

A woman in blue scrubs is looking down at a patient lying on a table. The patient is wearing a pink top. The background is a blurred medical setting.

PHILIPS

Research report

Radiology staff **in focus**

A Radiology services impact and satisfaction survey of technologists
and imaging directors



Contents

Background, 4

Research overview, 5

Summary of findings, 6

Imaging staff satisfaction, 6

Factors contributing to job satisfaction, 8

Motivation for choice of profession, 10

Stress among technologists, 12

Burnout among technologists, 14

Sources of stress and burnout, 17

Efficiency and automation, 20

Communication and information flow, 22

Getting the image right the first time, 24

Tech confidence in imaging systems operation, 27

Staff empowerment, 28

Conclusion, 30

References, 31

Background

Imaging services are under tremendous pressure to respond to growing demand, shrinking budgets, system complexity, staff shortages and levels of burnout that have set off alarm bells across the global imaging community.

In this dynamic environment, we're committed to stand with our customers in taking a *systems view of imaging* that 1) puts the patient at the center, and 2) combines data and technology to empower the people behind the image – the technologists, radiologists, administrators and IT professionals whose collective job it is to acquire and interpret precision images for the best possible patient outcomes.

In 2017 Philips conducted primary research of more than 600 patients who had undergone a recent imaging procedure. The survey probed their concerns, needs and priorities for improving the overall patient experience of imaging. Those insights continue to guide our innovation priorities for patient-centered imaging today.

As a logical next step, in early 2019 we set out to discover the state of imaging staff experience in four countries by asking, “What is the current state of experience among imaging staff, particularly with regard to driving more patient-centric imaging?” To that end, we surveyed more than 250 radiology technologists (RTs) and imaging directors (IDs) working in the US, France, Germany and the UK between May and June of 2019. Those findings are presented here.

With a keen eye toward the Quadruple Aim and its critical outcomes, we are now focused on the central role medical imaging will play in the brave new world of Precision Medicine. As we develop solutions that turbocharge radiology with the power of new data sources from genomics, radiomics, population health, and other innovative diagnostics, it's paramount that we consider how all of this affects the staff who make this diagnostic engine work. It is our intention and mission to provide you with insights and perspective that can help advance the goals of the imaging community and truly “empower the people behind the image.”

Terminology note: The two groups represented in our survey are known by various titles depending on the country or health system. In order to simplify the report, we have standardized on the following:

Radiology technologists (RTs) are the health care professionals who perform diagnostic imaging procedures, such as X-ray, MRI, CT, PET/CT, Nuclear Medicine and ultrasound examinations. They are also commonly referred to as radiographers, diagnostic radiographers, radiologic technologists, imaging technicians, et al.

Imaging directors (IDs) are in charge of the administrative functions of a medical facility's diagnostic imaging team and imaging services. They may also be known as radiology administrators, radiology directors, imaging managers, et al.

Research overview

In a double-blind study, our research partner surveyed 254 radiology technologists (RTs) and imaging directors (IDs) in the US, France, Germany and the UK. Through both qualitative and quantitative research methods, the study assessed radiology technologist and imaging director impressions across a broad range of subjects related to their daily work life. Survey questions measured their job satisfaction, motivations and stressors, technology mastery, communications challenges, and ability to deliver patient-centered care.

Project details





The Radiology Staff Experience Study was conducted in the summer of 2019 by The MarkeTech Group (TMTG), a global market research company headquartered in California, per order of Philips. The research was conducted in three phases:

- 1) Pre-survey qualitative interviews.** In-depth teleconference interviews (IDIs) with rad tech/imaging director dyads to validate survey design. Interviews were approximately 45 minutes.
- 2) Quantitative web-based survey.** N=254 (127 RT/127 ID). US=82 (41 RT/41 ID); FR=60 (30 RT/30 ID); GER=60 (30 RT/30 ID); UK=52 (26 RT/26 ID). Survey time was approximately 15 minutes.
- 3) Post-quant 1:1 interviews.** In-depth teleconference interviews (IDIs) with selected quant survey respondents to refine and prioritize insights. N=18 (9 RT/9 ID). US=8 (4 RT/4 ID); FR=4 (2 RT/2 ID); GER=4 (2 RT/2 ID); UK=2 (1 RT/1 ID). Survey time was approximately 25 minutes.

Project team

The project team was led by Christian Renaudin, D.V.M., Ph.D., Founder, Managing Partner, and CEO of The MarkeTech Group. The research team also included:

- USA:** Romain Labas, Partner, and consulting team including Kiran Methuku, Zack Moore, Tiffani Tonso, Tony Pan, Elaine Bontuyan and Arima Claypool
- EU:** Olivier Cotten, Managing partner, Julien Regnard, Managing Partner, Nicole Rennschmied, Managing Partner, and consulting by Arnaud Vincent
- Quant team:** Craig V. King, Ph.D., Manuel Andrade, Zachary Jamison Cash.

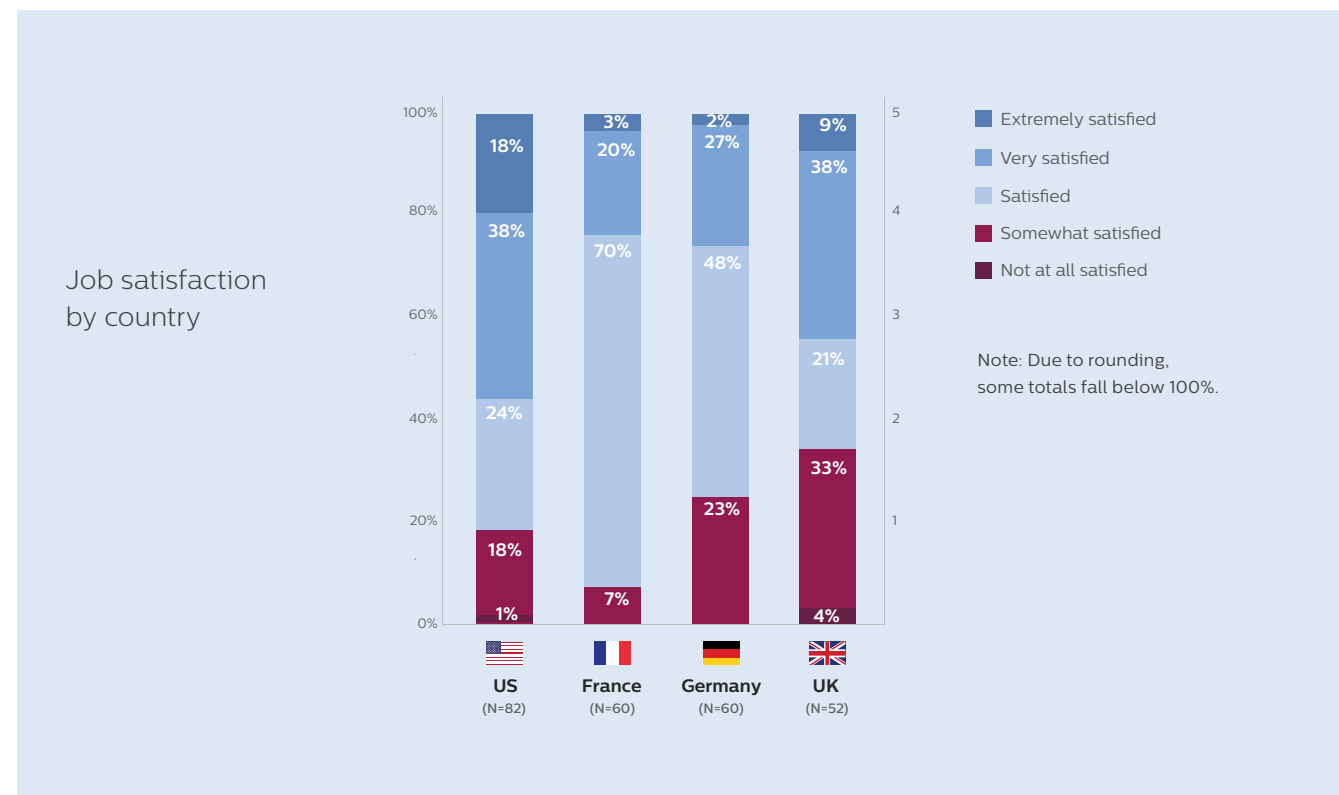
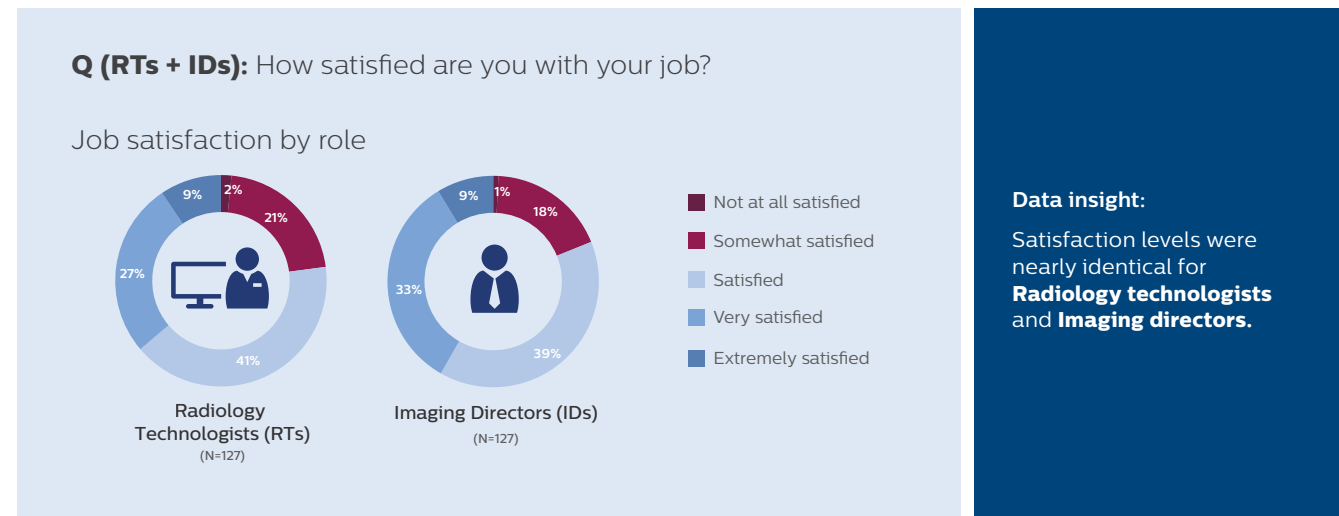
Targets	 US	 France	 Germany	 UK	Total
Radiology Technologists (RTs)	41	30	30	26	127
Imaging Directors (IDs)	41	30	30	26	127
Total	82	60	60	52	254

Summary of findings

Imaging staff satisfaction

Imaging staff and directors are moderately satisfied with their jobs.

With a global shortage of qualified staff, there are many reasons to improve.



Data insight: Overall, satisfaction levels are slightly higher in the US than in the European geographies.

The upshot

Qualified imaging techs and tech managers are already in short supply – and the forecast for meeting mounting demand is not optimistic. In a 2016 study by the Advisory Board, 28 percent of imaging departments surveyed reported being understaffed, with an annual uptick in vacancy rates for all imaging modalities since 2013.¹

According to a 2016 ASRT survey, 23 percent of radiology technologists in the US are over age 55.² Survey data from LFT (Leaders for Today) showed that US hospitals are on a pace of needing to replace virtually half of their staff every five years,³ with 47.7 percent of respondents indicating they plan to stop working within the next ten years.⁴ To make things worse, training programs are not filling the funnel with new techs. ASRT reported in 2017 that 50 percent of radiography programs were not fully enrolled.⁵

Data from the Advisory Board study shows that there is a direct relationship between increased staffing levels and volumes, suggesting that increased staff per scanner helps organizations maximize capacity.⁶ In CT, for example, the

potential profit from increased staff could reach \$569K in CT and \$251K in mammography.⁷ Additionally, they point out that conservative estimates for the cost of filling non-physician turnover is 1.5 times salary.⁸ In this environment, health systems cannot afford to leave imaging staff satisfaction to chance. They must invest in programs to engage, develop and retain staff or risk a catastrophic resource gap in their essential diagnostic capabilities.



“Working with patients and helping them to feel better” has always been extremely satisfying for me. However, the overall patient throughput has “increased tremendously for profit reasons,” so time spent with the patient has decreased to “close to zero”.

– R, Radiology Technologist, Germany



Factors contributing to job satisfaction

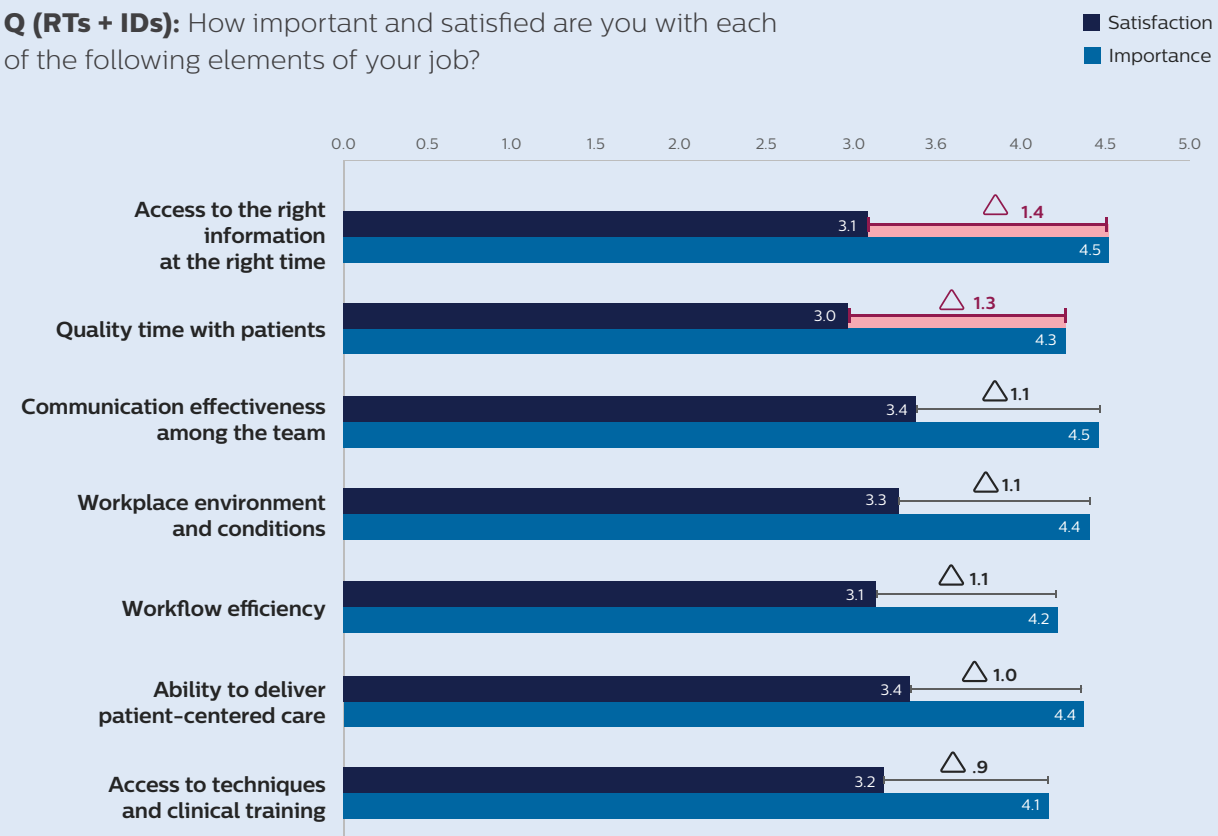


Staff consider many factors to be extremely important to their job satisfaction, but in real life these priorities fall short. The factors they value most involve their ability to work as a team to deliver **highly competent, patient-centered care**.

We evaluated the most important-rated factors for their relationship to satisfaction with those factors. Results are ranked by the delta between importance and satisfaction. ($\Delta = \text{Importance mean} - \text{Satisfaction mean}$)



Q (RTs + IDs): How important and satisfied are you with each of the following elements of your job?



Data insight: The largest gaps between importance and satisfaction were in **Access to the right information at the right time** ($\Delta = 1.4$) and **Quality time with patients** ($\Delta = 1.3$).

The upshot

The connection between job satisfaction and employee productivity is well established. *Harvard Business Review* recently published an analysis of various studies that showed an average of 31% more productivity when employees are happy or satisfied.⁹ Another study – this one conducted by economists at the University of Warwick – found that happiness leads to a 12% increase in

productivity. It also found that unhappy workers are 10% less productive than content employees.¹⁰

With a looming shortage of talent and mounting pressure on imaging departments, health systems must be very clear about what matters most to staff and actively intervene to enhance their satisfaction and avoid disengagement and attrition.



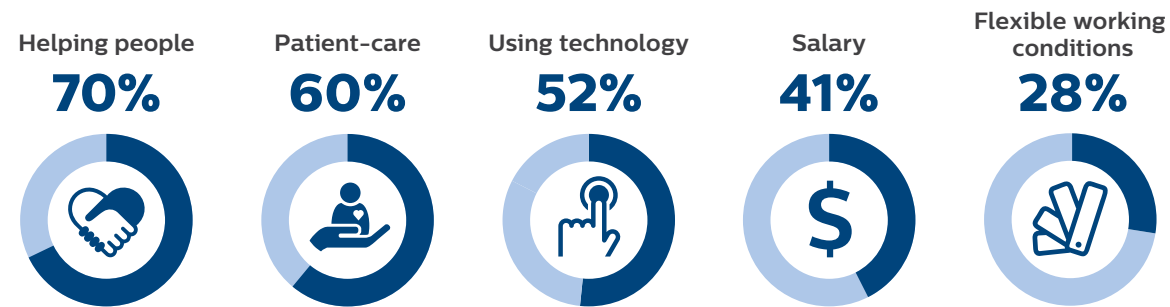
“If I could change one thing to improve my overall job satisfaction, it would be to have more communication with the patients themselves.”

– J, Radiology Technologist, US

Motivation for choice of profession

Imaging staff are purpose-driven professionals. They chose this profession because they want to help and care for people. Anything that interferes with that core sense of purpose should be regarded as a threat to their satisfaction.

Q (RTs + IDs): What motivated you to choose your current profession? (Respondents could choose all that apply.)



	US	France	Germany	UK
Patient-care	54%	32%	88%	69%
Helping people	73%	63%	70%	71%
Salary	35%	23%	65%	44%
Flexible working conditions	23%	38%	12%	42%
Using technology	38%	62%	62%	54%

Data insights:

Helping people and **Patient care** were by far the highest primary drivers for motivating both RTs and IDs to choose their current position.

Using technology was a higher motivation for respondents in France and Germany than in UK and US – and was more motivating than **Salary** for respondents in general.

The upshot

Before we dug into the specifics of our respondents' experience, we wanted to understand *why these professionals chose their career path to begin with*. What we found was a group of people who are exceptionally purpose-driven, but who also enjoy the challenge of a technology environment.

This finding augurs both good news and bad news for health systems. On the positive side, research shows that employees who feel like their work creates a positive impact are more likely to feel fulfilled, promote their workplace and stay at their job longer. A seminal study by Tony Schwartz and Christine Porath found that employees who derive meaning and significance from their work were more than three times as likely to stay with their organizations – the highest single impact of any variable in the survey. These employees also reported 1.7 times higher job satisfaction and were 1.4 times more engaged at work.¹¹

On the down side, people who actively seek meaning in their work will be highly sensitive to the factors that threaten that sense of purpose. A Gallup report entitled "How Millennials Want

to Work" determined that, "for millennials, compensation is important and must be fair, but it's no longer the driver. The emphasis for this generation has switched from paycheck to purpose – and so must your culture."¹² A purpose-driven workforce must be authentically connected to their staff's sense of purpose, and managers need to remove obstacles that impede that connection.



"Working in patient care for years was a source of high satisfaction, especially when there was still enough time to talk to the patient for a few moments."

For all HCPs in Germany, times have changed, and "patients nowadays become more and more a number... Patient throughput, profit and efficiency are in the center of medicine."

– S, Imaging Director, Germany

Stress among technologists

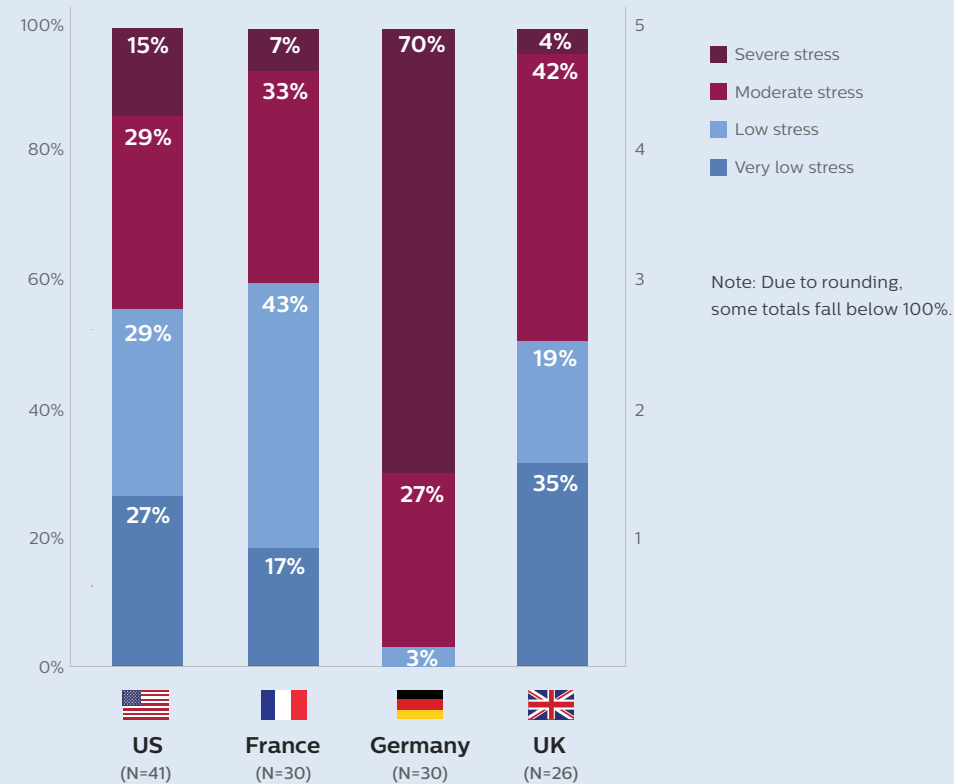


Alarming numbers of technologists report moderate or severe levels of job stress: FR=40%; US=44%; UK=54%; GER=97%. There is no sugar-coating these results.

Our study used a standard workplace stress scale¹³ to investigate stress levels among techs.



Q (RTs): Thinking about your current job, how often does each of the following statements describe how you feel?



Data insight: In Germany, the number of techs reporting **severe stress** – 70% – is truly alarming and a clear outlier from the other geographies: 4% (UK), 7% (FR) and 15% (US).

The upshot

The connections between stress and depression, anxiety, substance abuse, illness, errors, reduced productivity, absenteeism, attrition, and so on are literally too complex and exhaustive to cover here. But we can safely say that any sustained level of moderate to extreme stress is a threat to your imaging staff, their patients' experience, and the very functioning of your core diagnostic service. Imaging staff stress levels are alarmingly high, and efforts to reduce them should be intrinsic to the management of this valuable group of professionals.



"...Time per exam is very tight, which affects the quality of the images as everybody is stressed..."

– S, Radiology Technologist, Germany

About the stress level scale:

Respondents were asked about stress level using the 8 statements below:

- Conditions at work are unpleasant or sometimes even unsafe
- I feel that my job is negatively affecting my physical or emotional well-being
- I have too much work to do and/or too many unreasonable deadlines
- I find it difficult to express my opinions or feelings about my job conditions to my superiors
- I feel that job pressures interfere with my family or personal life
- I have adequate control or input over my work duties
- I receive appropriate recognition or rewards for good performance
- I am able to utilize my skills and talents to the fullest extent at work

Scale:

Never | Rarely | Sometimes | Often | Very often

Scoring:

- 5 to 15 = Very low stress
- 16 to 20 = Low stress
- 21 to 25 = Moderate stress
- 26+ = Severe stress

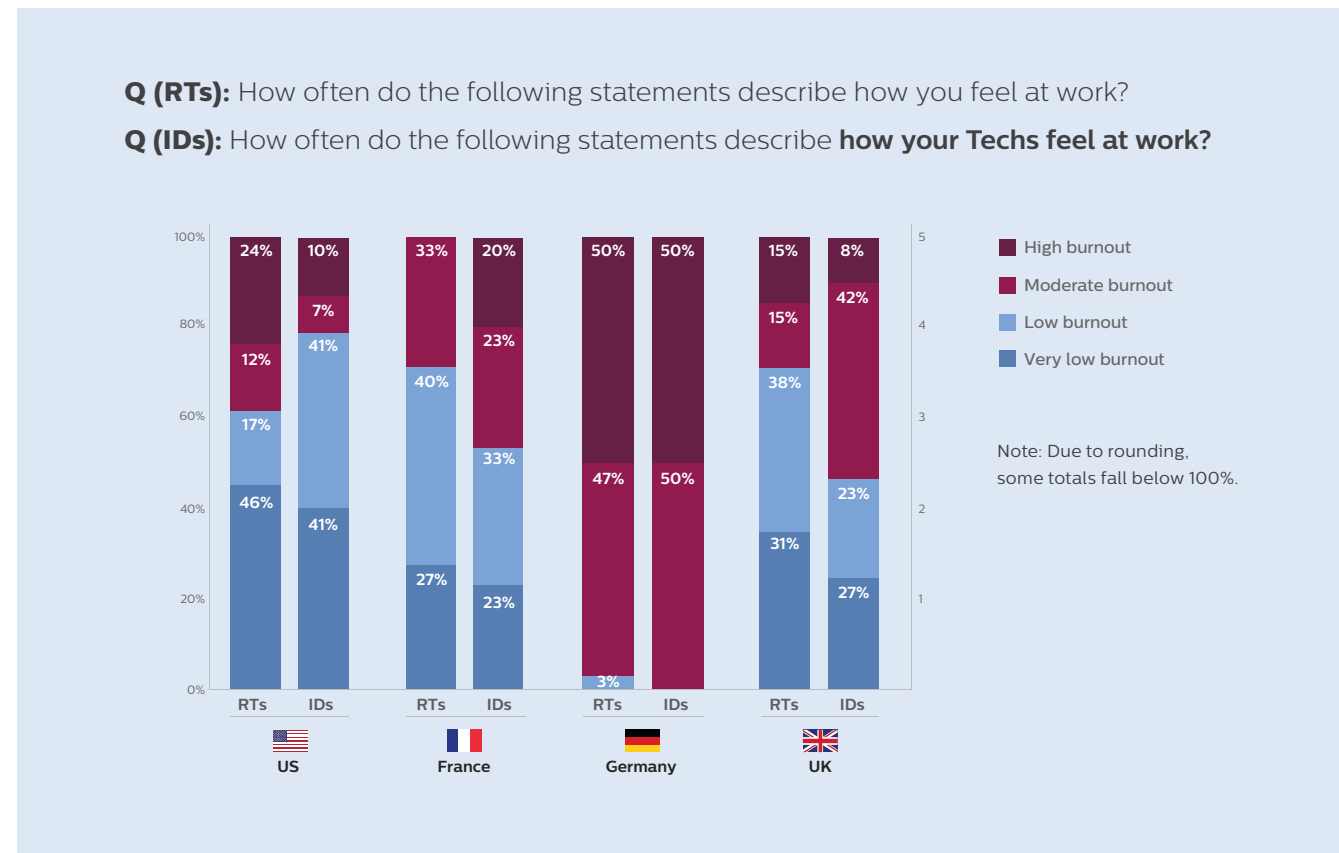
Cronbach's alpha (scale reliability metric) = .85

Burnout among technologists

Technologists in every geography reported a significant incidence of moderate or high burnout: UK=30%; FR=33%; US=36%; GER=97%.

Taken together with burnout levels for radiologists, we're witnessing a serious, systemic problem across imaging.

Using a standard inventory for professional burnout,¹⁵ to estimate the stress levels of the technologists technologists were asked about how they feel they supervise. at work. In addition, we asked imaging directors



The upshot

The correlation between stress and burnout is .78, which is very strong. Our results underscore distressing levels of burnout in a talent pool that is already in inadequate supply.

In his research on physician burnout, Dr. Tait Shanafelt determined that every one point increase in burnout [based on a 7-point emotional exhaustion scale] is associated with 30–50% likelihood of reduced professional work effort. In more recent work, Dr. Shanafelt cautions that “Physician burnout has been shown to influence quality of care, patient safety, physician turnover, and patient satisfaction. Although burnout is a system issue, most institutions operate under the erroneous framework that burnout and professional satisfaction are solely the responsibility of the individual physician. Engagement is the positive antithesis of burnout and is characterized by vigor, dedication, and absorption in work. There is a strong business case for organizations to invest in efforts to reduce physician burnout and promote engagement.”



“With the focus on profit, workload has increased in past years, but lack of well-trained staff is a major issue in [our] hospital. Every third position remains vacant. It means we now work 30% more, and if someone is sick or on holiday, the patients go on like an assembly line. It’s incredible!”

– S, Imaging Director, Germany

About the burnout level scale:

Respondents were asked about their burnout level using the 9 statements below. These statements are used in standard inventories that probe the subject professional burnout.

- I feel emotionally drained from work
- I feel used up at the end of the workday
- I feel fatigued when I get up in the morning
- I feel like I am at the end of the rope/out of patience
- I feel burned out from work
- I feel frustrated by my job
- I feel I am working too hard on the job
- Working with people puts too much stress on me
- Working with patients is a strain

Scale:

- Never | A few times a year or less |
- Once a month or less | A few times a month |
- Once a week | A few times a week | Every day

Categories based on the quartile distribution:

- 7 to 20 = Very low burnout
- 21 to 30 = Low burnout
- 31 to 40 = Moderate burnout
- 41+ = Severe burnout

Cronbach's alpha (scale reliability metric) = .92

Data insights:

Burnout results are highly correlated to stress results. Techs in every surveyed geography reported a significant incidence of **moderate or high burnout**: UK=30%; France=33%; US=36%; Germany=97%.

Germany's technologists are voicing crisis levels of burnout, with their managers concurring.

In the US, imaging directors underestimate burnout among techs, underscoring

a communications gap between staff and management. 36% of US techs report **moderate to high burnout**, but IDs appraise only 17% of techs feeling burned out to that extent.

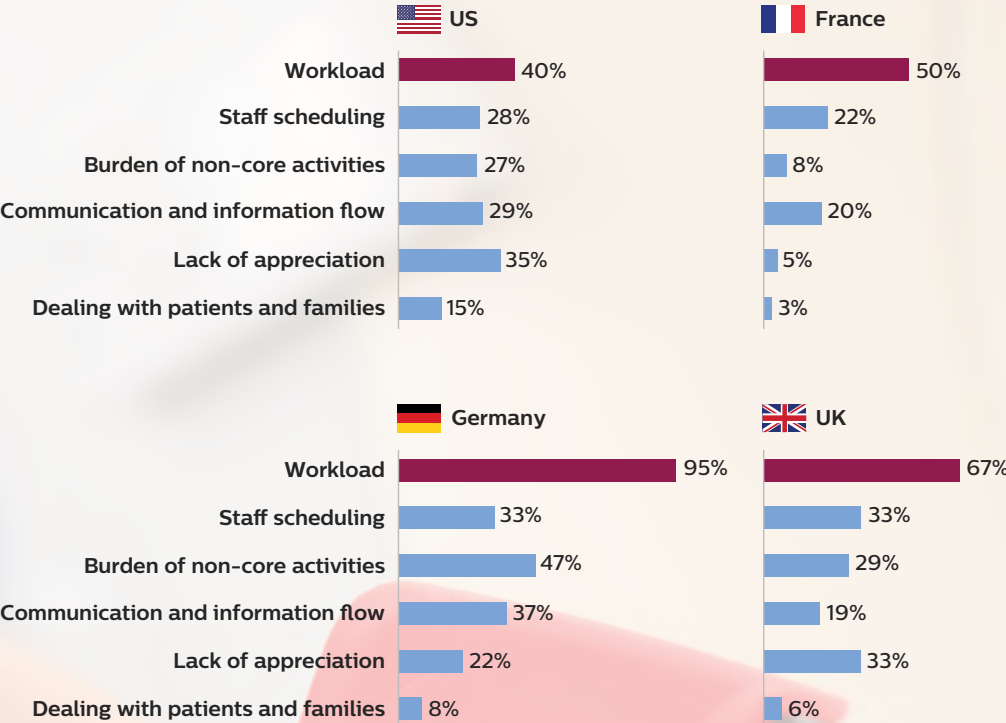
Perception of burnout is skewed in the opposite direction in Europe, with techs in France and the UK reporting less burnout than IDs expect them to experience.

Sources of stress and burnout



Workload is, by far, the greatest source of stress and burnout for imaging staff. Given that workload will likely only increase, it is paramount to focus both innovation and process improvement efforts on empowering techs to do their jobs with more ease and less stress.

Q (RTs + IDs): What are the greatest sources of stress or burnout at your work?



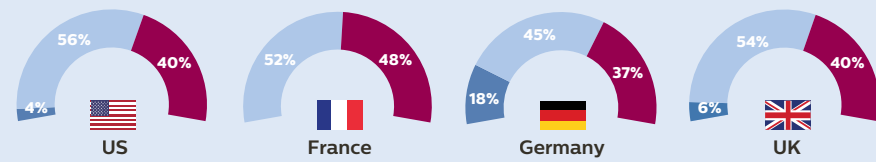
Data insights:

Workload contributes the most towards stress in all countries – followed by **Staff scheduling, Burden of non-core activities, Communication and information flow,** and **Lack of appreciation.**

Workload and the **Burden of non-core activities** is significantly larger in Germany than elsewhere.

Q (RTs + IDs): How would you compare your institution's imaging case load to that of other similar institutions?

■ Lower than average ■ Same as average ■ Higher than average



Data insight:

In every geography, a significant number of respondents believe their workload is **higher than average** when compared to similar institutions.

More than a third of imaging staff surveyed think their workload is higher than average. **Although workload is a shared challenge across institutions and geographies, many techs have the feeling “it’s just us.”**

The upshot

There’s no mystery behind the workload crunch in imaging. While contributing factors vary across geographies (lack of budget, lack of training programs, competition for talent), the mandate to “do more with less” is a constant. Additionally, the burden of non-patient care activities such as reporting and compliance documentation continues to increase.

As imaging services are forced to become ‘leaner,’ some technologists are being asked to pick up duties such as patient transport – or to support imaging needs in other departments. So while demand for imaging continues to increase, health systems have largely been unwilling or unable to respond in ways that reduce the pressure on imaging staff.

Finally, morale matters. In an environment of heavy workloads and pressures, it’s important to find opportunities to offer encouragement and praise – especially for staff who are struggling or who are actively looking for ways to make things better.



“Often techs don’t have lunch because they’re so busy during the day...”

– C, Imaging Director, US

“If we are in the middle of an exam and there are 10 patients waiting, we will be in a hurry, and errors may occur.”

– A, Radiology Technologist, France

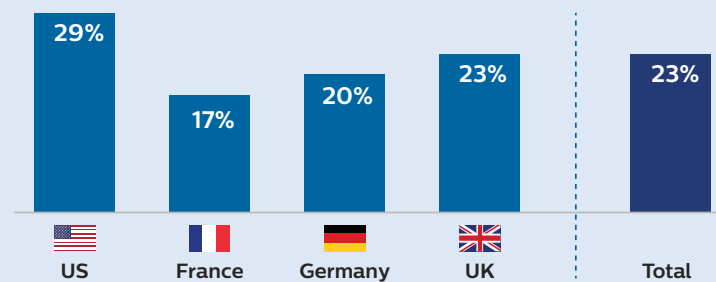


Efficiency and automation



Given their workload pressure, imaging staff are eager for efficiency gains. **Indeed, respondents believe almost a quarter of their work could be automated.** The response indicates the great opportunity that exists to make their work more streamlined and, presumably, more satisfying.

Q (RTs + IDs): What percentage of your work do you feel is inefficient and would make your job better if it was automated?



The upshot

The need for automation and Artificial Intelligence (AI) to improve the staff experience for imaging technologists, administrators, radiologists, and collaborating physicians is not merely a nicety at this juncture; it's a necessity. Staff know the power of technology to work for or against them, and they are eager to see it align around their needs.

When discussing inefficiencies in their work environment, staff are quick to point out opportunities for improvement. Automating processes related to patient and staff scheduling, patient preparation, protocoling and protocol selection, pre-exam planning (e.g., contraindications and implants), patient positioning, image analysis and post-processing, and reading results to be sent to PACS would go far toward helping imaging staff spend less time with technology and more time with patients. Focusing innovation efforts in these areas has great potential to improve workflow and throughput, enhance patient satisfaction, and decrease staff stress and burnout.



"If the system was highly automated then they would not have to wait for anything [i.e., reconstruction], which would also improve the patient experience."

— T, Radiology Technologist, US

"The machine's user interface is not friendly; we got used to it but it was complicated at first. Radiologists have the same issue on their interpretation interface."

— C, Radiology Technologist, France

"If the ergonomics were better, the techs could be more efficient and complete more scans daily."

— J, Radiology Technologist, US

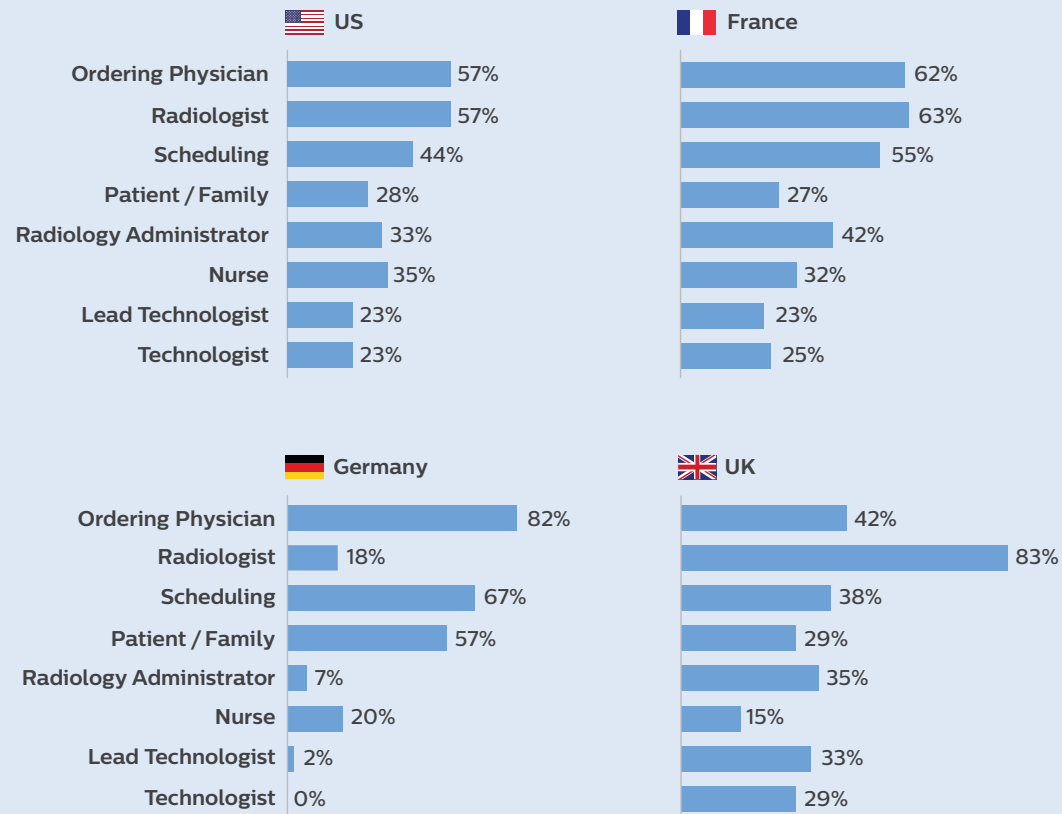
Communication and information flow



When asked which communication/information channels are most critical to improve, respondents ranked **Ordering Physicians first**. It makes total sense: How can you do your job well and without undue stress when you're not sure what you're supposed to do and why?



Q (RTs + IDs): Which communication/information channels are the most critical to improve between Techs and the following key stakeholders?



The upshot

The number of information sources and systems that must be figured into a patient's care journey has never been greater. As we move beyond imaging to a new era of Precision Diagnosis and Precision Medicine, new data sources – genomic, radiomic, cellular, pharmacological, demographic, and more – will be applied to individual clinical scenarios to guide the best course of treatment.

burden on an already struggling system. That's why it's critical to take a systems view of imaging and focus on optimizing radiology and informatics workflows to support staff in getting the image right the first time. This is an urgent prerequisite for health systems and technology suppliers as we glimpse the horizon of a new era of personalized care. Without it, we place imaging staff in the unmerited position of struggling to deliver the enormous value of Precision Medicine to their patients 'for want of a nail.'¹⁸

But even today, we're facing communication and information lapses that present an unacceptable



"Town doctors sometimes ask for outdated exams that are not done anymore. I think they are not informed enough about radiology... Secretaries do not have paramedical training and sometimes plan inadequate exams for patients."

– C, Radiology Technologist, France

"Very often, only 'X-Ray leg' is mentioned – not which one, what to look for, or the area to scan."

– S, Radiology Technologist, Germany

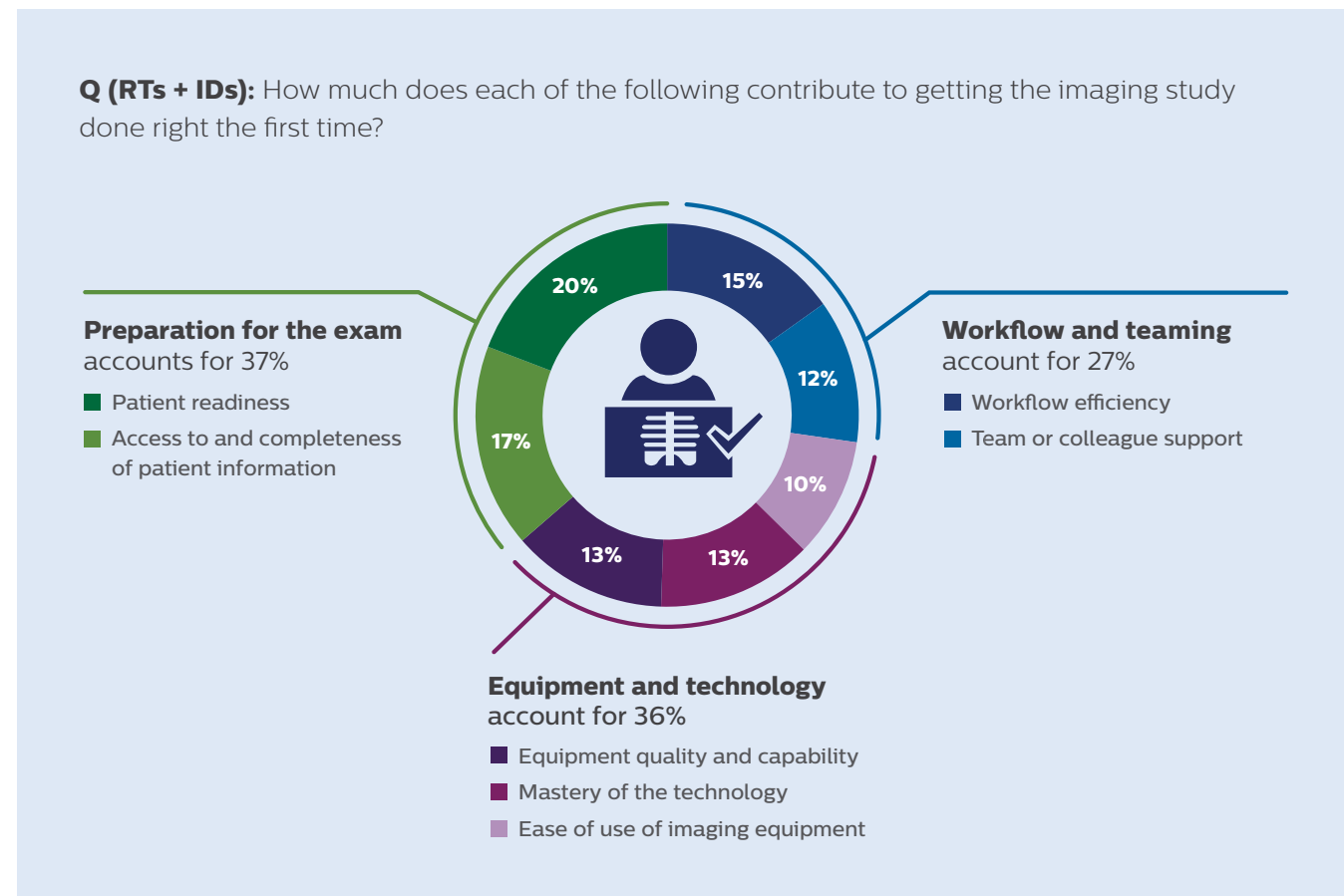
Data insights:

Respondents indicated that information flows between **Technologist–ordering physicians, Technologist–radiologists, Technologist–scheduling** are the most critical ones to improve.

In Germany, the information flow between **Technologist–patient/family** is also cited as critical to improve.

Getting the image right the first time

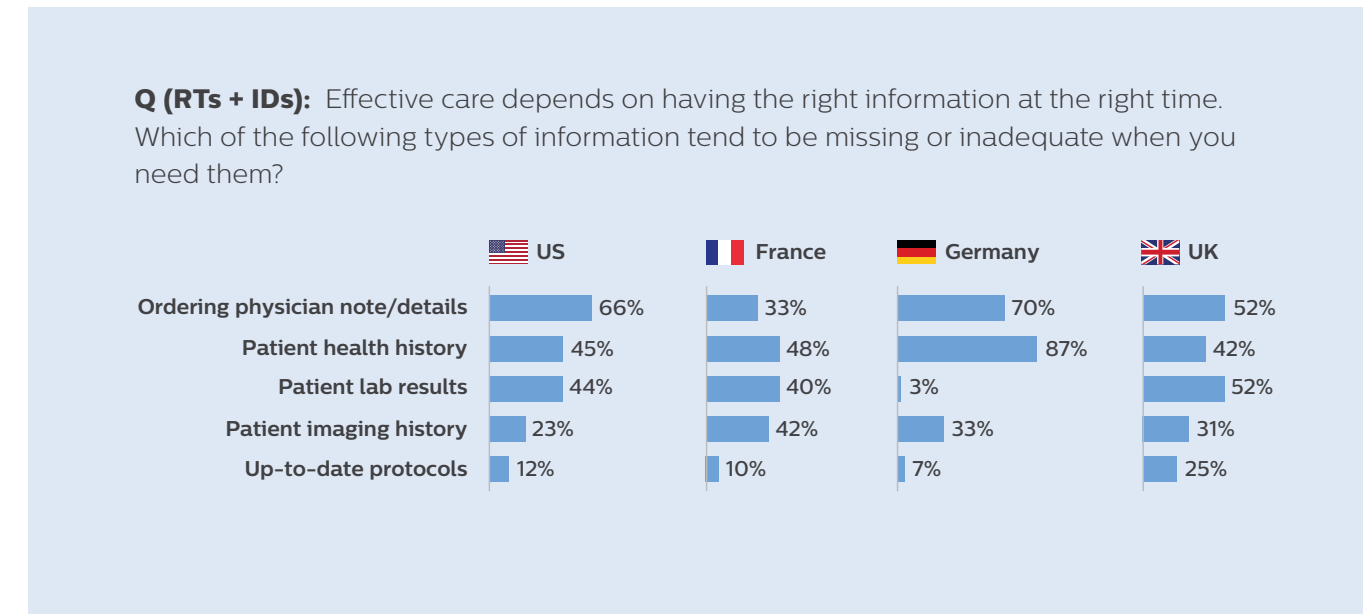
When technologists can't get the image right the first time, it's largely because the patient hasn't been properly prepared – or because of missing or inadequate patient information. With workload already a critical problem, techs are having to repeat exams because they're missing critical clinical information or patients are unprepared – all of which is mostly out of their control.



Data insights: **Patient readiness** combined with **access to and completeness of patient information** are deemed to be the greatest reason (37%) for not getting the image right the first time. Both factors were notably higher in Germany, where they are thought to contribute 60% towards not achieving a first-time-right image, compared to FR (28%), US (29%), and UK (30%). (Data not shown here).

Technology factors (**equipment quality and capability**, **mastery of the technology**, and **ease of use of imaging equipment**) combined are the second highest factor overall (36%) in not achieving a first-time-right image.

Missing information is more than a technology problem: it's a communication, data integration, and process engineering problem that impacts the entire imaging care continuum.



Data insights: When information is missing or inadequate at the point imaging staff needs it, it impedes the ability to get the image right the first time and deliver patient-centered imaging care. **Patient health history, ordering physician note or ordering details, lab results** and **imaging history** top the list of information most often lacking or inadequate for technologist and ID needs.

In Germany, lack of access to the patient EMR is an urgent information gap. In all geographies, the **ordering physician note or ordering details** constitute a major lapse in information needed to empower techs.

The upshot

Remember why imaging techs and directors went into this field to begin with: i.e., to help people and care for patients. So imagine about how frustrating it is for a person who went into this field to help people, to routinely fail to help them because somebody gave them the wrong prep instructions. Or because they can't find the health history. Or lab results. Or because the referring doctor wasn't clear about the specifics of the exam. Or why it's being ordered.

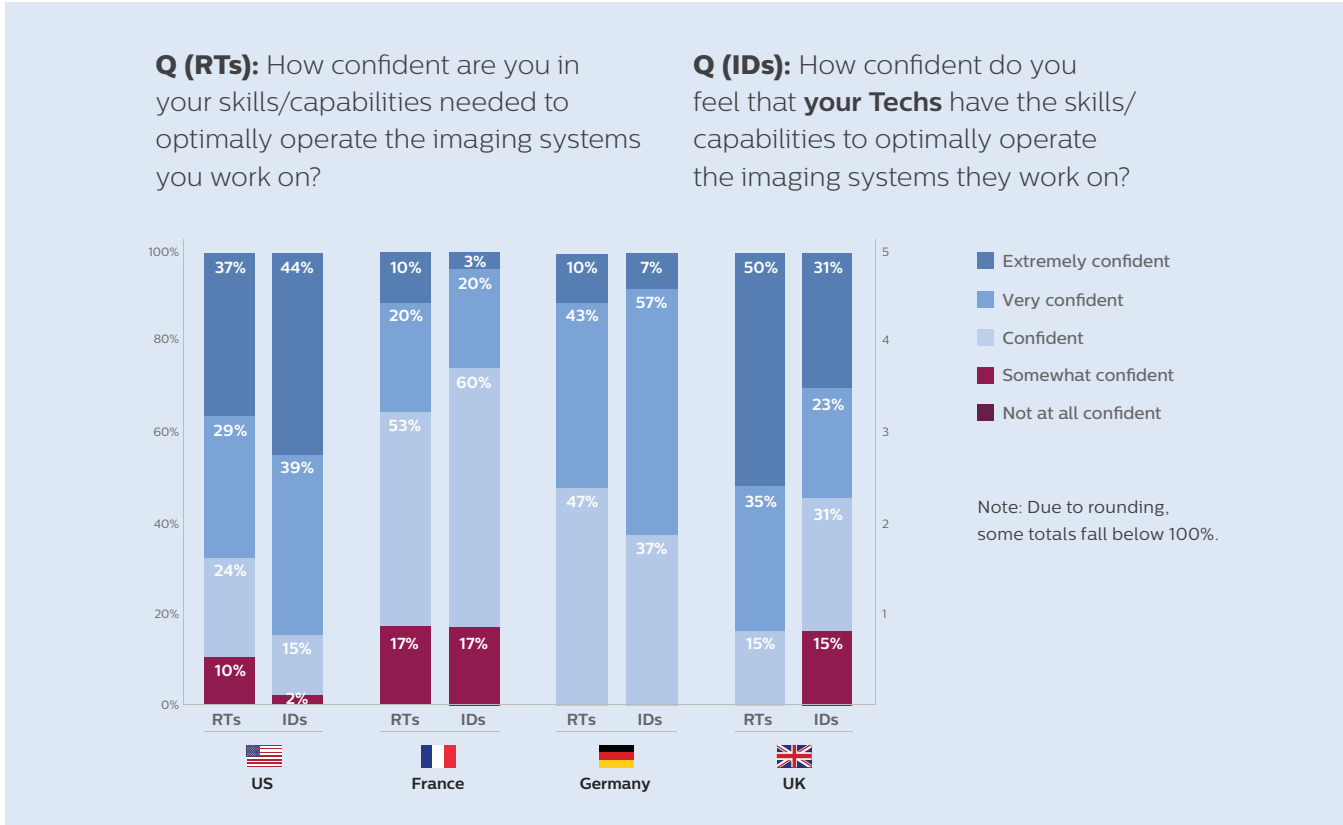
Data shows that, in spite of strict verification guidelines put in place to avoid it, the high numbers of imaging studies and complexities of the imaging care continuum still put patients at risk for wrong patient, wrong procedure, wrong site, wrong side events.¹⁹ This is obviously most concerning for patients. But it's also creating undue stress on imaging staff, who must serve as the stopgap to prevent errors and rectify information gaps in an inefficient system. (Cont. next page)



Tech confidence in imaging systems operation

Technologists' confidence in their mastery of the systems they operate varies. In the US and UK, imaging directors overestimate and underestimate, respectively, their technologists' skills. Given the high cost of imaging systems and huge demand for their use, staff confidence is an important factor to assess and improve.

Here we were interested in contrasting technologists' confidence in their abilities with that of their supervisors' (IDs') confidence in their technologists' abilities.



The good news is: these are addressable problems. We have solutions and insights that can help us tackle these challenges today. Deploying communication tactics to better prepare patients... arming techs with the information they need to get the image right the first time...setting better expectations with referring physicians: these are all processes that we can address today without huge technology investments. Considering the fact that we spend up to US \$12B a year on unnecessary, sub-optimal, and repeat imaging,²⁰ that's effort well spent.



“Physician notes or ordering details tend to be missing or inadequate about half the time. This affects the workflow because [the techs] can't process the order, so they have to stop and call the office. This causes delays, and the patient thinks the department is inefficient as a result.”

– K, Imaging Director, US

Data insights:

Techs are more confident in the UK than in the US, GER and FR.

US IDs have **higher confidence** in their technologists than the techs themselves and underestimate the number of techs (10%) who feel only **somewhat confident**.

UK IDs have **lower confidence** in their technologists than the techs themselves, *none* of whom feel **not at all confident** vs. the IDs' impression that 15% feel only **somewhat confident**.

FR and GER IDs seem to have a very realistic impression of their techs' confidence.

The upshot

The issue of staff confidence in their mastery of technology rightly raises the issue of training. Clearly, the onus is on both technology vendors and imaging departments and to make sure techs have access to the training and support resources they need, when they need them. In this area, there's certainly room for improvement.

Beyond formal technical training, however, is an opportunity to build confidence through less formal staff development structures. Let's be honest: a lack of professional confidence is a

factor many may not want to share. Initiatives around teaming, mentoring, best practice sharing, and confidential staff input are ways to address staff insecurity while at the same time building team trust. Trust is essential to honest communication about skill, and skill is directly related to image quality. Moreover, tactics such as these can go a long way toward enhancing engagement and loyalty among staff who will certainly be exposed to competing opportunities as the bid for talent intensifies.

Staff empowerment

While techs are quite clear about causes of inefficiency in their departments, many do not feel empowered to effect change.

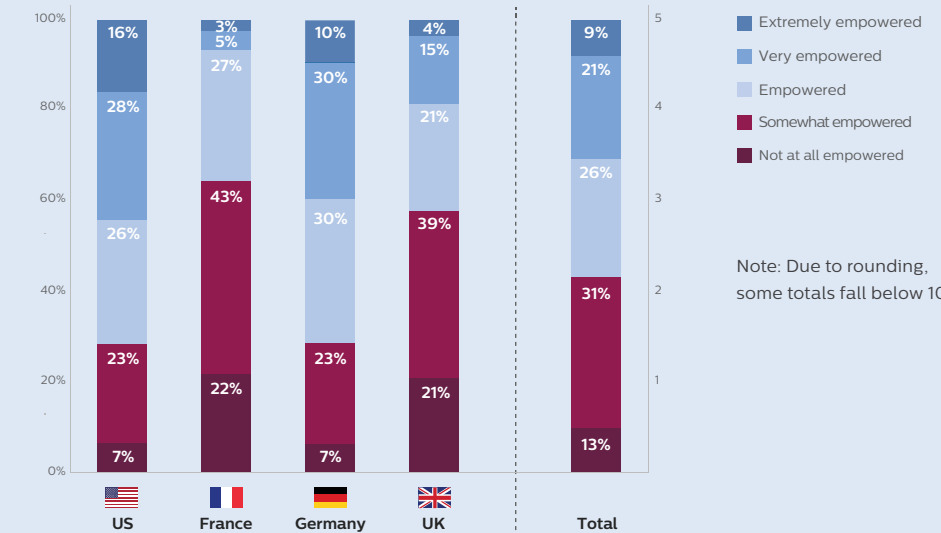
Creating positive change in the imaging environment requires empowering the people behind the image – in this case, the imaging techs and directors responsible for the critical image

acquisition phase of diagnostic imaging. To that end, we asked both imaging techs and directors how empowered they felt to effect change in their departments.



Q (RTs + IDs):

How empowered do you feel to effect change in your department?



Note: Due to rounding, some totals fall below 100%.

Data insights:

A majority of FR and UK respondents (65% and 59%, respectively) felt either **Not at all empowered** or just **Somewhat empowered**.

Differences by role (data not shown): Not surprisingly, IDs feel somewhat more empowered (mean = 3.1) than the technologists they manage (mean = 2.5).

The upshot

A recent report by Salesforce revealed that employees who feel their voice is heard at work are nearly five times (4.6X) more likely to feel empowered to perform their best work.²¹ In addition, studies have shown that empowered employees are more satisfied and committed to their workplace. According to recent research published in the *Harvard Business Review*, “when employees feel empowered at work, it’s associated with stronger job performance, job satisfaction and commitment to the organization.” Moreover, they were likely to trust leaders they perceived as more empowering.²²

Empowerment is about supporting staff. As we have seen in this study, imaging staff are quite clear in their assessment of the gaps and obstacles to better job satisfaction and patient care.

Giving them a voice – and making them a vested partner in transforming care – is a valuable key to unlocking the goals of the Quadruple Aim: happier patients and more satisfied staff, with better outcomes and at lower cost.



“It would be helpful to have cheat sheets for the sequences because a lot of people don’t know what sequences to do” (i.e., difference between T1 and T2) and then they “check with the radiologist after that.”

– T, Radiology Technologist, US



Conclusion

So what's the takeaway? At Philips, we understand we have a mandate as a technology partner to connect data and technology in a way that empowers staff and doesn't add to their stress. And for you on the front lines of imaging, we hope this underscores some of the areas where you can focus your improvement efforts *today*. Identifying better ways to prepare patients... arming technologists with the information they need to

get the image right the first time... recognizing staff and expressing appreciation: these are all incremental improvement tactics that can make a huge difference for staff.

These are not easy problems. But the good news is: we know where to take action to ease the burden on staff, and we're committed to working with you to do it.

References

- 1) Imaging's System Advantage: Five goals for achieving systemness in imaging. Advisory Board Company, 2016.
- 2) Source: "Radiologic Technologists Wage and Salary Survey 2016," American Society of Radiologic Technologists, http://hshs.csi.edu/radiologic_technology/documents/radiologic-technologist-wage-and-salary-survey-2016.pdf
- 3) "The Other Elephant in the Hospital Room" LFT (Leaders for Today) Survey: Hospital staff hiring & turnover, May 2017.
- 4) Ibid.
- 5) "Enrollment Snapshot of Radiography, Radiation Therapy and Nuclear Medicine Technology Programs-2017," American Society of Radiologic Technologists, https://www.asrt.org/docs/default-source/research/enrollment-snapshot/enrollment_snapshot_2017.pdf
- 6) Source: 2019 Hospital Benchmark Generator, Health Care Advisory Board; 2017 Imaging Benchmarking Survey, Imaging Performance Partnership, Advisory Board; Imaging Performance Partnership interviews and analysis. <https://www.advisory.com/>
- 7) Profit estimates based on facilities at 25th and 75th percentile of staff/scanner. Average payment per case as reported in CMS's Outpatient Standard Analytical file (SAF).
- 8) "2017 Annual Turnover, Vacancy, and Premium Labor Benchmarks," HR Advancement Center, Advisory Board; Imaging Performance Partnership interviews and analysis, 2017.
- 9) Achor, Shawn. "The Happiness Dividend," Harvard Business Review, June 23, 2011. <https://hbr.org/2011/06/the-happiness-dividend>
- 10) Oswald, Andrew J., Proto, Eugenio and Sgroi, Daniel. (2015) "Happiness and productivity," Journal of Labor Economics, 33 (4). pp. 789-822. <http://wrap.warwick.ac.uk/63228>
- 11) Schwartz, Tony, and Christine Porath, "Why You Hate Work," New York Times, Section SR, New York edition, p.1. June 1, 2014. https://www.nytimes.com/2014/06/01/opinion/sunday/why-you-hate-work.html?_r=1
- 12) Gallup poll: "How Millennials Want to Work and Live." 2016. <https://www.gallup.com/workplace/238073/millennials-work-live.aspx>
- 13) The Workplace Stress Scale™, Copyright © The Marlin Company, North Haven, CT, and the American Institute of Stress, Yonkers, NY.
- 14) According to Medscape's Radiologist Lifestyle Report 2018: Personal Happiness vs Work Burnout, 47% of radiologists state feeling burned out, depressed, or both: <https://www.medscape.com/slideshow/2018-lifestyle-radiologist-6009241#4>
- 15) Emotional Exhaustion (EE) Subscale of the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2700194/>
- 16) Shanafelt TD at al. Longitudinal study evaluating the association between physician burnout and changes in professional work effort. Mayo Clin Proc. 2016 Apr;91(4):422-31.
- 17) Shanafelt TD, Noseworthy JH. Executive Leadership and Physician Well-being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout. Mayo Clin Proc. 2017 Jan;92(1):129-146.
- 18) "For want of a nail" is based on a proverb, having numerous variations over the centuries, reminding that seemingly unimportant acts or omissions can have grave and unforeseen consequences. https://en.wikipedia.org/wiki/For_Want_of_a_Nail
- 19) For an interesting analysis, see "Adapting Verification Processes to Prevent Wrong Radiology Events," PA Patient Saf Advis 2018 Sep;15(3).
- 20) Peer60; Unnecessary Imaging. <https://reactiondata.com/wp-content/uploads/2015/02/peer60-unnecessaryimaging.pdf>
- 21) The Impact of Equality and Values Driven Business: Insights from over 1,500 business professionals on workplace equality and values driven leadership trends. A report by Salesforce. <https://www.salesforce.com/contents/impact-of-equality/>
- 22) Allan Lee, Sara Willis, and Amy Wei Tian, "When Empowering Employees Works, and When It Doesn't," Harvard Business Review, March 2, 2018. <https://hbr.org/2018/03/when-empowering-employees-works-and-when-it-doesnt>

