cobas® Roche

University of Maryland Capital Region (UMCR) Medical Center

Case Study

In 2021, the construction of a brand-new facility – the first in the region in more than 30 years – provided an opportunity to build a state-of-the-art lab that would help UMCR achieve their quality goals, meet their growth targets, and better position them to meet increasing testing demands.

Quick Look:

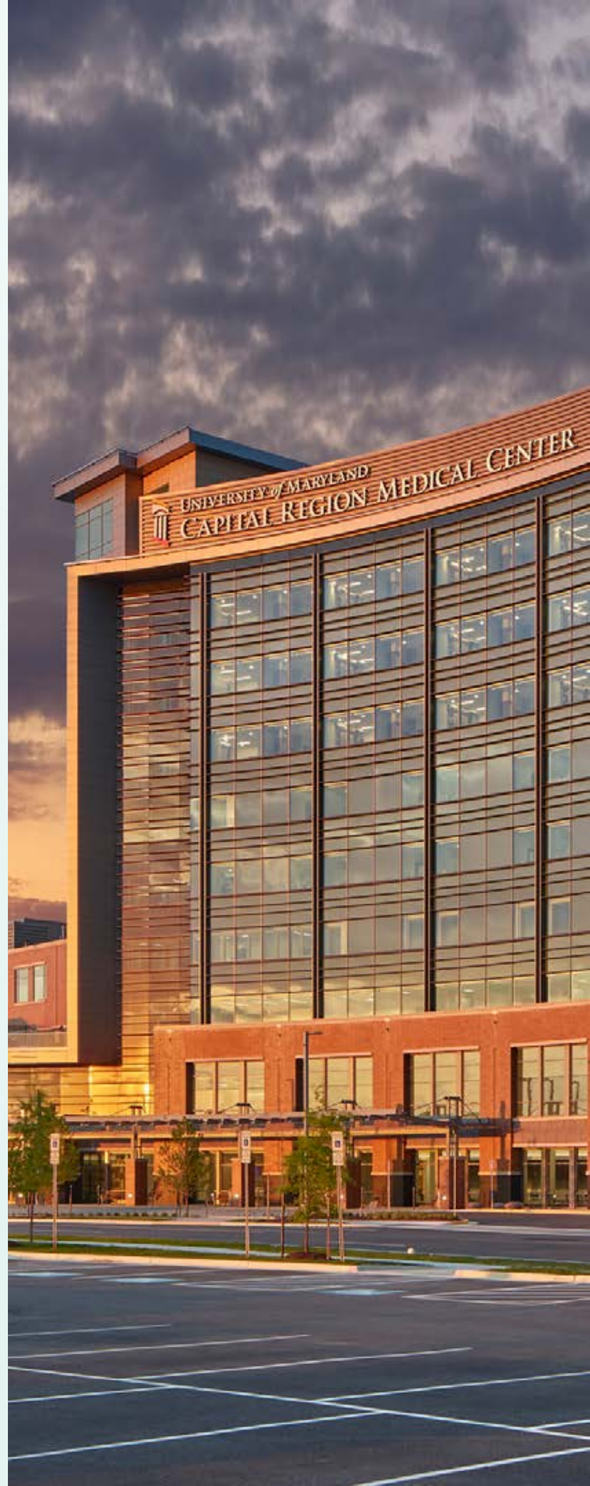
- 220 Inpatient Beds
- 8 Locations
- 14 Practices
- >700 Physicians
- 1.3 M CC/IA Tests
- Avg. >10% YoY Growth

Awards & Recognition:

- Level II Trauma Center
- Level III NICU
- Primary Stroke Center

CORONARY INTERVENTION EXCELLENCE AWARD™ healthgrades

HIGH PERFORMING HOSPITALS U.S.News & WORLD REPORT



Implementing a State-of-the-Art Lab

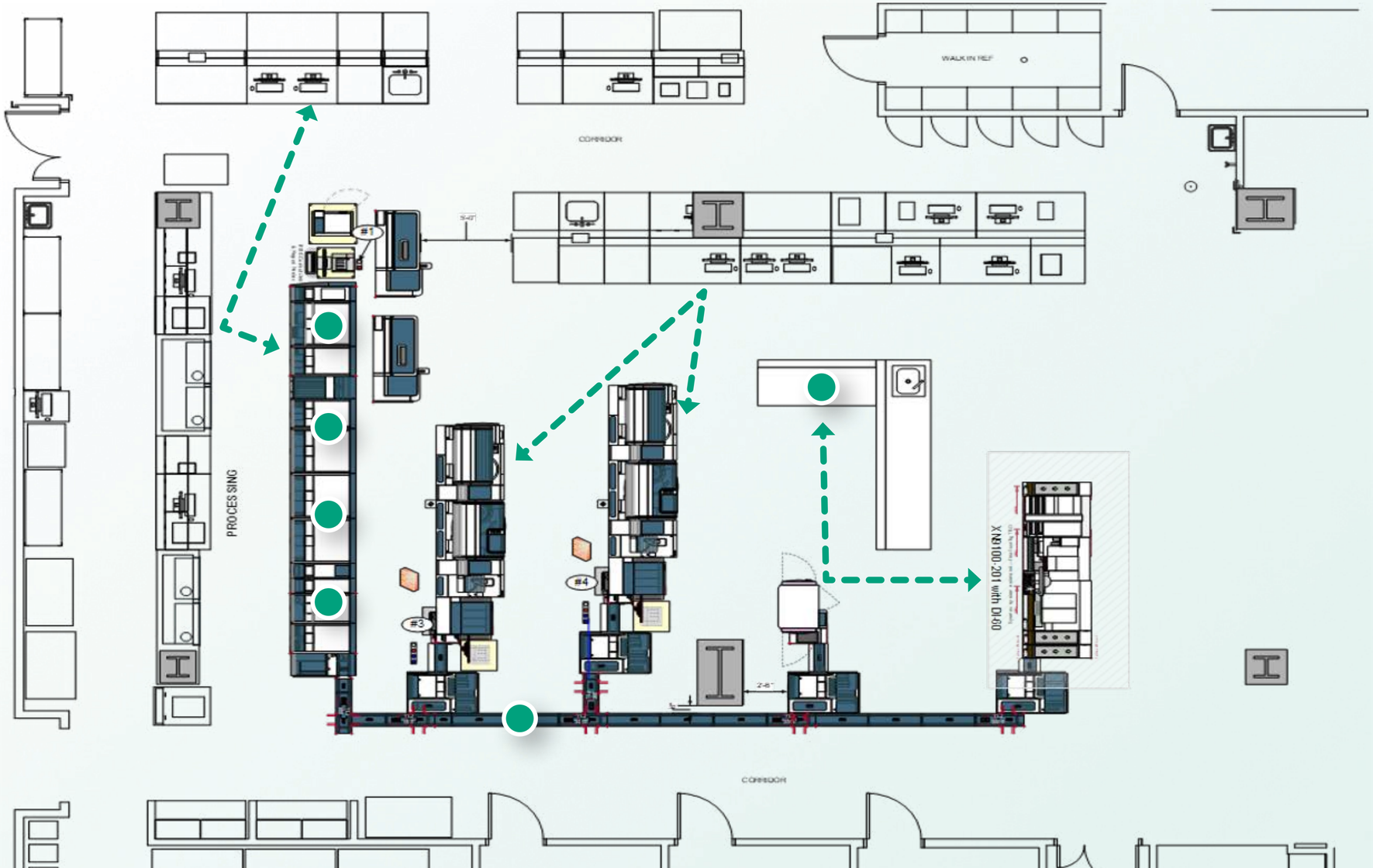
When UMCR was built, it meant new everything, including IT systems, tube systems, electronic communications devices, and of course, a fully automated lab with new water systems. Mapping a smooth implementation during a pandemic brought excitement, potential, and challenges.

“Your primary stakeholders will always be the patient and your staff. You cannot serve your patients if your staff cannot function – so we focused on them.”

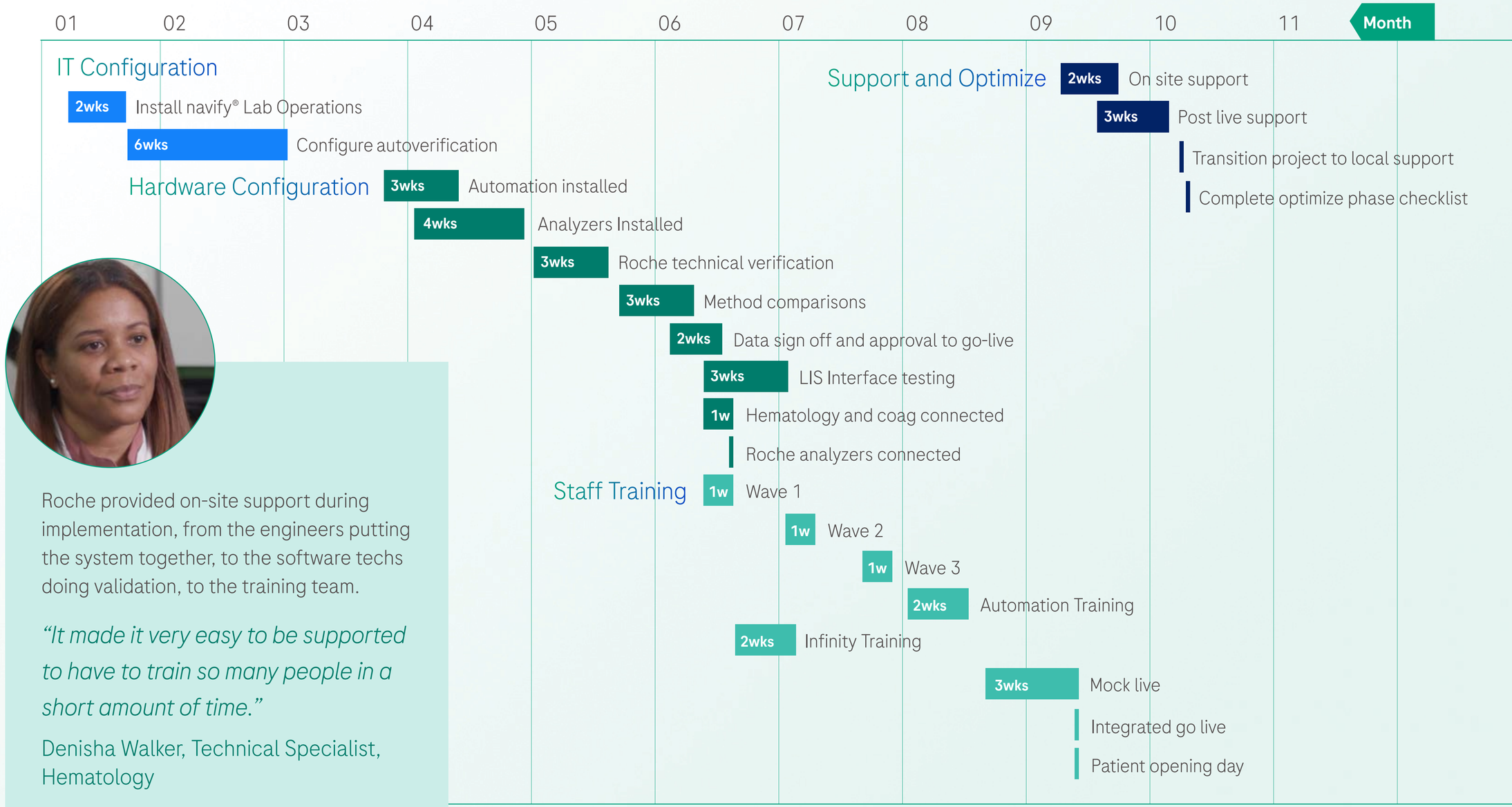
Michele Best, Lab Director

Solution: Lean Design

A streamlined workflow means fewer opportunities for error and fewer touchpoints in the process.



Implementation timeline and support



Roche provided on-site support during implementation, from the engineers putting the system together, to the software techs doing validation, to the training team.

"It made it very easy to be supported to have to train so many people in a short amount of time."

Denisha Walker, Technical Specialist, Hematology

Planning for Today and Tomorrow

Not every lab has the enviable opportunity to design a brand-new, state-of-the-art lab. UMCR embraced the possibilities knowing they wanted to address the challenges their lab faced today, while planning for success in the future.

Goals:

- Implement a fully connected automation system for chemistry, hematology, and coagulation
- Attract and retain talent with best-in-class, easy-to-use analyzers
- Achieve faster, more consistent turnaround time with a goal of 30 minutes or less across all assays
- Eliminate opportunities for error by reducing manual touches and extra steps
- Increase capacity for testing while keeping paid FTE hours the same
- Dial up the usability to reduce non-billable tasks such as maintenance

“Laboratories are only as good as their turnaround time. Our hospital is bringing more academic programs, more robotic surgeries, more cardiac surgery – all kinds of services keep expanding– and as they expand, they need new assays. We’ve got to be able to produce high-quality assays for them. Quality and turnaround time are still the most important things.”

Michele Best, Lab Director

Planning

Goals

Fully connected

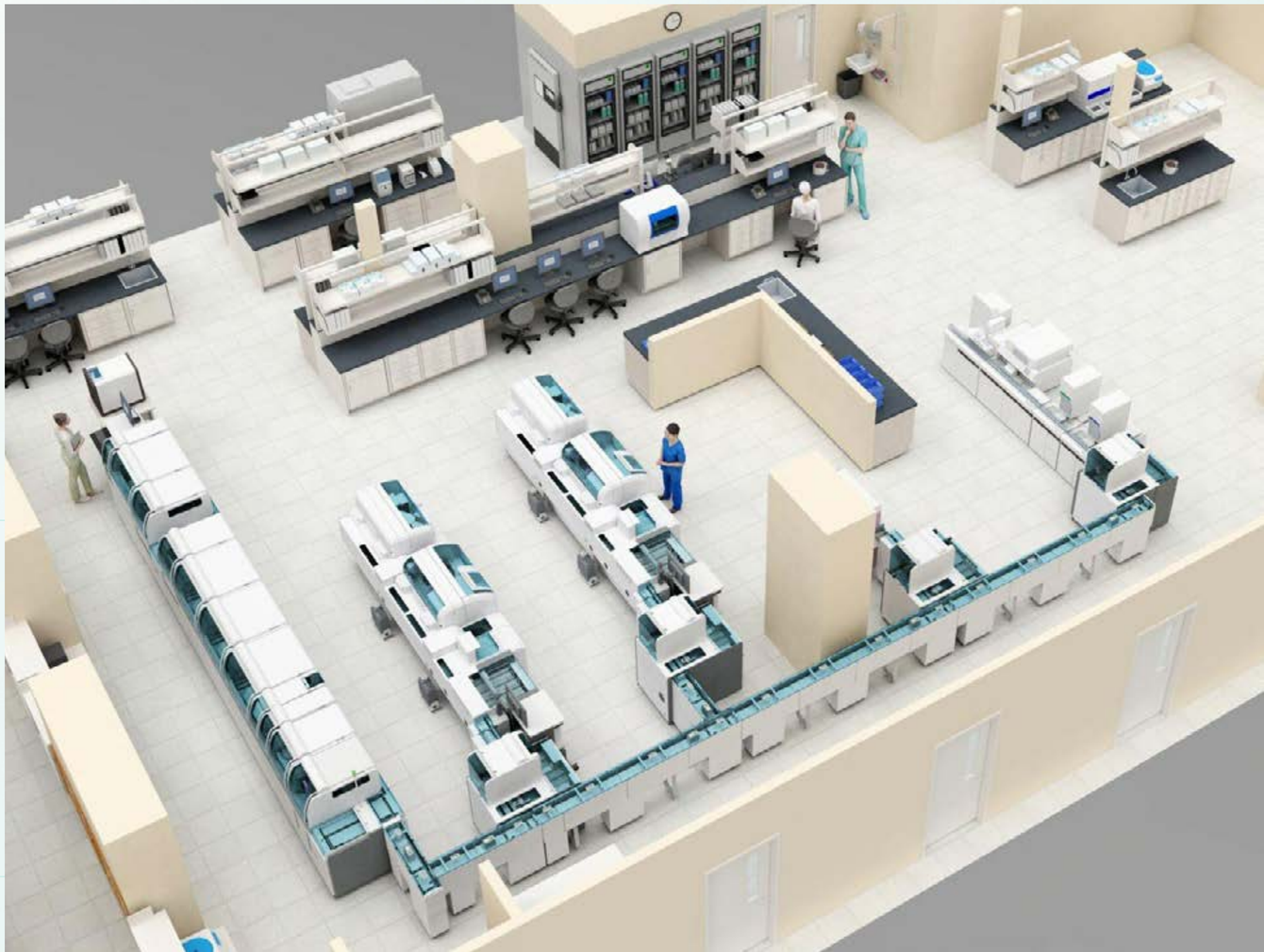
Next-gen efficiency

Better, faster results

Reliable partnership

Solution:
Simplify and Strengthen the Operation

UMCR was coming from an automation system that was not fully connected. By implementing new integrated technology, lab staff were able to focus on high value tasks and deliver the quality results that clinicians need to make diagnoses and decisions.



Select (click) the product below:

navify® Lab Operations

cobas® 8100 automated workflow series

3 automatic centrifugation units (ACU)

2 cobas® Pro integrated solutions

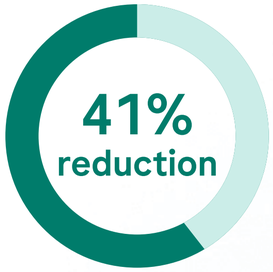
Hematology and coagulation connection

Doing More With the Same Lab Staff

Reducing manual tasks such as maintenance and troubleshooting time results in your lab staff being able to focus on high value tasks. Ultimately, fewer staff are needed to get the job done, which is significant considering the increasing demands and ongoing staffing shortages that labs face.

“The system runs itself... it’s a better overall atmosphere in the lab”

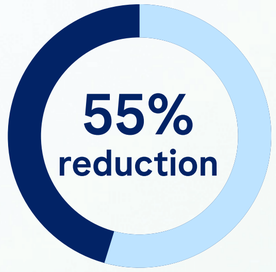
Denise Alessandra, Lab Supervisor



Maintenance

cobas 6000 to cobas Pro
41% reduction in daily maintenance from previous generation*

*Compared to cobas® 6000 analyzer series. Internal comparative analysis. Data on File.



Reagents

Cpack to Cpack green resulted in a 55% reduction in reagent carriers

- Increased test capacity
- Increased onboard stability
- Reduced handling time
- Reduced loading events

Autocalibration

56% fewer calibrator events
17 Autocal assays

- Reduce error
- Reduce waste

Load on the fly

Nonstop operation with continuous loading

Autoverification

Before the new lab, manual assay verification added complexity and time to the workflow. With Autoverification, testing is streamlined, improving the efficiency of the workflow and allowing staff to focus on other tasks.

Before the new lab if HIV and Hepatitis assay results were out of range, staff would need to run the test two more times. The third test was reported based on reporting criteria. Now Autoverification runs the sample, then runs it two more times and produces a final result without any need for a lab tech's intervention.

"You don't need to think about it or go to a chart. That's important because it improves efficiency."

Mitra Motavalli, Chemistry Supervisor

Delivering Quality Results – Faster

"70% of all medical decisions are based on laboratory results. So, without a high-quality laboratory, especially for high-volume testing, you cannot meet the needs of patients. And if we forget that for one moment, we have every physician group here to remind us."

Michele Best, Lab Director

Input-to-final result analysis

Elecsys Troponin T Gen 5 STAT

Credibility

- Meets all recommended criteria set forth by the IFCC*
- The most researched troponin with >1500 publications using TnT Gen 5

Accuracy/Precision

- Outstanding NPV† at rapid blood collection times, enabling confidence in expedited disposition:
  ≥95% at ~45 minutes
  ≥98% at ~2 hours
  ≥99% at ~3 hours
- Excellent lot-to-lot consistency and same cutoffs across all platforms enable dependability in results no matter the instrument

Speed

- 9-minute testing time

*cobas e 601, cobas e 602 and cobas e 801 only.
†Troponin T Gen 5 e801 package insert 2021. NPV varies based on patient sex and cutoff used. Refer to method sheet for details.

Reliable Partnership Makes It Possible

Service Snapshot

<1 service call

cobas pro integrated solutions avg <1 unplanned service visit per month combined*

99.37% uptime

Lab experienced, on average, a 99.37% uptime across all hardware*

98.15% resolved first time

When issues did arise, 98.15% were resolved the first time*

"Roche, honestly, never let us down. We always had enough reagent to run our patient testing during COVID and the transportation crisis. I think Roche did a very good service to industry."

Mitra Motavalli, Chemistry Supervisor

99.1% OTIF

Proactive monitoring and mitigation of suppliers and purchased material supply risk results in a 99% On Time In Full (OTIF) rate*

* Service and supply chain data on file.

Published by

Roche Diagnostics
9115 Hague Road
Indianapolis, IN 46256
diagnostics.roche.com

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MC-US-14837-0424

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