

Notifications of water-borne diseases (campylobacteriosis, cryptosporidiosis and giardiasis) with recreational water contact as a risk factor

HIGHLIGHTS:

- **Campylobacteriosis, cryptosporidiosis and giardiasis can be transmitted from recreational water and causes health effects**
- **Over 190 people were notified with campylobacteriosis, cryptosporidiosis or giardiasis with recreational contact as a risk factor in 2014**
- **Campylobacteriosis had the highest number of notifications**



Campylobacteriosis, cryptosporidiosis and giardiasis can be transmitted from water and causes health effects

Water-borne diseases are transmitted via water, either through drinking-water or through recreational use (i.e., ingestion whilst swimming). This section focuses on levels of the following three notifiable gastrointestinal diseases which can be contracted through contaminated water:

- Campylobacteriosis
- Cryptosporidiosis
- Giardiasis.

Campylobacteriosis, cryptosporidiosis and giardiasis are passed on in the faeces of infected animals and humans. People become infected when they swallow the bacteria (campylobacter) or parasite (cryptosporidium and giardia). This may be from contaminated water (including drinking and recreational water) and food, or from contact with infected animals or humans. (Health Ed, 2012, 2013a, 2013b)

People who are infected may present symptoms including diarrhoea, stomach cramps and abdominal pain and influenza-like symptoms (e.g., headache, fever, and fatigue). Although anyone can become infected, younger children or immune-compromised individuals are more likely to be infected or have more severe disease. (Health Ed, 2012, 2013a, 2013b).

In order to report cases infected in New Zealand, notification with overseas travel history during incubation period (the period between exposure to an infection and the appearance of the first symptom) was excluded from the analysis.

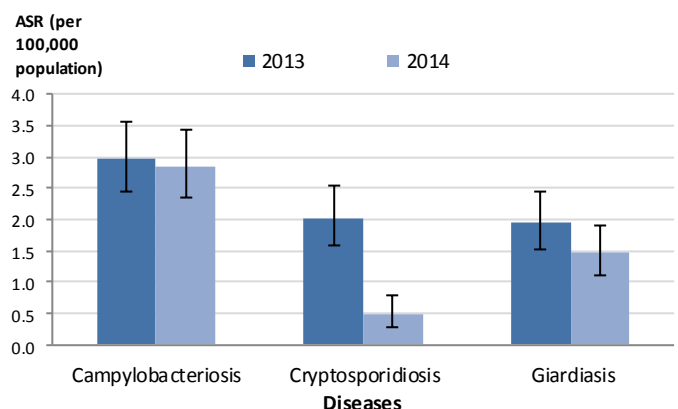
Over 190 people were notified with water-borne diseases with recreational water as a risk factor in 2014

In 2014, the number of notifications for campylobacteriosis, cryptosporidiosis and giardiasis with recreational water contact as a risk factor were (rates were adjusted for age):

- Campylobacteriosis: 114 notifications (2.8 per 100,000 population)
- Cryptosporidiosis: 17 notifications (0.5 per 100,000 population)
- Giardiasis: 60 notifications (1.5 per 100,000 population).

Compared to 2013, the rate of all three diseases has dropped in 2014 (Figure 1).

Figure 1: water-borne diseases notifications with recreational water contact as a risk factor, age-standardised rate (ASR) per 100,000 population, 2013-2014



Source: EpiSurv (ESR) (2015)
* 95% confidence interval are shown.

Campylobacteriosis had the highest number of notifications

Approximately 2042 cases of campylobacteriosis, cryptosporidiosis and giardiasis, with recreational water contact as a risk factor, were notified in New Zealand from 2005-2014.

Campylobacteriosis accounted for the majority of these water-borne disease cases. The age-standardised rate (ASR) for campylobacteriosis ranged between 1.3 and 5.2 per 100,000 population from 2005 to 2014.

From 2005 to 2014, the rate for cryptosporidiosis ranged between 0.4 and 2.0 per 100,000 population, while for giardiasis, the rate remained stable and ranged between 0.7 and 2.0 per 100,000 population.

Table 1: Number of water-borne disease notifications with recreational water contact as a risk factor, 2005-2014

Year	Campylobacteriosis	Cryptosporidiosis	Giardiasis
2005	196	39	46
2006	162	15	24
2007	129	37	59
2008	50	22	41
2009	79	21	48
2010	91	49	68
2011	69	14	79
2012	145	22	80
2013	118	74	74
2014	114	17	60
Total	1153	310	579

Figure 3: Cryptosporidiosis notifications with recreational water contact as a risk factor, age-standardised rate (ASR) per 100,000 population, 2005-2014

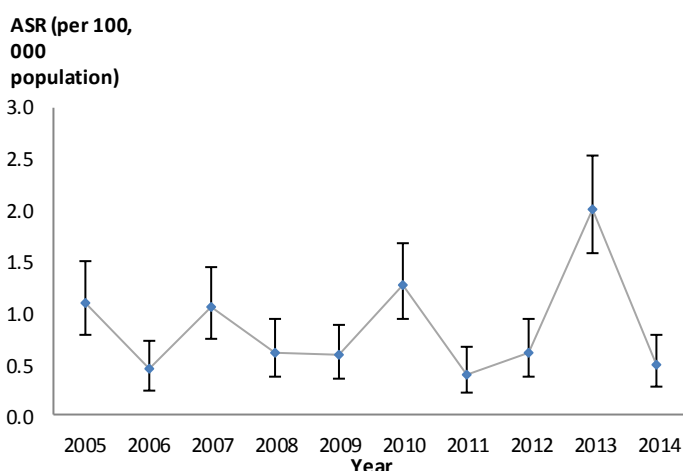


Figure 2: Campylobacteriosis notifications with recreational water contact as a risk factor, age-standardised rate (ASR) per 100,000

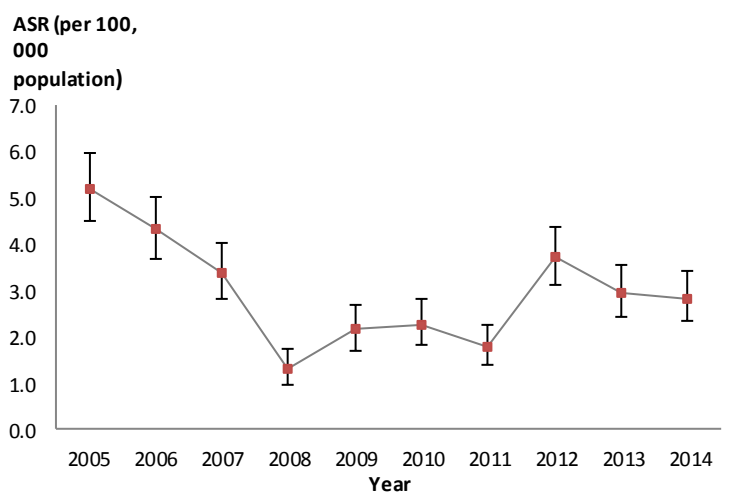
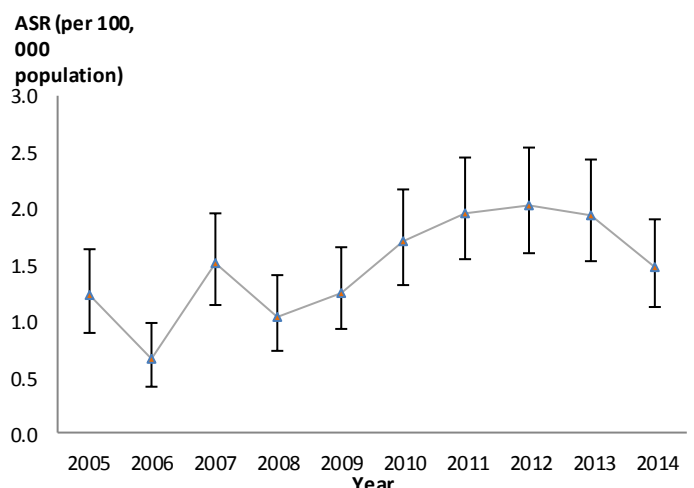


Figure 4: Giardiasis notifications with recreational water contact as a risk factor, age-standardised rate (ASR) per 100,000 population, 2005-2014



Source for Table 1 and Figure 2, 3, 4: EpiSurv (ESR) (2015)

* 95% confidence interval are shown in Figure 5, 6, 7.

* Cases who were overseas during the incubation period were excluded.

References

- HealthEd. (2012). Campylobacter. Retrieved 20/07, 2016, from <https://www.healthed.govt.nz/resource/campylobacter>
- HealthEd. (2013a). Cryptosporidium. Retrieved 20/07, 2016, from <https://www.healthed.govt.nz/resource/cryptosporidium>
- HealthEd. (2013b). Giardia. Retrieved 20/07, 2016, from <https://www.healthed.govt.nz/resource/giardia>

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