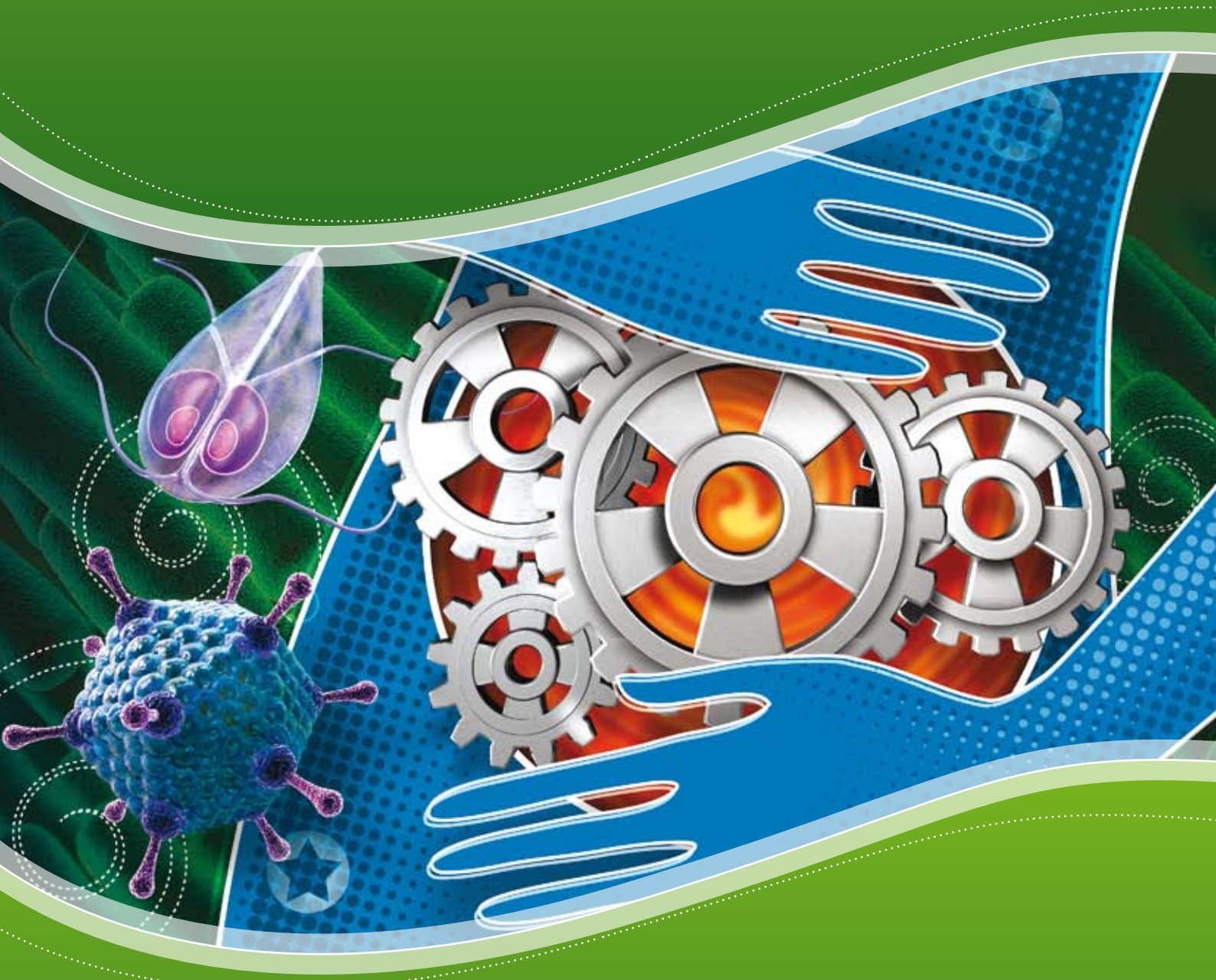


CLINICAL AUDIT

# Laboratory investigation of infectious diarrhoea





## Background

Each year in New Zealand there are an estimated 6.5 million cases of vomiting and diarrhoea.<sup>1</sup> Most of these illnesses are short-lived with 50% settling by day two and 80% by day four. The vast majority of these cases are never seen in primary care, as only about 20% of people with an acute gastrointestinal illness will visit their GP.

### Issues identified

If laboratory testing is indicated when investigating infectious diarrhoea, current recommendations suggest a single faecal culture would be the most appropriate test in the first instance.

Historically, GPs were encouraged to request a series of faecal cultures i.e., “faecal culture x3”. This practice is no longer recommended. Analysis of laboratory testing has shown the vast majority of positive tests are identified on the first specimen. Therefore, a single sample is required initially, with further specimens if the initial specimen tests negative and symptoms persist. Data from the NZHIS warehouse<sup>2</sup> suggests 56% of all faecal cultures requested nationally occur as a series of faecal cultures.

Some patients require testing for giardia and cryptosporidium, and a smaller subset require testing for ova and cysts. Indications for requesting culture, giardia/cryptosporidium and ova/parasites, on one request, are uncommon.

### Key recommendations<sup>3</sup>

- Laboratory investigations are not routinely required for most patients with acute diarrhoea
- If laboratory testing is indicated, a single stool specimen for faecal culture is usually appropriate
- Tests for giardia and cryptosporidium should only be requested if there are risk factors
- Testing for ova and parasites is rarely indicated

### Focus of this audit

This audit provides an opportunity to compare actual practice with the recommendations in Table 1. The target population is people that have had requests for faecal culture, giardia and cryptosporidium testing, or ova and parasites. Specifically, the indications for each request, the combinations of tests requested, and the number of specimens are assessed.

**Table 1:** Tests to request for specific risk factors

Risk factors	What boxes to tick				Notes
	Culture	Giardia Crypto	Ova and cysts	C. difficile	
	What sample to collect?				
	Fresh stool	Fresh stool	Stool in faecal fixative	Fresh stool	
	Number of samples to collect				
Single sample	Single sample	1–3 stool samples	1–3 stool samples		
Diarrhoea, no risk factors	No tests				Manage symptomatically
Food handler	<input checked="" type="checkbox"/>				
< 5 years of age	<input checked="" type="checkbox"/>				Consider Rotavirus but testing is not routinely required
Child care attendance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Rural	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Raw seafood	<input checked="" type="checkbox"/>				Provide clinical details to lab
Bloody diarrhoea	<input checked="" type="checkbox"/>				Provide clinical details to lab
Recent antibiotics or chemotherapy				<input checked="" type="checkbox"/>	
Recent hospitalisation				<input checked="" type="checkbox"/>	
Age > 70 years	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	
Immunocompromised	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Overseas travel, immigrant	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Persistent diarrhoea	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

## References

1. New Zealand Food Safety Authority. Acute Gastrointestinal Illnesses cost five million work days. Available from: <http://www.nzfsa.govt.nz/publications/media-releases/2007/acute-gastro-media-release.htm> (Accessed 20.12.07)
2. NZHIS Laboratory Claims Warehouse. Available from: [www.nzhis.govt.nz](http://www.nzhis.govt.nz)
3. bpac. Laboratory Investigation of Infectious Diarrhoea. January 2008. Available from: [www.bpac.org.nz](http://www.bpac.org.nz)

# Plan

## Indicators

1. Faecal pathogen tests for acute gastroenteritis are requested appropriately
2. Combinations of tests are requested appropriately
3. The correct number of specimens are collected

## Criteria

1. Faecal pathogen testing in acute gastroenteritis is compatible with the recommendations in Table 1
2. Requesting of combinations of tests are compatible with the recommendations in Table 1
3. The correct number of specimens collected is compatible with the recommendations in Table 1

## Standards

1. Faecal pathogen testing in acute gastroenteritis is compatible with the recommendations in Table 1 on at least 80% of occasions
2. Requests for combinations of tests are compatible with the recommendations in Table 1 on at least 80% of occasions
3. The correct number of specimens collected is compatible with the recommendations in Table 1 on at least 80% of occasions

# Data

## Eligible people

All people who have had requests for faecal culture, giardia/cryptosporidium, or ova and parasites should be included in this audit.

## Identifying patients

You will need to have a system in place that allows you to identify patients who have had requests for “faecal culture”, “giardia/cryptosporidium”, or “ova and parasites”. Many practices will use a PMS system that allows them to search for requests for a particular laboratory test. For this audit it would be best to identify patients by “tests requested” rather than results, because some requests may be altered by the laboratory.

The screen shot below shows how to use MedTech-32 Query Builder to identify patients who have had requests for faecal pathogens.

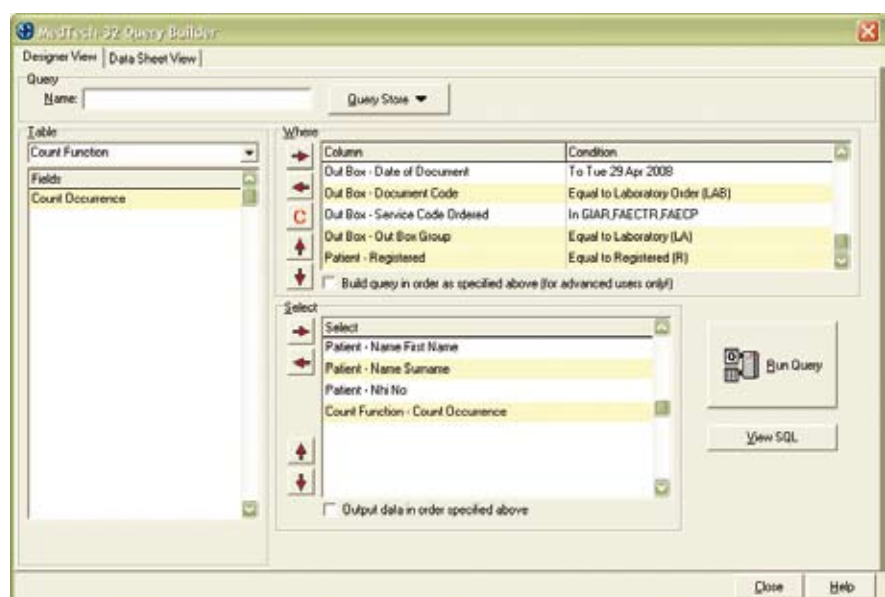
## Sample size

Number of eligible patients will vary according to your practice demographic. It would be optimal to identify 20–30 patients. If you identify more, take a random sample of 20–30 patients whose notes you will audit.

## Data analysis

Use the data sheet to record your data and calculate percentages. Compare these percentages to the standards set in advance by the practice team. Standards are suggested in this protocol but may also be set at a practice/practitioner level. Discussion amongst peers may be useful in establishing standards.

**Right:** MedTech-32 Query Builder



## Data sheet – cycle 1

	Were faecal pathogen tests requested appropriately?	Were combinations of tests compatible with recommendations in Table 1?	Were number of specimens collected compatible with recommendations in Table 1?
	YES/NO	YES/NO	YES/NO
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
<b>Total</b>			
%			

## Data sheet – cycle 2

	Were faecal pathogen tests requested appropriately?	Were combinations of tests compatible with recommendations in Table 1?	Were number of specimens collected compatible with recommendations in Table 1?
	YES/NO	YES/NO	YES/NO
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
<b>Total</b>			
%			

# Identifying opportunities for CQI

## Taking action

The first step in taking action is to identify where gaps exist between expected and actual performance and decide on priorities for change.

Once priority areas for change have been decided on, an action plan should be developed to implement any changes.

The plan should assign responsibility for various tasks to specific members of the practice team and should include a timeline.

It is important to include the whole practice team in the decision-making and planning process.

It may be useful to consider the following points when developing a plan for action (RNZCGP 2002).

### 1. Problem solving process

- What is the problem or underlying problem(s)?
- Change it to an aim.
- What are the solutions or options?
- What are the barriers?
- How can you overcome them?

### 2. Overcoming barriers

- Identifying barriers can provide a basis for change.
- What is achievable? – find out what the external pressures on the practice are and discuss ways of dealing with them in the practice setting.
- Identify the barriers.
- Develop a priority list.
- Choose one or two achievable goals.

### 3. Effective interventions.

- No single strategy or intervention is more effective than another, and sometimes a variety of methods are needed to bring about lasting change.
- Interventions should be directed at existing barriers or problems, knowledge, skills and attitudes, as well as performance and behaviour.

# Review

## Monitoring change and progress

It is important to review the action plan against the timeline at regular intervals with the practice team. It may be helpful to discuss the following questions:

- Is the process working?
- Are the goals for improvement being achieved?
- Are the goals still appropriate?
- Do you need to develop new tools to achieve the goals you have set?

Following the completion of the first cycle, it is recommended that practices complete the first part of the CQI activity summary sheet (Appendix 1).

## Undertaking a second cycle

In addition to regular reviews of progress with the practice team, a second audit cycle should be completed in order to quantify progress on closing the gaps in performance.

It is recommended that the second cycle be completed within 12 months of completing the first cycle. The second cycle should begin at the data collection stage. Following the completion of the second cycle it is recommended that practices complete the remainder of the clinical audit summary sheet.

## Claiming MOPS credits

This audit has been endorsed by the RNZCGP as a CQI Activity for allocation of MOPS credits. General practitioners taking part in this audit can claim credits in accordance with the current MOPS programme. This status will remain in place until April 2011.

To claim MOPS points, you can indicate completion of the audit on the annual claim sheet, or alternatively you can go to the RNZCGP website, and claim your points at “MOPS online” at [www.rnzcgp.org.nz](http://www.rnzcgp.org.nz)

As the RNZCGP frequently audit claims you should retain the following documentation, in order to provide adequate evidence of participation in this audit:

1. A summary of the data collected.
2. A Continuous Quality Improvement Activity summary sheet (included as Appendix 1).

# Appendix 1: RNZCGP Summary Sheet – CQI Activity

<b>DOCTORS NAME</b>	
---------------------	--

The activity was designed by (please tick appropriate box):

- RNZCGP
- Organisation e.g. IPA/PHO/BPAC (name of organisation) bpac<sup>nz</sup>
- Individual (self)

<b>TOPIC</b>	<b>Laboratory Investigation of Infectious Diarrhoea</b>
Describe why you chose this topic (relevance, needs assessment etc):	

## FIRST CYCLE (10 credits)

<b>1. DATA</b>	<b>Information collected</b>
Date of data collection:	
Please attach:	
<ul style="list-style-type: none"><li>▪ A summary of data collected <b>or</b></li><li>▪ If this is an organisation activity, attach a certificate of participation.</li></ul>	

<b>2. CHECK</b>	Describe any areas targeted for improvement as a result of the data collected.

<b>3. ACTION</b>	Describe how these improvements will be implemented.

<b>4. MONITOR</b>	Describe how well the change process is working. When will you undertake a second cycle?

## SECOND CYCLE (10 credits)

<b>1. DATA</b>	<b>Information collected</b>
Date of data collection:	
Please attach:	
<ul style="list-style-type: none"><li>▪ A summary of data collected <b>or</b></li><li>▪ If this is an organisation activity, attach a certificate of participation.</li></ul>	
<b>2. CHECK</b>	Describe any areas targeted for improvement as a result of the data collected.
<b>3. ACTION</b>	Describe how these improvements will be implemented.
<b>4. MONITOR</b>	Describe how well the change process is working.
<b>COMMENTS</b>	

**bpac<sup>nz</sup>**

10 George Street

PO Box 6032, Dunedin

phone 03 477 5418

free fax 0800 bpac nz

**[www.bpac.org.nz](http://www.bpac.org.nz)**



**bpac<sup>nz</sup>**  
better medicine

**[www.bpac.org.nz](http://www.bpac.org.nz)**