

Outbreak Summaries

Victoria Keegan, Epidemiologist

Centre for Food-borne, Environmental & Zoonotic Infectious Diseases

5 March 2009



Outline

- Value of outbreak data
- Goals & objectives of Outbreak Summaries
- Outbreak Summaries highlights
- System description
- Benefits to public health
- Implementation in Nova Scotia

Value of Outbreak Data

- Monitor trends in outbreaks
- Identify risk factors
- Identify contributing factors
- Evaluate public health interventions

Value of Outbreak Data

To inform:

- Future outbreak investigations
- Policy development
- Planning prevention and control strategies



Outbreak Summaries Development

- Variable data standards, reporting systems
- No central, accessible repository
- Legislated outbreak reporting



Outbreak Summaries Development

- Proposed in 1999 with web-based alerts
- Consultations with P/T and local partners
- F/P/T Working Group to:
 - Formulate goals and objectives
 - Set definitions, data standards, functional requirements and business rules

Goal

- Ability to summarize outbreak investigations and use the data to identify trends and patterns, and disseminate information

Objectives

- Provide a secure, web-based communication system for summarizing outbreak information in a systematic and standardized manner

Objectives

- Provide a secure, web-based communication system for summarizing outbreak information in a systematic and standardized manner
- Allow local and F/P/T public health professionals to collect, query, summarize and generate reports on the results of outbreak investigations

Objectives

- Provide a secure, web-based communication system for summarizing outbreak information in a systematic and standardized manner
- Allow local and F/P/T public health professionals to collect, query, summarize and generate reports on the results of outbreak investigations
- Provide a reporting tool that will enable users to:
 - Monitor trends in outbreaks
 - Query similar outbreaks in other jurisdictions
 - Make policy and planning decisions

Outbreak Summaries

Highlights

Outbreak Summaries Highlights

- Secure, web-based application



Canadian Network for Public Health Intelligence

Reducing human illness associated with infectious disease by supporting intelligence exchange, surveillance activities and outbreak investigations

PUBLIC CNPHI APPLICATIONS

[West Nile Virus Dead Bird Surveillance](#)

REGISTERED USERS

User Name :

Password :

[Forgot your password?](#)
[Read User Agreement](#)

Outbreak Summaries Highlights

Two disease-specific modules:

- Enteric, Food and Waterborne Disease
 - Centre for Food-borne, Environmental and Zoonotic Infectious Diseases, PHAC
- Respiratory and Vaccine Preventable Diseases
 - Centre for Immunization and Respiratory Infectious Diseases, PHAC

Outbreak Summaries Highlights







- Standardized outbreak definitions, data elements and report format

? Total # Hospitalized:

The number of cases with a stay in hospital \geq 24 hours for treatment of the illness associated with the outbreak.

Outbreak Summaries Highlights

- All users have access to all final reports

Jurisdiction	Title	Reporting Agency	Reporting Date
	resp test 1 feb 27 SBG - testing please ignore	Manitoba Health	Feb 27, 2009
	Influenza B-Long-Term Facility- Local Ontario Health Unit	Public Health Agency of Canada	Jan 29, 2009
	Mumps BC	Public Health Agency of Canada	Mar 13, 2008
	Resp Test 1 Feb 1 (Shelley)	Norman Regional Health Authority	Feb 1, 2008
	mumps outbreak in Canada 2007/08	Public Health Agency of Canada	Jan 8, 2008
	Resp outbreak LTC facility	Public Health Agency of Canada	Dec 17, 2007

Outbreak Summaries Highlights

- View individual reports (see handout)

EOS-000010	Title: S. Poona outbreak due to unknown source, Canada and the United States	Final
<i>Canada</i>		
<i>Public Health Agency of Canada</i>		Status: Posted
Author and Contact Information		
Posting Number: EOS-000010 (View History)	Contact Person: Andrea Currie	
Reporting Date: Dec 24, 2008	Email: andrea_currie@phac-aspc.gc.ca	
Person Reporting: Andrea Currie	Phone Number: 519-826-2389	
	Fax Number: 519-826-2984	
Event Identification		
Title: S. Poona outbreak due to unknown source, Canada and the United States		
Local Outbreak Number: (Jurisdiction Specific Confidential Information)		
Provincial/Territorial Outbreak Number: 2008-209		
Outbreak Managed By: Public Health		
Outbreak Investigation Duration		
Date Outbreak Investigation Started: Sep 17, 2008		
Date Outbreak Investigation Ended: Dec 5, 2008		
Duration of Investigation (days): 79		
Case Onset Period		
Earliest Known Case Onset Date: Aug 17, 2008		
Onset Date of Most Recent Case: Oct 20, 2008		
Duration of Outbreak (days): 64		
Case Information		
Case Definitions: Laboratory confirmed S. Poona PFGE pattern POOXAI.0018 and; symptom onset date on or after 1 August 2008 and; resident of or visitor to Canada.		
# Lab Confirmed Case(s): 32		
# Clinical Case(s) Only:		
Total # Cases: 32 (lab confirmed and clinical)		

Outbreak Summaries Highlights

- Query data

E.g., All mumps outbreak reports posted across Canada in previous 5 years

Query

Query Period: Custom	
From: 2004/01/01 (YYYY/MM/DD)	To: 2009/03/03 (YYYY/MM/DD)
Reporting Jurisdiction: All	Exposure/Transmission Setting: All
Reporting Agency: All	Primary Mode of Transmission: All
Infectious Agent Confirmation: Lab confirmed	
Disease (predominant): Mumps	

Outbreak Summaries Highlights

- Query data

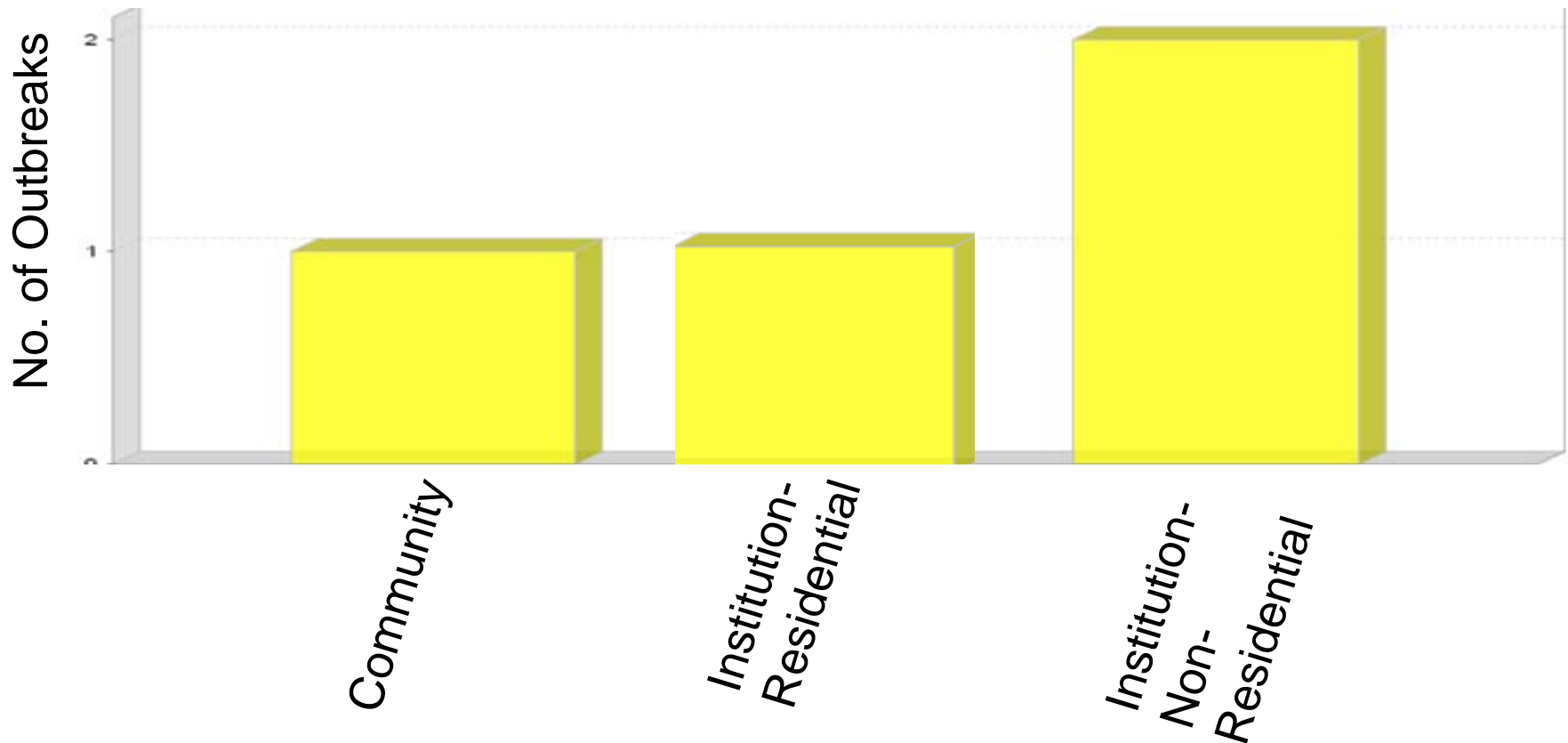
E.g., All mumps outbreak reports posted across Canada in previous 5 years

Jurisdiction ▲▼	Title ▲▼	Type ▲▼	Year / Month ▲▼	Exposure / Transmission Setting	Etiologic Agent / Disease	# Lab Confirmed Cases	# Clinical Cases
 CA	Multi-provincial mumps outbreak among university students	Final	2007/01	Community	Mumps	145	679
 NS	Mumps outbreak among young adults	Final	2005/09	Institutional - Non-residential	Mumps	42	326
 NL	Mumps outbreak among vaccinated high school students	Final	2005/08	Institutional - Non-residential	Mumps	3	10
 CA	Mumps BC	Final	2008/03	Institutional - Residential	Mumps	12	43

Outbreak Summaries Highlights

- Graph data

E.g., Mumps outbreaks by transmission setting



Outbreak Summaries Highlights

- Extract aggregate data

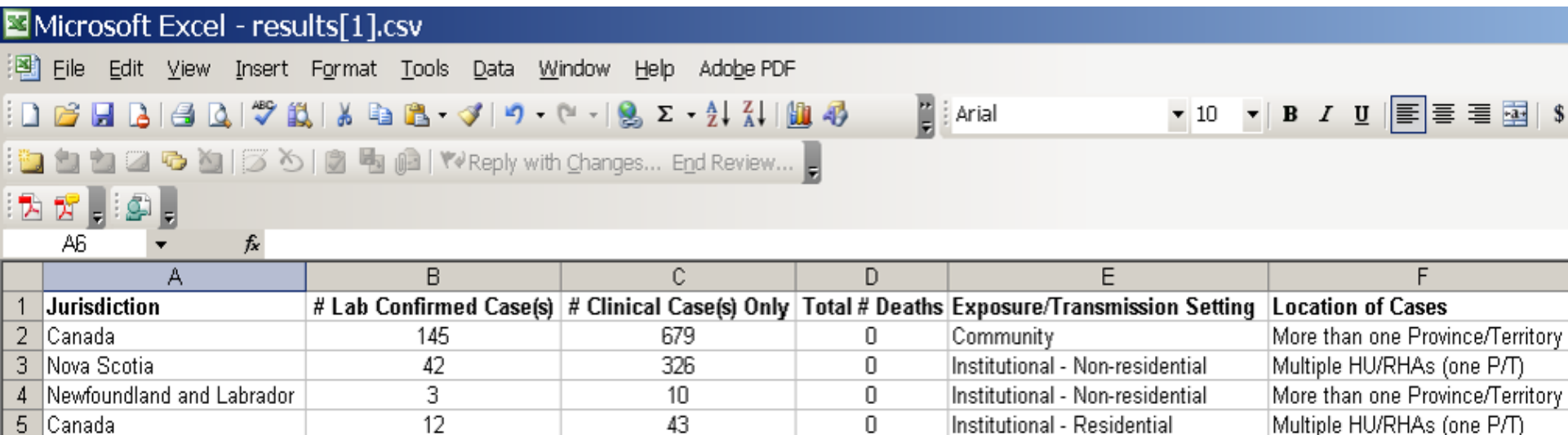
Number of results: 5

<u>Jurisdiction</u> ▼▲	<u># Lab Confirmed Case(s)</u> ▼▲	<u># Clinical Case(s) Only</u> ▼▲	<u>Total # Deaths</u> ▼▲	<u>Exposure/Transmission Setting</u> ▼▲	<u>Location of Cases</u> ▼▲
Canada	145	679	0	Community	More than one Province/Territory
Nova Scotia	42	326	0	Institutional - Non-residential	Multiple HU/RHAs (one P/T)
Newfoundland and Labrador	3	10	0	Institutional - Non-residential	More than one Province/Territory
Canada	12	43	0	Institutional - Residential	Multiple HU/RHAs (one P/T)
					More than one

Export

Outbreak Summaries Highlights

- Extract aggregate data



The screenshot shows a Microsoft Excel spreadsheet with the following data:

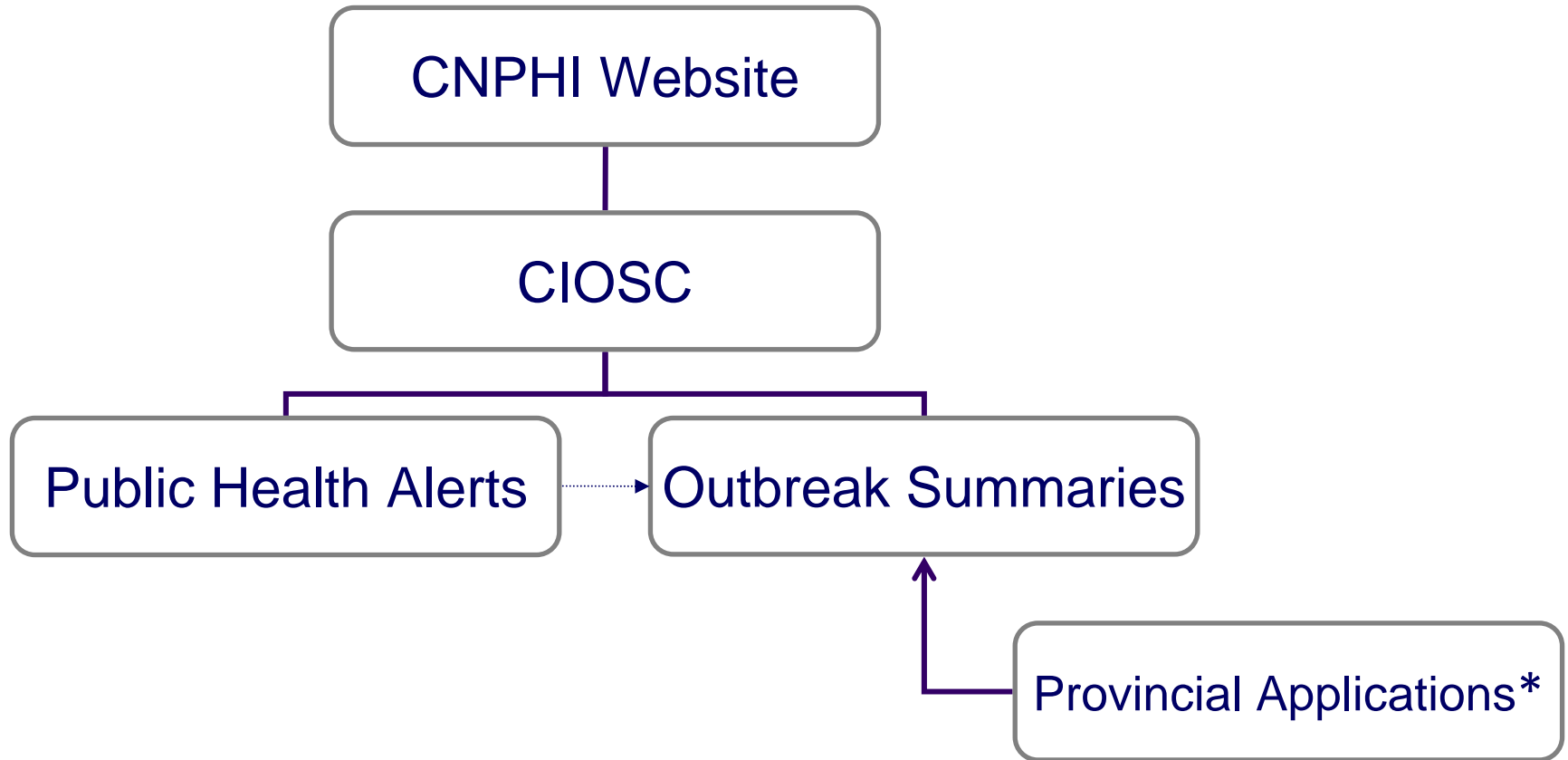
	A	B	C	D	E	F
1	Jurisdiction	# Lab Confirmed Case(s)	# Clinical Case(s) Only	Total # Deaths	Exposure/Transmission Setting	Location of Cases
2	Canada	145	679	0	Community	More than one Province/Territory
3	Nova Scotia	42	326	0	Institutional - Non-residential	Multiple HU/RHAs (one P/T)
4	Newfoundland and Labrador	3	10	0	Institutional - Non-residential	More than one Province/Territory
5	Canada	12	43	0	Institutional - Residential	Multiple HU/RHAs (one P/T)

Description of the Application

Overview of Outbreak Summaries

<i>Activity</i>	<i>Supported By</i>
Project Management	<ul style="list-style-type: none">• Public Health Agency of Canada• Outbreak Summary Reporting F/P/T Working Group
Application Development	Canadian Network for Public Health Intelligence (CNPHI)
National Implementation	Outbreak Summary Reporting F/P/T Working Group

Outbreak Summaries



* iPHIS, Panorama ...

Outbreak Definitions

Community Outbreak:

Two* or more unrelated** cases with similar illness*** that can be epidemiologically linked to one another i.e. associated by time and/or place and/or exposure.

Institution Outbreak:

Three* or more cases with similar illness that can be epidemiologically linked to one another i.e. associated by exposure, within a 4-day period in an institutional setting

* Within province/territory, for certain illnesses, 1 case of disease (e.g. botulism) may constitute outbreak.

** Do not live in a common household, exclusive of institutional event

*** For enteric outbreaks: predominantly gastrointestinal illness, but can include neurological symptoms

Mandatory Fields

- Contact person (email, phone)
- Title
- Date outbreak investigation started
- Agent or toxin confirmation
- Etiologic agent type (predominant)
- Etiologic agent (predominant)
- Exposure/Transmission setting
- Location of cases
- Cases(s) province/territory
- Primary mode of transmission

Getting Started

- User Agreement- signed by all users
- Training- WebEx
- User Manual
- Type of User
 - Reader
 - Writer
 - Reviewer

Look and Feel

Outbreak Summaries

Name: Carmen Savelli
Session Duration: 54s
Last Access: Jan 20, 2009 04:58:19 PM EST
Online Users: 10 (Max Today: 76)

KNOWLEDGE SURVEILLANCE ALERTS COLLABORATION EVENT MGMT LABORATORY

Summary was successfully saved as draft.

Enteric, Food and Waterborne Disease

EOS-000042 Title: Final

Auto Save?

* = required field

Author and Contact Information

Jurisdictional Affiliation: CA Contact Person: Andrea Currie

Reporting Agency: Public Health Agency of Canada Email: Andrea_Curie@phac-aspc.gc.ca

Reporting Person: Carmen Savelli Phone: 5198262243

Fax: 5198262244

Event Identification

Title: Multi-Jurisdictional Outbreak of E. Coli O157:H7 Associated with Ground Beef Products

Local Outbreak Number: (Jurisdiction Specific Confidential Information)

Provincial/Territorial Outbreak Number: OB-2009-123

Outbreak Managed By: Select One...

Outbreak Investigation Duration

Date Outbreak Investigation Started: 2008/06/06 (YYYY/MM/DD)

Date Outbreak Investigation Ended: 2008/06/13 (YYYY/MM/DD)

Case Onset Period

Earliest Known Case Onset Date: 2008/05/16 (YYYY/MM/DD)

Onset Date of Most Recent Case: 2008/06/09 (YYYY/MM/DD)

Case Information

Logging in

If you have access to Public Health Alerts, use the same login and password



Reducing human illness associated with infectious disease by supporting intelligence exchange, surveillance activities and outbreak investigations.

- Response and Resource Management Centre
 - Laboratory Resources
 - Virtual Operations Resources
 - Intelligence Exchange Resources
 - **Outbreak Management Section**
 - Knowledge Management Resources
 - **Knowledge Management Console**
 - Inter-jurisdictional Case Management
- Canadian Integrated Outbreak Surveillance Centre
 - **Public Health Alerts**
 - Real-Time Surveillance
 - Program Watch
 - **Outbreak Summaries**

Dashboard

YOU ARE USING CNPHI QA SYSTEM

Name: Dr. os_ent_pw_bc os_ent_pw_bc
 Session Duration: 3s
 Last Access: Feb 19, 2009 11:10:59 AM CST
 Online Users: 1 (Max Today: 2)

Outbreak Summaries

KNOWLEDGE SURVEILLANCE ALERTS COLLABORATION EVENT MGMT LABORATORY



- DASHBOARD
- ACTIVE SUMMARIES
- FINAL SUMMARIES
- CREATE SUMMARY
- MY SUBMISSIONS
- MY RETURNED
- MY DRAFTS
- SUMMARY REPORTS
- QUERY CONSOLE
- LOG OUT

Dashboard


Active Summaries (My Jurisdiction Only)








No. ▲▼	Title ▲▼	Reporting Agency ▲▼	Date ▲▼	Type ▲▼
Total: 7 Unread Reports: 6				
EOS-000295	S. Enteritidis from eggs in a bakery	British-Columbia	08-20-08	Initial
EOS-000281	S. Enteritidis from eggs in a bakery	British-Columbia	07-31-08	Initial
EOS-000275	Community outbreak of Salmonella Typhimurium from an unknown source	British-Columbia	07-30-08	Initial
	Community outbreak of Salmonella Typhimurium from an unknown source	British-Columbia	07-30-08	Update
EOS-000274	Acute Gastroenteritis in a surgical ward of a large teaching hospital	British-Columbia	07-30-08	Initial
Salmonella Litchfield outbreak associated with fresh fruit salad				

Status of Submitted Summaries

No. ▲▼	Title ▲▼	Date ▲▼	Type ▲▼	Time Elapsed	Status ▲▼
Total Pending Approval: 1 Total Returned: 0					
EOS-000295	S. Enteritidis from eggs in a bakery	09-04-08	Update	173 d 1 h 30 m	Pending Approval


Reader Access

Sort By: 
Sort: [Ascending](#) [Descending](#)
[Expand All](#) [Collapse All](#)

Summary #	Type	Jurisdiction	Title	Reporting Agency	Reporting Date
+ ROS-000421	Final		resp test 1 feb 27 SBG - testing please ignore	Manitoba Health	Feb 27, 2009
ROS-000388	Final		Influenza B-Long-Term Facility- Local Ontario Health Unit	Public Health Agency of Canada	Jan 29, 2009
+ ROS-000153	Final		Mumps BC	Public Health Agency of Canada	Mar 13, 2008
ROS-000130	Final		Resp Test 1 Feb 1 (Shelley)	Norman Regional Health Authority	Feb 1, 2008
ROS-000111	Final		mumps outbreak in Canada 2007/08	Public Health Agency of Canada	Jan 8, 2008
ROS-000105	Final		Resp outbreak LTC facility	Public Health Agency of Canada	Dec 17, 2007
ROS-000096	Final		TEST - community and institutional outbreak	Public Health Agency of Canada	Dec 17, 2007

Can view all final summaries posted to the site

Writer Access

- Create a new summary
 - Handout: 2nd page
 - Can post initial and update information during a protracted outbreak
 - 10 mandatory data elements (*)
 - Help text available 
 - User Manual

Writer Access

- Create a new summary
 - Handout: S. Poona outbreak
 - Jurisdiction-specific confidential information
 - Link Alerts
 - Attach Web Links
 - Attach Files

 **Local Outbreak Number:**

Reviewer Access

- Reviewers can also create summaries
- Receive an email notice when a summary is submitted to them for review
- Reviewers can **Epi-Link** summaries

Tools for All Users

- Summary Reports
 - Creates reports (line list) and charts
- Query Console
 - Advanced search allowing all data fields

Summary Report

Summary Reports

Query

Query Period: Custom

From: 2006/12/30 (YYYY/MM/DD) To: 2009/01/21 (YYYY/MM/DD)

Jurisdiction: BC Exposure/Transmission Setting: All

Reporting Agency: All Primary Mode of Transmission: All

Agent or Toxin Confirmation: Lab confirmed

Etiologic Agent Type (predominant): Bacterium

Etiologic Agent (predominant): All

Etiologic Agent Subtype: All

Clear

Reports Charts

Search Search

Total: 2

* only single jurisdiction reports and parent record of multi-jurisdiction reports are included in the total outbreak count

No. ▲▼	Type ▲▼	Reporting Agency	Year / Month ▲▼	Exposure / Transmission Setting	Etiologic Agent / Disease	# Lab Confirmed Cases	# Clinical Cases
EOS-000045*	Final	British Columbia Centre for Disease Control	2008/10	Community	Salmonella	7	0
EOS-000011*	Final	British Columbia Centre for Disease Control	2008/08	Travel Related - outside Canada	Shigella	3	0

Export

Line list can be exported as a Microsoft Excel file

Summary Report

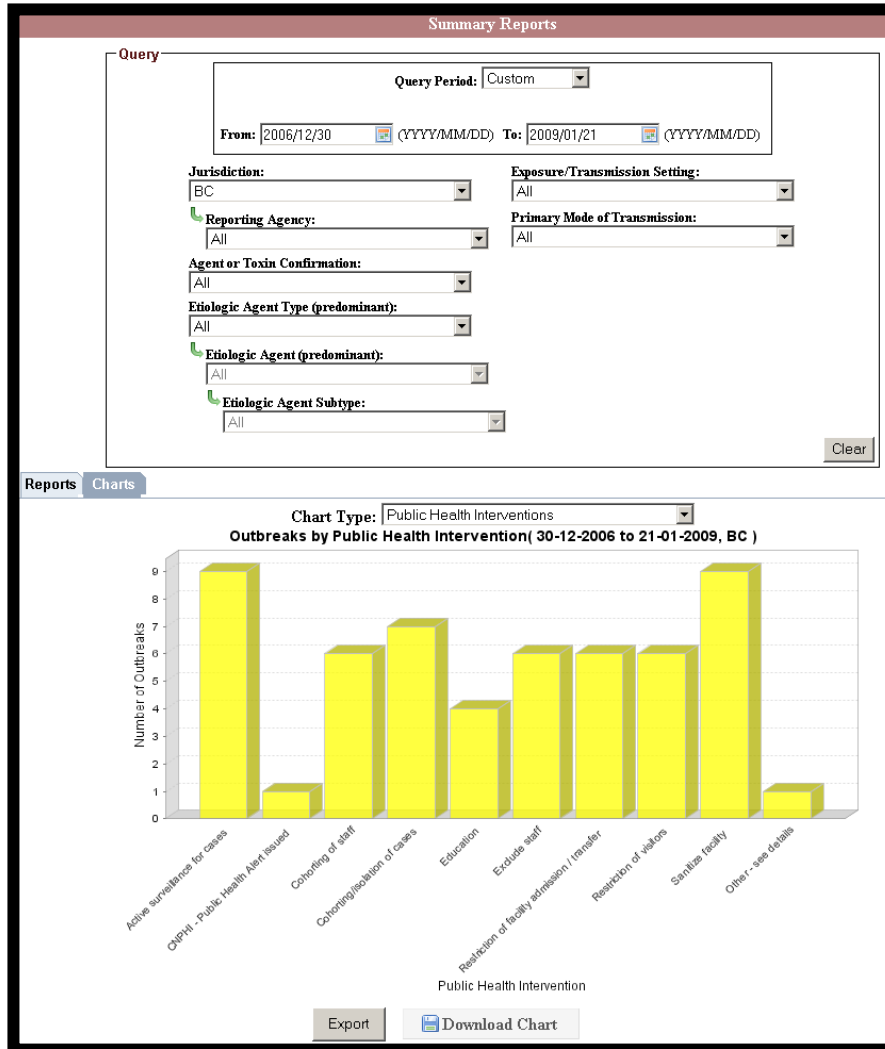


Chart can be downloaded as an image file

Query Console

The screenshot shows the 'Outbreak Summaries' web application interface. At the top, there is a navigation bar with tabs for KNOWLEDGE, SURVEILLANCE, ALERTS, COLLABORATION, EVENT MGMT, and LABORATORY. A sidebar on the left contains a menu with options like DASHBOARD, ACTIVE SUMMARIES, FINAL SUMMARIES, CREATE SUMMARY, MY SUBMISSIONS, MY RETURNED, MY DRAFTS, ARCHIVED, TRASHED, SUMMARY REPORTS, QUERY CONSOLE (highlighted), and LOG OUT. The main content area is titled 'Query Console' and features a search bar with a dropdown menu set to 'Enteric Outbreak Summaries' and a 'User Manual' link. Below this is a 'Bookmarks' section showing 'Total: 0'. The 'Query Builder' section includes instructions on using join-operators (AND, OR) and filter order. It has two tabs: 'Basic' (selected) and 'Advanced'. A 'New Query' link is also present. The query builder contains two rows of criteria: 1. Field: Report Type, Operator: equals, Value: Final, Logic: AND OR, remove. 2. Field: Etiologic Agent (predominant), Operator: equals, Value: Salmonella, Logic: AND OR, remove. At the bottom of the query builder are 'Clear All' and 'Show Preview' buttons. The 'Output Fields' section at the very bottom allows selecting fields to view in the results, with 'Clear' and 'Reset' buttons.

Outbreak Summaries Last Access: Apr 21, 2009 09:20:00 AM EDT
Online Users: 2 (Max Today: 4)

KNOWLEDGE SURVEILLANCE ALERTS COLLABORATION EVENT MGMT LABORATORY

DASHBOARD
ACTIVE SUMMARIES
FINAL SUMMARIES
CREATE SUMMARY
MY SUBMISSIONS
MY RETURNED
MY DRAFTS
ARCHIVED
TRASHED
SUMMARY REPORTS
QUERY CONSOLE
LOG OUT

Query Console

Select Application/Profile: Enteric Outbreak Summaries [User Manual](#)

NOTE: All videos can be downloaded and viewed with [Windows Media Player](#)

Bookmarks Total: 0

Query Builder

[Creating Basic Query](#) [Creating Advanced Query](#)

Query builder provides join-operators that help you build your query. From highest "query priority" to lowest they are: **AND** (basic), **OR** (basic), **and** (advanced), **or** (advanced). By using join-operators and filter order, any query can be built.

Basic Advanced [New Query](#)

1.

Field	Operator	Value	Logic	
Report Type	equals	Final	AND OR	remove

2. AND

Field	Operator	Value	Logic	
Etiologic Agent (predominant)	equals	Salmonella	AND OR	remove

Clear All Show Preview

Output Fields
Select fields you prefer to view in the results section

Clear Reset

Benefits of

the Application

Benefits of the Application

- Automatically saves every 2 minutes
- Space for confidential information, including attachments
- Can attach additional information

Benefits of the Application

- Data requests or requests for information
- Local level data for high level decisions
- Share novel interventions and recommendations between P/Ts
- Identify trends not visible in P/T with few outbreaks

Implementation to Date

- Summaries posted to date
 - BC – 75
 - PHAC – 6 multi-jurisdictional outbreaks
- Provincial leads have Reader Access
- SK and NS are currently working towards launching the application
- Discussions are ongoing with PEI and NB

Give it a try!

- Demo Site:

www.cnphiqa.ca

The user name and password are the same: **reviewos123**



The user manual is available on the Help Page



What's involved in

launching in NS?

Operational Issues

- We assist P/T through operational issues:
 - Mandatory data elements
 - Current data collection tool vs. OS data fields
 - User access level
 - Analysis issues
 - Training needs

An overview of the

Current Status

of NS Launch

Any Questions about

Outbreak Summaries?

Contact Information

- Enteric, Food and Waterborne Disease Module
 - victoria_keegan@phac-aspc.ca.ca
- Vaccine Preventable and Respiratory Infections
 - melissa_helferty@phac-aspc.gc.ca