

Converting Paper Reqs to Digital Cut Lab's Costs

➤ **Eliminating manual data entry when entering paper requisitions improved TAT, staff productivity**

➤➤ **CEO SUMMARY: Health Network Laboratories cut costs and shortened lab test turnaround time by converting paper requisitions to digital data. It did so by scanning paper requisitions and having a vendor do the required data entry. This helped the lab to reduce errors in its patient data. Using this paper-to-digital system allowed the lab to adopt an enterprise master patient index (EMPI) that significantly reduced duplicate patient records and ensured demographic information was accurate. It also cut the number of incorrect addresses and returned mail, saving a projected \$4 million annually.**

PLENTY OF PAPER IS STILL USED TODAY in most clinical laboratories and anatomic pathology groups, despite decades of advances in computer technologies. Slowly, though, the use of paper is declining as clinical laboratories adopt digital tools.

Paper is costly and traditionally requires staff to manually enter patient information and requisition data from the paper into an electronic health record (EHR) or laboratory information system (LIS). This error-prone, time-consuming process slows production from accessioning to results reporting.

Health Network Laboratories (HNL) in Allentown, Pa., found a solution to this problem. For the past eight months, the lab has been using a paper-to-digital (P2D) system from **4medica** that allows it to directly convert paper requisitions to digital data, saving time and money.

One benefit of the lab's P2D system is that it helps the staff identify and correct errors in paper requisitions. This approach enabled the lab to significantly

cut staff time and labor costs, improve customer service for client physicians and patients, and increase the number of clean claims, which triggered faster payments from health insurers.

The P2D system and the implementation of an enterprise master patient index (EMPI) helped to reduce errors in patient data so much that it produced savings that—when projected over a full year—would be **almost \$4 million in annual savings,**” said Joseph Cugini, HNL's Manager, Client Solutions.

➤ **More Accurate Patient Data**

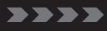
“This system helps us correct errors in patient data, such as addresses and other information,” he said. “The P2D system and EMPI helped us to cut the volume of returned mail,” he said. “Just that one improvement also allowed us to reduce the staff time previously needed to find patients' correct addresses.

“The annual cost of returned mail due to inaccurate patient addresses was \$488,417,” commented Cugini. “With

our new digital system, that amount has been cut to almost zero. What's more, the annual cost from missing address components in our patient data was \$3.4 million. The total lost revenue was \$3.9 million." (See sidebar, "Lab's Paper to Digital Conversion Cuts Costs," page 21.)

Cost-cutting is essential because Medicare, Medicaid, and commercial payers have all cut what they pay for clinical and anatomic pathology testing over the past several years. (See, "Reacting to PAMA Cuts, Lab Works with Payers," TDR, April 9, 2019.)

"The value of an EMPI grew over time as more of our lab's patients have become responsible for a greater share of their healthcare costs," Cugini said. "Over the past 20 years, employers and health plans have adopted high-deductible health plans (HDHPs), which shift a greater share of healthcare costs to patients.



"By cleaning up our patient data, we drove the duplication rate down to less than 1%," Cugini said. "Our entire internal workflow—from accessioning to test results—now runs more efficiently."

"The number of patients with HDHPs increases each year, and they are now responsible for thousands of dollars in deductibles a coinsurance each year before their health insurers pay anything toward the cost of lab testing," he added. "That makes the laboratory responsible for collecting from patients what they owe. Yet, few labs have the capabilities to collect these amounts from patients—at the time of service or later.

"The EMPI gives us the ability to see what each patient owes before we run any tests for that patient," he said. "Also, the EMPI ensures that we have accurate patient demographic data when it's time to bill patients and send patient data to payers.

Before adopting the EMPI, HNL was like most labs in that the staff recognized that having paper requisitions was necessary but inefficient—particularly when processing hundreds of thousands of clinical lab tests and reviewing thousands of anatomic pathology specimens each year.

► Daily Flow of Requisitions

HNL does not reveal the number of tests it runs, but Cugini estimated that HNL receives about 650 paper requisitions on an average workday. Among those 650 requisitions are 250 of HNL's standard requisitions, 200 for pathology or specialty lab work, 125 that are non-HNL orders from physicians' electronic health record systems, and other sources. The remaining 75 are handwritten.

The primary source of HNL's test volume is the **Lehigh Valley Health Network (LVHN)**. HNL is the exclusive laboratory provider for LVHN, one of the largest health systems in Pennsylvania. About 60% of HNL's revenue comes from LVHN, and the balance is from the lab's outreach program. The lab contracts with all national companies, such as **Aetna** and **UnitedHealthcare**, and regional insurers such as **Highmark**, **Capital Blue Cross**, and **Independence Blue Cross**.

When patients who have insurance through any of these companies are referred for testing, the first step in HNLs' pre-analytical processes is to use the P2D to convert paper requisitions to digital data. Staff at 4medica then verify that the data are accurate. Checking for eligibility for insurance coverage is a separate function that HNL does through its order-entry system.

► Problem of Accurate Data

"Before introducing the P2D and EMPI systems, we had problems ensuring that we had accurate data on each patient," Cugini explained.

"When our EMPI became operational, we found that we had a duplication rate

close to 30% in our patient records,” he said. “It meant we had duplicate records on almost a third of our patients.” HNL might have one patient with two different addresses, for example, or it would have the correct address with two different but similar names.

“Using paper requisitions made it difficult to identify each patient accurately,” Cugini said. “One way we cleaned up our data was through the use of the digital system to eliminate having our lab staff enter data by hand from the paper requisitions we received every day.

“By cleaning up our patient data, we drove the duplication rate down to **less than 1%**,” he commented. “Our entire internal workflow—from accessioning to test results—now runs more efficiently.”

Improving the data on patients had the added benefit of increasing the number of clean claims the lab submitted to insurers, boosting cash flow. Having accurate data also increased the lab’s level of customer service, which patients and ordering physicians appreciate, he added.

➤ **Four Steps for Each Req**

In the pre-analytical stage, HNL follows four steps for every requisition. First, it verifies insurance eligibility in real-time and then checks if preauthorization is needed. Next, it converts requisitions from paper to digital and then sends that data to the EMPI.

“At the start of this project, we wanted to improve data collection at the front end,” Cugini commented. “Specifically, we wanted to verify health insurance eligibility for any patient in our patient service centers. Next, we wanted to identify any tests needing preauthorization.”

Failure to get prior authorization approved can result in running a test when no payment is ensured. In such cases, either the lab will be stuck with the bill, or the lab will need to bill the patient.

To do its eligibility checks, HNL uses third-party software from 4medica. The

Lab’s Paper to Digital Conversion Cuts Costs

ONCE IT INTRODUCED A SYSTEM TO CONVERT PAPER REQUISITIONS TO DIGITAL ORDERS, Health Network Laboratories reviewed the resulting performance metrics and found that—**not only did the lab save almost \$4 million annually—but it also cut pre-analytical processing time sharply**, said Joseph Cugini, HNL’s Manager, Client Solutions.

Using the paper-to-digital (P2D) system, HNL can process 75% of its orders in less than 10 minutes each, according to a test it ran on 3,900 paper requisitions.

The test also showed that HNL had no orders that took more than 20 minutes to process, and almost 3,000 of those paper requisitions took less than 10 minutes to process.

“In addition, each batch of scanned requisitions takes approximately two minutes to be securely transmitted to 4medica for processing,” Cugini said. “That’s a dramatic reduction from what we needed to process requisitions before introducing the P2D.”

Health Network Laboratories also cut the number of lab test orders with errors from about 30% to about 1.2%, Cugini reported. And the cost to process each order was lowered to about \$1, he said.

software uses data from payers and other sources, such as credit bureaus. Taken together, these data allow Health Network Laboratories to verify how much each patient owes toward his/her deductibles, copayments, and co-insurance.

“These steps help us collect more of the revenue patients owe,” Cugini added. “All that information gives us the opportunity to request payment from each patient at the time of service.” Once these two steps are completed, HNL then scans the paper requisition to convert the information to digital data, again using a system from 4medica.

“This step in the workflow allows us to convert any manual paper requisition into an electronic order,” he said. “Now staff in specimen management can process incoming orders more efficiently and prepare them for the analytic stage.

➤ **Less Manual Entry of Data**

“In the past, we needed those same people in accessioning to do manual data entry on each line in each requisition,” recalled Cugini. “That very tedious work was one reason our turnover in accessioning was so high.

“Also, when we brought in new employees, those new workers frequently made data-entry mistakes, requiring lots of retraining,” he added. “Of course, mistakes made during manual data entry would show up in duplicate entries in our patient records and in other places.

“The paper-to-digital system now serves as an enhancement to staffing, not as a replacement for staff,” Cugini said. “It also allowed us to shift the staff away from manual data-entry tasks, so that staff can take on other important pre-analytical work. In turn, that has improved the quality of our pre-analytical activities.”

➤ **Overcoming Challenges**

“Having a P2D system helps address the data capture challenges with these requisitions. After all, many paper requisitions have missing or incorrect information—such as patient demographic data, diagnosis codes, or insurance information,” he stated.

“Some requisitions have ambiguous test orders or omit the ordering physician’s name,” Cugini added. “In other cases, physicians will add hand-written notes in different places, making it difficult to determine which tests were selected.

“Generally, requisitions from different EHR systems are easier to read but can vary in how they’re formatted,” he explained. “For instance, the demographic data may be in one place on one

Cost Cutting and Error Reduction Initiatives

DURING A PRESENTATION AT THE DARK REPORT’S *LAB QUALITY CONFAB* in Atlanta in October, Joseph Cugini, Manager of Client Solutions at **Health Network Laboratories (HNL)**, explained how the paper-to-digital (P2D) system of converting analog data on paper to digital is one of several cost-cutting initiatives.

Another is the **Enterprise Master Patient Index (EMPI)**, which helps HNL to reduce errors from paper requisitions by having HNL’s vendor, **4medica**, do quality assurance checking during the process of converting paper to digital data. Using digital data allows HNL to:

- Decrease the time required to submit claims to payers;
- Increase the number of clean claims at first submission, cutting settlement times;
- Boost revenue;
- Improve staff productivity; and,
- Decrease the errors cause by using paper requisitions.

form and in another place on another form. That makes it hard for our staff to find that data easily. Hand-written requisitions are the most challenging because readability can be poor or physicians will use unfamiliar terms for certain tests. All of these challenges can slow processing in the pre-analytical stage.

“While we still work to overcome these challenges, the P2D and EMPI systems have significantly reduced the number of paper requisitions that require individual handling,” he concluded. “Not only does our lab collect more revenue, but our physicians and patients get better service. You can say that our effort to reduce paper in our lab has been win-win for all.” **TDR**

—Joseph Burns

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To learn about 4medica Big Data MPI™ and 4medica Perfect Order for Perfect Payment™ solutions, request a demo at 4medica.com/4medica-demo
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