In this European study, the FilmArray® GI Panel detected at least one organism in 54% of the samples, compared with at least one organism in 18.1% of samples using local laboratory protocols. This quarterly point-prevalence study analyzed stool samples received at ten participating European clinical microbiology laboratories. Performance of the FilmArray® Gastrointestinal (GI) Panel was compared to conventional techniques.

A total of 709 samples from the ten participating countries were submitted for the study on four specified days. Specimens were collected from patients of all ages with community-acquired gastroenteritis. Specimens were routinely tested according to local laboratories’ standard operating procedures, and then each laboratory transferred aliquots to a central laboratory for testing with the FilmArray® GI Panel. The FilmArray® GI Panel detected at least one organism in 384/709 (54.2%) specimens, compared to 128/709 (18.1%) when testing was performed using conventional techniques. Of the positive specimens received, 268/709 (37.8%) yielded one organism, and 116/709 (16.4%) yielded multiple organisms. The most commonly occurring co-infection was Campylobacter with EPEC, followed by triple infection with EAEC, EPEC, and ETEC.

Overall, this study demonstrates that multiplex screening can optimize the yield from stool specimens and may improve the timeliness of diagnosis compared to conventional microbiological techniques.

*EAEC = enteroaggregative E. coli; EPEC = enteropathogenic E. coli; ETEC = enterotoxigenic E. coli.*

“We conclude that multiplex screening can optimize the yield from stool examinations, [and] can dramatically improve the timeliness of diagnosis.”

This study used the FilmArray® Gastrointestinal (GI) Panel to test 158 stool samples that had previously tested negative for Clostridium difficile and/or rotavirus by conventional methods (Cepheid testing was used for C. difficile, and rotavirus testing was performed using the ImmunoCardStat! Rotavirus assay).

Specimens were obtained from 137 adults and 21 children in an acute hospital inpatient setting between February and December 2013. Specimens were frozen in a volume of 1 mL at −70 °C until studied.

Overall, 35/158 (22.2%) of patients had at least one infectious agent identified by the FilmArray® GI Panel that was not detected by standard testing for C. difficile and/or rotavirus. The majority of these unsuspected infectious agents were norovirus, rotavirus, and enteropathogenic E. coli (EPEC). Of these patients, 60% were never placed in appropriate isolation for a total of 109 patient-days. The study also found that 20.3% of patients with negative FilmArray® GI Panel results could have been removed from isolation.

Results of this study show that use of multiplex GI panels may lead to more rational patient isolation that could likely lead to lower rates of nosocomial transmission of many GI pathogens.

“Use of multiplex gastrointestinal panels may improve decisions regarding patient isolation and reduce nosocomial transmission.”