

## CLOUD-BASED MIDDLEWARE SOLUTION OPENS THE DOOR TO GREATER EFFICIENCY AND FASTER TATS FOR LOW-VOLUME LABORATORIES

Jefferson Hospital, located in Louisville, Georgia, is a 37-bed general acute-care facility providing primary medical and surgical care to patients in Jefferson County and the surrounding areas. Looking to create greater efficiency and consistency in its processes through automation, the laboratory turned to DxONE Workflow Manager, Beckman Coulter's cloud-based middleware solution. What Jefferson Hospital found was the ability to streamline workflow to improve efficiency, reduce staff time spent on routine tasks for greater focus on value-added activities, and deliver faster results to impact patient care.

### Automating workflows through informatics

Clinical laboratories of all sizes face mounting pressures. Due to the importance of the laboratory in clinical diagnostics, there is a need to deliver accurate results, with shorter TATs, while managing resources and workloads. Recent advancements in informatics solutions have opened the door to greater efficiency, but barriers to implementation often exist for low-volume laboratories, which must contend with high costs and lack of IT infrastructure. The laboratory at Jefferson Hospital was no exception.

DxONE Workflow Manager opened the door for Jefferson Hospital, as it allowed them to use their existing IT infrastructure and helped to minimize costs due to utilization of cloud-based technology.

The benefit of such cloud-based technology allowed for ease of implementation, so that the laboratory operations experienced minimal disruption.

This first-of-its-kind cloud-based middleware application drives efficiency with exception-based sample management, improves accessibility with a secure browser-based model, and increases standardization through automated workflows and integrated QC.



### Laboratory Profile

- › Jefferson Hospital  
Louisville, Georgia
- › Service area: Jefferson County  
and surrounding area
- › 37-bed general acute-care facility
- › 90% of patient admissions come  
from the Jefferson County area
- › Laboratory processes  
~140 samples/day
- › Solutions: 2 DxC 700 AU  
analyzers, 1 Dxl 600 analyzer  
and 1 DxH 600 system

## Easy implementation

Laboratory downtime is highly disruptive for laboratories, as it can significantly impact patient care. The team implemented the DxONE Workflow Manager at Jefferson Hospital with minimal disruption to daily operations. With this cloud-based system, Beckman Coulter associates were able to remotely perform a significant portion of the preparatory work off-site, which helped to reduce on-site time that interrupts workflow. This can help reduce implementation time compared to traditional middleware solutions.

“The implementation team was nothing but great. [Beckman Coulter’s implementation team] answered all of my questions and was very patient with me. They are a great team and have assured me they will always answer my calls and help me any way they can if I have questions about DxONE Workflow Manager. I have enjoyed working with each of them.”

ALI COOPER, LAB MANAGER, JEFFERSON HOSPITAL

## Intuitive interface enables rapid decision making through the investigation of visual cues

DxONE Workflow Manager also offers an intuitive user interface that enables operators to view data about inventory and patient demographics, easing workflow. Onscreen flags, comments and a sample-status overview feature make it easy for staff members to see what items are in need of attention. Consolidated patient results—complete with histograms, data plots and historical data—provide information to support patient-care decisions.

“DxONE Workflow Manager is very user friendly with everything consolidated to one screen. Before going live, we had to sort through multiple tabs within our laboratory information system to review and release our results.”

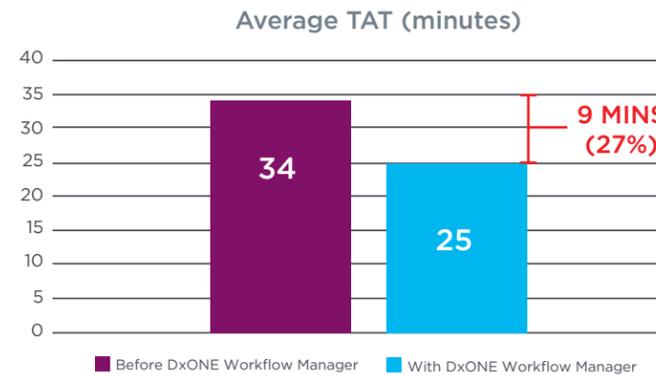
ALI COOPER, LAB MANAGER, JEFFERSON HOSPITAL

## Manage test results by exception for faster TATs

With DxONE Workflow Manager, technologists have the ability to manage test results by exception. This means that they only perform manual reviews of samples that fall outside laboratory-defined criteria. By standardizing processes using autoverification and automatic reflex testing, Jefferson Hospital streamlined processes by 82%. Instead of focusing attention on all results, staff members were able to give attention only to outliers, or only 18% of the tests performed. The time saved was equivalent to that required for three-fourths of an FTE. With less time spent on manual review, TATs improved by 27%.

“We are excited! Evenings, nights and weekends have only one tech working. Our ER can get really busy. We are thrilled that our labs can autoverify. This saves a ton of time when we have only one person or we are short staffed. With DxONE Workflow Manager, it’s as if we have an extra person working. If we get caught up drawing a difficult patient, it is good to know that results are still being released back to the ER or the ordering provider as soon as possible. Hopefully, this will end the phone calls asking, “when is it going to be done?”

ALI COOPER, LAB MANAGER, JEFFERSON HOSPITAL



“82% Autoverification rate is the equivalent of

**3/4 FTE.”**

- Ali Cooper, lab manager, Jefferson Hospital



Figure 1. Average TAT (in minutes) before and after DxONE Workflow Manager

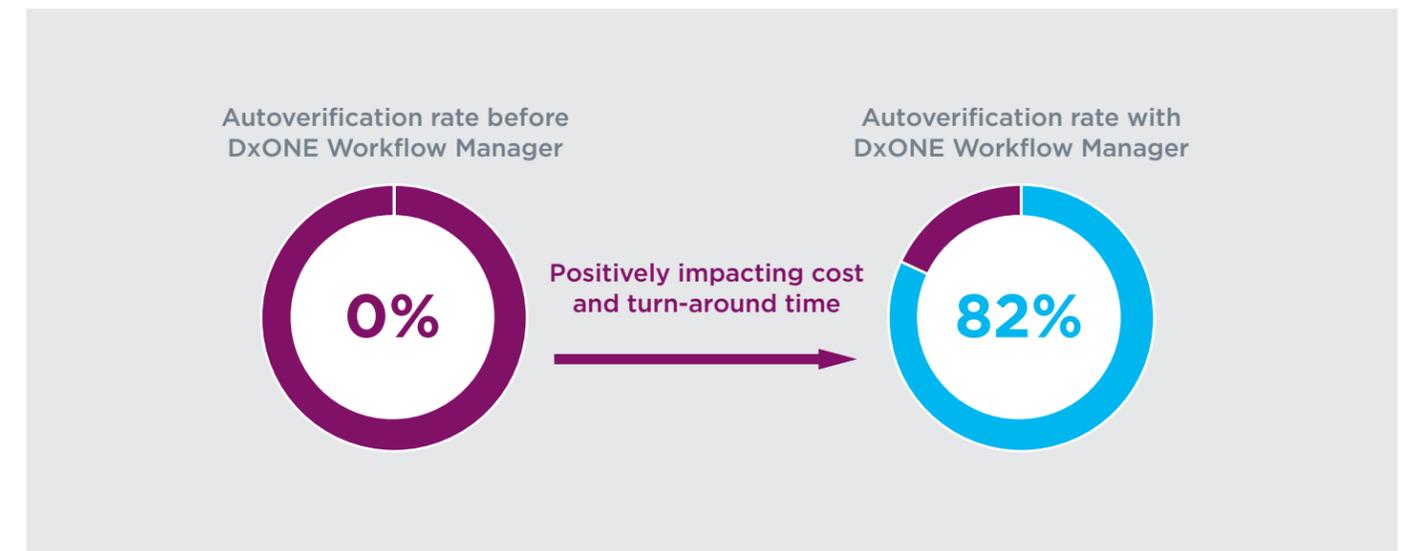


Figure 2. Autoverification rates before and after DxONE Workflow Manager



**1. Order & Patient:** At-a-glance overview of ordering information and patient demographics

**2. Comments & Flags:** Clear visibility into actions needed or performed based on user criteria

**3. Sample Status Overview:** Immediately focus on samples that require attention

**4. Patient Data:** Consolidated patient-associated results in one view including graphs and previous results

## Empowering low-volume laboratories

DxONE Workflow Manager enables low-volume laboratories to benefit from the capabilities of middleware. This application empowers laboratories to improve their efficiencies through autoverifying normal results so that technicians can focus their time on outliers and critical results. With the improvements in efficiencies, laboratories are able to deal with resource gaps and restraints while still providing a high level of service to the community they serve.

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“We are thrilled that our lab is able to autoverify. This saves a ton of time when we have only one person or are short staffed. **With DxONE Workflow Manager it’s as if we have an extra person working.**”

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**ALI COOPER, LAB MANAGER, JEFFERSON HOSPITAL**

Laboratory Goals	Laboratory Results
Improve TAT for quicker response to physicians	TAT decreased by 27%
Ability to deal with resource constraints	Gained efficiency measured by $\frac{3}{4}$ of an FTE
Decrease the need for manual validation of results	Achieved 82% autoverification rate