EMR-Link Lab Orders: Measuring Return On Investment (ROI)
Pat Wolfram, Ignis Systems

EMR-Link from Ignis Systems saves time and reduces errors for both clinics and labs by “closing the loop” in the electronic lab order/result workflow with GE Centricity EMR. This white paper identifies the sources of these efficiencies and provides formulas for quantifying the resulting cost savings. Both clinics and labs can use the accompanying spreadsheet (EMR-Link ROI Calculator.xls) to plug in site-specific variables and calculate potential ROI for your implementation of EMR-Link.

OVERVIEW

For clinics, EMR-Link’s complete and accurate electronic orders virtually guarantee that lab results are matched to the right charts, that ordering providers (not responsible providers) are notified when results are available, and that order status in the EMR is automatically updated from In Process to Complete. Not only is chart maintenance more efficient, but physicians have more reliable chart data for better clinical decisions.

Clinics also benefit from error-free ordering and requisitioning of labs. Just one or two additional clicks ensures that the order is complete, minimizing callbacks from the lab and interruptions to physicians and staff.

For labs, operational efficiencies include reduced medical necessity write-offs, elimination of hand reentry of paper orders, and fewer errors requiring clinic callbacks—along with happy physician clients and loyal clinic customers.

COST SAVINGS FOR CLINICS

Faster, more accurate lab order entry

Every lab order requires test, patient, insurance, and billing data. This data is often hand-entered during the specimen draw, or at the lab’s accessioning center, or both, taking additional time and causing potential entry errors.

EMR-Link eliminates the need to enter any of this data, pulling it all electronically from Centricity EMR and sending it electronically to the lab’s lab information system (LIS).
Cost savings formula:

\[ \text{Cost savings} = \text{Number of labs ordered} \times \% \text{ of lab orders that are hand-entered} \times \text{Minutes to hand-enter an order} \times \text{Hourly wage for clinic staff} \]

**Accurate matching of lab results to charts**

When labs are ordered on paper or hand-typed into a lab ordering system, errors can occur on patient identifiers (patient ID, first name, last name, DOB, SSN, etc.).

When results are returned, some percentage won’t match to the patient’s chart. The person in the clinic with the LinkLogic Manager role must manually match these results to the correct chart.

EMR-Link includes the Centricity patient identifier in the electronic order, which is then returned in the lab result. This virtually guarantees accurate matching of lab results to the patient’s chart.

Cost savings formula:

\[ \text{Cost savings} = \text{Number of labs ordered} \times \% \text{ of lab results that don’t match to charts} \times \text{Minutes to correct one matching error} \times \text{Hourly wage for clinic staff} \]

**Correct routing of results to the ordering provider**

When a lab result contains the ordering provider’s EMR user ID, that result is routed to the ordering provider’s EMR desktop for review. But when the user ID for the ordering physician is wrong or missing, the lab result is routed to the responsible physician for that patient.

The ordering provider’s user ID may be wrong due to a typing error when the lab is being entered, an error at the lab’s accessioning area (where specimens are processed), or an error in the EMR’s mapping tables (where physician names are translated to user IDs). EMR-Link eliminates these error-prone steps, electronically maintaining the ordering physician ID throughout the lab order/results workflow.

Cost savings formula:

\[ \text{Cost savings} = \text{Number of labs ordered} \times \% \text{ of lab results that don’t route to the ordering physician} \times \text{Minutes to correct one routing error} \times \text{Hourly wage for clinic staff} \]

**Auto-completion of EMR lab order status**

Clinics that utilize the EMR reporting feature to monitor the status of their lab orders currently must manually change the status of lab orders to Complete when a result is returned and signed. EMR-Link’s built-in business logic automates the completion of lab orders.
Cost savings formula:

\[ \text{[Number of labs ordered]} \times \text{[% of lab order requiring manual completion]} \times \text{[Minutes to manually complete one lab order]} \times \text{[Hourly wage for clinic staff]} \]

**On-the-spot CMS medical necessity validation**

Labs ordered for patients with Medicare insurance require a certain diagnosis so that the lab can be reimbursed for running the test. If the necessary diagnosis is missing, the lab usually has to call back the clinic to obtain that information. The clinic staff then has to track down the physician to add that diagnosis to the order.

To avoid these callbacks, EMR-Link provides single-click validation in the exam room that the diagnosis is correct per CMS medical necessity rules. When the diagnosis is missing, EMR-Link generates an ABN that facilitates patient payment for the test.

Cost savings formula:

\[ \text{[Number of labs]} \times \text{[% of orders missing required diagnosis required by CMS (Medicare)]} \times \text{[Minutes to track down the diagnosis and update the chart]} \times \text{[Hourly wage for clinic staff]} \]

**Validation of complete insurance information**

Lab orders may require insurance information so that the lab knows what insurance company to bill for performing the tests. If this is missing, the lab typically has to call the clinic to obtain that information. The clinic staff then tracks down the insurance and calls it back to the lab.

To avoid these callbacks, EMR-Link validates the completeness of insurance information during ordering.

Cost savings formula:

\[ \text{[Number of labs]} \times \text{[% of lab orders with incomplete insurance data]} \times \text{[Minutes to track down missing insurance info and call the lab]} \times \text{[Hourly wage for clinic staff]} \]

**Reduced IT maintenance of lab interfaces**

EMR-Link consolidates all of the clinic’s lab connections through a single hub, reducing the IT costs of supporting and maintaining each lab’s unique VPN, modem, and/or TCP/IP connections. EMR-Link also maintains the cross-reference tables between physician IDs and EMR user names, minimizing this task for clinic staff.

Cost savings formula:

\[ \text{[Number of lab vendors with unique connectivity solutions]} \times \text{[Hours per month to support each interface]} \]
COST SAVINGS FOR LABS

Reduced data entry

With EMR-Link, your lab order entry system receives the order electronically, so draw station staff no longer has to type in the lab order information. They simply confirm that the order data sent electronically matches the correct specimen.

Time savings formula:

\[
\text{Total lab orders from Centricity EMR clinics} \times \text{\% of orders that have to be hand-entered at accessioning} \times \text{Minutes to hand-enter one order}
\]

Fewer order errors

With EMR-Link, your lab order entry system receives the order electronically, so draw station staff no longer has to type in the lab order information. They simply confirm that the order data sent electronically matches the correct specimen.

Time savings formula:

\[
\text{Total number of lab orders from Centricity EMR clinics} \times \text{\% data entry errors} \times \text{Minutes to correct one error}
\]

Reduced Medicare writeoffs

All lab tests ordered through EMR-Link are checked against medical necessity rules and include an ABN when required. Because medical necessity checking is a convenient “one-click” step from within the EMR, physicians can confirm medical necessity before the patient leaves the exam room and goes to the draw station or patient service center.

Cost savings formula:

\[
\text{Total number of lab orders from Centricity EMR clinics} \times \text{\% Medicare lab orders written off due to missing diagnosis} \times \text{Average cost of writing off one lab order}
\]

Reduced Medicare callbacks

Lab orders that have been validated for completion and ABN mean reduced or eliminated callbacks to the physician/nurse for additional information about insurance or diagnosis.

Cost savings formula:

\[
\text{Total number of lab orders from Centricity EMR clinics} \times \text{\% of labs covered under Medicare} \times \text{\% of incomplete orders} \times \text{Time to call one clinic back for ABN data}
\]
Reduced IT maintenance of lab interfaces

EMR-Link consolidates all of the clinic’s lab connections through a single hub, reducing the IT costs of supporting and maintaining each lab’s unique VPN, modem, and/or TCP/IP connections.

Cost savings formula:

\[
\text{[Number of clinics with connectivity]} \times \text{[Minutes per month to support each clinic]}
\]