

LRS Enhanced Document Printing and Viewing in the Healthcare Industry



Output Management Impact on Healthcare

The benefits of output management vary by organization and are usually influenced by the urgency and critical nature of the documents produced, remote facilities, printer count, etc.

Central to output management in healthcare are several key considerations.

- Significant investments are made in the applications driving healthcare organizations while little consideration is placed on managing the critical output these applications produce. Often, these applications pass printing tasks to an operating system, regardless of the limitations.
- Healthcare applications drive process workflows for many organizations' clinical and business areas. Healthcare applications direct many roles to perform procedures in parallel, often dependent on one another. When document related issues delay a procedure, ongoing tasks stack up, increasing the risk of errors that can impact patient care and satisfaction.
- Precious IT resources are typically burdened daily with print related support issues. Investigating print issues regularly requires time consuming investigation of multiple application servers and print queues. Most operating systems lack proactive monitoring and alert capabilities, so support staff reacts only when a problem has already occurred.

How does output management benefit healthcare organizations?

Analysts indicate 30% of normal day-to-day process interruptions involve document related failures. With today's focus largely on addressing regulatory requirements (i.e., tamper-proof prescription law, HIPAA, etc.) and securely handling patient health information, many healthcare providers report that care-related and administrative workflow processes are increasingly being hindered by printing issues and costs.

With easy-to-use software, your organization can support printing and online viewing more effectively. LRS® solutions directly integrate through partnerships with Cerner, GE Healthcare, and Siemens and technical working relationships with Epic and McKesson. Additionally, our customers manage output from Lawson, Meditech, SAP®, and other applications. Our solutions deliver the comprehensive capabilities healthcare providers need to derive tangible value across clinical and business lines. This document shares how LRS customers use our solutions to:

- Ensure document delivery to patient processes
- Manage sensitive information
- Reduce administrative support requirements

Benefits include printing sensitive documents securely, reliable print delivery and support for seamless patient related processes, document viewing and retention for paper reduction and compliance, printer fleet independence, document tracking and usage statistics, and more.



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Ensuring Document Delivery to Patient Processes

While the healthcare industry and application vendors have taken significant steps to reduce the need for traditional paper-centric processes, reliance on documents remains critical. To illustrate how printing dependencies can impact a clinical workflow, let's look at a basic example. **Keep in mind that the users in this scenario are unaware of the systems that generate the documents nor informed of successful or failed printing.**

1. A patient calls to set up an appointment with their primary care physician (PCP). The call center opens a scheduling module to make an appointment with the PCP.
2. Each day, a nurse or assistant prints various clinicians' schedules.
3. When the scheduled patient arrives for an appointment, they register and check in. A registration document is printed and provided to the floor nurse.
4. The clinician examines the patient and requires a complete blood count (CBC) and chest x-ray. The clinician creates the orders using a healthcare application. Labels are queued to print in both the lab for the blood specimen and in radiology for the x-ray.
5. The clinician reviews the results from the CBC and x-ray, and determines a course of treatment, including a prescription. The clinician creates the order for the prescription using the healthcare application, generating a label to print in the pharmacy as well as printing the patient's after visit summary (AVS).
6. The patient goes to the pharmacy to pick up the prescription and patient instructions.

Many of these steps involved printing, yet nothing was in place to ensure successful printing. When problems arise, significant time is spent determining the problem, application(s), and how to resolve the issues. Furthermore, an administrator gets involved only after someone identifies a print job has failed.

During the course of treatment, fast access to printed documents positively shapes patient satisfaction. Avoiding print related delays improves the quality of care related processes. Conversely, printing issues can impede clinical productivity and quality, tie up precious IT resources, and risk patient satisfaction.

LRS solutions provide sophisticated device communication capabilities to ensure the availability of printers. Proactive alerts identify printer issues early (e.g. low on toner) allowing staff to prevent the issue from becoming a problem affecting clinical or administrative processes. In the event that a printer is unavailable, the solution can retain the document—avoiding need to regenerate it – and then re-route it to print on another device.

Finally, an LRS solution can open up alternative delivery channels (e.g. email, portals, hand held devices, etc.) including seamlessly storing information for viewing and then disposing of it.

Managing Sensitive Information

Regulatory pressure continues to push organizations to tighten control over the sensitive documents produced by their applications. In addition, healthcare service providers must keep sufficient records to substantiate payments (e.g. from Medicare). Industry best practices suggest establishing a uniform method to retain all essential documents: recording business transactions, required by regulations, and/or useful in future litigation.

LRS repository and online viewing technology provides the security and search capabilities to retain and retrieve business, regulative, and legal documents – all from a browser. Healthcare organizations, in particular, gain significant benefits using an integrated solution to manage printing, storing, and viewing of critical application documents throughout their lifecycle.

An LRS solution seamlessly provides repository and viewing capabilities enabling healthcare organizations to:

- Protect and audit access to sensitive documents
- Store multiple document types for HIPAA compliance
- Securely share documents with remote sites
- Notify users by email when a document is available for view
- Automatically expire outdated documents
- Reduce overall printing volumes

An LRS solution helps organizations manage and control the use of all essential documents (in various forms) from creation or receipt, through processing, retrieval, and ultimately through disposal. The solution monitors access and provides a complete audit trail of document viewing and printing.

The repository stores documents and files produced using all kinds of applications and aids authorized staff members in searching across document types to precisely pinpoint information. 'Fuzzy' search capabilities assist users in finding related types of information. Users can also 'subscribe' to receive an email link immediately as a document becomes available.

The LRS solution supports multiple import methods and can capture additional application metadata to automate organizing repository documents by user, department, etc. Organizations can assign retention and expiration schedules per document. The solution indexes documents automatically and supports use of document-specific attributes for fast, flexible searching.

Tracking printed documents for compliance

No organization wants to admit to problems, but a healthcare provider must take steps to resolve a compliance issue. After a security review and audit, a high profile medical institution on the west coast found that patient information had been compromised by their internal staff. As such, they were subject to litigation and strenuous harm to their reputation. Their existing health information system and IT infrastructure did not track printing nor could they audit who or what was being printed.

The institution strategically decided to implement a comprehensive electronic medical record system and support it using an output management system. They wanted to enhance their printing capabilities while establishing the ability to track and monitor document access and use. Using an LRS solution, the provider now captures and stores every document generated. Directly integrated with their practice management system, the LRS solution gathers additional application metadata, including userID and reportID, organizes and routes documents, and provides a complete audit trail for printing and viewing.

Addressing tamper proof prescription printing

A recent change in federal law regarding Medicaid prescriptions requires that all non-electronic Medicaid prescriptions be printed on tamper-resistant prescription pads. To comply with this new regulation a healthcare facility considered buying specialized printers that held tamper proof paper designed specifically for this requirement. As tamper proof paper stock costs twenty-five times that of regular paper stock, the facility manager opted for a method that avoided accidental printing on this paper.

With help from LRS, the facility

chose to print prescriptions on existing laser-jet devices equipped with secondary trays holding the special tamper-proof paper. LRS, working with the application vendor generating the prescriptions, developed a seamless technique to identify prescription documents. The LRS solution identifies prescription documents, routes them to the appropriate printer, and automatically selects the correct tray.

The innovative and cost-effective solution:

- Ensures non-prescription related documents do not print on costly tamper-proof paper.
- Ensures that prescriptions always print on tamper proof paper, complying with the regulation and also streamlining the Medicare repayment process.
- Avoids an unnecessary printer investment and additional support requirements.
- Ensures the facility's physicians are not interrupted by patients and pharmacies calling to investigate invalid prescriptions.

Securely printing personal information

Healthcare providers must ensure the compliance of their "back office" as they regularly print sensitive patient statements, claims, and registration paperwork. A large east coast university health services foundation, using a suite of business applications to manage physician billing and registration, discovered that documents containing patients' social security numbers were being left at printers, compromising compliance with HIPAA guidelines.

To rectify the issue, the foundation had instituted a locked printer room and required all documents containing sensitive information be printed there. They soon realized the true cost of the dedicated printer room, as it used valuable facility space, needed

Reducing print related failures to improve service levels

A hospital's IT team explained how failed backend printing from a leading healthcare vendor's electronic medical record system impacts their hospital operations. When a backend print job is delayed or lost, it can take up to 45 minutes to regenerate the print job. Excessive delays affect admitting patients into the facility, executing orders, completing lab details, etc. They report use of their LRS solution has dramatically improved print related service levels at the hospital.

Sharing and retaining patient paperwork with remote sites

A hospital operates four remote sites to draw blood and perform other basic procedures. The paper work for a patient's visit was being retained in hard copy. Returning for a follow-up, the patient's paperwork sometimes could not be found. Appointments would be rescheduled, negatively impacting patient satisfaction and often resulting in lost revenue. The hospital now uses an LRS solution to securely manage each patient's records in electronic form, securely sharing this information with their remote sites.

air conditioning for the printers, and required a staffing process to manage security access to the room.

Occasionally, documents still ended up missing and would require resubmitting print jobs.

The health services foundation had been looking at multi-function devices (MFDs) as a way to save on print consumable costs. These MFDs featured resident electronic mailboxes. Working with LRS, the proposed solution changed the whole scope of the project, allowing the university to securely print sensitive documents using these economical MFDs without restriction on their locations.

Working with the healthcare business application vendor, the LRS solution delivers sensitive documents to specified mailboxes onboard the MFDs. At the MFD, the user enters their PIN and selects documents to print while standing there. The same MFDs also print other documents.

The LRS secured delivery solution minimizes print related infractions and allows the university to deploy secure MFDs to each department. The solution recovered various costs associated with the locked printer room and also reduced their print volume by eliminating banner pages. Finally, the solution provides an audit trail of printing.

Reducing Administrative Requirements

Most healthcare providers are familiar with print related issues but may not be aware of the time and resources that are consumed dealing with them. An LRS solution establishes a central point of control between the various applications and the printer devices.

Centralizing all print related information, as well as printer configurations, in one place—eliminates many redundant tasks and simplifies troubleshooting. Moreover, redundant print queue definitions for different print modes (often 6-8 queues per device for portrait, landscape, etc.) are reduced to one.

As an example, a large hospital system with 6,000 print devices across multiple sites was upgrading AIX server hardware. The CIO approved the purchase of an LRS solution when it became clear they could avoid an estimated two year timeframe to transition all their printers to new AIX queues (defining printers and replicating print queues across all their servers). The move quickly enabled reliable printing of all care related documents.

Decrease calls and simplify troubleshooting

An infrastructure that promotes reliable document delivery and proactively gathers status information can effectively reduce helpdesk calls and printing downtime. LRS solutions leverage these capabilities to permit efficient management of most operations using less than a full time employee's time.

To demonstrate this, a healthcare provider reported that application printing issues were consuming 60 hours a week to resolve. With an outdated print infrastructure, support staff had limited information at their disposal to resolve problems. Recognizing the cost escalation, the Director of Information Technology set a goal to reduce the time to a manageable six hours a week. Using an LRS solution, the team quickly achieved their goal, citing how the solution provided a central point of control to manage all printing, provided proactive alerts to identify issues early, and displayed the status of all print devices for faster investigation. The result was far fewer issues and quicker intervention.

LRS Can Help—Let's Discuss Your Needs

Contact an LRS marketing representative at 217.793.3800 to discuss the specific details surrounding your environment, critical processes, and goals.

Providing up-to-date information

A nurse downloads a patient clinical report to a nurse's station. Without a mechanism to identify when a new report is available, future reference of this report assumes patient data has not already changed. Confusion can occur when reports are not deleted regularly.

Using an LRS solution, the hospital established a uniform method to store a variety of users' documents and reports while automatically indexing documents for faster retrieval and viewing. Most importantly, documents are deleted automatically, ensuring up-to-date patient data.

Retaining essential documents

If a patient transfers to a different doctor or to another facility their chart must go with them. Delays printing the patient's chart directly delay time to care or transfer. A hospital IT member said it takes them on average 40 minutes to rectify print issues. This entails shutting down the AIX print queue and having the user rerun the transaction. Using the LRS solution's "retain" feature, hospital staff do not have to waste 40 minutes with this problem. The patient chart is temporarily held within the solution, allowing personnel to simply reprint or reroute it to a different printer. Many essential documents can be managed for fast access and use with patient care and administrative processes.