# Enhancing Image Library Operations Through an Interactive Dashboard Improving Productivity and Decision-Making

**Gloria Hwang, MD,** Clinical Professor, Radiology, Stanford Health Care
Amy Bui, MPH; Roniela Turingan; Shantika Devi, MPA-HCA

## Background/Problem Being Solved

The previous image exchange system frequently experienced downtimes and was cumbersome for employees to use. In response to this, a new image exchange system was implemented to support the daily operations of the radiology image library. While the new system improved certain processes, it lacked reporting capabilities needed to provide visibility into the department's operational and productivity metrics.

## Intervention(s)

To address this limitation, a dashboard was developed to complement the system by enabling the tracking of key metrics. The team defined key metrics such as study volumes from all image management locations, studies sent to the Picture Archiving and Communication System, employee productivity metrics, and study rejection rates. Working collaboratively with the vendor and internal teams, the team mapped the necessary webhook events, application programming interface endpoints, and production gateways to enable real-time data retrieval for these metrics. The data was consolidated into a subject-specific data mart, forming the foundation for the dashboard.

## Barriers/Challenges

A key challenge was ensuring the accuracy and reliability of the data during the development phase, requiring thorough validation using test data and uploading test images to ensure the data was consistent with the expected operational reality.

## Outcome

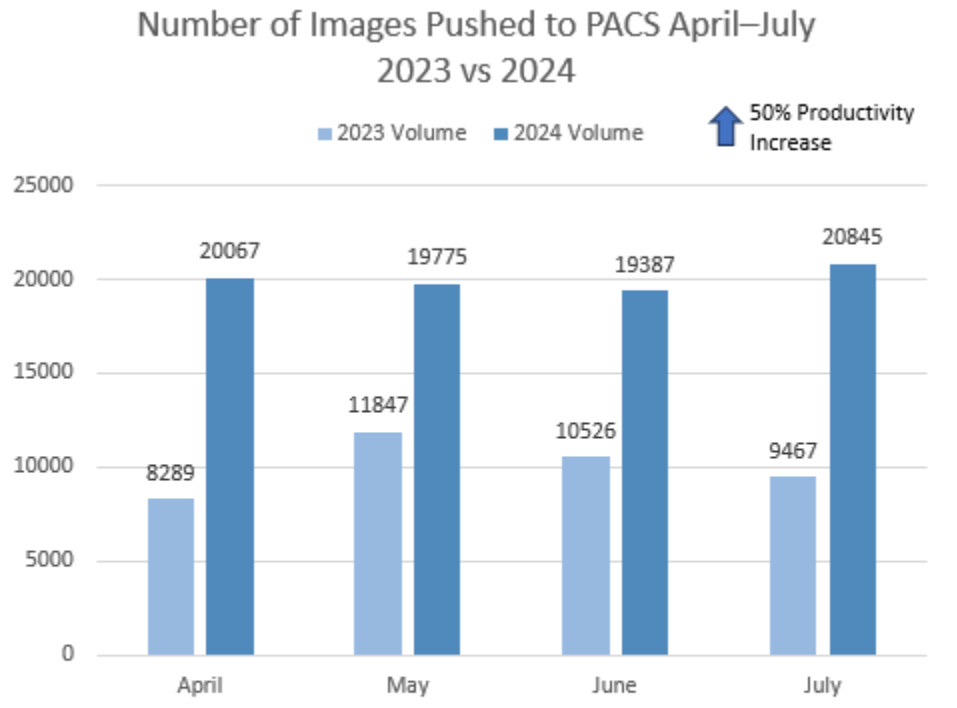
The dashboard visualized all of the key metrics and provided a comprehensive view to enable data-driven decision-making for daily task assignments and staffing allocation. By analyzing historical trends and real-time study volumes, the tool facilitated proactive resource planning and operational efficiency. With robust data available, leaders were able to anticipate busy periods and optimize staffing thus improving operational management.

## Conclusion/Statement of Impact/Lessons Learned

The implementation of the dashboard has transformed image library operations by enabling quicker decision-making and providing automated daily data. This supports leadership in operational planning and performance measurement, driving continuous improvements in efficiency and service delivery.

# Figure(s)


**Figure 1.** Dashboard created to visualize key operational and productivity metrics, including daily incoming study volumes, studies approved and sent to PACS, and study rejection trends.




Increased Productivity: From April 2023 to July 2023, the Image Library pushed 40,129 images to PACS, which increased to 80,074 images from April 2024 to July 2024. This 50% increase in productivity is attributed to the higher volume of images being processed and pushed to PACS, supporting patient continuity of care.

**Figure 2.** Graph illustrating the increased number of images pushed to PACS in comparison from prior image exchange system and after migrating to new image exchange system.


## Keywords

Administration & Operations; Clinical Workflow & Productivity; Emerging Technologies; Patient/Family Experience; Provider Experience; Standards & Interoperability