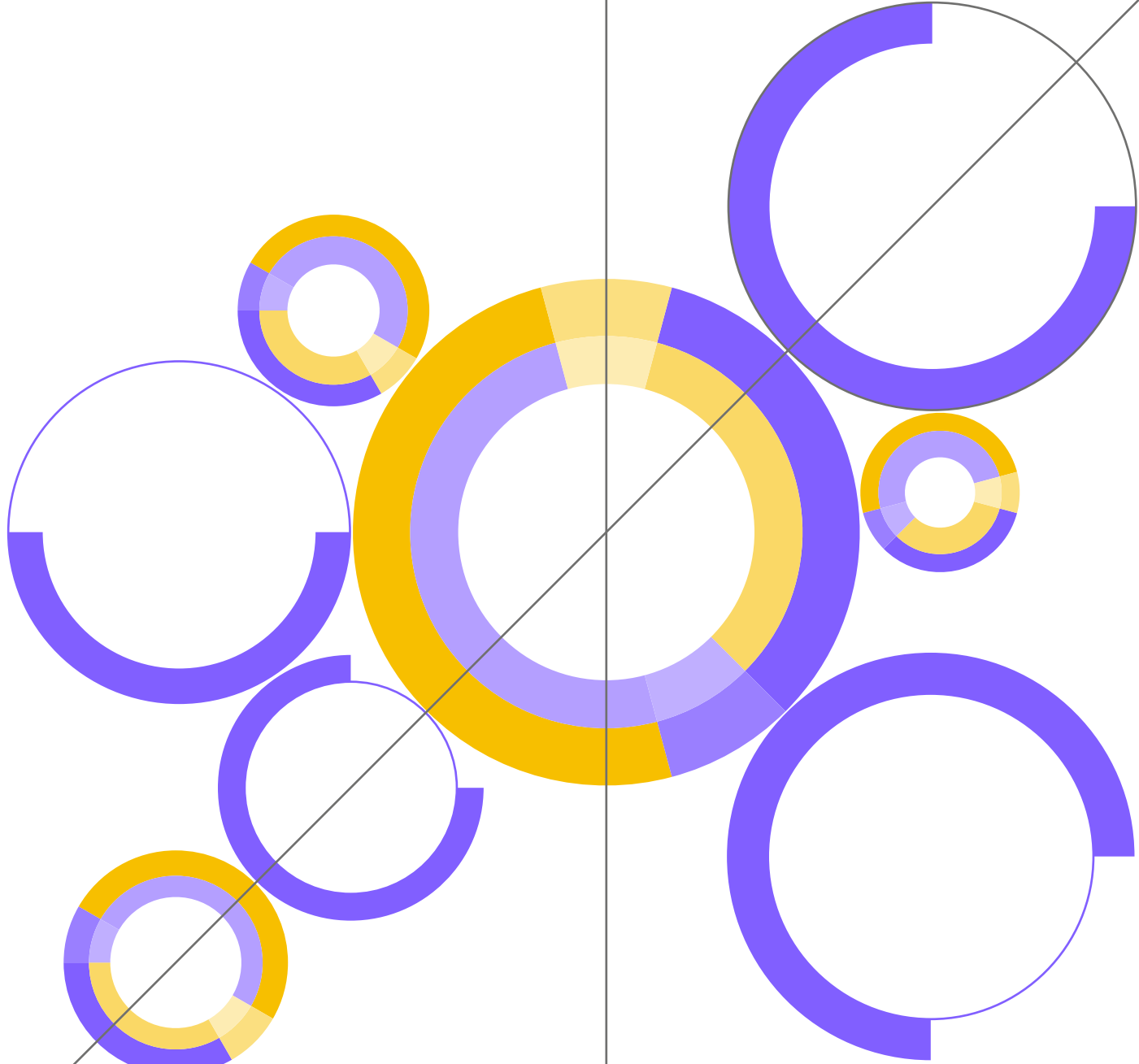


RICOH



Accelerating the Power of Information_ 2024

Industry report
on technology's impact
on **healthcare**



Preface

Considering all the advances society has made over the past two centuries, maybe none is more significant to our future than healthcare. So as a technology company deeply committed to serving humanity, we continually listen to what our healthcare clients and the industry need most from us and technology. From what we hear, healthcare must address talent strain. Talent strain hits health systems with a 1-2 punch: employee burnout and a significant shortage of new employees. Employee shortages are predicted to become even more dire in the coming years, so we believe tech solutions that make workers more efficient are more important than ever.

Our healthcare solutions team has gathered the latest research and statistics on the state of the industry today. They have met with our experts on what technologies we might provide to help change the lives of people who work to improve all of ours. The result is all here, for you, in our healthcare industry report:

Reimagining How We Care for Healthcare Workers
Accelerating Technology Adoption to Reduce Talent Strain

“Improving how healthcare professionals operate day-to-day, and how the industry moves forward is critically important for society’s wellbeing. At Ricoh, we are developing new AI and automation solutions to integrate with healthcare workers’ day-to-day realities – the burden of administrative tasks and a lack of resources.”

— Carsten Bruhn, CEO, Ricoh North America



94%

HEALTHCARE WORKERS WHO FEEL SOME LEVEL OF BURNOUT

\$56,300

AVERAGE COST OF TURNOVER FOR ONE BEDSIDE RN

92%

REDUCING ADMINISTRATIVE TASKS WILL SAVE HEALTHCARE PROFESSIONALS TIME

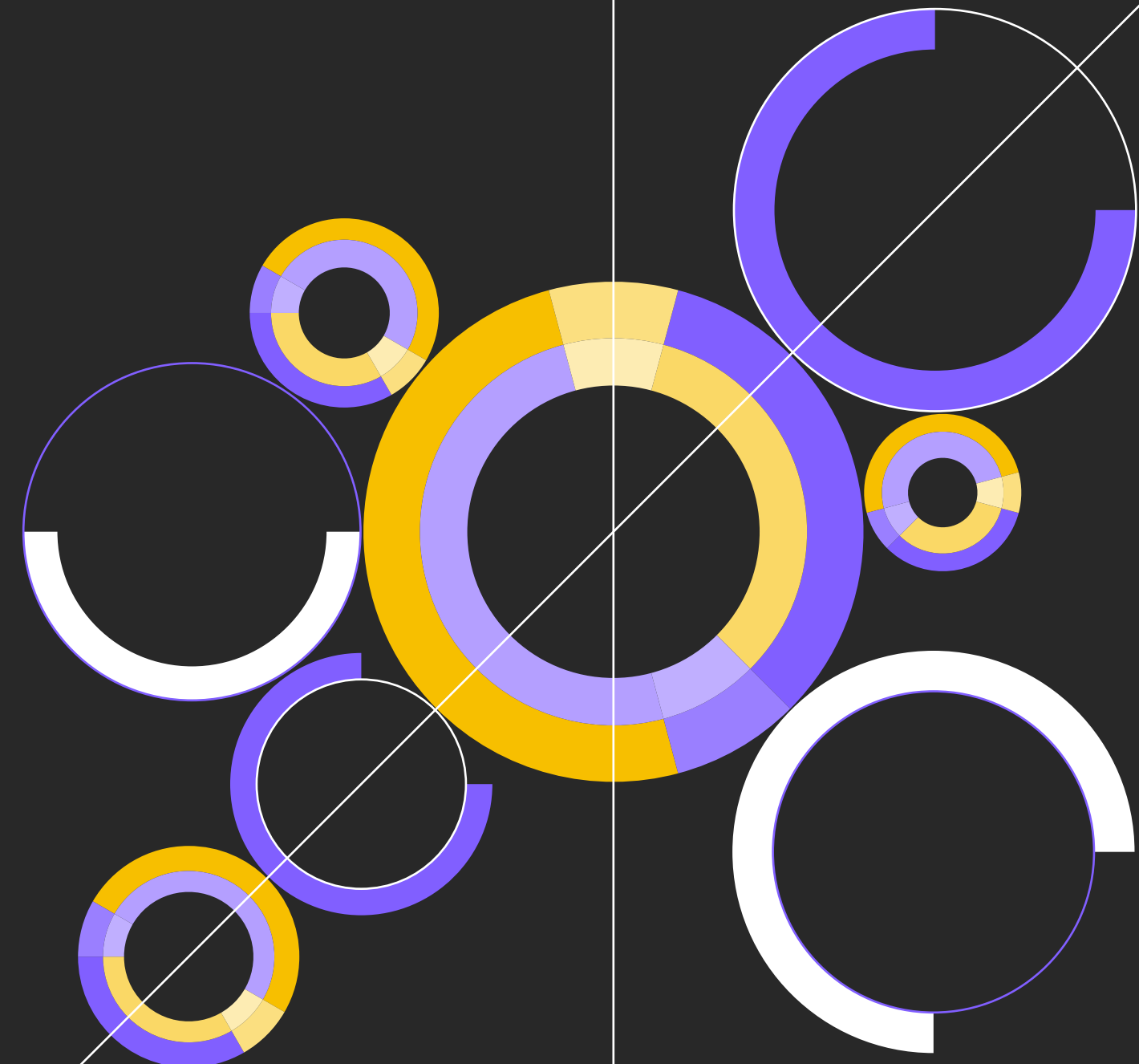
81%

PHYSICIANS WHO BELIEVE GEN AI WILL IMPROVE PATIENT INTERACTION

Reimagining how we care for healthcare workers

94%

Healthcare workers who feel
some level of burnout*



* CDC, *Health Workers Face a Mental Health Crisis*, October 24, 2023

Reducing talent strain requires a systemwide approach

There's no way to sugarcoat the reality, healthcare is still in a critical state due to the combination of workers feeling overburdened and difficulty hiring and retaining essential staff. Close to 50% of nurses experience burnout currently.¹ And while the AMA has reported that burnout fell for physicians between 2022 and 2023, it was only a drop from 53% to 48% of doctors who report one symptom of burnout.² When you factor in understaffed facilities with the reality that most nurses and almost half of doctors are feeling burnt out, the industry needs to act. The condition is chronic, systemic, and unsustainable.

Reducing these crushing strains on talent is the only way forward, and it must be done at a system-wide level, not on an individual basis. Quick fixes like scheduling existing staff to cover for worn-out colleagues or hiring contract workers to fill vacancies buys health systems and private practices little time. Forward-looking employers must rethink how patient care is delivered and how systems treat employees. Leaders will have to remove operational hurdles that prevent highly trained staff from working up to their license, while integrating time-saving automations so fewer staff can achieve more. This will require a multi-pronged, human-centered approach to technology, that allows system-wide interoperability and integration of data.

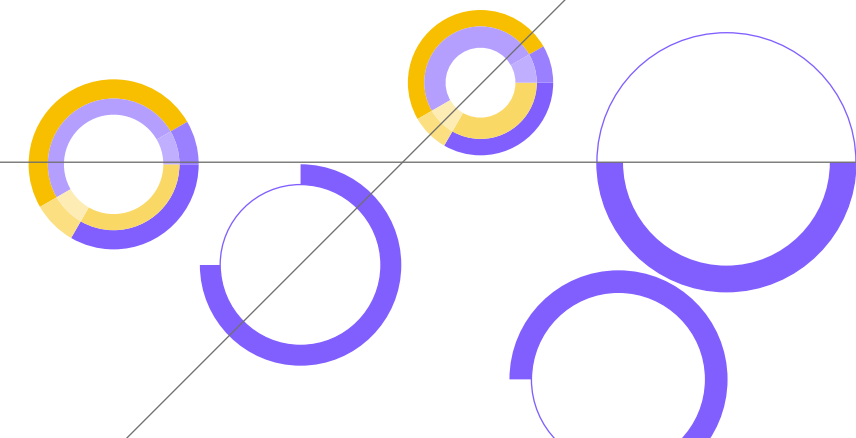


Worker retention remains a challenge

48% Hospitals reporting vacancy rate more than 10%³

86 Average days to recruit an experienced RN⁴

44% Healthcare workers considering looking for a new position in the next year⁵



¹ Washington Center of Nursing, *Prioritizing Nursing Well Being to Strengthen the Workforce 2024 Washington Nursing Burnout Survey and Next Steps*, July 2024

² AMA, *Burnout on the Way Down, but "Pajama Time" Stands Still*, August 2024

^{3,4} Nursing Solutions Inc., *2024 NSI National Health Care Retention & RN Staffing Report*, 2024

⁵ HRSA Health Workforce, *Health Workforce Projections*, March 2024

Recognizing both components of talent strain

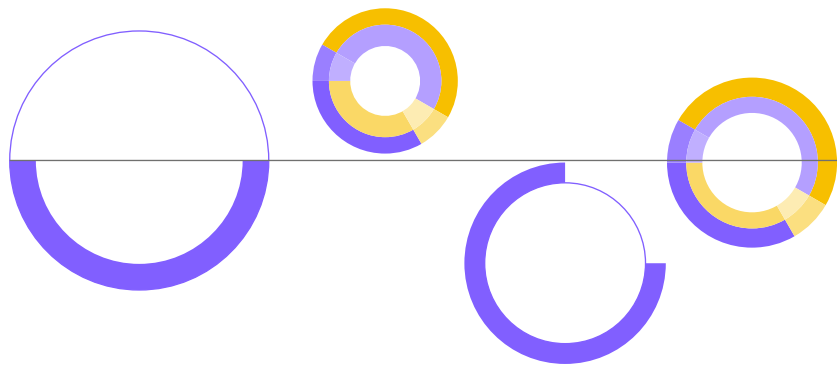
Burnout: What exactly is it?

Burnout is a distinct workplace condition driven by multiple factors. The World Health Organization’s 11th revision of the International Classification of Diseases (ICD) defines burnout as “a syndrome conceptualized as resulting from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: feelings of energy depletion or exhaustion; increased mental distance from one’s job, or feelings of negativism or cynicism related to one’s job; and a sense of ineffectiveness and lack of accomplishment.”⁶

Burnout did not arise from the 2020 pandemic, but demands on the healthcare system accelerated an already deteriorating situation. Burnout was born with rapid changes in the healthcare industry as new requirements for electronic health records (EHRs) arrived and powerful technologies came online piecemeal. Without a singular implementation plan, there has been ever higher administrative burdens and cognitive load for clinicians.

The root is the work, not the worker

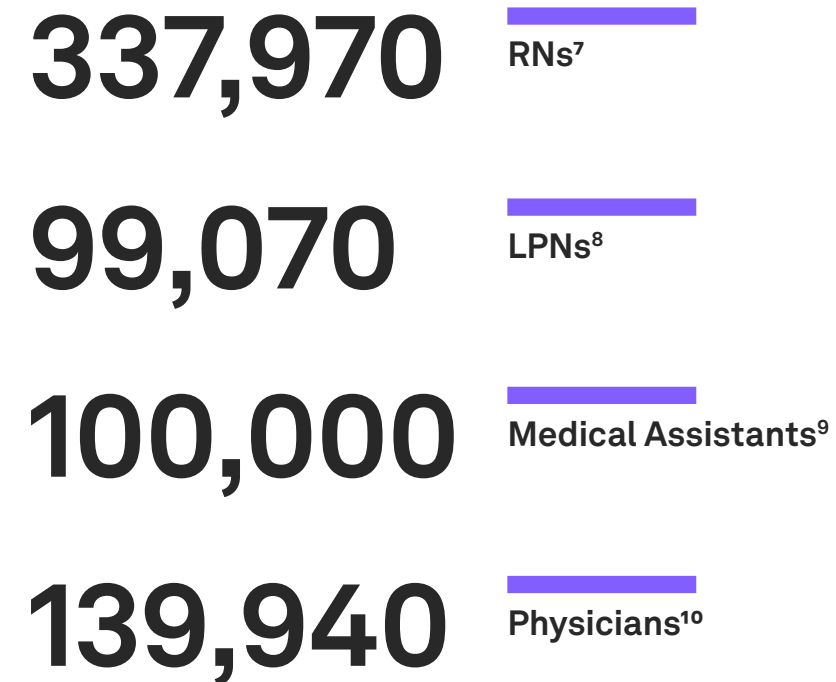
“What is important here is to understand that in the ICD-11 definition, burnout is identified as an occupational phenomenon and not a medical condition,” said Christine Sinsky, MD, Vice President of Professional Satisfaction at the AMA. “Burnout is primarily related to the environment, such as when there is a mismatch between the workload and the resources needed to do the work in a meaningful way.” Systemic issues like staff shortages are affecting healthcare workers physically as well as emotionally, creating a feeling of heartbreak or hopelessness. And research shows that there is a correlation between burnout and anxiety and depression, potential predictors of an array of mental health challenges.



Worker shortages: How did we get here?

There is a shortage of every kind of medical professional, some worse than others, from the front and back office to the clinical floor. The causes are similar across capabilities and practice areas, and inseparable from the genesis of burnout. Society is placing far greater demands on care, with increases in chronic conditions such as heart disease, cancer, diabetes and Alzheimer’s. A shortage of specialized facilities means hospital stays are extended, putting available beds in short supply. And then there are simply fewer workers: some leave the profession because of long hours, stress and low relative pay. Fewer are beginning training because of the length and cost of schooling, and shortages of educators and seats in medical schools.

By 2036, we’ll desperately need...

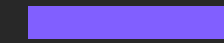


⁶ World Health Organization, *International Statistical Classification of Diseases and Related Health Problems (ICD)*, January 2022

^{7,8,10} HRSA Health Workforce, *Health Workforce Projections*, March 2024

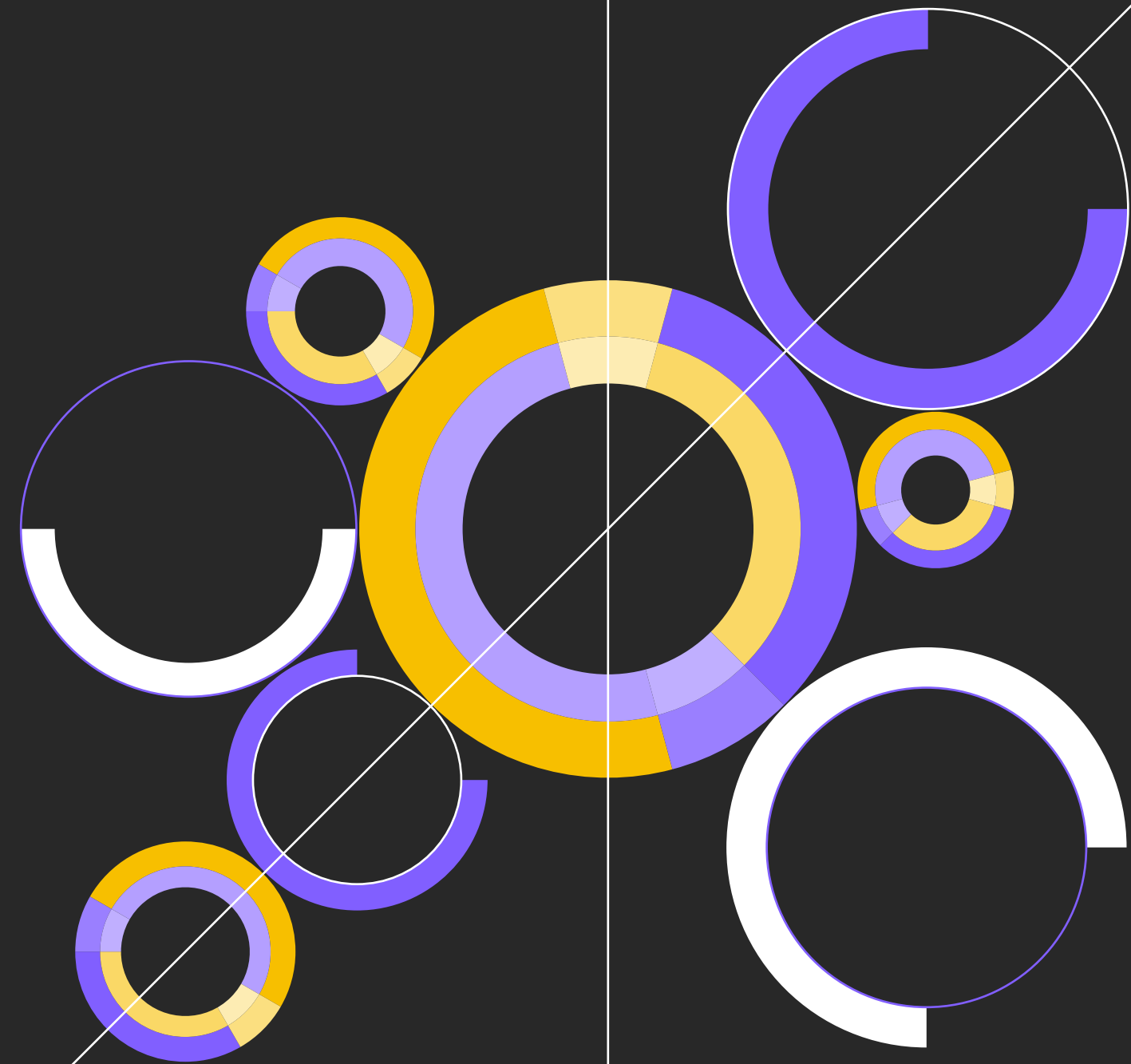
⁹ NACHC, *Bipartisan Health Care Workforce Innovation Act in House and Senate*, September 9, 2024

The costs of talent strain today



\$56,300

Average cost of turnover
for one bedside RN*



* Washington Center of Nursing, *Prioritizing Nursing Well Being to Strengthen the Workforce 2024 Washington Nursing Burnout Survey and Next Steps*, July 2024

The high human cost of too-few workers

Staffing shortages bring impossible-to-ignore costs, from elevated employee burnout leading to diminished worker health, and loss of public trust as patients realize that short-staffed healthcare systems may put them at risk.

Turnover

As it stands now, more than one-quarter of healthcare workers are somewhat likely to switch jobs. For many, it's more than just a consideration – 17% are very likely to leave their current job in the next 12 months.¹¹ For U.S. nurses specifically, in 2024 hospital turnover is a little under 21%, while RN turnover is 18%. Where is the greatest exodus? It's for those staffing telemetry, emergency services and step-down units. Some good news, RNs in pediatrics, surgical services, and burn centers remain more dedicated on average to their positions.¹²

The reality of attrition

\$101,388 Additional cost per traveling nurse to fill an RN position¹³

\$4.8MM Average annual hospital cost due to RN turnover¹⁴

66% Hospitals running below full capacity because of staff shortage¹⁵

Worker health

Remembering a key part of the ICD's definition of burnout – “increased mental distance from one's job, or feelings of negativism or cynicism related to one's job” – it's easy to understand that workplace morale directly impacts staff mental and physical health. Reducing staff strain may save lives and can help eliminate additional costs – treatment, paid sick time, rising insurance rates – as healthcare workers become patients themselves.

Worker mental health can't be glossed over¹⁶

4.5 Average days of “poor” mental health/month

34% Experience symptoms of depression

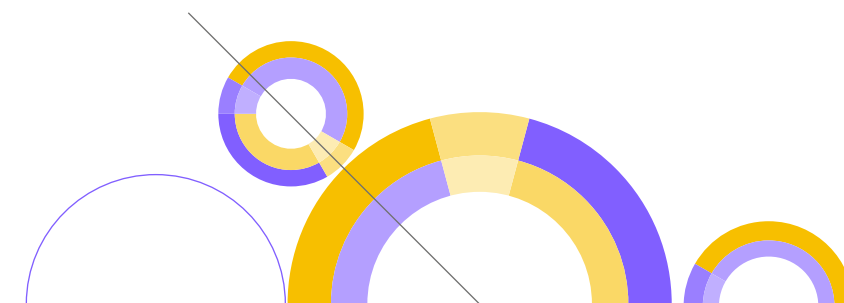
57% Experience symptoms of anxiety

¹¹ HRSA Health Workforce, *Health Workforce Projections*, March 2024

^{12, 13, 14} Nursing Solutions Inc., *2024 NSI National Health Care Retention & RN Staffing Report*, 2024

¹⁵ KaufmanHall, *2023 State of Healthcare Performance Improvement: Signs of Stabilization Emerge*, October 2023

¹⁶ CDC, *Vital Signs: Health Worker—Perceived Working Conditions and Symptoms of Poor Mental Health — Quality of Worklife Survey, United States, 2018–2022*, November 3, 2023



Talent strain's effect on patients

Public trust

Consider the patient's place in the talent crisis. Across demographics in the U.S., there was an 11% year-on-year drop in faith that "healthcare companies will do what is right." This boils down to 51% of people distrusting healthcare companies in 2024. And 63% believe tech will have a negative impact on healthcare.¹⁷ While the science is clear that technology has brought and will continue to bring incredible advances, one must wonder: is our current tech implementation the cause of patient misgivings?

Patient risk because of burnout

Historic research in the Annals of Surgery details the correlation between all three dimensions of burnout (energy depletion or exhaustion; increased mental distance from one's job; and reduced efficacy) and surgeons self-reporting errors. For every percentage increase in depersonalization, there was a corresponding 11% increase in the likelihood of an error. And for each percentage point increase in emotional exhaustion, the risk of errors climbs 5%.¹⁸ Physical exhaustion is also an issue, with nearly 27% of all healthcare workers reporting sleep problems.¹⁹

Mental wellbeing affects outcomes²⁰

49% Nurses who made an error themselves under stress

73% Nurses who saw others make errors under stress

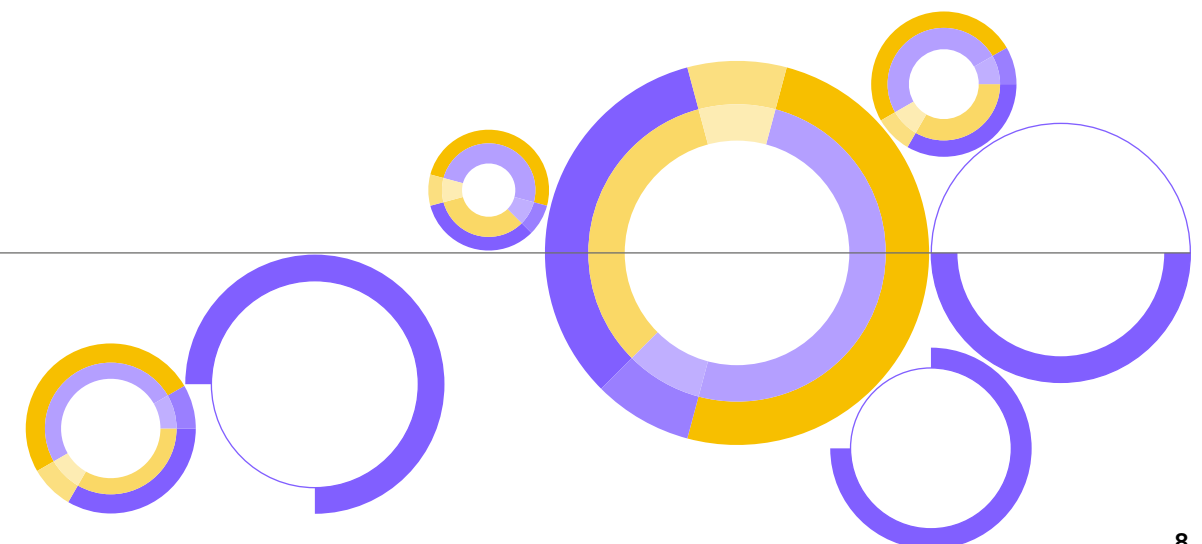
Patient risk because of too few workers

Further, research shows that for every 10% fewer RNs on the floor, there is a 7% higher risk of in-hospital deaths, 1% higher readmission and 2% increase in stay length. This adds up to almost 11,000 deaths annually.²¹ Staffing and capacity issues impact patients in other ways, increasing payer denial rates, for instance. Seventy-three percent of healthcare organizations have seen increased denials which directly affect revenue.²² This puts providers in a tough position with hard choices to make.

Inadequate staff levels puts talent at risk, too²³

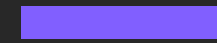
1.9X Greater incidence of anxiety

2.7X Greater amounts of burnout



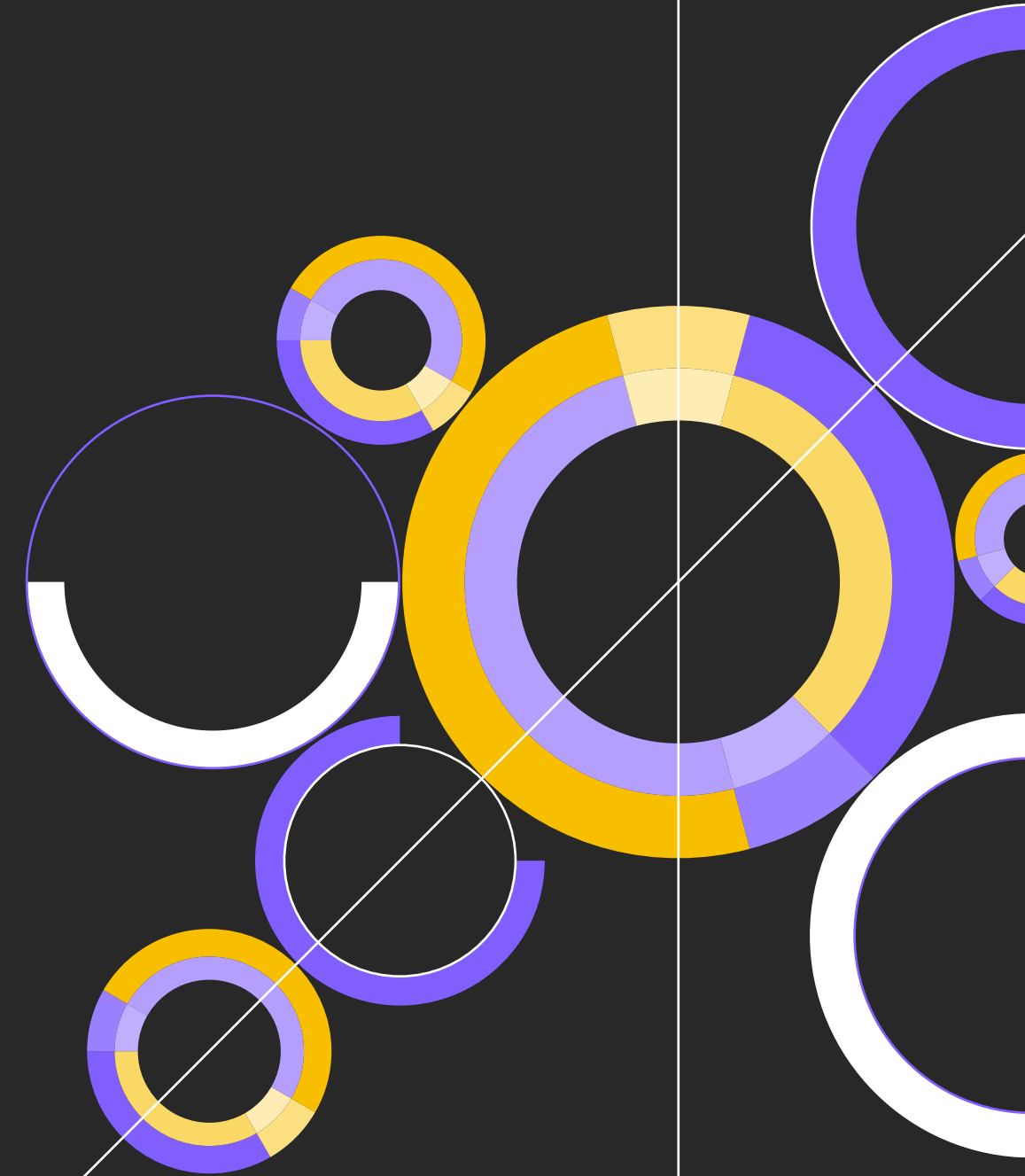
¹⁷ Edelman, 2024 Edelman Trust Barometer Special Report: Trust and Health, 2024
¹⁸ Annals of Surgery, Burnout and Medical Errors among American Surgeons, June 2010
¹⁹ HRSA Health Workforce, Health Workforce Projections, March 2024
²⁰ National Library of Medicine, Investigation of Nurses' Wellbeing Towards Errors in Clinical Practice — The Role of Resilience, October 2023
²¹ Medical Care, Alternative Models of Nurse Staffing May Be Dangerous in High-Stakes Hospital Care, July 2024
²² KaufmanHall, 2023 State of Healthcare Performance Improvement: Signs of Stabilization Emerge, October 2023
²³ CDC, Vital Signs: Health Worker—Perceived Working Conditions and Symptoms of Poor Mental Health — Quality of Worklife Survey, United States, 2018–2022, November 3, 2023

How do we care for those who care for us



92%

Believe reducing administrative tasks will save healthcare professionals time*

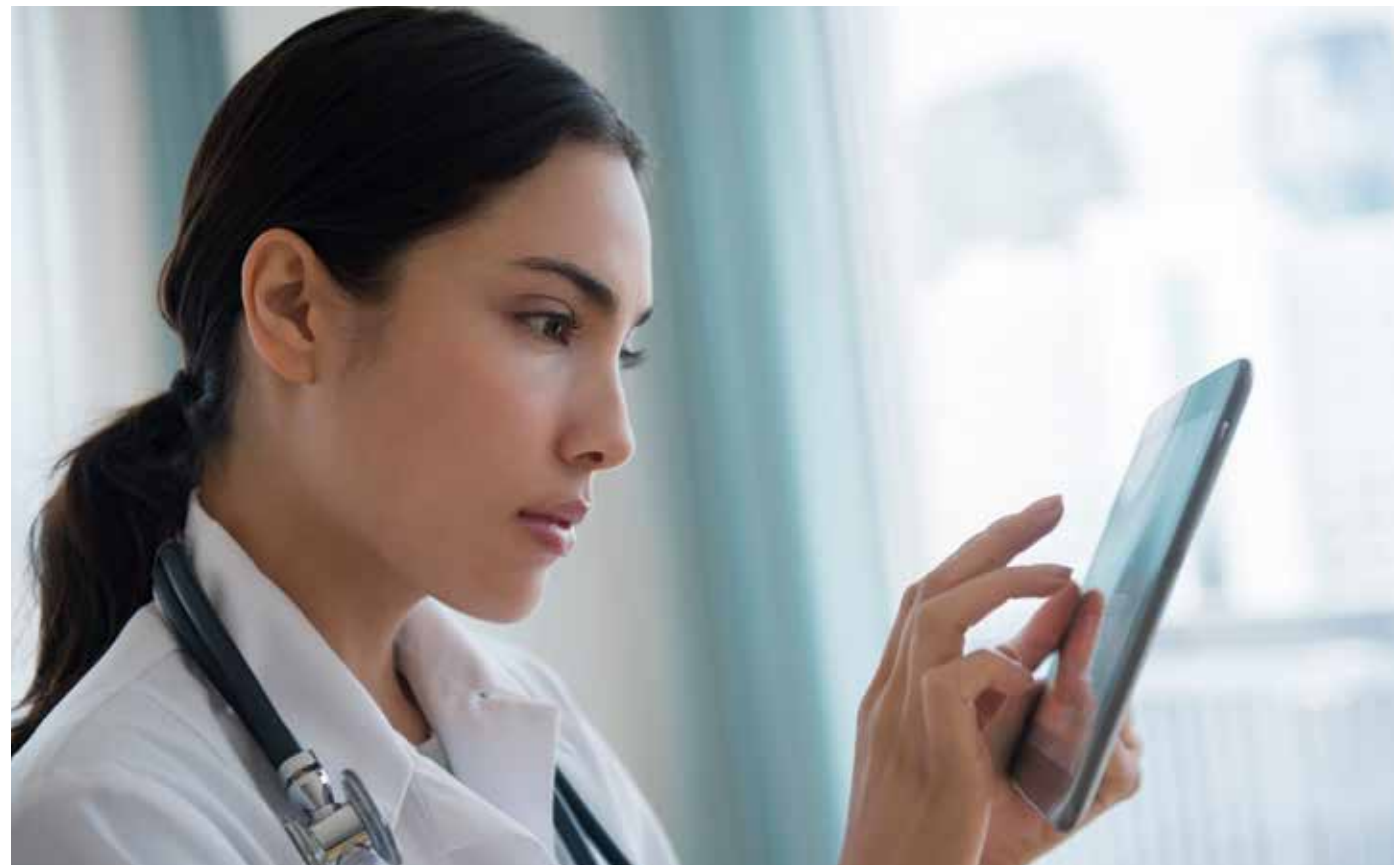


* Phillips, *Better Care for More People: Bridging the Gaps in Healthcare*, March 2024

A health system that supports its own

Healthcare worker strain hits on an individual basis. But just as its effects ripple across the entire system, the most significant drivers are systemic in nature. Burnout in an organization indicates a fundamental misalignment in demands on workers and available resources. You can't fix systemic burnout with just yoga, extra PTO or token appreciation. For the 60% of physicians who feel an expectation to be available 24/7, 365, how could they possibly even enjoy time off? ²⁴

Reducing burnout requires a significant reimagining of care and the redesign of healthcare work, from improving staffing to task assignment processes. Together, these changes can remove hurdles that prevent the critical tasks healthcare workers are expected to perform, such as caring for patients and making treatment decisions.

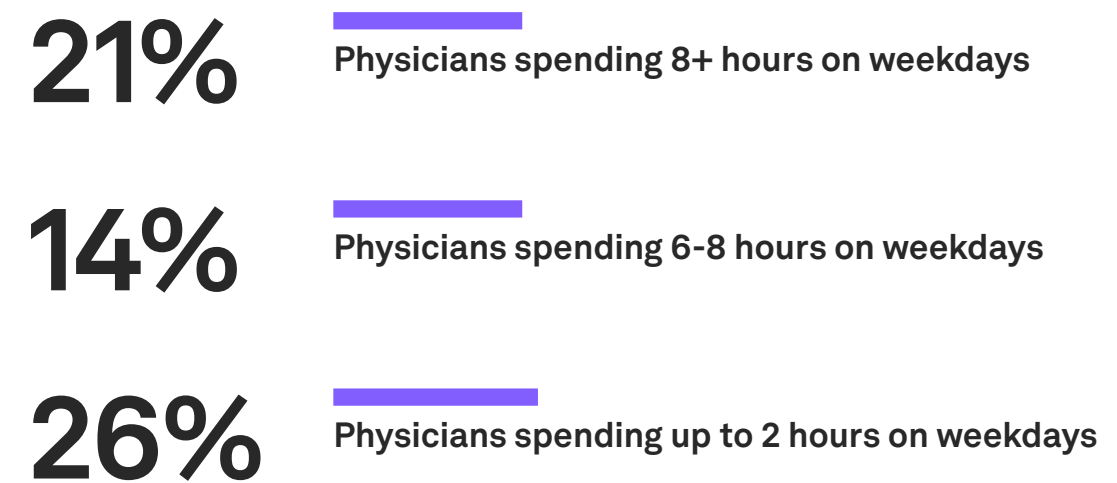


We can seize this moment to create interoperability in the healthcare system – having the right data in the right place at the right time. In that environment, patients, communities, and health workers can all thrive. The crisis can be a turning point for the industry, reorienting its trajectory to improve service while reducing strain. Here are some of the steps needed to make that next leap forward.

Reduce administrative burden

Healthcare jobs are generally very physical in nature, but more critically place an immense cognitive load on physicians, clinicians, nurses and other workers. A study showed that 38% of healthcare leaders say their staff wastes valuable time gathering data.²⁵ Know what they can't do when gathering data? Treat patients. The overall solution requires reducing or streamlining administrative and documentation burdens, providing increased scheduling flexibility, and implementing intuitive human-centered automation technology that is appropriate for the task at hand, i.e. patient data intake should not be more complex than performing robot-assisted surgery. These solutions reduce the mental load on workers, but also reduce the need for more workers. Granted, it will take considerable automation to replace a full-time employee, but every minute you give back to an essential worker is gold.

Off the clock, but buried in EHRs outside “normal work hours”²⁶



²⁴ Athena Health, *As Clinician Burnout Rises, How Can Technology Help?*, February 2024

²⁵ Phillips, *Better Care for More People: Bridging the Gaps in Healthcare*, March 2024

²⁶ AMA, *Burnout on the Way Down, but “Pajama Time” Stands Still*, August 2024

Tech must put workers and patients first

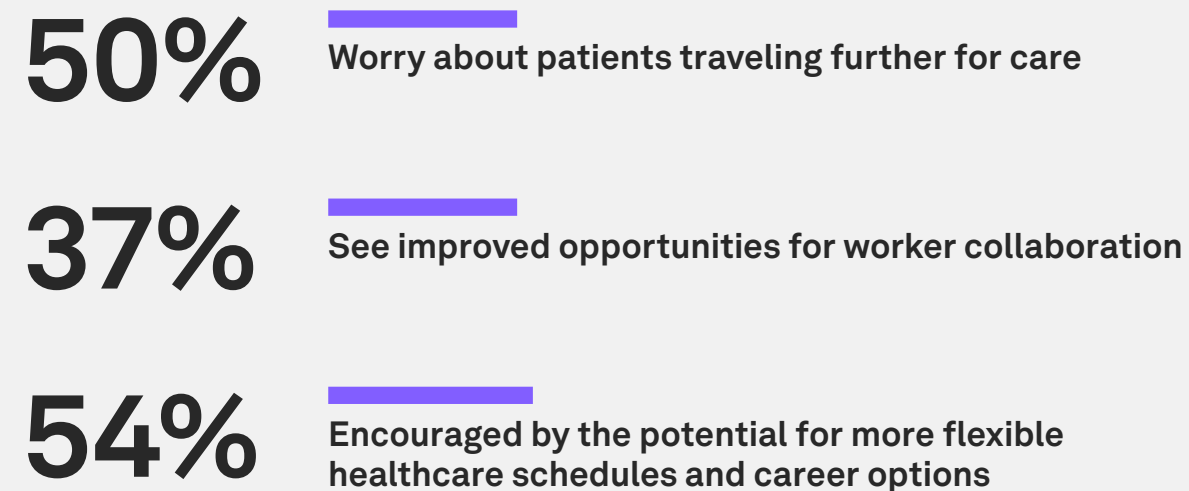
Invest in tech to invest in people

Thinking about why healthcare workers chose this career, it's important for system operators to increase the value of time spent with patients and enable solutions that help clinicians work to the top of their license. Examples include employing virtual nurses for non-hands-on tasks, like education, instruction, and checking in on patients, while their on-site counterpart can focus on more critical activities. To further help workers deliver their highest level of clinical care and value, healthcare systems can employ technology and automation that reduce the need to perform low-value tasks. For instance, streamlined workflows with fewer clicks can reduce time spent on EHRs, freeing up time to spend with patients. By keeping healthcare professionals focused on clinical responsibilities that they find fulfilling, the industry takes a needed step toward reducing mental distancing from one's job.

Increase transparency for better decision making

Individual system operators can increase transparency when they acknowledge that they are each part of a larger system. This means coming together to codify and use standardized, evidence-based metrics. With a "common data language," workers will enjoy reduced data collection burdens, the potential for better patient outcomes, and increased transparency – allowing patients, payers and healthcare workers to make more informed decisions. And let's not ignore how systematized data usage can reduce reliance on a few individuals' personal system or process knowledge, which is at risk every time an employee quits.

The value of virtual care for healthcare leaders²⁷



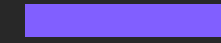
A chance for better equity

In the process of rebuilding healthcare's framework, there's an opportunity to include equity as a guiding principle to better identify risk and health outcomes by race, gender and ethnicity. Powerful data analytics and system interoperability hold the key.



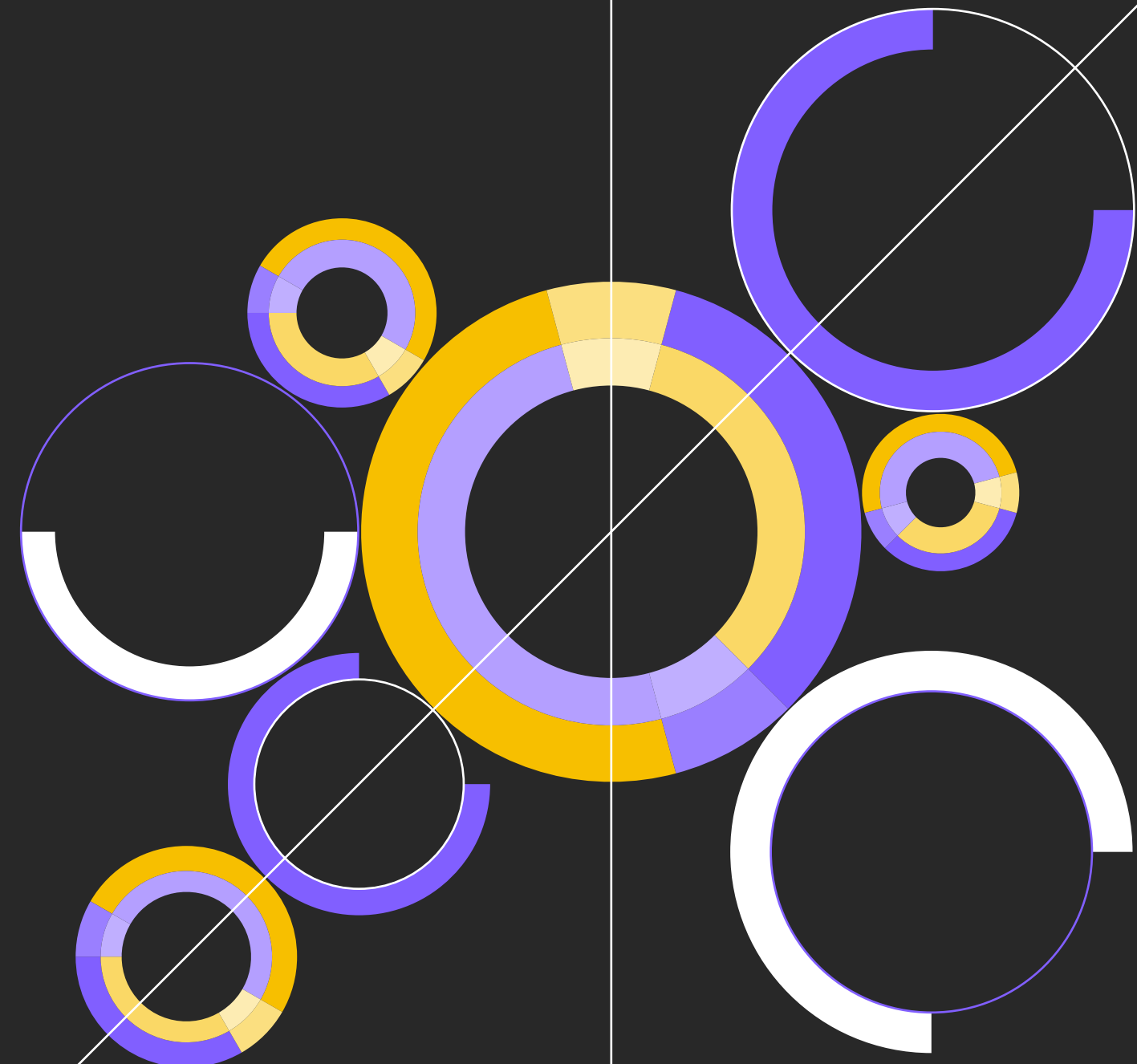
²⁷ Phillips, *Better Care for More People Bridging the Gaps in Healthcare*, March 2024

The good news, technology
is the difference maker



81%

Physicians who believe Gen AI will
improve patient interaction*



* Wolters Kluwer, *Wolters Kluwer Survey: Over Two-Thirds of U.S. Physicians Have Changed Their Mind, Now Viewing GenAI as Beneficial in Healthcare*, April 2024

Manual problems have automated solutions

Reduce burdens, improve care

Fully leveraged, technology can bring a host of improvements across the healthcare system. But far before that happens, it can usher in significant benefits to specific areas. Take something as frustrating as prior authorization – a requirement that many health workers say is among their most burdensome regulatory challenges. According to research, 95% of physicians say prior authorization somewhat or significantly increases the burnout they face.²⁸ By incorporating technology that allows for a fully electronic system of prior authorization, that percentage would likely drop. It would also potentially speed necessary care – 94% of physicians report delays because of prior authorization issues.²⁹



Today, 37% of healthcare workers find a lack of collaboration between providers and departments.³⁰ Healthcare operators, however, should not see themselves as islands in a sea of complex issues, but as spokes on a wheel where sharing useful insights is the goal. Right now, 65-75% of those surveyed say they are burdened by excessive and/or irrelevant EHR documentation. Another 80% say that “copy forward” practices introduce false information in records.³¹ With greater solution interoperability and improved system security, the Center for Disease Control’s Data Modernization Initiative, a multi-billion-dollar program, has set a goal of creating “a connected, resilient, adaptable, and sustainable, response-ready public health infrastructure that works across diseases and condition.” The quick rise of AI and Gen AI toolsets will help make this a reality sooner. And going forward, the health of your data collection, storage, and analytics will be increasingly linked to your patient outcomes.

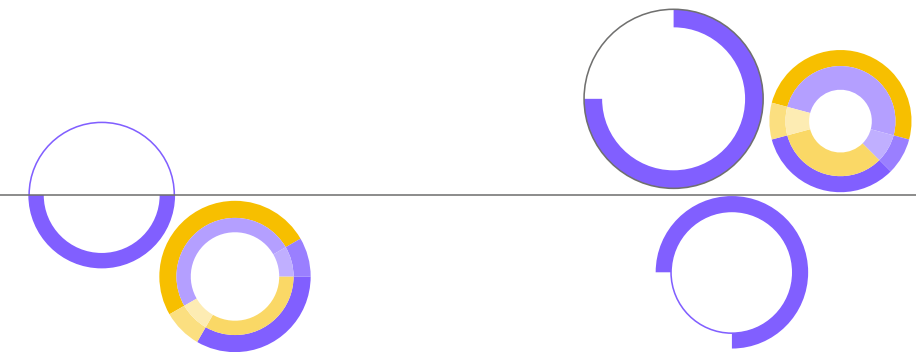
AI’s potential is too big to ignore³²

65%

Physicians who see advantage of AI tools

56%

Say AI’s biggest opportunity is addressing administrative burden with automation



²⁸ AMA, *American Medical Association Advocacy 2024 Efforts Updated*, June 2024

²⁹ AMA, *2023 AMA Prior Authorization Physician Survey*, January 2024

³⁰ Phillips, *Better Care for More People Bridging the Gaps in Healthcare*, March 2024

³¹ Mayo Clinic Evidence-based Practice Center, *Measuring Documentation Burden in Healthcare*, May 2024

³² AMA, *Augmented Intelligence Research Physician Sentiments around the Use of AI in Health Care: Motivations, Opportunities, Risks, and Use Cases*, November 2023

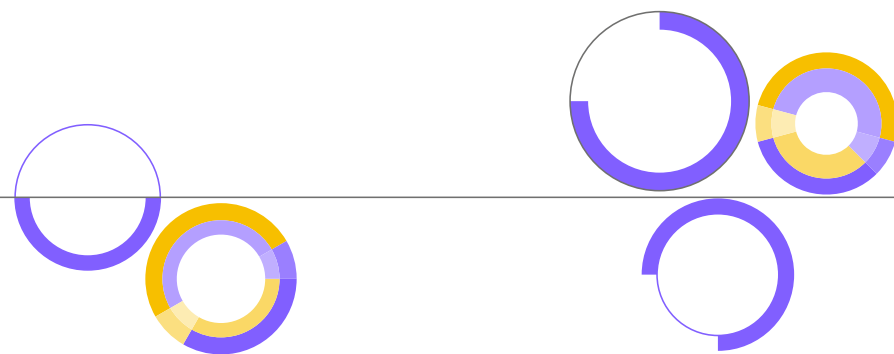
Raising standardization for the industry

Demand system interoperability

While there has been investment in and adoption of point system solutions, without significant efforts to improve system integration, operators will not reap technology's full value in reducing talent strain. The lack of interoperability touches every facet of healthcare technology, from EHR systems that require continual in-the-moment platform switching, to disparate communication methods and sources.

Maybe the most fertile area for interoperability is data integration via automation, specifically backend integration and processing of unstructured data. It begins with improved collection workflows, storage and access to data across devices – computers, phones, tablets and other digital tools. It continues with designing systems that automatically intake data from any collection point (digital, fax, mail, hand-written), and is taken to the next level with Gen AI tools that can unlock valuable insights. Then, healthcare workers will have a far more complete understanding of patients' conditions, concurrent treatments, family history, prior diagnoses, even community-based risk factors. Imagine the time and effort saved by healthcare workers using a powerful at-a-glance diagnostic tool, and how they might better focus their mental energy on treating patients.

Solution interoperability, data system optimization and advanced AI tools that quickly provide relevant insights go directly to the heart of addressing worker's challenges – trading technology that increases burden with technology that operates in concert with healthcare workers' missions, motivations, capacities and capabilities. It can improve their working hours, their lives outside of the job, and staff scheduling. And it promises to improve patient outcomes and reduce healthcare costs across the board.



Increase transparency, make better decisions

If the industry can adopt standardized, evidence-based metrics, it can increase transparency for patients and clinicians. Additional benefits include reducing data collection burden and potentially improving patient outcomes.

“As much as we believe technology plays a vital role in healthcare, our goal is to integrate it in a way that empowers healthcare workers and gives them time for high-value patient-focused care.”

— Jim Mooney, Strategic Enterprise Marketing, Ricoh North America



Automating processes to unlock efficiency: results we're bringing Ricoh customers

Cutting data-entry in half for North Texas Surgical Specialists

The Challenge: The award-winning surgical team is adept with advanced robotic surgical systems. But complications from fast company and patient growth, manual processes, and limited reporting and analytics prevented full focus on their patients.

The Solution: Ricoh identified the problem stemming from inbound data, and quickly implemented a solution to simplify and automate data intake. This connected the pieces of data to enable reporting and insights, while empowering employees to focus on high-value tasks.

“Ricoh streamlined our workflows, so we make better data-driven decisions. It’s afforded us a 50% time savings in data entry, allowing us to focus on the business instead of in the business. They partnered with us the whole way.”

Rob San Miguel, COO, North Texas Surgical Specialists

The Results: With an all-in-one cloud-based workflow management platform, the team has direct access to organized data using workflows that enhance collaboration and help fewer staff get more done. Most importantly, they can give more time and energy to patients.

50% time savings with automated processes



Reinventing revenue cycle management for a major medical center

The Challenge: This major West Coast health system struggled with thousands of manually processed claims daily, risking missed deadlines and denied authorizations and payments. Staff scanned, indexed, and entered one tedious keystroke at a time.

The Solution: Ricoh reduced their cumbersome five-step process to a three-step process, automatically capturing insurance correspondence from various document sources, each classified, extracted, and indexed. The indexed information is then automatically matched to the patient’s EHR.

The Results: This automated, fully digital workflow nearly tripled staff output, who now spend 5 minutes per document, versus 20. We also streamlined operations by analyzing document management and reducing document types from over 200 to 22.

75% reduction in processing time

Building a system to help Physicians Mutual complete 30 million orders annually

Challenge: Thousands of patients count on Physicians Mutual Insurance Company for dental, supplemental and Medicare Supplement insurance. Repetitive, manual data entry caused by a lack of interoperability and legacy systems created function-wide lack of visibility.

The Solution: Ricoh worked closely with the Physicians Mutual team, integrating hardware and software solutions that automated workflows to drive efficiency. This cut down on extra steps end-to-end and eliminated over 1,200 preprinted forms.

The Results: Workflow process improvements resulted in 98% time-savings, and automated processes that saved department leaders two hours daily. New equipment increased quality, and output by 2.5X, and there is better employee and customer satisfaction.

\$500,000-\$600,000 annual savings

RICOH

The time to act is now



From the Hippocratic Oath to the Nightingale Pledge, healthcare workers have made a weighty commitment to care for others. In this moment of talent crisis, the healthcare industry has an opportunity to commit to workers' emotional and physical wellbeing. Solutions exist today that can dramatically improve the "standard of care" for technology in the healthcare workplace, increasing worker efficiency. The impact of technologies such as artificial intelligence and automation are proving their value, with great advances on the horizon.

We are accelerating the power of information in healthcare today.

Accelerating systemic change.

Accelerating operational efficiency.

Accelerating human-centered technology.

For healthcare, this means that we are accelerating the...

Power to reimagine how care is delivered.

Power to help professionals work to the top of their license.

Power to overcome talent strain.

That's how we accelerate the power of information.

Ricoh, turning information into advantage



At Ricoh, we're revamping how businesses around the world collect, use and share information. To us, there's no such thing as too much information. And there is no such thing as too many ways to unlock its power. Partnering with our clients, we're harnessing the insights within information to help teams work more collaboratively. It's how we're using technology to unleash the full power of people.

Our team of healthcare experts is ready to help transform your information into greater competitive advantage.