**Abstract**

A wide variety of microorganisms can contribute to infectious gastroenteritis. These pathogens often exhibit similar clinical presentations, thereby necessitating specific diagnostic testing. These infectious agents contribute to significant morbidity and may even lessen the possibility of complications often seen under traditional methodologies.

**Materials and Methods**

In this clinical study, the FA-GI (detects 23 stool pathogens, FDA-cleared on 5/5/2014) was used to test 144 residual, collected stool specimens in Cary-Blair media from patients with suspected gastrointestinal disease. Comparator testing consisted of bacterial stool culture, including both routine and selective culture. Discordant results were confirmed using PCR testing and bidirectional sequencing.

**Results**

Bacterial stool pathogens were detected in only 9.7% (14/144) of the specimens using traditional culture methods compared to an overall pathogen detection rate of 42.4% (61/144) using the FilmArray GI Panel. Negative results were observed in 57.6% (83/144). The clinical sensitivity for most pathogens was 100% (i.e. EPEC at 99.9%). The specificity ranged from 96.7% to 100%. Single infected agents were detected in 73.8% (45/61). Co-infections were observed (2 at 19.7% (12/61), 3 at 6.6% (4/61)). EPEC was the most frequently detected bacterial pathogen at 39.3% (24/61) and Campylobacter was next at 16.3% (10/61). Traditional detection methods missed 40% (4/10) of the Campylobacter. 17% (1/6) of the Salmonella and did not detect the Vibrio cholerae and Vibrio paraephyloica. Finally, the cost of traditional methods ($89 to $390) would most likely compare favorably with the FilmArray GI Panel.

**Conclusions**

The FilmArray GI panel revealed increased test performance (4.4-fold increase), decreased turn-around-time and possible cost savings. Use of this rapid panel would allow for a more optimal choice of appropriate therapy, improved infection control and may even lessen the possibility of complications often seen with some GI pathogens.

*Abstract modified on 5/5/2014. The BioFire Gastrointestinal FilmArray Panel was FDA-cleared for 22 pathogens, excluding Aeromonas spp.*

**Selected References**