

# BREAKING STATUS QUO

A mid-volume hospital's journey to automate all core disciplines.

In Mattoon, IL, Sarah Bush Lincoln is a not-for-profit regional hospital servicing nine counties, 28 specialties, 17 primary care sites, and 14 community clinics. It is ranked in the top 6% of rural hospitals, naming it one of the Top Rural Hospitals in the nation by the Leapfrog Group. The laboratory processes more than 500,000 clinical samples and 10,000 surgical and cytology specimens annually, equaling 1.8 million annual chemistry tests and approximately 350 CBCs daily.

Sarah Bush Lincoln's  
Desires for Future State:



Maximize  
Productivity



Mitigate a Shrinking  
Labor Force



Guaranteed  
Quality Results

When Sarah Bush Lincoln began evaluating future needs, they were using two integrated workcells, and no automation to manage their laboratory's workload. To future-proof their laboratory, Sarah Bush Lincoln desired to partner with a vendor that would provide a quality solution to manage an ever-increasing workload with a shrinking workforce, while guaranteeing test results of the highest quality. To meet these demands, Sarah Bush Lincoln adopted the Beckman Coulter DxA 5000 automation system.



# SARAH BUSH LINCOLN'S DXA 5000

**Dxi 600**  
Immunoassay

**DxH 902 – S**  
Hematology

**DxC 700 AU**  
Chemistry

**Outlet & ECSD**  
Post-Analytical Module

**Dual  
Centrifuge**

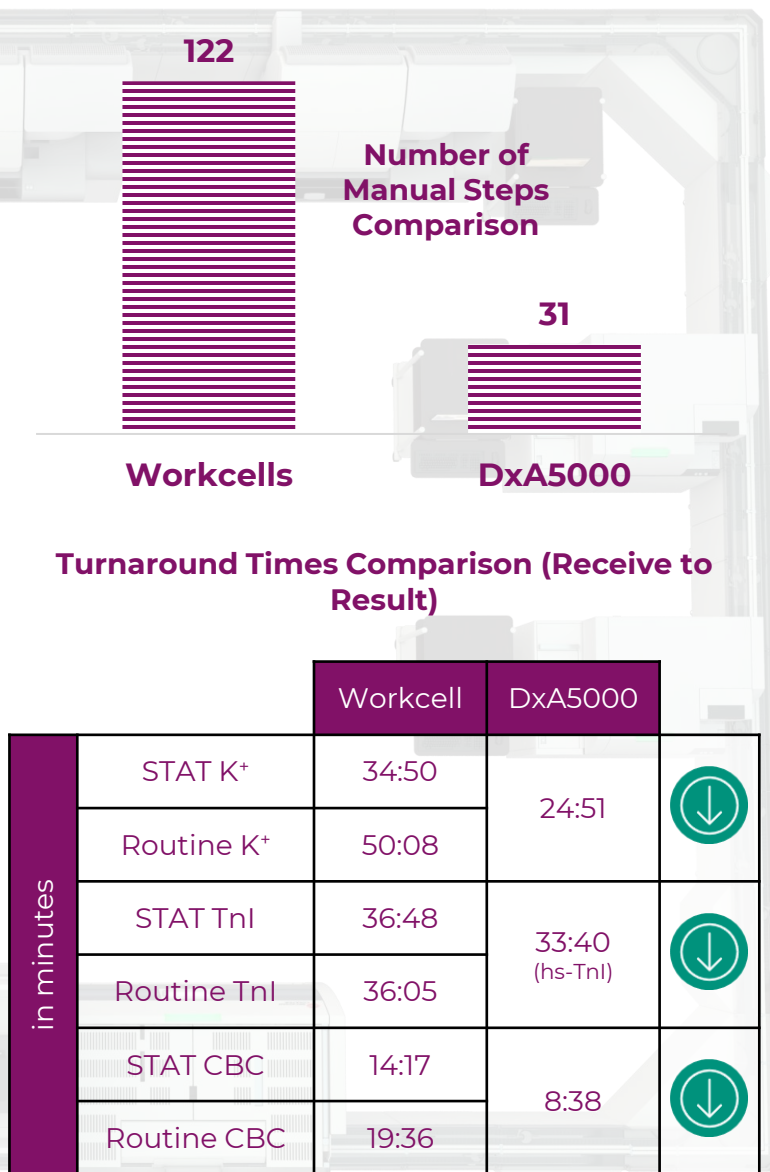
**Dynamic Inlet**  
Pre-Analytical Module

Sarah Bush Lincoln's DxA 5000 configuration includes the dynamic inlet, dual centrifuge module, two chemistry and immunoassay instruments, two connected hematology analyzers with a slidemaker stainer, and ends with a combined outlet and 6.5K tube stockyard. Their DxA 5000 is managed and integrated with Beckman Coulter's premier middleware, REMISOL Advance.



# QUANTITATIVE RESULTS

After installation, Sarah Bush Lincoln was able to reap the benefits of the industry leading automation system, the DxA 5000. The laboratory experienced reduced turnaround times for important laboratory tests and the elimination of non-value-added steps and hazards (illustrated below). Through standardization of processes, implementation of automation and informatics, and the utilization of Six Sigma methodologies, the laboratory is positioned to handle substantial year over year growth. During the COVID-19 pandemic, the laboratory at one point received a daily total volume of 2,200 tubes, which is 32.7% greater than the number of tubes observed pre-automation.<sup>1</sup>



## Percentage Reduction In...

**34%**

Process Wait Steps



**11%**

Biohazard Exposure



**17%**

Opportunities for Medical Mistake



**31%**

Repetitive Motion Injuries



**20%**

Unnecessary Employee Travel/Movement



<sup>1</sup>Dark Report, R. Mitchell, *Rural Hospital Lab Hits Automation Home Run*, 1.10.2022

# THE POSITIVE IMPACT OF AUTOMATION



With automated processes, the improved level of service the laboratory can provide their clinicians was demonstrably positive through sustained TAT reductions.



The DxA 5000 allowed the laboratory to profitably grow while removing and reallocating existing FTEs; increasing the hiring of lab assistants and allowing medical technologists to focus on more complex tasks.



By being innovative and employing automation, the laboratory has observed improved staff satisfaction, engagement, and retention. The DxA 5000 has become a recruiting tool for this rural hospital facility.



With the addition of DxA 5000, the Sarah Bush Lincoln laboratory has fostered a culture built on excellence and continued process improvement.



Learn more about Beckman Coulter's automation portfolio  
<https://www.beckmancoulter.com/en/products/automation>

“As the number of available laboratory scientists continues to decrease, Sarah Bush Lincoln laboratory is able to accommodate growth without the need for additional staff by implementing the Beckman Coulter DxA 5000. It is with this solution, we have been able to sustain reduced turnaround times, ensure sample quality, and reduce our manual process steps by **75%**.”

**Jodie Warner MBA, MT (ASCP), DLM**

Director of Laboratory Services

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