BIOMÉRIEUX

Clinical Impact of the BIOFIRE® FILMARRAY® Gastrointestinal (GI) Panel

22
TARGETS
~1hr

PIONEERING DIAGNOSTICS

BIOFIRE® Syndromic Testing

The right test, the first time

A significant clinical overlap is seen between pathogens causing gastrointestinal disease, making it very difficult to select the right traditional test to perform on stool samples.[1]

Traditional stool testing methods

Traditional methods of pathogen identification can be time consuming and lack sensitivity.[2]

One or multiple samples › Multiple testing methods › Takes hours to days › Multiple reports › Longer patient length of stay

Fast. Easy. Comprehensive stool testing.

Syndromic testing provides a streamlined workflow and fast, comprehensive results.

0.2mL stool sample in Cary Blair › 2 minutes hands-on time › Results in about an hour › Comprehensive results in a single report › Shorter patient length of stay

Get Faster Patient Results

84%
Reduction in Time to Result

An 84% reduction in time to result, and a 69% reduction in time to treatment (for pediatric patients) was demonstrated by the BIOFIRE® Gastrointestinal (GI) Panel compared to traditional testing.[3,4]

Who Should Get Tested

According to common clinical guidelines*, stools from individuals at high risk of spreading disease to others and during known or suspected outbreaks should be tested.

Children and adults

Travelers

High-risk patients: immuno-compromised or with co-morbidities

Critically ill patients

Elderly patients

The test should be performed on patients, including pediatric patients, who display one or more of the following criteria:

- Community acquired diarrhea for ≥7 days
- Traveler's diarrhea, untreated or following treatment failure
- Diarrhea with warning signs/risk factors for severe disease
- Suspicion of nosocomial outbreaks
- Persistent diarrhea

Aid Antimicrobial Stewardship

Improved antibiotic use

Compared to traditional testing, BIOFIRE® GI Panel patients were less likely to be prescribed antibiotics: from 40.9% to 36.2% ($p<0.001$)[5] and from 71.8% to 35.3% ($p<0.001$) for pediatric patients.[6]

Increased targeted therapy

Clinicians increased the use of targeted therapy thanks to the BIOFIRE GI Panel compared to traditional testing.[2]

Superior Clinical and Economic Outcomes

Identify what traditional testing is missing

The BIOFIRE GI Panel increased the diagnostic yield by more than 30% vs traditional testing.[7]

Reduce length of stay

The length of hospital stay was shorter with the BIOFIRE GI Panel: 3 days vs 7.5 days compared to traditional testing.[8]

Decrease hospital admissions

The number of patients admitted from ED to the hospital decreased from 87.8% to 62.8% ($p<0.0001$) thanks to the BIOFIRE GI Panel, compared to traditional testing.[8]

Cut unneeded downstream procedures

Patients were shown to be 12.5% less likely to undergo endoscopy and 7.3% less likely to receive abdominal imaging vs traditional testing.[5]

Rule in/out infectious causes

The BIOFIRE GI Panel can help differentiate between enteric infection and relapse of inflammatory bowel disease.[9,10]

Improve infection control

The BIOFIRE GI Panel enabled early adequate infection precaution and isolation in the pediatric population.[6]

*Guidelines

- Riddle, M. S. *et al.* (2016). "ACG Clinical Guideline: Diagnosis, Treatment, and Prevention of Acute Diarrheal Infections in Adults." Am J Gastroenterol 111(5): 602-622.
- Shane, A. L. *et al.* (2017). "2017 Infectious Diseases Society of America Clinical Practice Guidelines for the Diagnosis and Management of Infectious Diarrhea." Clin Infect Dis 65(12): e45-e80.
- Riddle, M. S. *et al.* (2017). "Guidelines for the prevention and treatment of travelers' diarrhea: a graded expert panel report." J Travel Med 24(suppl_1): S57-s74.
- Guarino, A., S. *et al.* (2014). "European Society for Pediatric Gastroenterology, Hepatology, and Nutrition/European Society for Pediatric Infectious Diseases evidence-based guidelines for the management of acute gastroenteritis in children in Europe: update 2014." J Pediatr Gastroenterol Nutr 59(1): 132-152.

References

1. Dien Bard J., *et al*. (2020), Clin Lab Med 40(4): 393-420.
2. Cybulski R. J. Jr., *et al*. (2018), Clin Infect Dis 67(11): 1688-1696.
3. Beal S. G., *et al*. (2018), J Clin Microbiol 56(1).
4. Cotter J. M., *et al*. (2021), Pediatrics 147(5).
5. Axelrad J. E., *et al*. (2019), J Clin Microbiol 57(3).
6. Yoo, I. H., *et al*. (2021), Diagnostics (Basel) 11(7).
7. Meyer J., *et al*. (2020), Scand J Gastroenterol 55(12): 1405-1410.
8. Torres-Miranda D., *et al*. (2020), BMC Gastroenterol 20(1): 246.
9. Hong S., *et al*. (2021), Inflamm Bowel Dis 27(10): 1634-1640.
10. Axelrad J. E., *et al*. (2017), Inflamm Bowel Dis. 23(6): 1034-1039.
11. Data on file, BioFire Diagnostics. The stated performance is the overall aggregate performance of the prospective clinical study data presented in the IFU.

Performance

98.7% sensitivity and 99.2% specificity[11]

Panel Specifications

Sample Type: stool sample in Cary Blair

Sample Volume: 0.2 mL

BIOFIRE® FILMARRAY®
GASTROINTESTINAL (GI) PANEL

1 Test. 22 Targets. ~1 Hour.

BACTERIA

Campylobacter (C. jejuni/C. coli/ C. upsaliensis)
Clostridioides (Clostridium) difficile (toxin A/B)†
Plesiomonas shigelloides
Salmonella
Vibrio (V. parahaemolyticus/ V. vulnificus/V. cholerae)
Vibrio cholerae
Yersinia enterocolitica
Diarrheagenic *Escherichia coli/Shigella*
Enteroaggregative *E. coli* (EAEC)
Enteropathogenic *E. coli* (EPEC)
Enterotoxigenic *E. coli* (ETEC) *lt/st*
Shiga-like toxin-producing *E. coli* (STEC) *stx1/stx2*
E. coli O157
Shigella/Enteroinvasive *E. coli* (EIEC)

VIRUSES

Adenovirus F40/41
Astrovirus
Norovirus GI/GII
Rotavirus A
Sapovirus (I, II, IV, and V)

PARASITES

Cryptosporidium
Cyclospora cayetanensis
Entamoeba histolytica
Giardia lamblia

FDA cleared | CE 2797

† Selective reporting available for *C. diff.*

Product availability varies by country. Consult your bioMérieux representative.

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Learn more about the BIOFIRE range of commercially-available panels for syndromic infectious disease diagnostics.

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PIONEERING DIAGNOSTICS