



## Letter to the Editor

## Addressing the cryptosporidiosis outbreak in Devon, England: Urgent measures for public health and water safety

Dear Editor,

We are writing to bring to your attention a recent outbreak of cryptosporidiosis in Devon, England, which has been confirmed to have affected about 50 individuals [1]. The source of the contamination has been traced back to a damaged air valve in the Brixham area, highlighting the importance of proper water treatment and infrastructure maintenance [2].

As healthcare professionals who work day in day out in line with globally approved public health standards, we have come together to share our expertise, concern and recommendations on this critical public health issue.

Cryptosporidiosis, the second commonest cause of moderate to severe diarrhoea in children under the age of 2 worldwide, is caused by the protozoan parasite *Cryptosporidium* spp, which is commonly found in contaminated water and food [3]. The parasite infects the small intestine, leading to symptoms that mimic acute gastroenteritis such as diarrhoea, abdominal cramps, weight loss, vomiting, nausea, fever, and dehydration. In immunocompromised individuals, the infection can be particularly severe and even life-threatening [3,4].

The pathophysiology of cryptosporidiosis is complex, with the parasite able to evade the host's immune system and establish a chronic infection [4,5]. The parasite's oocysts are highly resistant to environmental stressors, including chlorine treatment, allowing them to survive for extended periods outside of a host [3,4]. This, combined with their minuscule size, makes them difficult to remove from water supplies [5].

Cryptosporidiosis can be transmitted through the consumption contaminated water, swimming in contaminated water, person-to-person contact and infected animal-to-person contact [3].

To prevent future outbreaks, the following approaches can be implemented [3–5].

- Regular maintenance and inspection of water infrastructure, including air valves and treatment plants.
- Implementation of robust water treatment protocols, including filtration, disinfection, and routine testing.
- Public education campaigns to raise awareness about the risks of cryptosporidiosis and the importance of proper hygiene and sanitation.
- Reduced crowding, especially in daycare settings, to prevent person-to-person transmission.
- Individuals with symptoms or confirmed diseases in the area should avoid going to work or school for at least 48 hours post-diarrhoea and notify their employer.
- Use of Oral Rehydration Solution (ORS) to prevent dehydration.

- Local restaurant/food vendors should be inspected and ensured optimal hygiene, hand hygiene with soap and water, and adequate cooking.
- Temporary barriers or access restrictions to the most affected area to limit the spread until lasting measures are put in place.
- Keep sick children at home and off school and daycares.
- Emphasise hand washing with soap and water while also encouraging the locals to report any form of damage or pollution to the water system.

Stopping the cryptosporidiosis outbreak requires a combination of teamwork, creative solutions, and evidence-based decision-making. By working together and following the recommended steps, we can successfully contain the outbreak and prepare for future challenges. This unified approach will not only reduce immediate risks but also build a strong and sustainable public health system, ultimately protecting our communities' well-being.

We hope this correspondence brings attention to this important public health condition and prompts further investigation, collaboration, and action between local health departments and water authorities to ensure a prompt resolution of the outbreak before it graduates into epidemic proportions.

The authors declare no competing interests.

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Not applicable.

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#### CRediT authorship contribution statement

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### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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