

Information topic	Details
Indicator name	<b>Notifications of potentially waterborne disease with recreational water contact as a risk factor</b>
Domain and topic	Recreational water: waterborne diseases related to recreational water quality
Indicator definition and units	Annual number of notifications of campylobacteriosis, cryptosporidiosis and giardiasis with recreational water contact reported as a risk factor, excluding cases that were overseas during the incubation period.
Data source	Institute of Environmental Science and Research Ltd (ESR). National Database of notifiable diseases (EpiSurv).
Numerator	Annual number of notifications of campylobacteriosis, cryptosporidiosis and giardiasis with recreational water contact during the incubation period reported as a risk factor (excluding number of notifications with overseas travel history during the incubation period)
Denominator	Population estimate, by year
Methodology	<p>Campylobacteriosis, cryptosporidiosis and giardiasis are notifiable diseases in New Zealand. All cases diagnosed by doctors and/or laboratories are required to be notified to the medical officer of health in the region, who notifies the case to the national data collection (EpiSurv) administered by ESR, or directly to EpiSurv for further investigation.</p> <p>As part of the notification process, information is collected on certain risk factors. These risk factors include whether the individual had, during the incubation period, participated in water activities in a stream, river and/or beach. It should be noted that recorded risk factors are not confirmed as the cause of the disease; several risk factors may be recorded, and for a number of risk factors, the majority of responses may be 'unknown'.</p> <p>Cases that had been overseas at some point during the incubation period were excluded from the analysis, as they were unlikely to have contracted the disease within New Zealand.</p> <p>To account for varying levels of risk factor completion rates, EHINZ considers a completion rate of 70% will provide an acceptable level of data quality for inclusion in our analyses. The figure of 70% was arrived at based on internal consultation and does not reflect a standard imposed by ESR, the Ministry of Health or any other party.</p>

## Metadata

	<p>The PHU associated with each DHB was determined by each PHU's covered districts (as listed by the Ministry of Health) and other details included on their respective websites. For more information, see: <a href="https://www.health.govt.nz/new-zealand-health-system/key-health-sector-organisations-and-people/public-health-units/public-health-unit-contacts">https://www.health.govt.nz/new-zealand-health-system/key-health-sector-organisations-and-people/public-health-units/public-health-unit-contacts</a></p>
Time period and time scale	Annual, from 2001 onwards
Population coverage	National
Spatial Coverage	National and by DHB
Measures of frequency	<ul style="list-style-type: none"> <li>- Annual number of campylobacteriosis, cryptosporidiosis and giardiasis notifications with recreational water contact reported as a risk factor.</li> <li>- Age-adjusted rate of campylobacteriosis, cryptosporidiosis and giardiasis notifications with recreational water contact reported as a risk factor per 100,000 population.</li> <li>- Proportion of notified cases of campylobacteriosis, cryptosporidiosis and giardiasis with risk factor information included</li> </ul>
Confidence interval methodology	Byar's approximations for calculating the 95% confidence interval for rates of events were used (Eayres 2008).
Limitations of indicator	<ul style="list-style-type: none"> <li>- Not all notifiable diseases that have a possible contamination route through water were analysed for this indicator. For instance, salmonellosis, typhoid/paratyphoid fever, hepatitis A, yersiniosis, shigellosis, gastroenteritis are not considered.</li> <li>- Risk factors are not confirmed as the cause of the disease.</li> </ul>
Limitations of data source	<ul style="list-style-type: none"> <li>- This indicator only includes notified cases and will be underestimating the total burden of these diseases. Most un-notified cases will be undiagnosed (i.e. the person who was ill neither saw a doctor nor visited a hospital, or the diagnostic test was not performed).</li> <li>- Cases that did not report a risk factor may not be included in the relevant analyses.</li> </ul>
Created by	Environmental Health Intelligence New Zealand
Related indicators	<ul style="list-style-type: none"> <li>- Notifications of campylobacteriosis, cryptosporidiosis and giardiasis (excluding cases who were overseas during incubation period)</li> </ul>

## Metadata

	<ul style="list-style-type: none"><li>- Notifications of campylobacteriosis, cryptosporidiosis and giardiasis with untreated drinking water as a risk factor</li><li>- Faecal indicator bacteria at recreational bathing sites</li></ul>
For more information	ESR. Annual Surveillance Summary. Available from <a href="https://surv.esr.cri.nz/surveillance/annual_surveillance.php">https://surv.esr.cri.nz/surveillance/annual_surveillance.php</a>
References	Eayres D. (2008). <i>Technical Briefing 3: Commonly used public health statistics and their confidence intervals</i> . York: Association of Public Health Observatories