THE PATHCARE NEWS

TRENDS IN DIARRHOEAL PATHOGENS DETECTED BY PCR
(PATHCARE SOUTHERN AFRICAN DATA, JUNE – SEPTEMBER 2026)

Laboratory-based data for all GIT molecular panels requested for patients at PathCare laboratories for the period June to September 2026 are presented in this report. Trends noted with regard to common bacterial, viral and parasitic diarrhoeal pathogens are highlighted.

As expected, a substantial increase in rotavirus infections is observed during the cooler months of winter and early spring (May to September).

In keeping with other routine laboratory surveillance, these data is dependent on sample submission by clinicians. Results may, therefore, not be representative of the general population.

Bacteria

It is important to note that the current diagnostic multiplex panels cannot distinguish *Shigella* species from Enteroinvasive *E. coli* (EIEC) or typhoidal *Salmonella* from non-typhoidal *Salmonella*.

Shigella/EIEC, which was the most common bacterial stool pathogen detected in the first half of the year, has now declined to a baseline rate of approximately 4% between June to September.

Salmonella and *Campylobacter* species have been detected at baseline rates of approximately 3% and 6% respectively on all molecular panels submitted during this period.

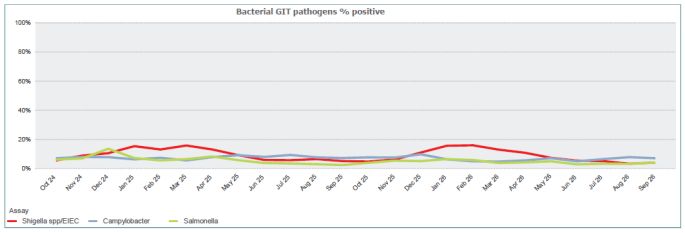


Fig 1 – Bacterial GIT pathogens % positive on all GIT molecular panels

E. coli pathotypes

E. coli pathotypes decreased to baseline rates in winter and early spring, following the typical peak in summer.

Enteropathogenic *E. coli* (EPEC) remains the most prevalent pathotype detected, followed closely by Enteroaggregative *E. coli* (EAEC). The detection of Enterotoxigenic *E. coli* (ETEC) has decreased substantially between June to September.

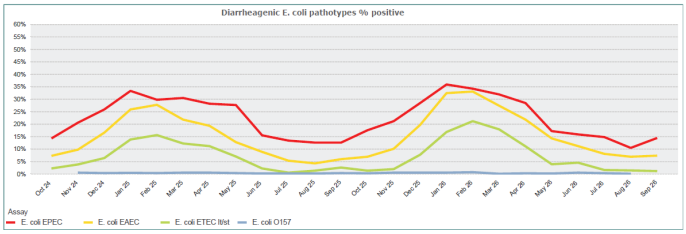


Fig 2 – *E. coli* GIT pathotypes % positive on all GIT molecular panels

Viruses

Rotavirus

Rotavirus case detection rates peaked at approximately 30% in August. Of note, this peak rate was approximately 10% higher than that observed in winter 2025.

The National Department of Health (NDoH) has cited several factors that may be responsible for driving this upward trend including:

i. Gaps in vaccination – children are missing both doses of routine immunisation at 6 and 14 weeks. Vaccination protects against severe disease and hospitalisation.

   There is a strict age limit of 6 months for receipt of both vaccine doses.

ii. Rising strain and genotype diversity (similar to norovirus) – South Africa has seen shifting patterns and a greater diversity in circulating viral strains since vaccine implementation in 2009. This places pressure on the existing vaccine formulation.

iii. Environmental spread – rotavirus is highly contagious and is transmitted rapidly via the faecal-oral route. In communities struggling with a lack of clean water and poor sanitation the virus enters the environment and can spread through shared spaces including homes, creches and schools.

Norovirus

Norovirus has been detected at an average baseline of approximately 8% between June to September 2026.

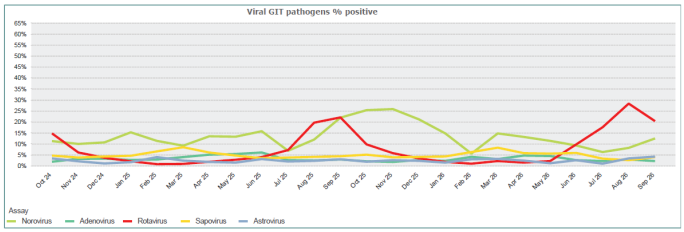


Fig 3 - Viral GIT pathogens % positive on all GIT molecular panels

Parasites

Detection rates of 1-3% were observed for both *Cryptosporidium* species and *Giardia intestinalis* (formerly *G.lamblia*) between June to September.

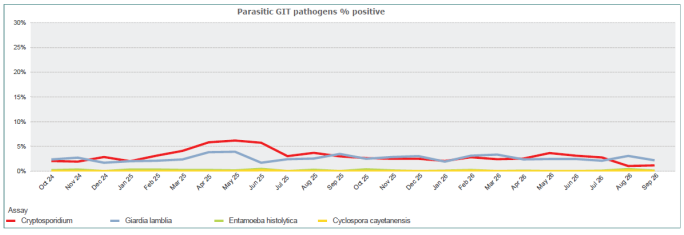


Fig 4 – Parasitic GIT pathogens % positive on all GIT molecular panels

Spotlight on Campylobacter

Campylobacter remains one of the most important bacterial causes of acute gastroenteritis worldwide and is recognised by the World Health Organization (WHO) as one of the four key global causes of diarrhoeal disease. The species commonly associated with human illness are *Campylobacter jejuni* and *Campylobacter coli*, with *C. jejuni* responsible for most infections.

Campylobacteriosis is typically acquired through the ingestion of contaminated food or water, particularly undercooked poultry, unpasteurised milk, and untreated water. Clinical illness usually develops 2-5 days after exposure and is characterised by diarrhoea (often bloody), abdominal pain, fever, nausea and occasionally vomiting. Although most infections are self-limiting, severe disease can occur in young children, older adults, pregnant women, and immunocompromised patients.

Beyond its role as an enteric pathogen, Campylobacter is clinically important because of its recognised post-infectious complications. Reactive arthritis may develop in the weeks following infection, while *C. jejuni* is one of the most frequently identified antecedent infections associated with Guillain-Barré syndrome (GBS), an acute immune-mediated neuropathy that can result in significant morbidity. Although these complications are uncommon, they contribute substantially to the overall disease burden associated with Campylobacter infection.

Laboratory diagnosis has evolved considerably over the last decade. Traditional diagnosis relied on stool culture under specialised microaerophilic conditions to isolate this fastidious organism. Culture of Campylobacter remains important for epidemiological surveillance and antimicrobial susceptibility testing. However, there has been an increasing shift in practice globally to the use of multiplex molecular gastrointestinal panels to improve the detection of various GIT pathogens, particularly fastidious organisms like Campylobacter.

Molecular assays offer substantially improved analytical sensitivity and permit simultaneous detection of bacterial, viral and parasitic pathogens from a single specimen. As with other molecular tests, PCR results must be interpreted within the clinical context, especially when multiple pathogens are detected. Detection of Campylobacter nucleic acid does not always prove causation in a patient with diarrhoea and should be considered together with the clinical presentation and other laboratory findings.

Management of Campylobacter gastroenteritis is primarily supportive. Most patients recover without antimicrobial therapy, and appropriate fluid and electrolyte replacement remains the cornerstone of treatment. Antibiotic therapy is generally reserved for patients with severe disease, prolonged symptoms, extra-intestinal infection, or those at increased risk of complications, such as immunocompromised individuals, pregnant women and older adults. Macrolides, particularly azithromycin, are generally considered the preferred agents when treatment is indicated. Increasing rates of fluoroquinolone resistance have reduced the reliability of ciprofloxacin in many regions. Judicious use of antimicrobial therapy is therefore important to support ongoing antimicrobial stewardship efforts.

Prevention of campylobacteriosis relies largely on food and water hygiene. Clinicians should continue to emphasise thorough cooking of poultry, avoidance of unpasteurised dairy products, consumption of safe drinking water, and careful prevention of cross-contamination during food preparation. These simple measures remain the most effective strategies for reducing the burden of Campylobacter infection.