Merge

THE TRANSFORMATION
OF MEDICAL IMAGING:

Healthcare's Evolving Journey to the Cloud

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Medical imaging's digital revolution

Cloud technology has become the backbone of modern imaging organizations.

The vast majority (77%) of medical imaging enterprises today rely on cloud infrastructure (either in part or in full) to store and access medical information.

However, as medical imaging organizations embrace cloud-native tools (e.g. cloud hosting for applications, data storage, and SaaS applications) and technologies like artificial intelligence (AI) to manage patients' medical information, their cloud transformation efforts are moving along on different trajectories and at different paces.

As a leader in medical imaging solutions for enterprises, we at Merge wanted to gain a better understanding of what the current cloud landscape looks like in the industry, including:

- **Where are medical imaging organizations in their cloud transformation journeys?**

- **What benefits, opportunities, and challenges do decision-makers face in moving to the cloud?**

- **How much further do these organizations have to go to perfect both patient and provider experiences with medical imaging solutions?**

To better understand this journey, we surveyed 100 medical imaging practitioners in the U.S. about their level of enterprise cloud adoption, investments, and integrations. Our research found that medical imaging practitioners are eager for technological improvements — but most organizations still have work to do when it comes to adopting cloud technologies into their workflows and supporting practitioners in leveraging the cloud to its maximum potential.

KEY FINDINGS

77% of medical imaging enterprises rely on **cloud infrastructure** (either in part or in full) to store and access medical information

97% of medical imaging practitioners agree healthcare organizations with **connected** and **accessible patient information** provide better patient care

74% of medical imaging practitioners are very interested in **adopting new technologies** at work

98% of respondents said they face some type of challenge given the technology their organization currently provides

59% of medical imaging practitioners say **easier, faster access to patient imaging data** would provide the most significant improvement to their daily work

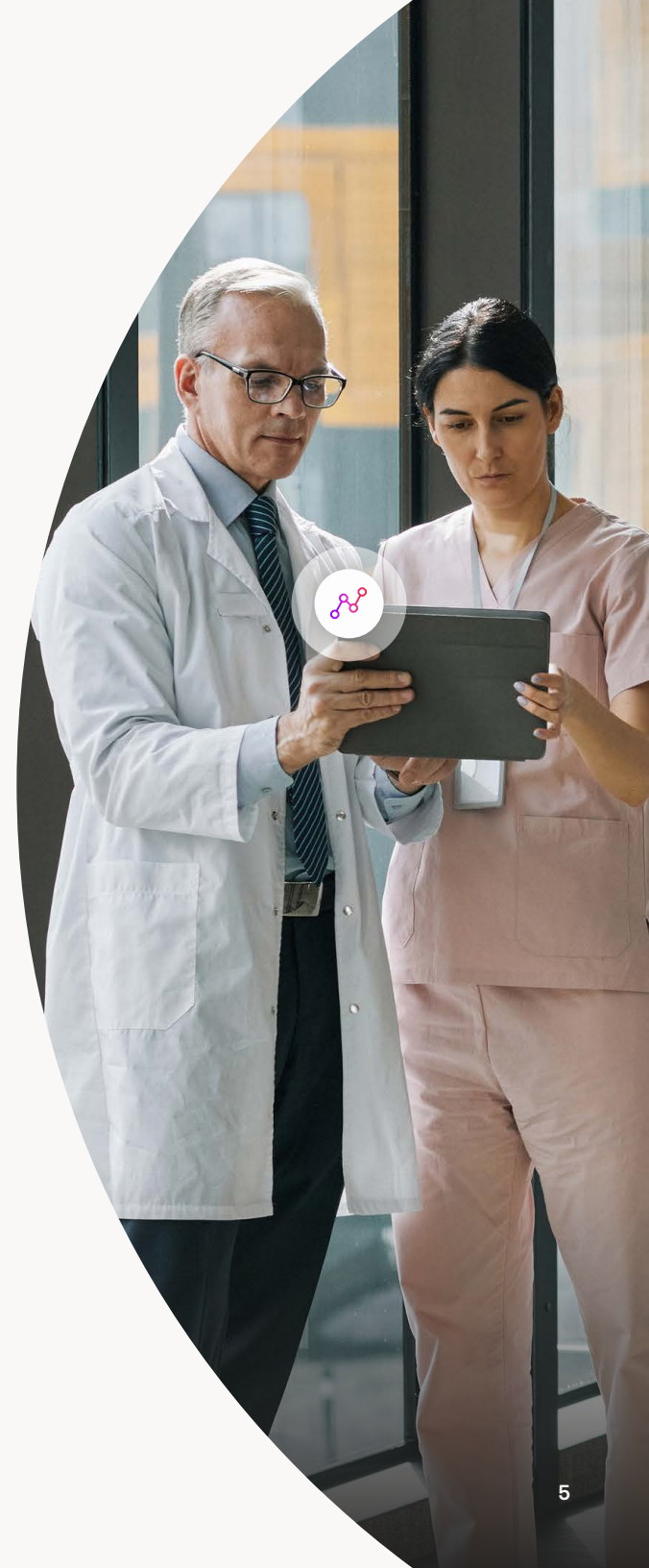# Practitioners are eager for technology improvements, but existing support is falling short

Medical imaging practitioners are not only willing, but eager to adopt new technologies in the workplace: All respondents showed interest in adopting new technologies to some degree — including **nearly three-fourths (74%) of practitioners who are very interested in the possibility**.

But despite ample front-line enthusiasm for digital transformation efforts, their organizations are a step behind the practitioners they employ. **Only 38% of respondents say their organization's leadership team is very interested in adopting new technologies as well, lagging well behind their own interest level**.
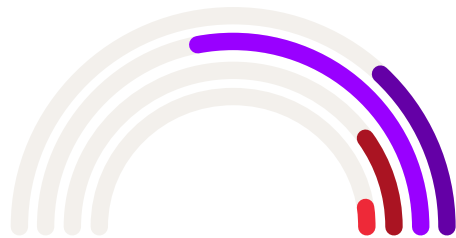
What are the consequences of this gap?

Disconnected, decentralized, and inadequate medical imaging storage and access that persists even beyond cloud migration. **Today, only 1 in 4 (25%) medical imaging practitioners strongly agree their organization's patient information feels integrated and connected** — and an even smaller portion (23%) strongly agree their organization has a centralized point of access for data, records, and images across clinician teams.

Even more concerning, just 23% of respondents strongly agree their organization's medical imaging systems and technologies make their daily work more efficient and effective, which is eclipsed by 26% who disagree with that statement.

How practitioners feel about their organization's medical imaging systems and technologies
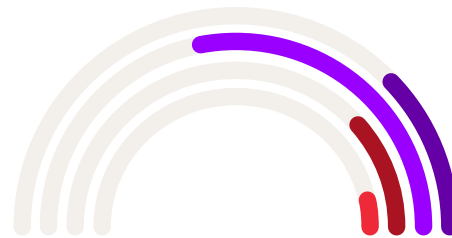
My organization's patient information feels integrated and connected.

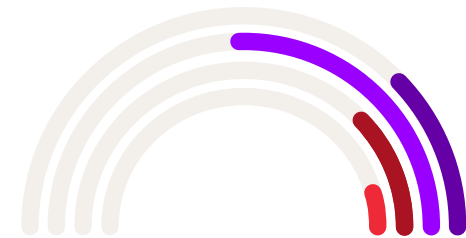|	
25%	**Strongly Agree**
54%	**Agree**
19%	**Disagree**
2%	**Strongly Disagree**

My organization has a centralized point of access for data, records, and images across clinician teams – no matter their role or location.

23%	**Strongly Agree**
54%	**Agree**
20%	**Disagree**
3%	**Strongly Disagree**

My organization's medical imaging systems and technologies make my daily work more efficient and effective.

23%	**Strongly Agree**
51%	**Agree**
22%	**Disagree**
4%	**Strongly Disagree**

Ideally, cloud tools and infrastructure should put people at the center of healthcare experiences, driving progress for both patients and practitioners. Unfortunately, organizations' current technology infrastructure leaves much to be desired — and adds many challenges for practitioners to sort out.

Most imaging organizations have work to do when it comes to connecting, centralizing, and improving their medical information storage and access. **In fact, 98% of respondents said they face some type of challenge given the technology their organization currently provides.**

Top challenges with organizations' current technologies

Quickly accessing images		**39%**
Using advanced visualization and tools		**36%**
		TIE
Ensuring consistent system uptime		**36%**
Tailoring my worklist to my role		**30%**
Collaborating and sharing medical images with team members/across the organization		**28%**
Performing remote reading and reporting		**27%**

What additional challenges do medical imaging organizations face?

In addition to baseline storage, access, and uptime issues, organizations must improve their **customization abilities**, processes for **integrating new technologies,** and overall **cybersecurity preparedness**. Let's look closer at each of the following areas.

Customization

Images customized to the preferences of medical imaging professionals can enable more rapid diagnosis, more personalized care, and more efficient workflows. The problem is, many practitioners may be missing out on these benefits. **Only 24% of medical imaging professionals say they're able to customize and view images based on their personal preferences such as adjusting magnification levels, creating personalized worklists, or adding customized toolbars.** More than half (58%) say there's a moderate level of customization, while nearly 1 in 5 (18%) say there's no level of customization available.
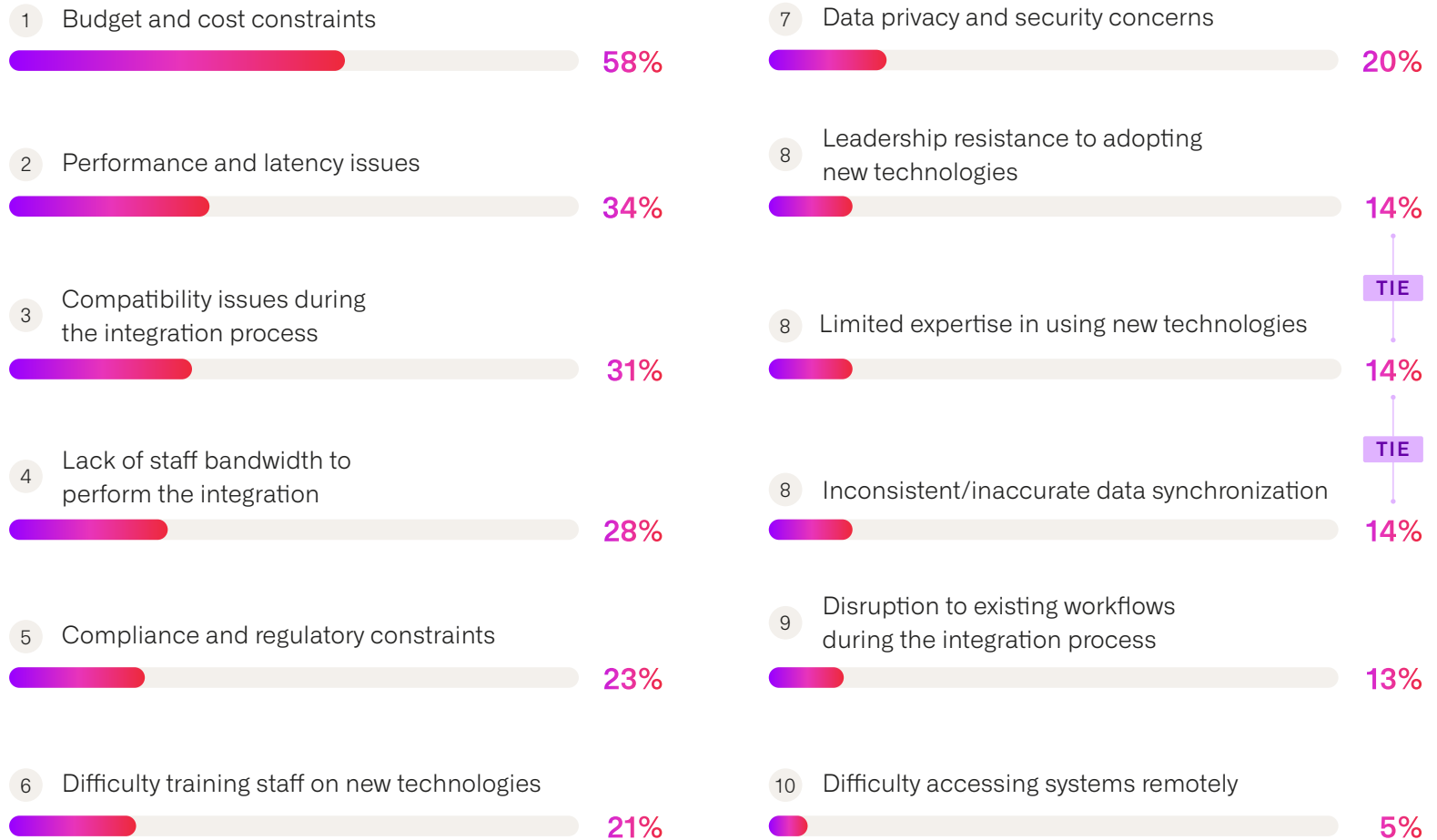
Integration

The integration of medical imaging systems with electronic health records (EHRs) and other technologies enables seamless data sharing and collaboration that lead to faster, better patient care. However, medical imaging practitioners face several challenges related to integrating their organization's existing medical imaging systems with other important digital solutions. **More than half (58%) cite budget/cost constraints as their top challenge with integrating medical systems, while more than one-third (34%) point to performance and latency issues.**

Cybersecurity

Medical imaging practitioners also lack confidence in cybersecurity preparedness, both personally and at the organizational level. **Despite 63% of medical practitioners having received cybersecurity training within the last six months, less than 4 in 10 (38%) feel highly prepared when it comes to handling cybersecurity threats and responding quickly and effectively on a prepared plan.**

Practitioners lack confidence in their organization's cybersecurity practices, too. **Less than half (48%) of respondents have a high level of confidence in their organization's ability** to securely store and share medical information.

Top challenges associated with integrating medical systems with other technology

1 Budget and cost constraints
58%

2 Performance and latency issues
34%

3 Compatibility issues during the integration process
31%

4 Lack of staff bandwidth to perform the integration
28%

5 Compliance and regulatory constraints
23%

6 Difficulty training staff on new technologies
21%

7 Data privacy and security concerns
20%

8 Leadership resistance to adopting new technologies
14%

TIE

8 Limited expertise in using new technologies
14%

TIE

8 Inconsistent/inaccurate data synchronization
14%

9 Disruption to existing workflows during the integration process
13%

10 Difficulty accessing systems remotely
5%

The cloud offers tangible benefits for imaging practitioners and newfound value for their organizations

Imaging organizations increasingly rely on the cloud to expand the availability and effectiveness of their services, improve organizational agility, reduce environmental impact, scale operations, and more. And their practitioners overwhelmingly recognize the strategic value of digital tools for their organizations.

– **100% of respondents** agree healthcare organizations with connected and accessible patient information are **more likely to outpace competitors**

– **97% agree** healthcare organizations with connected and accessible patient information **provide better patient care**

– **96% agree** healthcare organizations should treat the adoption of new technologies to assist practitioners as a **strategic priority**

From more efficient workloads and faster results to improved patient care and coordination, technology investments aren't just a strategic imperative. Digital solutions provide practical benefits for medical imaging practitioners in their daily work – and open up vast potential down the road for improved medical access and outcomes. Moreover, it ensures that patient information remains safe and secure.

With so much potential at their fingertips, what improvements would imaging practitioners most like to see?
Practitioners ranked fast, seamless, and streamlined workloads as the most significant improvements that could be made in their day-to-day activities.

Top factors that would provide the most significant improvement to daily work activities

📈	Easier, faster access to patient imaging data	**59%**
▤	More seamless integration between imaging solutions	**58%**
▣	Streamlined worklists	**45%**
🔑	Remote access to imaging information	**42%**
👥	Enhanced collaboration for sharing imaging data across the organization	**30%**

Why should integrating medical imaging systems be a top priority?
Better integration of medical imaging systems offers significant advantages:

— Improving efficiency and speed

— Streamlining access, integration, and sharing of patient data

— Enhancing collaboration across the organization

These improvements can go a long way in making workloads easier for practitioners and enabling them to focus on what matters most: **Caring for patients.**

At every point in the digital transformation journey, embracing cloud solutions drives progress for both patients and imaging practitioners. In fact, practitioners cited numerous opportunities from cloud technologies that enable efficient, flexible access to imaging data.
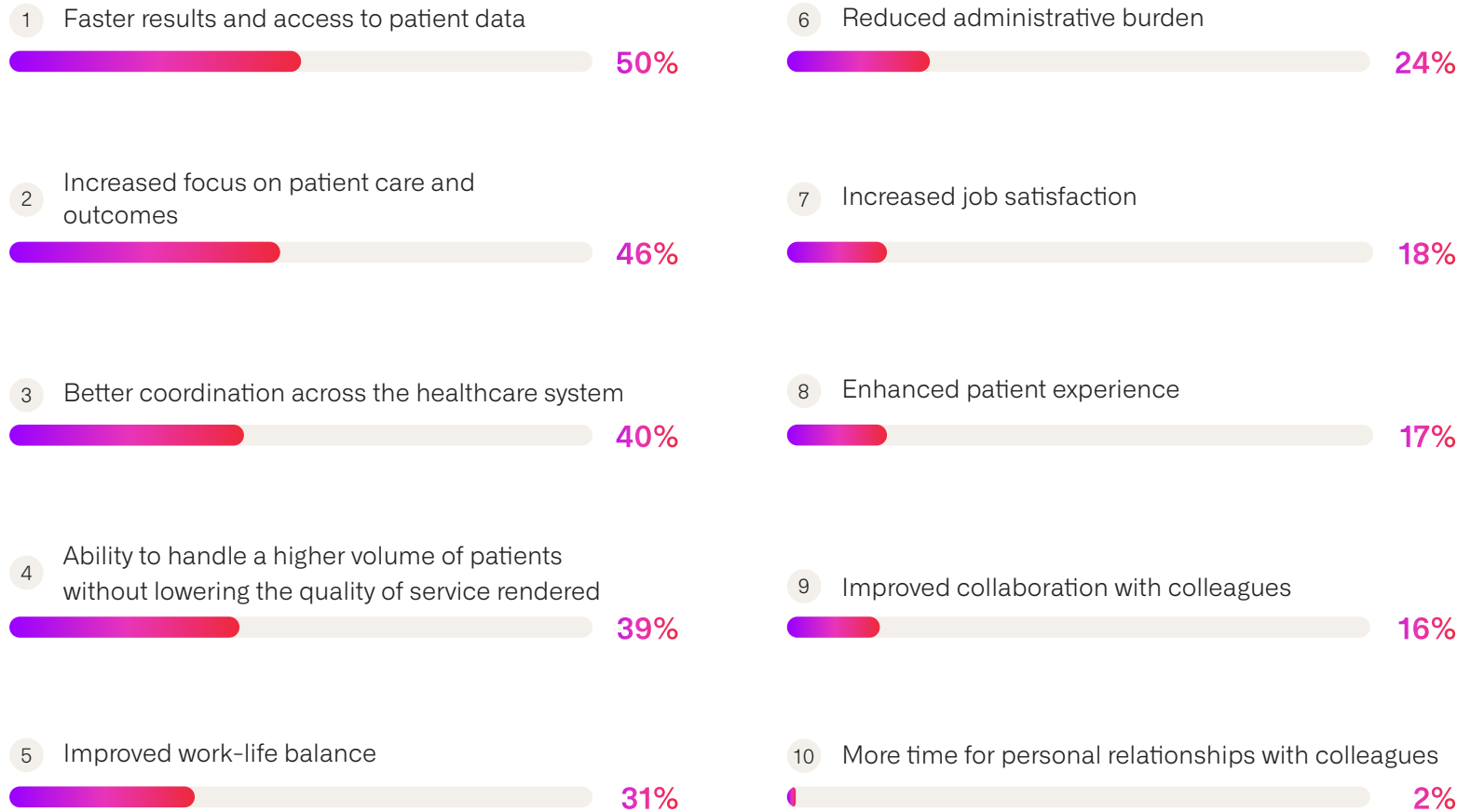
Benefits aren't limited to tactical efforts, either. Respondents also highlighted outcomes related to improved work–life balance and increased job satisfaction. These metrics are particularly important metrics given the high rates of burnout among radiologists today and the staff shortages across the country. These improvements don't just save time and avoid frustration, they have the potential to help save lives through improved patient care.

Top-ranked benefits of integrating medical imaging systems with other technologies

Improved workflow efficiency for accessing images and records	**75%**
Streamlined access to patient data and imaging reports	**59%**
Better integration of imaging data with patient medical history	**55%**

Enhanced collaboration between healthcare providers	**50%**
Faster retrieval of patient information during consultations	**37%**
	TIE
Increased mobility and remote access capabilities	**37%**

Top improved outcomes from more efficient, flexible access to patient imaging data

1 Faster results and access to patient data
50%

2 Increased focus on patient care and outcomes
46%

3 Better coordination across the healthcare system
40%

4 Ability to handle a higher volume of patients without lowering the quality of service rendered
39%

5 Improved work-life balance
31%

6 Reduced administrative burden
24%

7 Increased job satisfaction
18%

8 Enhanced patient experience
17%

9 Improved collaboration with colleagues
16%

10 More time for personal relationships with colleagues
2%

Any image, anywhere, anytime

No matter where imaging organizations are on their enterprise imaging journey, imaging solutions built with a cloud-first, cloud-native mindset can help enable "any image, anywhere, anytime" reading, improving life for clinicians and care for patients.

The Merge Imaging Suite from Merative offers an interoperable workspace that streamlines access to patient medical information and integrates imaging systems within a scalable hybrid-cloud environment that evolves as imaging organizations and their needs change.

Contact us to learn more about how we can help your organization build a more connected future in the cloud.

METHODOLOGY

To better understand the cloud transformation healthcare journey, Merge surveyed 100 medical imaging practitioners in the U.S. about enterprise cloud adoption, investments, and integrations.

All respondents were employed at an enterprise organization with more than 500 employees. All respondents had more than three years of experience in roles that included working with and/or making decisions about medical imaging solutions at their organization. The survey was conducted via an online survey platform in August 2023.

About Merge

Merge medical imaging solutions, offered by Merative, combine intelligent, scalable imaging workflow tools with deep and broad expertise to help healthcare organizations improve their confidence in patient outcomes and optimize care delivery.
Learn more at **merative.com/merge-imaging**.

About Merative

Merative provides data, analytics, and software for healthcare and government social services. With focused innovation and deep expertise, Merative works with providers, employers, health plans, governments, and life sciences companies to drive real progress. Merative helps clients orient information and insights around the people they serve to improve decision-making and performance. Learn more at **merative.com**.