HAWKE'S BAY DISTRICT HEALTH BOARD	Manual:	Public Health Unit Policy & Procedure Manual
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Enteric Disease Policy	Date Issued:	April 2005
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	Approved:	Medical Officer of Health
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PURPOSE

To describe the appropriate procedure for Public Health staff for notification, investigation and control of enteric disease.

PRINCIPLES

To ensure a standardised response to the notification of enteric diseases.
To ensure exclusion of cases from high-risk settings and activities.
To search for the possible source of infection.
To prevent the spread of enteric diseases.
To collect quality surveillance information.

SCOPE

This protocol applies to all Public Health staff involved in the notification and/or investigation of enteric diseases, such as campylobacter, giardia, salmonella, shigella, yersinia, cryptosporidium, acute (self-reported) gastroenteritis, typhoid, para-typhoid, cholera, VTEC, enterobacter sakazakii, norovirus, toxic shellfish poisoning, listeria and foodborne toxins.

For cases of enteric disease in early childhood education centres refer to Gastroenteritis in ECECs policy 8323.

For Hepatitis A cases refer to Hepatitis A Policy - 8148.

For outbreaks of enteric disease refer to the Outbreak Policy - 8307.

RESPONSIBILITY

Medical Officer of Health

RESOURCES

Medical Officer of Health
Programme Support Officer
Health Protection Officers
Public Health Nurses

ABBREVIATIONS

ECEC	Early childhood education centre, (including kindergartens, play centres, Te Kohanga Reo, Pacific Island Language Nests, child care centres)
EHO	Environmental Health Officer
GP	General Practitioner
HPO	Health Protection Officer
MOH	Medical Officer of Health
PHN	Public Health Nurse
PSO	Programme Support Officer
SCL	Southern Community Laboratories

DEFINITIONS

High risk activities: these include preparing food for anyone other than household members, undertake health-care or rest home work, undertake water supply work, attend ECECs (staff and students), attend institutions for intellectually impaired persons (staff and students).

Contact: a person who:
- has lived in the same house as the case during the infectious period or
- consumed food prepared by the case or
- shared kitchen facilities or eating utensils with the case

Environmental factor: includes food / drinking water / animal contact / recreational water/ travel.

Food Handler: any person who directly handles packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements.

INCUBATION PERIOD

The incubation periods for enteric diseases are shown in Appendix 10.

PERIOD OF COMMUNICABILITY

Refer to Control of Communicable Diseases Manual (APHA) or Communicable Disease Control Manual (Ministry of Health).

NOTIFICATION

General

Notifications are received from the laboratory, GP, doctor or members of the public. They are usually received by phone, occasionally in writing Appendix 1. The PSO:

- completes the case report form as per the PSO Desk File requirements and logs in EpiSurv
- prints the case report form
- attaches the Communicable Disease cover sheet (Appendix 2)
- passes to the appropriate person for follow-up (see *H:\Public Health\Communicable Disease\Administration\Comm disease Administrator Desk File\DESK FILE\CLERK DUTIES.doc)*

The following diseases need to be referred to an HPO for follow-up:

Acute (self-reported) gastroenteritis, cholera, enterobacter sakazakii, food-borne toxins, listeria, para-typhoid, toxic poisoning from fish or shellfish, typhoid, VTEC, and cases of any enteric disease involved in high risk activities (as per the *DEFINITIONS*).

After-hours Notification

Information should be recorded by the HPO on Appendix 1.

Discuss the following urgent notifications with the MOH:

- Outbreaks
- Notifications involving cases or contacts who are food handlers
- Cholera, listeriosis, enterobacter sakazakii, paratyphoid, toxic poisoning from fish or shellfish, typhoid, VTEC.

Refer all other notifications to the PSO next working day.

Self Reported Gastroenteritis

PSO takes the incoming phone call and completes the Case Identification and Case Demography sections of the Self Notification Form in Appendix 11. The PSO then passes it onto the geographical area HPO for further interview. If the HPO receives the call directly they should complete the questionnaire and advise the PSO that this has been reported.

Once the interview has been completed the information should then be recorded in the Self Reported Gastro register by the PSO *H:\Public Health\Communicable Disease\Self Reported Gastroenteritis Register 2010 - 11\Self Reported Gastro 16 Aug 2010 - 11 - 12.xls*

The PSO will check the data in the spreadsheet monthly and will advise the MOH if any trends are developing.

Appendix 4 outlines the process for self-reported gastroenteritis cases.
Give advice to the case, e.g. hygiene, remedial action.
Give exclusion advice where appropriate to high-risk cases. Refer to Appendix 5.
Some cases will have attended a doctor. It is important to obtain enough information from the case to enable a follow-up of the results. Find out what the doctor has tested for. (Permission must be obtained from the case(s) if the investigating officer is going to contact the case's doctor).

Outbreaks

All staff should advise the MOH if they suspect an outbreak. An outbreak is an increase in the number of cases in time or place above what is normally notified. There is guidance in the *Public Health Surveillance In New Zealand Manual* regarding whether multiple cases should be reported as an outbreak or not. If the MOH agrees that it should be defined as an outbreak, follow the Outbreak Policy 8307 or if in a childcare setting, refer to the Gastroenteritis Outbreaks in ECECs Policy 8323.

CASE MANAGEMENT

Case Investigation

The following table details the process for each specific infection. Details of the relevant questionnaire, educational materials and ESR Case Report Forms are listed in Appendix 3.

Illness	Process
Campylobacter and giardia (this does not include people involved in high risk activities, defined in DEFINITIONS)	PSO mails out information letter and relevant educational material
Cryptosporidium, salmonella, shigella, yersinia (excluding people involved in high risk activities)	PSO mails out questionnaire, information letter and relevant information material
Acute (self-reported) gastroenteritis, cholera, enterobacter sakazakii, food-borne toxins, listeria, para-typhoid, toxic poisoning from fish or shellfish, typhoid, VTEC, and cases of any enteric disease involved in high risk activities (as per the DEFINITIONS).	PSO refers to HPO to investigate via phone or face-to-face interview. HPO conducts interview and provides educational advice. HPO advises PSO which letters and educational material from Appendix 3 to post out. E.coli, with VTEC laboratory testing still pending, will be decided by the MOH on a case-by-case basis.

Postal questionnaires

PSO to refer to PSO Desk File for process.

On return of the questionnaire, the PSO updates the ESR Case Report Form and EpiSurv with relevant information. If a food premises or environmental factor is thought to be involved the MOH will ask the investigating HPO refer it to relevant team.

Interviews

The PSO hands over paperwork including cover sheet (Appendix 2), questionnaire and ESR Case Report Form to the HPO to conduct an interview. This can be by phone, unless circumstances such as illness, hospitalisation or communication difficulty make a face-to-face interview more appropriate.

The interview and completion of the investigation should take place within the Response Time Standards.

The HPO should go through the questionnaire with the case. The purpose of the interview is to attempt to identify a possible source of the infection, educate the case and to identify any contacts. The HPO advises the PSO which letters and educational material from Appendix 3 to post out.

If the interview implicates a food premises or food source MPI will need to be notified and this procedure is outlined in Environmental Investigation section of this policy. It is important to ask permission from the case for their contact details to be given to MPI. If they agree this should be recorded on the questionnaire and contact details given in the email accompanying the Healthscape MPI referral form.

The HPO updates ESR Case Report Form and returns completed paperwork to PSO to update EpiSurv. PSO sends information letter and educational material from Appendix 3 to the case.

Clinical samples

Clinical samples include faeces or vomitus. Vomitus is especially useful when staphylococcal enterotoxin is suspected. Time should be spent explaining to cases / complainants the value of

samples and the way in which to collect them. If clinical specimens are required refer to Appendix 9.

A specimen kit should be delivered to those case(s) willing to provide a specimen. The specimen collection kit should contain:

- A pre labelled pottle
- 1 biohazard bag
- 1 large envelope/ paper bag
- 1 instruction sheet
- Lab form (appropriate to lab been used). Add the sample number of requesting officer.

All sample pottles must be labelled with:

- The name of the case
- Their date of birth
- The sample number of requesting officer
- The Episurv number for the outbreak or individual case.

A follow up phone call should be made to all those agreeing to provide samples, if they have not done so within 24 hours.

It is important to obtain faecal samples as soon as possible after the onset of symptoms as large numbers of pathogens are most likely to be excreted during the early symptomatic phase of gastroenteritis. However it is still worthwhile obtaining samples from previously symptomatic cases. Table 1 identifies the length of time organisms / toxins are excreted. If the case has collected a specimen into their own container, (e.g. has vomited into an ice cream container), then it is worthwhile testing the sample.

Table 1: Excretion of pathogens

Organism	Suitable Samples	Best collection time	Length time organism/toxin excreted	Survive refrigeration or freezing		Diagnosis confirmed
Bacillus cereus	Faeces, vomit	Acute stage of illness	Up to 5 days	√	√	Elevated levels $>10^3$/g of faeces. Toxin detected.
Staphylococcus aureus	Faeces, vomit	Acute stage of illness	1-2 days	√	√	Elevated levels $>10^3$/g of faeces. Toxin detected
Clostridium perfringens	Faeces	Acute stage of illness	Up to 5 days	x	X	$\geq 10^6$/g of faeces. Toxin detected
Listeria monocytogenes	Faeces	Acute stage of illness	Up to 3 weeks	√	√	Elevated levels
Norovirus	Faeces	Up to 5 days after the onset of symptoms	10 days (can be transmitted during incubation period)	√	√	RT-PCR positive
Salmonella	Faeces	Symptomatic stage	Several weeks to several months	√	√	Detected
Campylobacter	Faeces (may contain blood)	Symptomatic stage	Several weeks to several months	√	X	Detected
Shigella	Faeces	Symptomatic stage	Several weeks to several months	√	√	Detected
Yersinia	Faeces	Symptomatic stage	Several weeks to several months	√	√	Detected
VTEC, STEC	Faeces (may contain blood)	Symptomatic stage	Several weeks to several months	√	√	Detected
Giardia	Faeces	Symptomatic stage	Several weeks to months	√	X	Detected
Cryptosporidium	Faeces	Symptomatic stage	Several weeks	√	X	Detected

The GP may not have tested for toxins, toxin-forming pathogens or viruses. If the case's symptoms are consistent with these, you will need to ensure that testing is done. SCL does not test for these but it may retain enough sample to refer to ESR for further testing. Otherwise the case will have to provide another specimen. If the sample is sent to ESR Christchurch Public Health Laboratory they will test for toxins and Norovirus even if it is a sporadic case. However if a community lab sends a sample directly to the ESR Kenepuru Laboratory it won't be tested unless it has an Outbreak number.

If testing for toxins, the sample must be sent to ESR Christchurch. Samples for virus testing should be sent to ESR Kenepuru. Discuss with the laboratory, what pathogens or toxins should be tested for and by what methods. Also obtain details about dispatch details, transport requirements, lab opening hours etc. Samples going to ESR are required to be packed in Bio-bottles – Refer to Appendix 9.

Tests for non-residents are free if done in a public laboratory (Hawke's Bay Hospital, ESR), but not at a private lab such as SCL. Samples should be sent via Hawke's Bay Hospital and discuss documentation requirements with Neil Campbell at the lab before dispatching.

Clearance Specimens

The investigating HPO should assess the risk and if the case poses a risk then the HPO may decide to request clearance specimens (see Appendix 5).

The HPO is responsible for clearance specimens and documenting them in Appendix 8. The PSO can assist as requested in the following:

- obtaining the results of clearance tests
- phoning the case/contact to give results and let them know when exclusion ends
- posting out collection kits.

Lab request form should request a copy of the results to be sent to Medical Officer of Health.

The labs available in Hawke's Bay include Southern Community Labs and the HBDHB lab. Instructions for collecting faeces specimens are contained in Appendix 6. The HPO should confirm with the PSO that samples are submitted. Signed community laboratory forms are held by the PSO. Laboratory locations and opening hours are attached to the lab forms. The Hawke's Bay District Health Laboratory accepts the Southern Community Lab form, no separate form is required.

Specimens should be collected at least 48 hours after the last dose of any antibiotic.

Ask the case / contact to drop off their samples to the lab. In exceptional circumstances, the HPO or the Health Protection Technical Officer may need to collect samples and deliver/ or post to the laboratory.

Samples can be dropped at:

Wairoa laboratory (8am to 5pm Monday to Friday, samples need to be at lab by 3pm to get on 4pm Courier; no weekend or on call services available; samples are required to be taken to the lab, which is well signposted

Central Hawke's Bay laboratory (7.30am to 5.30pm Monday to Friday; no weekend or on call services available; samples are required to be taken directly to lab, which is well sign posted). The samples will then be transferred to Hastings hospital laboratory for testing.

For urgent clearance specimens, discuss the possibility of testing with the HBDHB hospital laboratory staff.

Documentation

The notification is initially entered on Episurv by the PSO and updated as more information becomes available.

It is important that all staff members complete the cover sheets and correctly mark dates and times that actions were taken. Progress and general notes should follow the cover sheet. The investigating officer should write up a file note summary if a number of actions were taken. The notes should not be recorded onto the ESR case report form.

Information relating to any food or environmental investigation should be filed with the case notes for the notification.

All paperwork will be signed off by MOH after the investigation is complete, except for sporadic campylobacter and giardia notifications. The PSO then updates EpiSurv and files the documentation.

Privacy Information

Staff are required to provide privacy information to all clients, when collecting health information. Refer to the HBDHB Privacy Policy (OPMO33). *O*n Nettie (Policy and Procedures. Operating Policy Manual.)

ENVIRONMENTAL INVESTIGATION

If a food or environmental factor appears to be implicated, follow up as appropriate. Refer to the relevant standard operating procedure.

Prior to any food or environmental samples being taken, contact the relevant ESR staff to discuss sample type, collection and dispatch. Refer to the ESR Environmental Health Guide.

After hours ESR emergency contact numbers for Environmental Health and Communicable Disease advice are listed in the Ministry of Health Directory of Designated Officers.

If an environmental source requires follow up in another district, the investigating HPO should liaise directly with their colleague in the district to discuss the issue. It should then be followed up with an email to the responsible HPO in the other district.

Food

If a food source is implicated and the case still has the implicated food in their home (and it is appropriate) sampling should be undertaken. The food then needs to be sent to ESR for analysis under the Ministry of Health budget. Food sampling from a food premises is the responsibility of MPI.

If the interview implicates a food premises/food source follow appendix 4 as this needs to be referred to MPI, within 48 hours after an investigation is indicated. If urgent advise our local MPI Food Compliance Officer by phone and then follow up by email to food.compliance@mpi.govt.nz and the local MPI Food Compliance Officer. All other notifications need to be sent to MPI by email to food.compliance@mpi.govt.nz . Ensure MPI is advised if food is available for sampling at the food premises. It is the responsibility of the person sending the information to ensure it has been

received. Important decisions and information communicated verbally should be recorded in writing and provided to MPI (and vice versa) as soon as practicable

Wild foods (watercress, home kill etc) should also be considered and investigated by the appropriate agencies if required.

Upon receipt of a notification from our unit, MPI will acknowledge receipt within one working day and provide an update regarding planning /and or progress of the investigation as soon as practicable and not later than 48 hours after an investigation is indicated.
MPI will provide our unit with a final report of any food safety investigation upon completion of the investigation. Our unit will provide MPI with a final report on any food-borne illness investigation upon completion of the investigation.

The Health Protection team will advise the notifier of the outcome of the investigation and MPI will advise the food premises.

Drinking Water

The HPO should carry out a sanitary survey of the drinking water source, reticulation/outlets (if able) and any water storage tanks and give appropriate advice to the occupier/owner.

Assessment could include such things as:
Source - animal faecal contamination, agriculture activities such as spraying, is catchment open to the public (vandalism)?, is there chemical/cyanobacteria (algal bloom) contamination?, are there any other safety features such as filters, first flush diverters, UV systems in place?

Water Storage Tanks – Are tank covered and secure and made of suitable materials? are vents and overflows suitably protected? has the tank been cleaned? has there been a delivery of water recently? is the hot water tank working correctly? is tank in-ground? (may pose additional risks).

Reticulation – Check all taps for what is connected to them (stock water troughs, plant nurseries), is there sufficient water pressure at all times? is backflow prevention adequate ? (dishwashers, swimming pools, spa pools), has any new work been carried out recently? check to see if there is any point of use treatment system such as filters and softeners and if so are they fit for purpose? reticulation pipe-work material is suitable (plastic, copper, galvanised iron, alkathene) and is in good condition?

Drinking Water educational pamphlets should be supplied, if appropriate. A list of drinking water resources is listed in Appendix 3.

E.coli testing of water may be appropriate. The sampling for pathogens by Health Protection is usually restricted to confirmed outbreak situations. The Central North Island Drinking Water Unit team members can provide additional assistance, if required.

Some EpiSurv reporting forms ask for the zone code/s the cases drank from before onset. There is a range of digital and some hard copy maps for a number of reticulated supplies currently held by the drinking water assessors. In the near future it is likely that a fuller digital map of many reticulated drinking water supplies will be available.

Recreational Water

If public swimming pools are implicated, a joint investigation should be conducted with the Council Environmental Health Officers. Pool records should be checked and water tested. Refer to Pool Water Quality, NZS 5826:2010 for details.

The Health Protection Team Leader and MOH will determine cost of sampling. Usually pool management will be expected to pay for the required sampling.

For private swimming pools - advise contact to undertake testing through a local pool shop. Refer to the yellow pages.

Recreational water monitoring is conducted with Hawke's Bay Regional Council between November and March. Popular swimming sites are routinely tested and warnings are issued. If a recreational water site is implicated, liaise with the Recreational Water Coordinator to determine if sampling has occurred and whether any warnings were issued. A sanitary survey may need to be conducted by the TLA.

For cases of suspected toxic shellfish poisoning from recreational sources refer to the Hawke's Bay Marine Biotoxin Management Plan.

Infection acquired from travel

If it appears likely that the case has been infected while travelling within New Zealand or overseas, discuss with the MOH.

PREVENTION AND CONTROL

Exclusion

Cases should be excluded from high risk activities. Refer to Appendix 5.

Cases Who Are Food Handlers

HPO should advise:

- The Case that they will notify the manager of the food premises and MPI.
- The Manager of the food premises of the illness and symptoms. Ask if they have had any food poisoning complaints or whether any staff members are sick with similar symptoms.
- MPI that we have excluded a food handler from working in a food premises via phone to the local MPI Food Compliance Officer and then a follow up email.

It is the HPO's role to investigate food handlers and take biological specimens.

Cases Who Attend Early Childhood Education Centre

If the case has attended an early childhood centre during the period of communicability as defined in the Control of Communicable Disease Manual, the HPO should contact the centre manager as soon as possible. The manager should be advised that there has been a case and given advice about the signs and symptoms of the illness. Any children with suspicious symptoms should be advised to see their GP. Advice should be given to the centre regarding general infection control practices, e.g., hand washing, nappy changing. Refer also to Gastroenteritis Outbreaks in ECECs 8323.

Education

The relevant disease specific educational material should be given during phone investigations and posted to cases. Refer to Appendix 3 detailing relevant educational materials available. Drinking water resources should be supplied if they have their own drinking water supply. Refer to Appendix 3.

All cases should be reminded of the importance of hand hygiene after going to the toilet, before handling food, and before or after caring for children in nappies or people with symptoms. Refer to Appendix 7.

CONTACT MANAGEMENT

Definition of a Contact

Refer to *DEFINITIONS*.

Management of Contacts

Refer to Appendix 5.

If there are contacts in other health districts, the PSO and HPO will work together so that it is clear who is going to do the documentation and referral.

Inform contacts about symptoms of the illness and incubation periods (shown in Appendix 10) advise them to report any symptoms suggestive of the disease to both their GP and the HPO investigating the case. Contacts that develop symptoms should be tested if possible.

Advise contacts of the importance of good hand hygiene before preparing or eating food and after the use of the toilet. Refer to Appendix 7.

RESPONSE TIME STANDARDS

Enteric disease files should be returned by the HPO to the PSO within four weeks.

REFERENCES

Communicable Disease Control Manual. Ministry of Health
Control of Communicable Diseases Manual. American Public Health Association
Environmental Health Guide 2009 - 2010. ESR
Health (Infectious and Notifiable Disease) Regulations 1966
NZFSA Food Administration Manual, section 14
PSO Desk File
Public Health Surveillance in New Zealand Manual. ESR

KEYWORDS

Enteric Disease
Communicable Disease
Disease Notification

APPENDICIES

For further information contact the Medical Officer of Health