



KONICA MINOLTA

# **HEALTHCARE PROVIDERS' GUIDE TO IMPROVING INTEROPERABILITY: A KONICA MINOLTA WHITEPAPER**





This white paper looks at the benefits of interoperability; specifically, how healthcare providers can best achieve fast, secure gathering and sharing of patient information.

## CONTENTS

INTRODUCTION	4
OVERVIEW OF INTEROPERABILITY	5
HEALTH INFORMATION EXCHANGE	6
DATA SECURITY	9
WORKPLACE HUB HEALTHCARE	11
KONICA MINOLTA CASE STUDY	15
CUSTOMER PAIN POINTS	16
THE FUTURE	17

# BRIDGING THE DIGITAL DIVIDE INTEROPERABILITY IN HEALTHCARE

Interoperability—the ability for computer systems to gather and share information easily—helps healthcare providers improve patient care and bring down costs. But a digital divide is opening up between those that have adopted technology supporting interoperability and those that have not.

True interoperability requires an interconnected data infrastructure; quick, dependable and safe interfaces; and international standards for data exchange. The current digital health infrastructure means data processing between systems is agonizingly inefficient. Systems use a broad range of formats, specifications and semantics. Data lurks in inaccessible databases, proprietary software and systems that cannot talk to each other, meaning they are difficult to access, share and analyze.

While legislation is increasingly concerned with improving communication between healthcare systems, at the global level lack of interoperability is holding medicine back. At the provider level, it is at the heart of inefficient working practices affecting everything from revenue and reimbursement, to provider burnout and patient satisfaction.

This white paper looks at how healthcare providers can improve their interoperability by overcoming issues around health information exchange (HIE) and data security. It also introduces Workplace Hub Healthcare: the all-in-one healthcare IT solution by Konica Minolta.

## Why Konica Minolta?

Konica Minolta has been working in the health sector for more than 75 years. Our advanced products and services help healthcare providers cut through IT complexity, simplify information flows and make medical information accessible and compliant.

*“Healthcare IT systems in and of themselves provide tremendous value, however the real value comes from systems working together within workflows that drive efficiency for clinicians and staff, and that is often where gaps exist. That’s where our technology and services make a huge difference: helping organizations to manage the exchange of patient information and improve delivery and transitions of care.”*

**Joe Cisna, Global Director**

Vertical Solutions - Digital Workplace at Konica Minolta Business Solutions USA

# LOST IN TRANSLATION MAKING TECHNOLOGY WORK BETTER FOR HEALTHCARE



Interoperability can be broadly defined as the ability of two or more computer systems to exchange and make use of information. In healthcare, a state of interoperability is one where healthcare providers can gather and use health information easily, and share that information simply with other providers.

In 2020 the US Department of Health and Human Services (HHS) passed new rules to help patients get more control over their health data. This is an important step in implementing the interoperability provisions of the 21st Century Cures Act. Although the US healthcare system is far from achieving true interoperability, there is a concerted effort by the federal government and technology vendors to make it easier for doctors and healthcare systems to share patient information. Within the fractured system, this is a complex challenge.

As the traditional fee-for-service model transitions to value-based care, interoperability is becoming more important. The Merit-Based Incentive Payment System (MIPS) introduced in 2017 includes four categories for measuring healthcare providers’ performance: quality, cost, improvement activities, and promoting interoperability.

Interoperability, specifically the ability to coordinate care between providers, hospitals, labs, public health bodies and other parties, is central to the functioning of the value-based care model. But there is a gulf between regulatory ambitions and the reality on the ground. Healthcare professionals still rely on fax machines for the majority of inter-provider communications. Where better technology is available, it is often expensive, hard to operate and not installed widely enough to make using it worthwhile.

## Patients left waiting

For a doctor, interoperability means being able to access, update and share information quickly so they can concentrate on treating patients. This situation is rare. Here is a more common scenario. A doctor is about to consult with a new patient. The doctor is using an electronic health record (EHR), but it does not talk to the system used by the referring provider. This means that to get the patient’s medical records, the doctor must call the other provider and request they be printed and faxed. All the while the patient is sitting in the waiting room.

## A blessing and a curse

Thanks to the Health Information Technology for Economic and Clinical Health (HITECH) Act, uptake of EHRs by hospitals and physicians’ offices is high. HSS data shows that in 2017 96% of hospitals and 86% of physicians’ offices in the US had access to EHRs.

But all is not well. In a 2018 survey by Stanford Medicine in California, 59% of primary-care physicians said they felt that the systems needed an overhaul. Overwhelmed by administrative tasks, they now spend more time dealing with data entry than they do with patients.

Another serious problem is information blocking; barriers the market has created that effectively trap data inside organizations. This situation has arisen as healthcare providers make different decisions about what hardware and software to buy, and it has been exacerbated by vendor lock-in. EHR vendors compete with each other. Historically there have been no incentives for them to make sharing information between providers easier.

## Making sense of it all

Konica Minolta helps healthcare providers overcome these challenges and make informed decisions about where to allocate limited budgets for best effect. Ensuring Health Insurance Portability and Accountability Act (HIPAA) compliance, improving cybersecurity and increasing interoperability are important aspects of these collaborations. But reducing costs and allowing clinical staff to spend more time with patients are the more tangible outcomes.

Using our understanding of healthcare and technology we are closing the gap between providers that adopted EHRs early and those that were left behind, as well as between policymakers’ vision and the way things actually work. This means doctors can spend their days fighting disease, not computers.



# FACING FAX

## WHAT TO DO ABOUT HEALTHCARE’S PROBLEMATIC ADDICTION

*“For an organization wanting to improve HIE, the number one thing is simply to think about how they want to communicate with the rest of the world and try and make that as easy and low cost and secure as possible. Try and take advantage of things you already have because anything that you add to the mix has the potential to increase the cost for small organizations.”*

Scott Stuewe, President and CEO of DirectTrust

Most industries stopped using fax in the 90s, and with good reason. But according to a 2019 poll conducted by the Medical Group Management Association (MGMA), 89% of health leaders say their organization is still dangerously addicted to this dated technology.

Not only is fax past its prime, it also adds significantly to the administrative load of healthcare workers and is non HIPAA compliant. Its persistence is an obstacle to the increasing demand for health information exchange (HIE), which allows healthcare professionals to access and share patient health information electronically.

Better technology for sharing health information exists and is often more easily accessible than healthcare professionals are aware. Here we look at the two main methods of HIE, as well as a third technology that offers a partial solution to the fax problem. We also touch on how healthcare professionals can create behavior change within their organizations.

### Cannot stop faxing

Top five use cases of fax in healthcare 2019

- Record sharing
- Referrals
- Communicating test results
- Payer communication
- Pharmacy communication

### No upside

Fax presents a number of serious concerns related to wasted time and poor security. As a fax is a flat image, its contents must be reworked into structured data that can be manually entered into electronic health records (EHRs). Faxes, especially handwritten ones, can be hard to read resulting in confusion and repeated calls between providers to clarify information. With no recipient verification process in place, it is easy to send a fax to a wrong number which could be a violation of the HIPAA privacy rule.

Scott Stuewe, President and CEO of DirectTrust, a non-profit whose mission is to advance interoperability in healthcare, puts it like this:

‘How do you know where your fax is actually going? Maybe you’re faxing a car dealership or a dry cleaner. You don’t have any way of knowing because it’s just a phone number, right?’

There is even a fabled account of a medical worker who received a call from the FBI having accidentally sent a fax to NASA. All of these factors compound to create inefficiencies that have a major impact on healthcare professionals’ schedules and detract from the time they have available to care for patients.

## THERE IS A BETTER WAY

### Direct Secure Messaging

Healthcare providers can send and receive digital information—including test results, patient referrals, or discharge summaries—to other healthcare providers easily via an encrypted and user-friendly channel through direct secure messaging. Recipient verification via a trust framework is fundamental to direct secure messaging, meaning users can be confident the information is going where they want it to and nowhere else.

Direct secure messaging is present within all EHR systems meeting the 2015 Edition Certified Electronic Health Record Technology (CEHRT) requirements. In this case it simply needs to be activated. Alternatively, healthcare providers can install software allowing them to use the Direct Standard™ without an EHR.

### Query-Based Exchange

Query-based exchange is especially useful for emergency care as it gives healthcare providers the ability to quickly request patient information from other providers. Within the query-based exchange network, providers can access extensive information from across the continuum of care, including lab reports, imaging results and clinical notes.

The system is based on an opt-in reciprocal agreement and accessed via a centralized online hub. All members sign an agreement promising to use data responsibly in line with HIPAA.

### Cloud Fax

Cloud fax does not replace traditional fax entirely but instead makes it digital. This means providers can communicate with organizations who use fax without needing an actual fax machine or dedicated fax phone line. Cloud fax is used like email via an online portal and paid for by subscription. It is more secure in terms of transmission and storage of data. However, as this technology still perpetuates the use of fax, it is by no means an ideal solution.

### Creating change and getting help

Change is difficult not because there is a lack of technology but because old habits die hard. Healthcare professionals’ main concern is the wellbeing of patients. They would rather use a system they know, even if it works badly, than spend time learning a new one. Encouraging them to change their behavior requires strong guidance from health leaders. This includes offering proper training in the alternative technologies. There are simple, practical steps that can be taken too. Scott Stuewe again:

‘Some providers have taken the bull by the horns and made substantial improvements by addressing the problem head on. I’m aware of one healthcare provider that put stickers on fax machines saying ‘stop, search, send’ so workers would consider the alternatives. They also added a note at the bottom of every fax asking partner organizations to communicate with them in other ways.’

As there is more than one method of exchanging health information, and each method has particular strengths, a combination approach might be best for healthcare providers that wish to get on board with the HIE movement. A decent place for healthcare providers to start is by seeking advice from their existing vendor.

Good questions to ask include:

- What privacy and security features does my EHR have?
- Is my EHR connected to HIE?
- If not, what are the costs associated with connecting to HIE?

If the provider needs further help, the next step is to contact a company like Konica Minolta that has experience in all aspects of health IT. Such expertise is invaluable for fixing the fax problem, but also for allowing healthcare providers to access a wider package of technology and support so they can improve the way they operate without overreaching financially. A final word from Scott:

‘We see companies like Konica Minolta as the army on the ground addressing the issue of interoperability through education and collaboration. They are right on the front lines working closely with healthcare organizations to make them successful and implement workflows that reduce the burden on staff.’

*“The direct exchange capability of our copiers minimizes the need for fax. A user walks up to the machine and scans the document. Then rather than sending it via fax, they send it electronically using direct messaging. It’s like email for healthcare, with all the necessary HIPAA requirements. That means better security and none of the headaches associated with faxing: busy signals, incorrect numbers and garbled transmission.”*

Joe Cisna, Global Director, Vertical Solutions - Digital Workplace at Konica Minolta Business Solutions USA

# INTELLIGENT DATA CAPTURE – HOW IT WORKS

How intelligent technology provides a better way of dealing with patient data



# BLEEDING OUT DATA BREACHES IN THE HEALTHCARE SYSTEM



Each year in the US the majority of healthcare providers are affected by some form of data breach. In 2019 74% of healthcare IT leaders reported experiencing a significant security incident in the previous 12 months. The total cost to the healthcare sector runs into billions of dollars. This bill results from a combination of external attacks and internal errors that effect healthcare providers of all sizes.

The healthcare sector is vulnerable; healthcare providers must take steps to protect their systems and the electronic protected health information (ePHI) they contain.

## According to a 2019 Ponemon Institute survey:

- The average cost of a data breach in the healthcare sector is \$6.5m
- Loss of business is the largest breach expense
- Providers spend an average of \$429 per lost of stolen record

## Why is healthcare so badly affected?

Since the HITECH Act of 2009, there has been wide adoption of electronic health records (EHRs). Vast quantities of patient data have been digitized; an important step on the path to true interoperability where communication and information sharing within and between healthcare providers is quick and easy.

The unwanted consequence of digitization is the potential for exposing sensitive information—including social security numbers, addresses, health conditions and medication—via hacks or accidental leaks. As the quantity and quality of data stored on healthcare systems increases, this risk is growing.

It is not only large hospitals or healthcare groups that are affected. Smaller providers also store sensitive data, but they often have lower security budgets and less advanced cybersecurity. This makes them appealing targets, especially for back-door access to larger organizations, with which they regularly share information.

## The right steps to take

It is essential for healthcare providers to take appropriate action to keep data safe. Four areas stand out: policy and procedures, addressing vulnerabilities, managing budgets, and getting external support.

*“As interoperability progresses the question is how do we ensure we are good stewards to the data? Data offers many opportunities but only if we protect it and use it responsibly.”*

Navin Balakrishnaraja, National Practice Director,  
Healthcare IT Services, All Covered

*“Addressing internal errors that lead to breaches is fundamentally a policy and practice problem rather than a technology problem. Healthcare providers and IT vendors need a robust policy framework to guide decision making about which technology to use.”*

Scott Stuewe, President and CEO of DirectTrust



## POLICY AND PROCEDURES

To protect patient data and ensure HIPAA compliance, the HHS requires healthcare providers put in place stringent security policies. Three of the main areas these must cover are disaster recovery, ePHI integrity and network security. In the first case this means backing up data securely, addressing breaches quickly and retrieving ePHI intact. Ensuring integrity means providers must take steps to make sure ePHI is not destroyed or changed. Finally, providers have to defend their networks and all methods of data sharing (including email and internet) from unauthorized access. The requirements for HIPAA compliance are detailed and wide ranging so it is important for providers to keep abreast of the latest rules.



## ADDRESSING VULNERABILITIES

There are strict controls around healthcare professionals using mobile devices to access ePHI. Where this is allowed, they must use HIPAA-compliant mobile apps with 256-bit encryption. But, despite the rules, there are vulnerable devices in circulation. These are a target for hackers and a cause of accidental data breaches. To improve device security, software needs to be regularly updated. Multifactor authentication (MFA) can be activated to reduce the risk of phishing attacks, while single sign-on (SSO) allows authorized users to access multiple applications with one set of login details, saving time.



## SPENDING WISELY

Securing a healthcare provider's systems and networks is no easy task. To meet the challenge, it seems providers are loosening the purse strings. 38% of health IT leaders said their cybersecurity funding was higher in 2019 than in 2018, and 21% said 7% or more of their 2019 IT budget was allocated to cybersecurity. Security is extremely valuable, but not priceless. In a rapidly changing environment—with compliance requirements evolving and new vendors entering the market all the time—price disparity between vendors is common. Healthcare providers must think carefully about where, and with whom, they spend their money.



## GETTING EXTERNAL SUPPORT

The measures needed to prevent a breach are clear enough, but the reality of implementing them in the frenetic world of healthcare is often rather more complicated. Thankfully, organizations like Konica Minolta's All Covered IT services division exist to ensure the safety of critical data and help healthcare providers meet regulatory needs. The All Covered offer includes vulnerability management, round-the-clock Security Operations Center (SOC) service desk with monitoring, incident response, and rigorous compliance reporting. Because patient care and care of patient data go hand in hand.

# LESS TIME ON ADMIN, MORE TIME WITH PATIENTS INTRODUCING WPH HEALTHCARE

According to a 2020 study published in the Annals of Internal Medicine, US doctors now spend more than 16 minutes using their electronic health record (EHR) per patient encounter. Technology designed to speed up processes and improve patient care is actually adding to healthcare professionals' workload.

Usability of individual systems is not the only issue. The sheer number of systems is a problem too. During an average working day, a doctor might use five or even 10 different software systems: patient monitoring system, electronic health record, patient referral software, email, billing and reimbursement software, picture archiving and communication system. The list goes on.

Different systems employ varying data standards and formats meaning they often cannot talk to each other easily. That is just inside the walls of an individual healthcare provider. When one provider tries to share health information with others things become even more complicated.

Beyond the problem of too many systems that do not talk to each other is the context of technology and legislation in healthcare today. Healthcare professionals are faced with the challenges of implementing new payment models like MIPS and keeping pace with the latest regulatory requirements. It is understandable that many begin to see technology as a blocker rather than a boon.

At Konica Minolta, we believe that the digitization of health information is a good thing with far-reaching benefits. But for healthcare professionals, technology and data are only useful when they make care giving simpler. They rightly expect systems that are straightforward to operate and do not sap unjustifiable amounts of time.

The latest step towards helping healthcare providers achieve this ideal is Workplace Hub Healthcare. Combining our fluency in data and long experience in healthcare technology with the talents of our global team, we have developed a product that turns technology confusion into clear understanding and ease of use.

## The result of intensive global cooperation

Workplace Hub Healthcare is a complete set of software and hardware solutions arriving on the market in 2021. It integrates all of a healthcare provider's IT needs into one platform. This means disparate systems and differentiated data are transformed into useful, easily accessible tools that support care giving.

Workplace Hub Healthcare is the result of an intense incubation program bringing together healthcare technology experts from around the globe. This varied experience—including decades of work with care providers across the US healthcare system—means Konica Minolta is well positioned to solve the challenges of integration, implementation, security and compliance facing healthcare providers today.

*“At Konica Minolta, we do dozens of healthcare integrations every year. The team behind Workplace Hub Healthcare has more than 100 years' combined experience in developing solutions for the healthcare sector.”*

José Alonso, Incubation Manager Healthcare - Konica Minolta, Inc.



# BENEFITS OF WORKPLACE HUB HEALTHCARE



## ISSUES & CHALLENGES

- \$180bn wasted on administration
- Over reliance on fax
- Cyber-security
- Spend and cost of IT infrastructure
- Regulatory Requirements
- Data transfer, storage and retrieval
- Aging IT systems and lack of integration

## WORKPLACE HUB: A BETTER WAY OF WORKING

- Advanced interoperability
- HIPAA compliant
- Integrated secure direct messaging & information exchange
- Smooth care transitions
- Enhanced clinical & administrative productivity



## Taking aim at critical details

As well as looking at the big picture, Konica Minolta tackles niche problems with potentially major benefits. Paper forms are still widely used in healthcare. Once they have been scanned into the system, the information has to be transcribed by hand. If the form is legible that is, which often they are not. The inefficiency of the interface between the paper and digital realms wastes a huge amount of time. But not anymore.

Using the latest advances in Natural Language Processing (NLP) from Konica Minolta's Global research and development team, we have established an effective way to capture data from scanned medical forms and turn it into editable digital information. The algorithms that power our scan and capture system are being continuously trained by inputting thousands of forms from the US healthcare system.

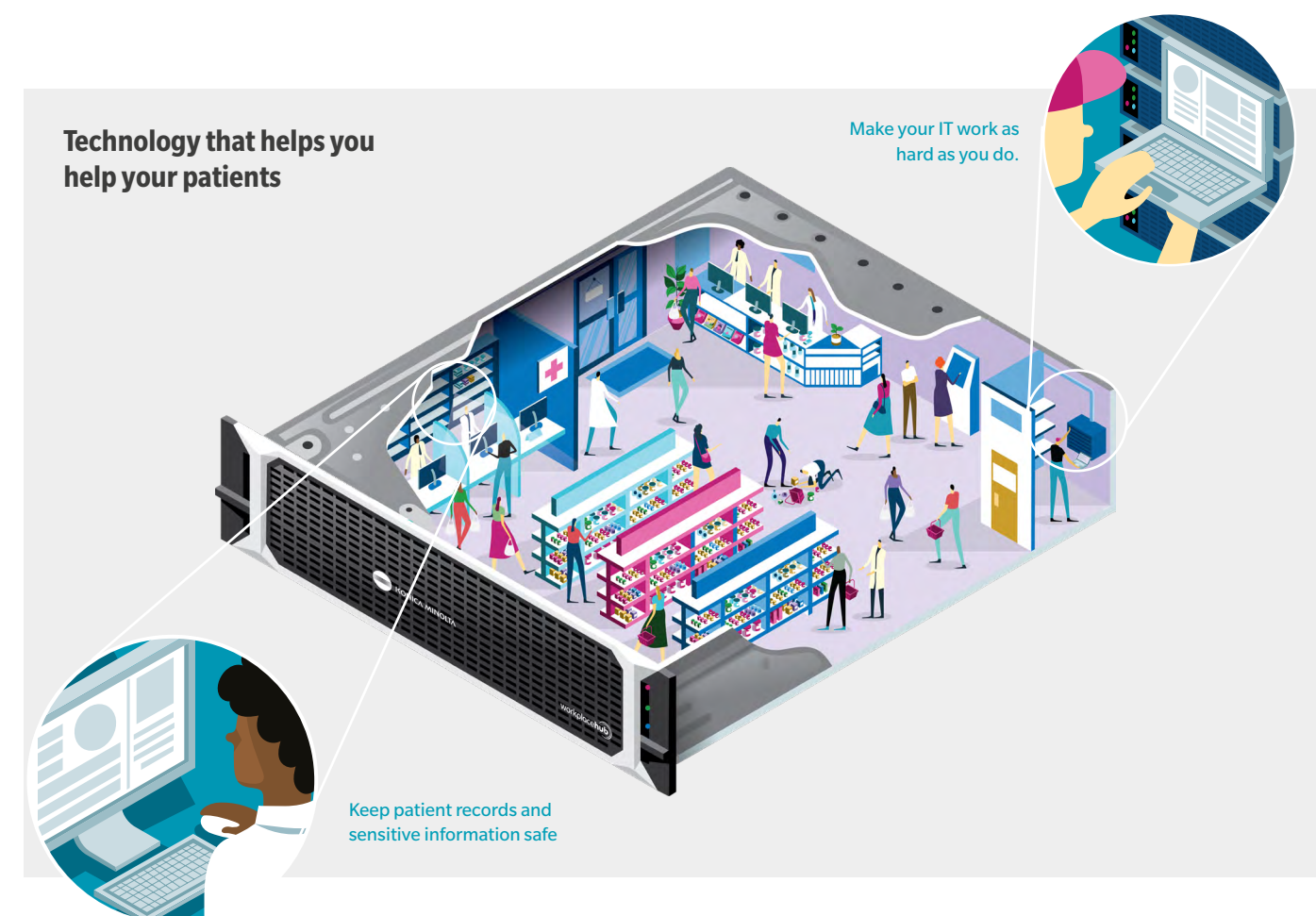
## An all-in-one system

It is hard to overstate technology's potential to improve healthcare, but if different systems cannot communicate that potential will remain untapped. The imminent arrival of Workplace Hub Healthcare is welcome because it heralds a badly needed improvement in levels of understanding; between healthcare professionals and technology systems, and between the systems themselves.

*"I think that having a team with different backgrounds, experiences and cultures gives us a unique angle to tackle quotidian problems such as moving data from paper into digital systems. We have a lot of creative solutions in mind to solve everyday problems for healthcare providers. Intelligent data capture is just the first step."*

José Alonso, Incubation Manager Healthcare - Konica Minolta, Inc.

## Technology that helps you help your patients





# THE SILENT TREATMENT

## SOLVING A NEONATOLOGY PRACTICE'S COMMUNICATION PROBLEM

As part of its move towards digitalizing patient care, a leading neonatology practice installed an electronic health record (EHR) system to manage patient information more efficiently.

### SET THE SCENE

Unfortunately, the practice's affiliated hospital moved to a new EHR system. This meant the practice could not share data with or receive data from the hospital's admission, lab and document management systems. These systems and the data they contain are essential for making informed decisions while providing care

to newborns. As a result, the neonatologists and their clinical staff had to manually enter patient information. Looking to overcome this issue, the practice contacted Konica Minolta's All Covered Healthcare IT Division.

### SOLUTION

Having analyzed the situation, All Covered Healthcare Practice designed and implemented a two-way integration. This involved developing an interface using Health Level 7 (HL7)—the international standard for transferring clinical data between EHR systems—so the two systems could speak the same language.

#### *Inbound integration:*

The inbound integration included making sure the neonatology system was able to receive admission transfer and discharge (ADT) communications, as well as test results and birth data, from the hospital's system.

#### *Outbound integration:*

The outbound integration allowed the practice's system to share important clinical documents, like clinical notes and discharge summaries, with the hospital once more.

### IMPACT

This integration helped to solve a serious problem for the neonatology practice by reducing the amount of time staff had to spend on admin and allowing them to focus on patient care.

#### *Integration benefits:*

- Faster and more secure exchange of patient data
- Lowered costs due to reduced manual processes
- Improved communication among staff and physicians
- One consistent, electronic view of patient data
- Improved data quality with reduced errors

Konica Minolta draws on its understanding of both the legislation and market forces shaping the healthcare technology landscape to solve IT problems case by case; helping providers to use their own systems more easily and connect seamlessly with other organizations.

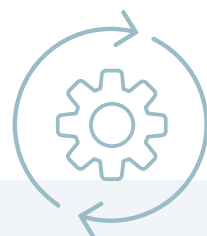


Konica Minolta draws on its understanding of both the legislation and market forces shaping the healthcare technology landscape to solve IT problems case by case; helping providers to use their own systems more easily and connect seamlessly with other organizations.



# DOCTOR DO LITTLE HOW TECHNOLOGY HOLDS HEALTH WORKERS BACK

In the hectic world of modern healthcare, doctors are beset all on sides by systems demanding their attention. These systems are usually vital for patient care and running the organization where the patient is being looked after. But the sheer number of systems, their poor usability and the fact they often cannot talk to each other makes healthcare IT a major barrier to achieving high standards of treatment. Workplace Hub Healthcare solves this problem turning confusion into clarity so doctors can get on with the work that matters most.



## System in use

- Patient monitoring
- Electronic health record (EHR)
- Patient referral software
- Billing and reimbursement software
- Picture archiving and communication system (PACS)
- Hospital information system (HIS)



## Common pain points

- Outdated and unresponsive software
- Over reliance on manual data entry
- Poor data transfer and retrieval
- Lack of system integration leading to ineffectiveness and time wasted
- Increased costs



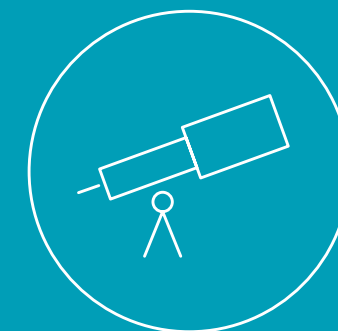
## Benefits of Workplace Hub Healthcare

- Latest software and increased software speeds and performance
- Patient record digitization
- Improved security
- Simple and effective data access, transfer and retrieval
- Integration and automation across systems, tablets and mobile
- 360° view of patient data
- Easy scanning and classifying of patient data

*'Improving the safety, quality and efficiency of healthcare through the targeted application of IT. That's what we do.'*

Navin Balakrishnaraja, National Practice Director, Healthcare IT Services, All Covered

# LOOKING TO THE FUTURE DIGITAL HEALTH DEPENDS ON INTEROPERABILITY



Digital technologies hold huge potential for improving global health. They also offer healthcare providers opportunities to operate more effectively and efficiently in today's pressurized care-giving environment.

But the potential of digital technology can only be realized when there is a plentiful supply of high-quality data, which means interoperability. The subject of interoperability does not grab headlines like, say, artificial intelligence, but advanced technology is powerless without it.

## The app will see you now

Healthcare technology is advancing at extraordinary speeds. Electronic health records, medical imaging, mobile apps and wearable devices: all of these provide a nonstop stream of health data. Together with artificial intelligence, these technologies could transform healthcare through, for example, better diagnostics and early disease prevention. At the same time, analytics tools allow health leaders to make data-driven decisions, achieve greater returns on investment and maintain operational viability.

One area where wearables and analytics can make a difference is avoiding treatment delays caused by processing patients' insurance claims. Payers' prior-authorization (PA) requirements sometimes cause significant hold ups. A patient's health can deteriorate in this time, resulting in costly events such as emergency visits and hospital admissions.

These life-threatening delays can be minimized with better gathering and analysis of data. This means unifying clinical data from all sources, including claims, patient-reported data (from wearables and remote monitoring devices) and genetics. With a clear and complete picture of an individual's health, providers can dramatically improve how they assess risk, speed up claims and concentrate on the right patients at the right time.

## Three ways AI can improve healthcare:

- Identification of pre-diabetes and people with undiagnosed diabetes
- Prediction of preventable visits to emergency departments
- Identification of patients likely to develop chronic conditions in the near future

## The best way forward

Aware of the huge potential of digital healthcare, Konica Minolta is working to bring interoperability closer while helping providers overcome the IT issues that hamper them. We advise on and implement better, easier-to-use technology that allows faster, more reliable gathering and sharing of data. We also help providers use analytics so they can convert data into actionable insights.

## We offer a broad range of support including:

- EHR implementation and support
- Referral and order management
- Improving patient experience
- Data migration, integration and testing
- Compliance
- Security
- Value Based Care Solution
- Revenue cycle management

## Act now

By delaying the move towards greater interoperability, healthcare providers are widening the gap between themselves and early adopters. Healthcare technology is constantly improving but only those with good data will be able to make use of it. Thoughtful investment in systems that promote interoperability is essential both at a business level and for delivering better patient care. There has never been a better time to act.



