



Integrating fecal immunochemical testing (FIT) into lab automation

Ancona Hospital's successful implementation of automated FIT testing led to enhanced productivity and faster turnaround times

Azienda Ospedaliero Universitaria delle Marche



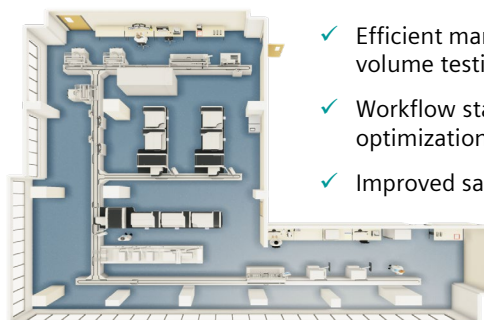
Ancona, Italy



Lab Profile

SOD Medicina di Laboratorio

- 3 Atellica IM + 4 Atellica CH Analyzers
- 4.100.000 tests per year
- 5 MDs / Biologists and 7 laboratory technicians
- 24/7 operations, Emergencies, Hospital and Outpatient Services



- ✓ Efficient management of high-volume testing
- ✓ Workflow standardization and optimization
- ✓ Improved safety & traceability
- ✓ Higher productivity
- ✓ Cost savings



Challenges

Standardization

Pre-analytical: Variability in sample collection, stability, handling.

Analytical: no standardization or harmonization of the analytical methods.

Post-analytical: common reporting unit does not make different FIT systems equivalent.

Interpretation thresholds

No international standardization hampers comparability and consistency across screening programs.

Total lab automation

Carryover could affect subsequent samples processed on the lab automation.



Risks

- False-negative or false-positive results can lead to missed colorectal cancer detection or unnecessary colonoscopies.
- Different thresholds across testing methods may cause patients to be over-referred (unnecessary colonoscopies) or under-referred (missed cancers).
- Carryover contamination could lead to inaccurate results for other tests tested on the same analyzer as FIT and potential medical errors.

Ancona Hospital's validation showed that FIT can be integrated into lab automation, enabling confident implementation



Solution

- ✓ No manual pre-analytical preparation
- ✓ Visual Inspection for sample integrity
- ✓ Fully automated from collection tube
- ✓ Simple design for patient use
- ✓ No preparation required
- ✓ Easy, convenient and hygienic



Patient Sample Collection Tube
Sentinel FOB Gold® Tube Screen



Atellica CH Sentinel® FIT
Alliance Application
Sentinel FOB Gold® NG Wide



Outcomes

Turnaround times

17 min

turnaround time* with daily testing instead of weekly

Validated Performance

LoB

3.65 ng/ml (0.62 µg Hb/g faeces)

LoD

14.53 ng/ml (2.47 µg Hb/g faeces)

No

sample carryover



Enhanced productivity and faster TATs via FIT test integration into lab automation



Resources optimization by seamless integration of FIT to lab automation



Reliable results to support effective clinical decisions

"The implementation of the FIT test in a total laboratory automation solution represents a step forward for public health: speed, reliability, and awareness of analytical challenges, such as FIT-to-FIT or hemolyzed sera to FIT carryover, supported by thorough method validation."



Dott.ssa Beatrice Niccoletti, MD
Pathologist
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(*): TAT is related to the sample travel time from barcode read on automation solution to reporting of FIT results on Atellica CH Analyzer
Not available in the U.S.

The statements by Siemens Healthineers' customers described herein are based on results that were achieved in the customer's unique setting. Because there is no "typical" hospital or laboratory and many variables exist (e.g., hospital size, samples mix, case mix, level of IT and/or automation adoption) there can be no guarantee that other customers will achieve the same results.

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Not available in the U.S.

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