control centre databases

Closer links with public health and its partners

Integrate with other data sources

Ensure consistency across centres regarding data coding practices and standards