BC Centre for Disease Control
An agency of the Provincial Health Services Authority

Enteric diseases requiring follow-up
in BC and standard follow-up forms

BC Enteric Policy Working Group
Recommendations

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BC Enteric Policy Working Group recommendations

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Recommendations

1. Follow-up on a routine basis cases of:
   - VTEC infection
   - Salmonellosis
   - Shigellosis
   - *V. cholera* infection
   - Listeriosis
   - *Vibrio parahemolyticus* infection
   - Cyclosporiasis
   - Botulism

2. Follow-up clusters* of cases of:
   - Campylobacteriosis
   - Cryptosporidiosis
   - Giardiasis
   - *E. coli* (non VTEC) infection
   - Yersiniosis
   - Amebiasis
   - *Aeromonas* infection

3. Attempt to reach cases of diseases followed up on a routine basis within 24 hours after the laboratory notification has been received.

4. Use standard forms or collect minimum standard data elements as outlined in the forms for the case follow-up of the diseases recommended under routine follow-up.

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* Clusters are defined as an increase in the number of cases above expected in a given area and timeframe.

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Background

At the 2006 BC Enteric Policy WG annual meeting, a priority-setting exercise by group members identified the desire to standardize the follow-up of enteric diseases in the province. At the time, each HA independently determined the enteric diseases they followed-up, the acceptable timeframe to initiate the follow-up and the forms or questionnaires used. This led to difficulties in comparison of findings when inter-regional investigations occurred. It also led to confusion among public health practitioners about what diseases were deemed important enough to warrant follow-up in BC and what evidence-based data elements to collect.

The timing of this initiative coincided with similar endeavours in at least two HA also embarking on a review of enteric case follow-up. The findings of this initiative will help address two future priorities set by this WG: 1) the determination of a minimum set of data elements to share provincially via iPHIS/PARIS/Panorama and 2) the development of tool(s) for second interviews/outbreak investigation and process for initiating these interviews.

Purpose

1. To identify a minimum list of enteric diseases for which cases will be followed-up with an initial interview throughout BC
2. To determine the minimum standard data elements collected during the initial enteric disease follow-up interview in BC
3. To agree upon a maximum timeframe to initiate the follow-up of a case of enteric disease in BC

Methods

Prioritisation of enteric diseases for follow-up

Starting in December 2006, the WG conducted a review of current enteric disease follow-up practices in BC. Some HA interviewed cases of all reportable enteric diseases, some HA interviewed cases from a predetermined list of diseases and some didn't follow-up any cases apart from those forming a cluster. Only one HA had developed criteria for identifying diseases to be followed-up.

The WG identified 16 enteric diseases to assess (Table 1).

Table 1. Diseases reviewed	*S. sonnei*
Aeromoniasis	
Amebiasis	*S.* Typhi & Paratyphi
Campylobacteriosis	*Salmonella* other
Cryptosporidiosis	*Shigella* other
Cyclosporiasis	*V. cholera*
E. coli other	*V. parahaemolyticus*
Giardiasis	Verotoxigenic *E. coli*
Listeriosis	Yersiniosis

In order to determine which diseases should be followed-up provincially, multi-criteria decision analysis was used (Baltussen 2006). By consensus, the WG selected six criteria to rank diseases for follow-up (Table 2). The criteria selected were based on the ones used by the Advisory Committee on Epidemiology and later, the Public Health Agency of Canada to identify diseases for national surveillance (Doherty 2001, Doherty 2006). The criteria were ranked independently by members of the WG. Members with decision-making rights in the WG included one EHO rep per HA, one HOC rep and two BCCDC epidemiologists (total of eight). The average of individual working group member rankings was taken for each criteria and weights were derived based on the rank divided by the total score (6+5+4+3+2+1=21).

Table 2. Criteria, ranks and weights

Criteria	Rank	Weight
Intervention*	6	0.29
Severity	5	0.25
Communicability	4	0.19
Incidence	3	0.14
Potential to drive public health policy	2	0.10
Other sector interest	1	0.05

*Existence of an effective intervention to prevent immediate spread

Working group members were then asked to apply each criterion to the 16 diseases. Members ranked all diseases 1 to 16 (16 being the highest ranked) against each criterion (e.g. for the criterion severity, a member might choose 16 for VTEC and 1 for aeromoniasis, with other diseases ranking somewhere in between). The ranks selected by each working group member were then summed for each disease-criterion pair (e.g. for VTEC, for "intervention", the score was calculated as 12+15+16+10+…= 69.5). The summed rank was multiplied by the weight (e.g. 69.5*0.29=19.9). The weighted criteria scores were added for each disease (e.g. for VTEC=85.5). The diseases were ranked according to their final score. A cut-off was determined based on a natural breakpoint in the results, resources available and current practice. Some diseases ranked below the cut-off were added to the list under routine follow-up based on need for data for public health action.

Development of minimum standard data elements and forms
The WG decided the objectives of the initial follow-up interview are to: intervene (e.g. exclude high risk workers), identify common links/outbreaks/sources and eliminate obvious sources (e.g. travel). The following principles were identified:
- A minimum standard set of data elements (questions) would be identified for use by all.
- These questions would be converted into forms for those who want to use them.
- Different forms would be developed for different diseases; the basic info will be the same but disease-specific risk factors will be changed.
- The period of exposure used would be the maximum known incubation period.
- A definition would be developed for unclear variables (e.g. travel).
- The questionnaires would be for use for cases only, not for contacts.
- Length would be kept to a maximum of 1 page double-sided; interviews should last less than 30min.

WG members shared forms currently used in their HA. Forms used in other jurisdictions were also reviewed. Draft forms were developed and reviewed by the group multiple times. Final draft forms were piloted in each HA in the summer/fall 2007. A process was identified to review data elements/forms on an annual basis.

Timeframe for initial follow-up
The WG members discussed and arrived at a consensus for the minimum timeframe between laboratory notification of a case and initiation of follow-up interview.

Results
Prioritisation of enteric diseases for follow-up
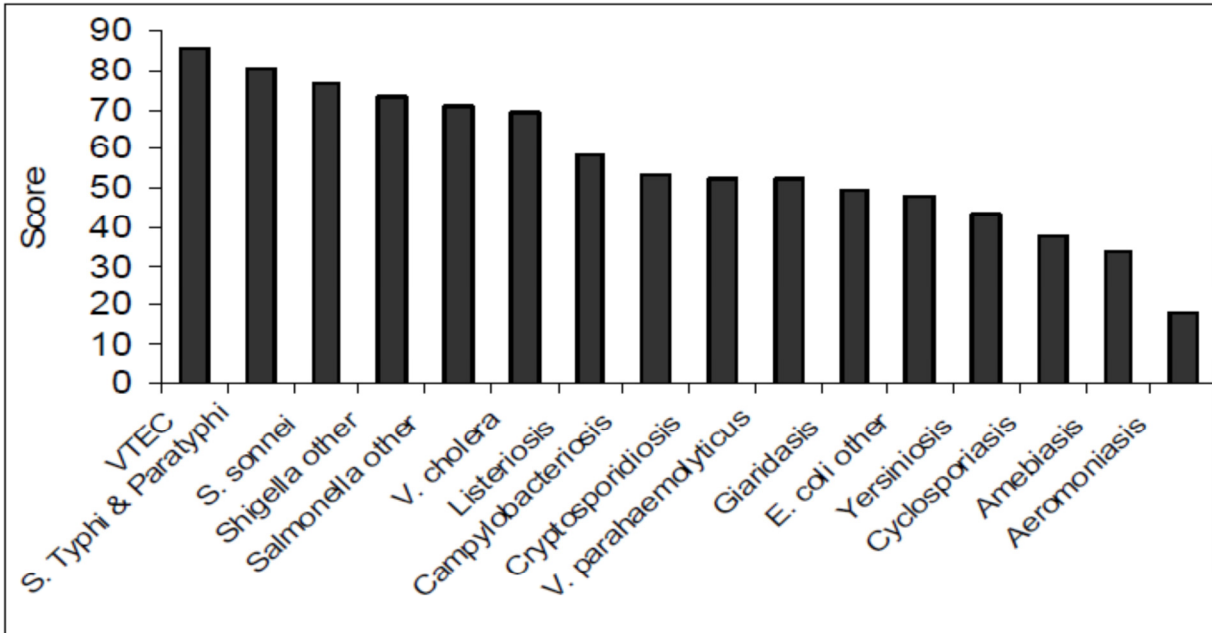
The cut-off was determined to be between listeriosis and campylobacteriosis.

Vibrio parahemolyticus infection and cyclosporiasis cases scored below the threshold. However, the WG agreed that both diseases required routine follow-up. Information collected during the interview of *Vibrio parahemolyticus* infection cases leads to direct public health actions. A case associated with the consumption of shellfish is notified to the CFIA staff who conduct traceback and implement control measures as required. Cyclosporiasis is not an endemic disease in Canada; most cases are travel-related. However, BC regularly experiences outbreaks related to locally-consumed foods. The routine follow-up of cyclosporiasis allows for the detection, investigation and control of these local outbreaks.

Botulism was inadvertently omitted from the ranking. It was added to the list of diseases requiring follow-up on a routine basis by unanimous agreement of the WG members. Reasons included disease severity and potential to indicate the presence of other cases related to a common food exposure.

Hepatitis A was not assessed. However, all HA do follow-up cases routinely.

Development of minimum standard data elements and forms
Forms are attached.

Timeframe for initial follow-up
HA agreed to attempt to contact cases for which routine follow-up was recommended, within 24h of notification.

Current practice as of Oct 23 2007

All Health Authorities currently routinely follow-up all diseases recommended on a routine basis. Many HA also routinely follow-up other diseases (e.g. campylobacteriosis, cryptosporidiosis). Most HA, but not all, attempt to contact cases within 24h of notification. All HA are currently using the draft follow-up forms.

References

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