

Healthcare Innovation with Content Capture

Your guide to optimizing data and
content with intelligent data capture



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Overview

Increased data, documents, images, and other types of content are overwhelming healthcare organizations worldwide. It's a phenomenon that crosses multiple industries but impacts the way healthcare organizations are strategically thinking about their content—from patient records to business documentation. This influx forces healthcare leaders to address the challenges that confront their organizations. Undergoing digital transformation and automating processes to handle content is the preferred cure.

In fact, most of the data is “unstructured,” meaning that until the data is read and indexed into a database or table format, it is unsearchable and therefore unusable. When this information is converted into a structured format, it becomes far more valuable, accelerating and impacting decisions from patient care to administrative functions to strategic planning. Gartner estimates that about 80% of data is unstructured, which either means organizations must conduct ongoing—and costly—manual data entry or use intelligent technology that can automate the process.



Upward Bound Data

Industry analysts and reports continue to predict increasing data challenges, making it more important than ever to incorporate intelligent data capture into your digital transformation strategy. The International Data Corporation reports that data is growing at a 10X rate per year, and by 2025, the global datasphere will have 163 ZB of data worldwide (IDC Directions 2019). Therefore, organizations will need to address the growth in data and the need to better manage it.

In a 2019 Gartner report “Healthcare Provider CIOs: Get Control of Patient Data Across All Partners,” they warn CIOs about getting ahead of expanding data risks. In the next 3 to 5 years, healthcare CIOs will continue to wrestle with growing issues surrounding patient health data management including privacy, integrity, protection, and sharing. In fact, they predict that by 2023, 60% of healthcare consumers will have access to and control of their health data using a technology of their own choosing. They attribute these trends to include a rise in digital processes that capture more data, more forms, consumerization, and a healthcare ecosystem of digitally connected partners and vendors that create more sources of patient data. Therefore, CIOs must make a concerted effort and strategy to connect with patient data in all its forms and places.

Common Content Hurdles in Healthcare (that can be jumped with the right technology)

Now that we know more about these data challenges, let's look at some of the most common examples that healthcare professionals face. There are both clinical and non-clinical content challenges that are frequently encountered.

Clinical



Ambulatory Environments

This is a typical starting point, and pain point, when external documents arrive with the patient. For many outpatient services, healthcare workers often receive documents that only have a name and date of birth. The process of searching and indexing these documents to the correct patient record is not only cumbersome, but a process that could be avoided. Organizations can prevent possible errors when intelligent document capture is put into place.



Faxed Orders

Sadly, faxes are still a common method of communication, especially for patient orders. If your department is dependent on processing orders received via fax, the process of receiving, indexing, and scheduling can be an arduous process. Automating the capture and scheduling process can not only drastically reduce processing time but improve accuracy as well.



Batch Documents

Documents belonging to the patient record are often scanned in batches. Information in these records may contain a medical record number (MRN), patient name, and account number. This can either be a manual process to upload, or they can be digitally transformed using intelligent document capture tools. With an automated process, the system can learn to classify (recognize the document type) as well as extract the required information.

Non-Clinical



Invoices

Depending on the size of your organization, hundreds or thousands of invoices need to be processed weekly or monthly. These may come in paper or electronic format, but a lot of them are unstructured and need the data classified and extracted. Most organizations need supplier number, address, date,



invoice number, line item details, subtotal, taxes, and total amount to add into their Enterprise Resource Planning (ERP) system.

Ardent Partners, a third-party research firm, reported that 80% of accounts payable (AP) departments have an overall cost in time and effort of \$14.38 per invoice without automated processes. However, the best-in-class AP departments (20%) with intelligent processing and automation only pay \$2.52 per invoice—which is a savings of about 83% overall. The research showed that these innovative AP departments also reduce processing time from 10 to 3 days, cut their exception rate in half, and straight-through processing improves from 19% to 65%.

Digital transformation with intelligent data capture can help dramatically improve business outcomes, efficiency, accuracy, and cost savings.



Human Resources

From applications and resumes to contracts and other employee files, human resources departments handle a large volume of paper and electronic documents. Organizations use intelligent data capture to reduce manual keying, while improving compliance and data integrity with digital personnel files.

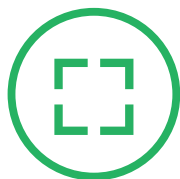
The use cases demonstrated here are common challenges that indicate a need to digitally transform their related processes. Once a use case—or multiple use cases—are identified, it's time to start planning how you will efficiently handle your data to maximize productivity.

What is Intelligent Data Capture?

Quantum Enterprise Content Solutions from Quest Diagnostics empowers healthcare organizations to leverage the information needed to support and improve patient care, drive operational efficiencies, and lower costs. Intelligent Data Capture (IDC), powered by Ephesoft, is integrated, patented technology that is offered as part of Quantum Enterprise Content Solutions. Organizations like yours can now access this innovative approach to solving these clinical and non-clinical data challenges.

IDC uses a supervised machine learning technology that accelerates both digital and manual document-related processes. A user oversees the process to learn and recognize the document type, classify it, extract the required information, validate, and save the data in Enterprise Content Solutions. Each time a user is alerted to make a correction, the user modifies the system to become smarter, learning new layouts and document types over time. This can significantly accelerate time-to-value for almost any business process or workflow and can help improve accuracy, increase productivity, and dramatically reduce costs. IDC allows users to automate content intake, reduce quality review processes, and drive workflow automation.

Intelligent Data Capture Process



CAPTURE

Capture any type of document from any source



CLASSIFY

Identify and sort documents using supervised machine learning



EXTRACT

Extract the metadata from documents



VALIDATE

Receive alerts on any errors or exceptions



DELIVER

Automatically sends data to Quantum Enterprise Content Solutions



Benefits

Using Intelligent Data Capture is the first step to digital transformation and the key to unlocking unstructured data. Building a comprehensive picture that aggregates information from disparate sources is imperative for healthcare organizations to meet patient, customer, vendor, and employee demands of the future. IDC may help your organization:

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|--|---|--|--|
| | Accelerate time-to-value | | Experience data on-demand |
| | Improve patient outcomes | | Eradicate storage rooms for archives |
| | Provide a better customer experience | | Decrease document prep time and indexing |
| | Eliminate extra steps and manual processing | | Increase accuracy and productivity |
| | Save money on labor | | Meet compliance and regulatory mandates |



Positive Outcomes

Challenge

A large health services network was spending too much time entering and fixing data errors, especially in their labs. They struggled with patient labels and documentation as well as the ability to capture indexing data accurately. They knew there was a better and faster approach using a more modern technology stack and turned to Quest Diagnostics for help.

Solution

In 2019, the organization implemented Intelligent Data Capture (IDC), powered by Ephesoft, as part of Quantum Enterprise Content Solutions. One of the project sponsors began tracking errors based on the percent of requisition on their labels. Prior to using IDC, the error rate was at 84% and after a month of using the system, the error rate was down to 19%. Additionally, the project manager analyzed the different types of error rates.

The tests showed that account number issues were the highest at a 43% error rate, which dropped sharply after 10 days and leveling out to about 6% at the end of the month. Approximately 22% of errors involved the label not being read at all. The reason for this was that the font used incorporated a slash through the number zero and their scanner did not recognize the character and could not decipher if this was a 0, 6, or 9. The organization had to go into the EHR to change the font.

They also decided to remove unnecessary things from the label like the “Lab Requisition Number”, which made room for more important data. These adjustments made the process better and testing easier and brought the error rate down to 11.8%. “The Quest Diagnostics team was a huge help. They made a series of small tweaks, which added up to a lot,” explained the Project Manager.

Another factor for errors examined was caused by crooked labels. At the beginning of the analysis, crooked labels accounted for only 12.7% of errors. However, this error impacted the entire process much more than one might suspect. If there was one crooked label error in a batch of many, the entire batch could not run or be validated. Discovering this problem with the new technology reduced this down to 0.5%.

COVID-19 Pandemic Response

IDC has enabled the health services network to not only reduce errors, but also respond to a drastic increase in volume of lab requisitions due to the COVID-19 pandemic. “Being able to manage the release of information and reporting in the system, and turn our people from being so paper-based into health informatics professionals, has helped our organization. On top of that, Enterprise Content Solutions was very easy for us to learn. Even people that have been filing for 30 years feel confident in the system. They can look at their processes, understand and troubleshoot better than ever before – we’re ecstatic!”

After using IDC for just one month, administrators saw a 65% reduction in processing errors for lab requisition documents.

“Quest Diagnostics has helped us change our thinking, from being a paper-based system, to one where the possibilities are endless.”

– HIM Project Manager

Next Steps to Digital Transformation

If you're considering using an Intelligent Data Capture platform, please consider taking the following steps. Our IDC experts can help guide you with more details about each step, too.

1. Select Executive Patron Sponsorship

Gather a team and nominate a project champion or executive patron to lead the transition project.

2. Appoint a Tiger Team for the Transition

A "Tiger Team" is a group of employees or consultants that will spearhead the digital transformation project, and usually consist of a team made up from cross-functional departments or business units spanning the entire organization. As you begin to assemble your team, it is important to assign coordinators and influencing stakeholder roles. This team structure will help ensure that the project remains on time, on task, and on budget.

In many modern healthcare enterprises, Healthcare Information Management (HIM) specialists often serve different—but frequently overlapping—roles to those of traditional IT professionals. HIM specialists oversee healthcare data and information resources. This can include leadership in planning, collecting, aggregating, analyzing and disseminating individual patient and clinical data, which is instrumental to a digital transformation project.

3. Prioritize Data Privacy & Protection

Data privacy compliance must be at the forefront, with security and protection given equal attention. Employing a Chief Information Security Officer is advisable.

4. Digital Dexterity: Commit to a Cultural Shift

Shifting the culture of the company is often one of the most difficult steps, and it doesn't happen overnight. Starting at the top, embracing digital transformation must be something all employees live and breathe.

5. Execute Rollout

The organization's size will dictate the operational rollout. Eliminating the silos is part of the end-goal. Discovering what data is out there can be challenging, but intelligent data capture systems can help your team overcome that challenge. In this stage, deciding whether to deploy in the cloud, hybrid, or on-premise is necessary.

6. Train and Augment Your Operations Team

Once your system has been deployed, supporting users is essential. Streamlined services, change management, and support must be executed well. This includes training the departments who will use the system and defining standards.

7. Plan and Budget for Scale

While we all hope global health improves as technology advances, being able to scale for a healthier world or in times of a health crisis is important in providing the best care. Again, depending on the size of your organization, it may make sense to rollout the implementation in stages.



Driving Value

Achieving value-based care objectives in a modern healthcare enterprise demands a structured approach to data and content management. Data-driven healthcare organizations are more agile, flexible, and outcome-oriented. If you're considering a digital transformation initiative or if you are interested in learning how to better manage administrative or patient data, please reach out to us to learn more at info@ephesoft.com or Info@Quanium.com.



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