

Surveillance

Close observation of a person or group, especially one under suspicion

Close and continuous observation or testing

Public Health Surveillance

- Ongoing scrutiny of a population (general, study, target generally using methods distinguished by their practicality, uniformity, and frequently by their rapidity rather than by their complete accuracy.

oxford

Public Health Surveillance

Is the continuous collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice. It can:

- serve as an early warning system for public health emergencies

- document the impact of an intervention, or track progress towards specified goals

- monitor and clarify the epidemiology of health problems, to allow priorities to be set and to inform public health policy and strategies

WHO

Environmental Health Surveillance

Outcomes of relevance include death, disease, disability
Relating outcomes to environmental hazards and exposures is critical...

Four challenges:

1. Difficulty in linking specific environmental causes to health outcomes
2. Data collected is rarely sufficient to meet a case definition for a disease caused by a specific environmental agent
3. Interpretation of biological markers

Nsubuga 2006

Notwithstanding the need to relate evolving health findings to an environmental context

- Our primary focus is on health measures

Provincial EH Surveillance: BC as an example

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Provincial EH Surveillance

- Public health is primarily under provincial jurisdiction
- Non-communicable disease surveillance is new, not common, and varies among provinces and sometimes between provincial regions

EH surveillance at the Federal level

Health Canada must be involved:

Issues around Federally regulated products or activities

For persons, places under Federal mandates

Where illness occurs in multiple jurisdictions

Where there are international implications
(including imported pollutants or products)

HC/PHAC should be involved



- Where jurisdictions lack capacity
- To promote best practices
- To facilitate pooling
- To facilitate access to federal environmental data

EH surveillance in BC

In BC

- EH surveillance is busy
- EH surveillance is innovative
- Has largely been funded as demonstration projects
- EH surveillance lags behind CD
- EH surveillance lacks mandates
- EH surveillance is largely at the provincial level
- EH surveillance is adding value to environmental monitoring (lead. air. water, heat)

BC Health Data Feeds

- Vital Statistics: rapid daily mortality counts have been used for influenza and heat-health effect surveillance
- Ambulance call outs
- Emergency room visits  ...and in Vancouver
- Health (Nurseline) calls 
- Pharmanet, MD visits, hospitalizations---may come
- Coroner's reports: have been used once an alarm triggered



Challenges

- Assured data access
- Optimal spatial, temporal resolution
- Demonstration of concept

Introducing

- Calls to BC Drug and Poison Centre



Coming

- Reportable biomarkers/intoxications
threshold setting
rapid response needs

Needs exploring

- Service delivery records (water systems, food premise inspections)
- Food recalls

Relevant environmental data

- Weather
- Air quality
- Smoke density and forecasts
- Water quality
- Food recalls

Potential for coupling with health information

Limits to EH surveillance

- Lack of clear exposure-outcome relationships in environmental illness
- Assured data access
- Surveillance specialists associated with communicable disease

How to move forward

- Sell as surveillance all systematic time-linked assessment, with scales from minutes to years (smoking prevalence versus lung cancer, changing trends in mesothelioma)
- Pilot novel applications
- Publicize results, promote their use in policy development, evaluation (cosmetic pesticides)
- Produce EH surveillance reports (lead, CO)
- Observatories/chronic disease/equity links
- Integrate resources, be flexible as to data streams, analytics
- Learn from each other