



UK Health
Security
Agency

Executive Summary of Outbreak report

**Outbreak of gastro-intestinal illness in participants at the World Triathlon Event held
at Sunderland, July 2023**

Published by North East Health Protection Team
on behalf of the Outbreak Control Team

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1 Executive Summary

1.1 Background

This report describes an outbreak of gastro-intestinal (GI) illness (diarrhoea and vomiting) in athletes who participated in the AJ Bell 2023 World Triathlon Championship Series Sunderland event held on the weekend of 29/30 July 2023. The event included a range of classes of triathlon held over the two days, with both international and domestic athletes taking part.

The swimming leg of the triathlon event took place in the sea, within the harbour walls at Roker. The cycling and running events were staged in Roker and Seaburn.

1.2 Co-ordination of the response

Reports of illness from participants were first received by British Triathlon on Saturday 29 July and Sunderland City Council were alerted on Monday 31 July.

A multi-agency group was convened to investigate these reports of illness among participants at the event and to determine, if possible, an underlying cause. The group included representatives from British Triathlon, Sunderland City Council (event organising team, Public Health team, Communications and Environmental Health) and UKHSA North East Health Protection team.

The initial meetings were led by Sunderland City Council, with the North East Health Protection Team taking over the investigation after the first two meetings. At this point, representatives from the Field Services (epidemiology team) and Communications teams of UKHSA North East and the UKHSA-commissioned public health laboratory at Newcastle Hospitals Trust joined the outbreak control team.

1.3 Investigations

The organising team at British Triathlon initially received one report of illness on Saturday 29 July with others reporting on the evening of Sunday 30 July. By Monday 31 July there had been reports of illness in 12 participants.

Over the course of the week, the number of people reporting illness increased and the focus of discussion shifted to the investigation of illness in participants. At this point, the North East HPT took over the management of the outbreak and established an outbreak control team as per routine outbreak investigation. Further outbreak control team meetings were held on 8 August, 11 August and 17 August 2023. This report focuses on the findings of the UKHSA-led investigation.

British Triathlon sent a message to all participants asking them to report any illness experienced since the event. Details of all participants who reported illness were shared with the Health Protection Team (HPT); the HPT then sent them an on-line questionnaire, gathering information about illness, participation in the event, other possible exposures / cause of illness.

A faecal sample pot was sent to all UK-based participants who reported illness asking them to send a sample to the UKHSA-commissioned public health laboratory in Newcastle. Specimens were tested for gastro-intestinal viral, bacterial and protozoal pathogens. Any positive samples were also sent to the UKHSA reference laboratory at Colindale for further typing

1.4 Results

Eighty-eight participants reported illness to British Triathlon and were sent a questionnaire. Seventy-eight of the participants reporting illness were UK-based and were sent a faecal sample pot.

Forty-seven specimens were received by the UKHSA-commissioned public health laboratory and were tested for viral, bacterial and protozoal pathogens

- Thirty-two people had a confirmed infection
 - Twenty three people were found to have norovirus infection
 - Seven people were found to have other viral infections (1 adenovirus, 1 astrovirus, 3 rotavirus, 2 sapovirus)
 - One person had was found to have a bacterial infection (campylobacter jejuni) on culture and one person had a non-STEC e coli infection
- 15 samples were negative for all pathogens tested although it was noted that specimens were collected over one week since the event, so quite possible that infection may have been present but resolved by the time that specimen was collected.

Four of the cases were considered to be secondary cases i.e. had acquired their infection from another participant (usually a household member or partner) who had been unwell following the event.

Information from the questionnaires identified that illness was reported in participants from all the different classes of event and on both days of the event.

The median incubation period (time between the race and onset of illness) was 34.16 hours, and the median duration of illness was two days. Symptoms were typically diarrhoea (88%), nausea (81%), abdominal cramps / pain (77%) fever (53%) and vomiting (52%).

Most cases reported swimming front crawl and almost all of them reported swallowing water during the event (88%).

Although some cases reported travelling with other participants or sharing accommodation, there was no evidence of a single common source of exposure (a 'point source' to which all cases had been exposed) other than participation in the event.

1.5 Conclusion

This was an outbreak of gastro-intestinal (GI) infection, mainly caused by norovirus, affecting participants in a large triathlon event, with over 1,200 people taking part over a two day period.

The spread of cases across all classes / type of race and both days of the event and the absence of any evidence of exposures to a single food source or common pre- or post-event activity made person-to-person spread or contact with a contaminated shared environment other than the race course seem less plausible, and the OCT concluded that the common exposure of all cases having swum in the sea was the most likely source of infection

Open water swimming is known to be associated with risk of GI illness with outbreaks reported in many countries involving a range of pathogens. There is well-publicised advice about reducing the risk of illness, focusing on general hygiene measures both during and after swimming but the challenge in events like this, particularly triathlons where the swimming is the first part of the event, is that athletes are unlikely to take time during the competition to take these actions. They are also likely to have hand-to-mouth contact when drinking / eating during the rest of the event.

The OCT recommended that this information should be highlighted by event organisers in information sent to participants in any future events.

A copy of the full report can be requested by emailing nehpu@ukhsa.gov.uk