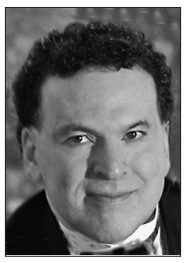
Lab-link software vendors take stock of tomorrow

What is the future of physician office-laboratory link software in an environment that is increasingly adopting electronic medical records and that continues to contend with system connectivity issues? CAP TODAY *asked experts in the field for their opinions. Here's what they had to say.*

CAP TODAY: Will widespread adoption of electronic medical record systems influence the use of physician office-laboratory linking software? If so, how must POLL software adapt to thrive?

✣ ***Rob Atlas,*** *CEO, Atlas Medical Software, Calabasas, Calif.:* Delivering lab results to electronic medical record systems is already a market requirement. Labs will soon need to take electronic orders from EMRs. POLL system vendors that have focused on the operational requirements of the lab will play an important role in this new paradigm.


Atlas

Electronic medical records typically offer users order entry workflow, though support for lab ordering varies widely and can fall far short of what is required by the typical lab outreach program. Successful POLL vendors will balance what each EMR vendor supports and what the lab needs using an open platform that employs a broad spectrum of integration options. The POLL system will function as a flexible business rules engine that sits between the EMR and the lab's internal enterprise systems to enhance the order from the EMR in whatever form it is presented. This engine will offer medical necessity verification, test catalog management, test sharing and routing, and a host of other supplemental functions on demand to meet the lab's needs.

✣ ***Cory P. Fishkin,*** *president and COO, CareEvolve.com, Elmwood Park, NJ:* The short answer to this question is yes, widespread adoption of electronic medical record systems will influence the use of POLL software. However, the reality of it is that the reporting modules of most electronic medical record/electronic health record systems are notoriously weak. They are geared to office procedures, not laboratory results, especially with the increase in image-based and molecular testing.

Even as most EHRs try to strengthen their laboratory results reporting applications, they still have difficulty meeting the needs of the laboratory from an order entry perspective. Many EHRs require an order prior to receiving a result. Standing orders, split requisitions for frozen sections, routing by payer, and ask-at-order-entry questions are still challenges for most EHRs.

Fishkin

POLL software vendors continue to play a vital role by assisting EHR vendors in enhancing their applications for the benefit of the physician, lab, and patient. Interface engines enhance the ability of POLL vendors to provide connectivity to EHRs for orders and results. By using POLL vendors to interface to EHRs, rather than asking a laboratory information system or hospital information system vendor to interface, hospital labs can obtain an interface with a smaller commitment of time and money while improving their outreach capabilities. In addition, advancing data analytics functionality will allow POLL software to be a vital component in health care today and into the future.

✣ ***Ravi Sharma,*** *CEO, 4Medica, Culver City, Calif.:* POLLs prove that physicians will adopt a business model that uses an Internet model for delivery of clinical data.

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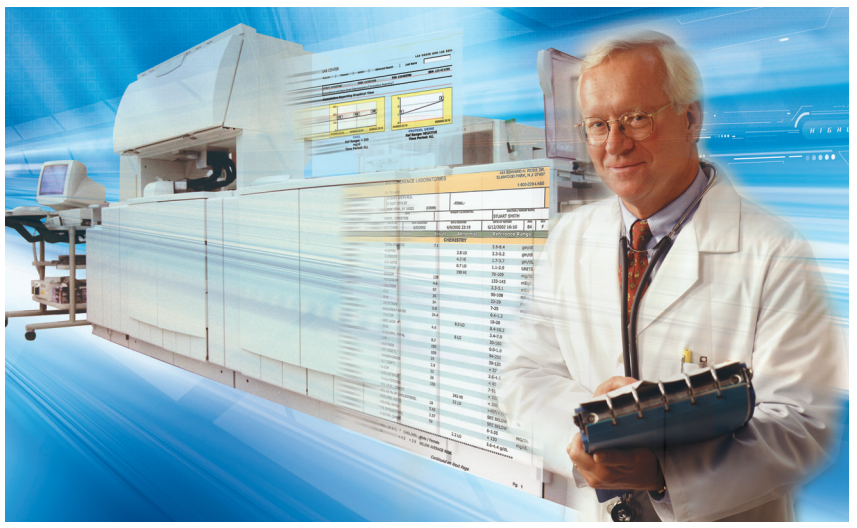

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LETTERS

Middleware

I enjoyed your article, "Smooth Operator in the Lab: Middleware" (February 2006, page 1) but wanted to raise several points not addressed in the piece.

First, the article noted that middleware is offered by both instrument/automation vendors and "pure middleware" vendors, but didn't suggest which option was preferable. In my experience, middleware from instrumentation/automation vendors tends to be a better choice, primarily because satisfactory performance is guaranteed—that is, backed by an instrument/automation vendor warranty.

Keep in mind that the primary goal with middleware is to improve the efficiency of lab operations by adding functionality not readily available on legacy laboratory information systems. You will get far more efficiency—performance-wise and financially—from your investment in instrumentation and automation if you take the approach we did at Oklahoma University Medical Center: a totally integrated solution provided by essentially one major vendor with an established track record in the field.

The middleware we acquired was developed to conform to the specifications of our instruments and automation system and to optimize their performance. This approach provided an excellent fit from the standpoint of functionality and flexibility, in my view.

Another reason for this approach is user-friendliness. Our instruments, automation system, and middleware all have the same technologist user interface, so these different middleware applications all look and feel like one application to the user. This, too, contributes greatly to work efficiency at our institution.

Finally, our middleware has valuable features that are essential—in particular, critical value alerts and exceptional data event alerts. The former signals technologists that a critical value has occurred, with brightly colored pop-up screens. This system can then communicate the protocol to be followed, including contact information for the proper clinician to be notified. It even provides a log so the technologist can enter the time the message was delivered and the name of the person who received it. Timely critical values reporting is highly valued by JCAHO, as detailed in its National Patient Safety Goals. JCAHO doesn't specify middleware as the preferred response to that challenge, but it's hard to imagine a better one.

As for exceptional data events, these occur so infrequently in labs that they rarely get handled well. Our middleware helps correct this problem by, again, providing management-defined protocols to be followed for each discrete event type. Thus, all problems get handled by technologists consistently—between shifts, on weekends, and even on holidays.

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Lab-link software

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They also provide ease of access and ease of use, so physicians can focus on patients.

Even though electronic medical records have been around for a number of years, fewer than 17 percent of institutions have adopted them, according to government data. It is more likely that widespread adoption of EMRs is linked with connectivity to ancillary services, such as clinical labs and radiology. The majority of EMRs today have client/server architecture and were not designed to work with connectivity to ancillary services that physicians require. The current EMR architecture from most vendors is too restrictive from an interfacing perspective. EMR vendors need to improve connectivity to POLLs and information from ancillary services. This will make EMRs more useful to physicians and increase the rate at which they are adopted.

POLL software vendors need to expand their focus to more than just lab data to survive and grow. They need to consider such areas as radiology, medications, and inpatient data to meet the emerging needs of their clients. Some POLL vendors may even want to consider online EMRs as the future direction for their products.

✤ ***Curt Johnson,*** *vice president of sales and marketing, Orchard Software, Carmel, Ind.:* POLL software was primarily developed to provide an easy add-on, Web-based connectivity solution for legacy laboratory systems. Today, legacy systems increasingly are being replaced with laboratory systems that provide remote Web access. However, the advancement of the electronic medical record changes the landscape because lab results are being delivered and stored in the EMR—the new provider interface to all patient data. How electronic medical record systems influence the use of the POLL is up to the EMR companies and is based on the type of Internet-based solutions they offer.

Johnson

The EMR system is the compiling and filing tool for all of a patient's medical and demographic information. It obviously makes the most sense for providers to have remote access to one system containing all information for a patient—from lab results, to prescriptions, to treatment notes.

As the number of EMR vendors offering remote, Web-based access solutions continues to grow, the de-

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You can't argue with success.

From left to right: Sara, Margaret, Dr. Almansour, Kristen, and Mary

"The Labtest.com system allows our office to operate more efficiently and the electronic order entry functionality significantly improves patient care."

Ammar Almansour, MD
Ammar Almansour PC
Flint, Michigan

"Our outreach program needed an easy-to-follow system for client order entry and result reporting. Labtest.com meets these needs with it's clearly and simply explained user interface."

Kristen Deloney, MT (ASCP)
Laboratory Services Coordinator
Hurley Laboratory Services
Hurley Medical Center
Flint, Michigan

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Letters

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Our lab's goal at Oklahoma University Medical Center is a continuous, real-time flow of information from the vein of the patient to the brain of the physician. That means no batch processing to slow the testing process at any stage, from the physician order all the way to the real-time reporting of results. Indeed, we now process samples so smoothly and quickly that tests only rarely get ordered as stats. Without our instruments, automation, and middleware working in the well-orchestrated manner they do, that level of performance would be virtually impossible.

Kenneth E. Blick, PhD, ABCC, FACB
Professor and Director
of Clinical Chemistry
Oklahoma University Medical Center
Oklahoma City

Articles as ads

I usually enjoy the articles in CAP TODAY, finding them informative and useful. However, some of the articles are nothing more than advertisements for particular businesses. The March 2006 issue was particularly annoying. The article "Owning, Rather Than Buying, Reference Lab Services" was excessively positive about Warde Medical Laboratory, and at the end of the article a traditional advertisement for the same company was juxtaposed!

I would appreciate a disclosure at the beginning of such articles that a financial connection exists between the writer, publication, and subject of the article.

Frederick E. Dennstedt, MD
Parrish Medical Center
Titusville, Fla.

■ *I was sorry to learn that you considered the article little more than an advertisement for Warde Medical Laboratory and that it appeared that the writer,* CAP TODAY, *and Warde had a financial connection. I can*

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Lab-link software

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mand for traditional POLL solutions may decline. However, as health care networks become more complex and increasingly integrate disparate systems, POLL vendors may find a niche in linking these disparate systems and delivering data remotely.

CAP TODAY: What are the most common connectivity issues a lab faces when installing POLL software, and how does it avoid or overcome those issues?

✣ ***Curt Johnson*** *(Orchard Software):* The first and most important issue a lab should address is the POLL interface to the laboratory information system. Each POLL and LIS combination interfaces differently, and it is important that the lab understand the data flow—what data flows and how it flows—and the limitations of each combination. The lab should ask about interface costs and timing and keep in mind that both the POLL and LIS vendor will have interface charges and schedules to consider.

After working through interfacing issues, consider your network topography because the lab portal selected will determine the specifications needed for running the POLL on your network. Many networking issues, both internal and external, surround the set-up, maintenance, and performance of a POLL. The lab must consider such factors as housing its Web site, bandwidth, Internet service providers, security, and secure sockets layer (SSL) certificates. Work closely with your Internet service provider and POLL vendor to determine what is best for your situation.

See our physician office-lab links software profile, pages 20–35

Finally, check that the end user has sufficient hardware and Internet access to ensure that the POLL application performs adequately.

✣ ***Rob Atlas*** *(Atlas Medical Software):* To us, connectivity means seamless integration that achieves efficient workflow between the POLL system and the LIS/anatomic pathology and other systems, such as the billing system, hospital information system, and electronic medical record/patient management system. Each scenario presents its own complexities. Perhaps the most common connectivity issue labs face is a failure to identify these complexities and to seek comprehensive solutions that can deliver operational value. For example, labs can and should require that 90 percent or

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Letters

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assure you no such financial connection exists in this case or in the case of any other CAP TODAY *article. As editor, I assign a story to be written only if I think it will be of interest and useful to* CAP TODAY*'s readers.*

The co-tenancy concept was one that I felt met that criterion. I knew that the story of the Michigan Co-Tenancy Laboratory had been told in presentations at meetings and that the cost of reference laboratory tests is a problem for many labs. With co-tenancy a solution to a problem for some, I thought that others might benefit from learning about it. It falls into the category of business models, solutions, and other innovations laboratories might want to read about—which we consider worthwhile editorial for our magazine.

MCL-Warde decided to purchase an advertisement to accompany the editorial coverage after I decided to publish the article and accompanying sidebar about Hurley Medical Center. I did not, I assure you, decide to publish an article about MCL-Warde because they decided to purchase an ad, though I realize it could appear that way because of where the ad was placed. Fact is, advertisers like to publish their ads in issues that contain editorial related to their tests and instruments (and some request placement near the related editorial, a request we may think is unwise but grant when we can). But in every case in CAP TODAY*, it's the advertiser making its decision based on it being informed about related editorial, not the editor making her decision based on what company is buying ad space.*

I was pleased to hear that you generally do find our articles informative and useful. That is what I aim for with every story, though I clearly missed my target in this case with at least one reader (and possibly others).

—Editor

Send letters to Editor, CAP TODAY*, 325 Waukegan Road, Northfield, IL 60093. Fax: 847-832-8873;* srice@cap.org.

The lowdown on choosing a lab-link vendor

Raymond D. Aller, MD

Laboratories in the market for a physician office-lab link product must decide whether to use the POLL features offered by their laboratory information systems vendor or purchase POLL software from a third-party supplier and interface it to their LIS. At first blush, this would appear clear-cut. It must be easier and less expensive to go with your LIS vendor because you don't have to pay for an interface, and maintenance must be easier since you are dealing with the same architecture, right? Not necessarily.

Consider that many laboratories choose to contract for third-party POLL software, even though it may be more expensive, rather than select the product offered by their primary LIS vendor. Why? Because you often get what you pay for—a cheaper product may lack some of the functionality you need to serve your clients. An LIS or comprehensive hospital information systems vendor may not be able to give as much attention to the functionality of its POLL component as would a dedicated POLL vendor. Dedicated POLL vendors obviously focus all of their attention on POLL functionality and building robust interfaces not only to LISs but to many different physician office management systems.

Furthermore, some LIS vendors have purchased or licensed their POLL product (with a completely different software design) from a third party—such as another vendor or an organization that wrote its own system—so you would be building and maintaining architecture developed completely independently of the LIS.

But just as there are worthwhile third-party POLL products, there are excellent LIS vendor-based products, a number of which are included in the accompanying survey. To make sure you pick the vendor that best meets your needs, investigate whether your preferred vendor is investing the necessary resources and attention in producing and maintaining a leading-edge product. Speak with several laboratory users of the system you are considering. This will help you understand the strengths and weaknesses of the company. Remember, you're not only selecting a product, you're picking a long-term business partner.

Ask the vendors of the products you are evaluating to provide you with a complete user list. If they decline, are they trying to hide disgruntled users from you? Do they think you will sign up anyway? Are their corporate policies out of step with the clinical software field they are attempting to serve? Don't sign on the dotted line unless you believe the vendor is being completely honest and open.

Look at the vendor's history of products and service as well. Has the vendor offered POLL products in the past and dropped them? There is a difference between the evolution of one product through several generations versus a series of completely disparate products which are launched, inadequately supported, and then withdrawn and abandoned.

As you shop for POLL software, be aware that connections between POLLs and physician practice management systems provide multiple benefits, and they are also one of the most problematic aspects of such systems. The technical aspects of such connections are straightforward. But because some vendors of practice management systems will not assign any priority to this capability, such an interface cannot be made. This has led companies such as Hilgraeve and Boston Software to offer a variety of noninvasive interfacing techniques. These techniques make it possible to obtain the data from the physician office practice management system, or in some cases to send data to a physician's electronic medical record, without changing the programming of that system. Such techniques were used in the 1980s and 1990s to increase the functionality and accuracy of legacy LISs.

Keep in mind as well that too many "experts" in the laboratory informatics field focus on a particular technological tool rather than on the lab's larger business problems. For example, some experts have asserted that all connectivity between the physician's office practice and the host laboratory must be through Web page access. This overlooks the niche for thick-client-based systems, which continue to play a pivotal role in connectivity in certain environments.

The everything-must-be-Web-based dogma also misses the interesting direction being pursued by Mitem's Blue Iris Connect product. Rather than provide physician office staff with a Web-based tool for ordering and managing laboratory orders and results, the Connect approach depends entirely on order entry, result reporting, and other functionality within the electronic medical record system in the physician's office. Mitem then builds an interface, using Connect as the connectivity/interface engine tool, directly from the EMR to the host laboratory's LIS. Other vendors have provided similar functionality in the past, but Mitem is the first company we know of to position this as a distinct product and to do away with Web-page functionality in the doctor's office.

As you peruse the 20 POLL products from 19 vendors featured on the following survey pages, note that several of the vendors, including Axolotl, Fletcher Flora, Labtest, Orchard, and Sysmex, have moved away from dependence on a single proprietary Web browser to supporting a variety of products, such as Netscape and Firefox. We applaud them for doing so, as it will allow their laboratory clients to connect to physicians' offices in which technical support staff have chosen to avoid the security and other issues inherent in the commonly used browser.

Dr. Aller is director of bioterrorism preparedness and response for Los Angeles County Public Health Acute Communicable Diseases. He can be reached at raller@ladhs.org.

Lab-link software

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more of their outreach orders be sent to the LIS electronically. HL7 provides a common format for achieving the basics, so now it is easier to synchronize test catalogs, insurance providers, account IDs, and physician records. However, most hospital outreach programs continue to manually register patients into their HIS and financial systems, propagating workflow bottlenecks and sources of error.

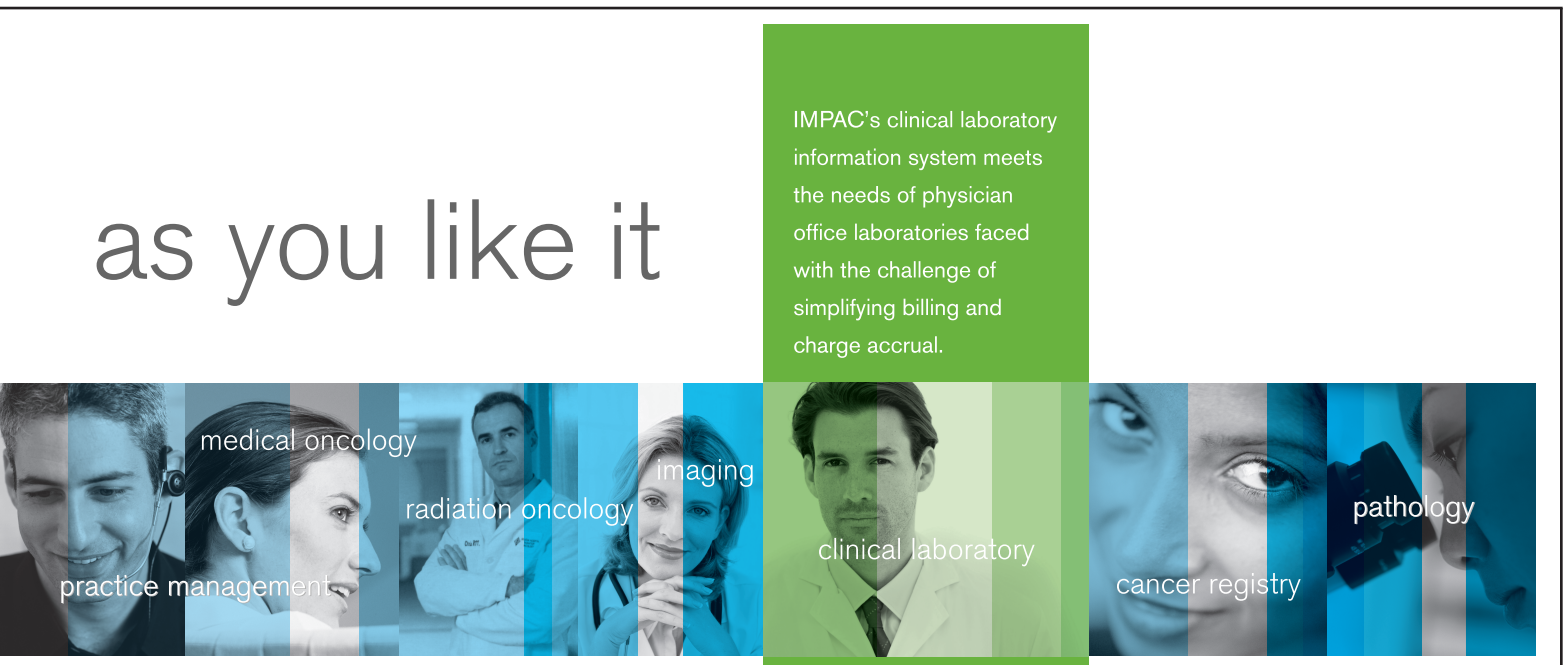
EMR connectivity presents similar challenges. Clients can and should require their vendors to support a level of integration that delivers operational returns.

✤ ***Cory P. Fishkin*** *(CareEvolve.com):* Most installations go quite smoothly, both during the interface/quality assurance phase as well as during training and implementation at physician offices and clinics. The issues that occasionally arise are generally related to HL7 interfaces and costs or time involved working with LIS vendors. For example, a hospital will discover that microbiology or pathology results are not being sent through an interface. On the order entry side, it is possible that an LIS cannot accept an inbound HL7 order message without a registration number from the HIS.

Vendors should hold detailed interface specification reviews with the hospital's interface group and may want to include the LIS and HIS vendor. This flushes out any questions upfront and makes for a smooth implementation down the road.

✤ ***Ravi Sharma*** *(4Medica):* The most common technical issues labs face in connecting to POLLs, or for that matter, any solution, is the availability of HL7 interface capability. Another issue that sometimes arises is the requirement for pre-registration and a medical record number to be included on the requisition before it is submitted to the LIS.

Some labs are increasing their level of automation for receiving and processing samples, which requires that physician offices generate container ID labels. However, LIS companies sometimes make it difficult for labs to interface this capability with POLLs. □



Physician office-laboratory links software

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See accompanying articles on pages 12 and 18

Atlas Medical Software
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Atlas Medical Software
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Name of POLL software/system	Atlas LabWorks–thick client	Atlas LabWorks–thin client
First/most recent installation of software or system	1995/March 2006	1995/March 2006
No. of host or central labs using software clinically	70+†	70+†
• No. of host labs that electronically transfer orders from PO* to LIS	70+†	70+†
No. of satellite locations installed/non-U.S. host installations	4,000+/—†	4,000+/—†
No. of contracts for host labs signed since March 1, 2005	—	—
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	29-28 (for host lab and PO)-23/20-24 (for host lab and PO)-16	29-28 (for host lab and PO)-23/20-24 (for host lab and PO)-16
National commercial labs that use POLL package	Spectrum, Sunrise, Spectra, PAML, Westcliff, Mayo Medical Labs	Spectrum, Sunrise, Spectra, PAML, Westcliff, Mayo Medical Labs
Average time to install, build files, train office staff in a typical PO	2 hours	2 hours
LIS, HIS, and other interfaces	Misys, Cerner, Meditech, Triple G, McKesson, CoPath, others	Misys, Cerner, Meditech, Triple G, McKesson, CoPath, others
Software modifications or modules required on host LIS to interface?	yes (for HL7 orders and results)	yes (for HL7 orders and results)
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, VitalWorks, Clinscan, Meditech, Vision, Reynolds and Reynolds, NextGen, MediSoft, Misys, others	Medical Manager, VitalWorks, Clinscan, Meditech, Vision, Reynolds and Reynolds, NextGen, MediSoft, Misys, others
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, others	one-time batch download/file transfer, more frequent automatic update of all demographics that have changed, POLL provides patient ID to POPMS and POPMS replies in real-time, others
External software tools or vendors used to transfer data from POPMS to POLL system	Atlas interface engine, others	Atlas interface engine, others
Test directory stored on PO system?	yes	no
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	ASTM 1238, HL7, XML, custom when required	ASTM 1238, HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	thick client, PC, whether or not connected to lab host	thick client, PC, while not connected to lab host;†† standard Web browser (Internet Explorer)
Patient order and result database maintained on local PC?	yes	no
• Software displays results and allows orders to be entered in an offline mode?	yes	no
Online connections between PO and central or host system	no online connection (for order entry), dial-up modem to private phone No., leased line, VPN, public Internet connection	dial-up modem to private phone No. (for results reporting, results inquiry), leased line, VPN, public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/transaction based, site based monthly, other models	yes/transaction based, site based monthly, other models
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	98%†	98%†
- Advanced beneficiary notice printed if medical necessity criteria not met	98%†	98%†
- Local medical review policies can be viewed	98%†	98%†
- Automatic routing of an order to different labs according to payer rules	80%†	80%†
- Printing of lab's requisitions	98%†	98%†
- Printing of requisitions for other lab providers	80%†	80%†
- Duplicate order checking	98%†	98%†
- Physician office-specific panels	80%†	80%†
• Electronic order entry (from PO to host)	98%†	98%†
- Transfer of patient demographics or insurance	98%†	98%†
- Automatic handling of scheduled or standing orders	98%†	98%†
- Automatic routing of orders to hospital or commercial labs depending on payer rules	80%†	80%†
• Bar-code collection label printing	98%†	98%†
• Two-dimensional bar code on printed requisition	10%†	10%†
• Software adapted for use in phlebotomy or collection stations	80%†	80%†
• Result receipt		
- Stored as a block of text	98%†	98%†
- All items (result, reference range, units) stored as individual data elements	98%†	98%†
- Automatic parsing of report pages to extract results	5%†	5%†
- Inquiry mode that allows PO to check status of specimens with host	80%†	80%†
• Reporting		
- In exact format received from host lab	50%†	50%†
- Cumulative	90%†	90%†
- Integration of host and PO lab results	10%†	10%†
- Display of new results for patient and/or clinic	98%†	98%†
- Remote access available to on-call physicians	98%†	98%†
- Unattended printing of reports	90%†	90%†
- Display current report with historical data on same screen	98%†	98%†
- Graph historical results with current results for trend analysis	98%†	98%†
• Physician can electronically sign reports to confirm review	80%†	80%†
• Physician can compose and send secure electronic messages to patients	4%†	4%†
• User-defined rule-based system and alerts in PO module	20%†	20%†
• Electronic transfer of data to another PO	5%†	5%†
- E-mail/encrypted e-mail	available but not installed†	available but not installed†
- Web reference or pointer to Web site	50%†	50%†
- Fax	5%†	5%†
• PO orders supplies from host lab	25%†	25%†
- Specimen pickup or courier requests to host lab	installed†	installed†
• Financial		
- Billing, collections, accounts receivable	—	not available
- Electronic claims transfer/interfaces to billing systems	not available/25%†	not available/25%†
• Electronic medical record interface	50%†	50%†
• Interfaces to PO lab instruments	2%†	2%†
• Entry of PO lab results with edit checks	2%†	2%†
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	—	—
Monthly/subscription fees	—	—
Basis for increasing fees as POs are added	tiered transaction, site-based capital, site-based/user-based monthly models, hybrids	tiered transaction, site-based capital, site-based/user-based monthly models, hybrids
Situations where fees increase with additional services	tiered transaction, site-based capital, site-based/user-based monthly models, hybrids	tiered transaction, site-based capital, site-based/user-based monthly models, hybrids
Distinguishing product features (supplied by vendor)	• more than a decade of experience delivering millions of electronic orders and results monthly • proven ability to integrate with LIS, HIS, PMS, and EMRs for electronic results and orders • strategic relationships for LabEMR	• more than a decade of experience delivering millions of electronic orders and results monthly • proven ability to integrate with LIS, HIS, PMS, and EMRs for electronic results and orders

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

†numbers reflect a mix of thick- and thin-client offerings

††to print specimen labels and view yesterday's results

Tabulation does not represent an endorsement by the College of American Pathologists

Survey editors: Raymond Aller, MD, and Hal Weiner

Physician office-laboratory links software

Part 2 of 10

See accompanying articles on pages 12 and 18

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Name of POLL software/system	Elysium	LabEvolve
First/most recent installation of software or system	1998/2004	1999/March 2006
No. of host or central labs using software clinically	20	26
• No. of host labs that electronically transfer orders from PO* to LIS	7	22
No. of satellite locations installed/non-U.S. host installations	4,000+/—	2,000+/0
No. of contracts for host labs signed since March 1, 2005	3	9
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	12-13-n/a/4-6-n/a	25-6-25-900/6-4-1-5
National commercial labs that use POLL package	—	BioReference Laboratories, Renal Care Group, RenaLab, others
Average time to install, build files, train office staff in a typical PO	1.5 hours	< 1 hour
LIS, HIS, and other interfaces	Siemens, McKesson, Cerner, Misys, others	GE, Cerner, CoPath, CPSI, McKesson, Meditech, Misys, Siemens, SCC, homegrown systems, others
Software modifications or modules required on host LIS to interface?	no	yes (results export module for HL7 results reporting, import order-entry module for HL7 orders)
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager, Athena Health, Epic	A4 Health Systems, GE, IDX, Lytec, Medic, Medical Manager, MediSoft, Misys, others
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	daily update of demographics, more frequent automatic update of all demographics that have changed, POLL provides patient ID to POPMS and POPMS replies in real-time	one-time batch download/file transfer, daily update of demographics, more frequent update of all demographics that have changed, POLL provides patient ID to POPMS and POPMS replies in real-time, others
External software tools or vendors used to transfer data from POPMS to POLL system	HL7, Axolotl software	Hilgraeve, Boston Software
Test directory stored on PO system?	no	yes (thick client only)
How results are returned to PO	individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	HL7	ASTM 1238, HL7, ANSI X12, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	standard Web browsers	thick client, PC, while not connected to lab host; standard Web browser (Internet Explorer)
Patient order and result database maintained on local PC?	no	no
• Software displays results and allows orders to be entered in an offline mode?	no	no
Online connections between PO and central or host system	dial-up modem to private phone No., leased line, VPN, public Internet connection	public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee	yes/charge lab physician license fees based on No. of physicians who use system
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	installed	85%
- Advanced beneficiary notice printed if medical necessity criteria not met	installed	85%
- Local medical review policies can be viewed	installed	85%
- Automatic routing of an order to different labs according to payer rules	installed	installed
- Printing of lab's requisitions	installed	85%
- Printing of requisitions for other lab providers	installed	installed
- Duplicate order checking	installed	85%
- Physician office-specific panels	installed	installed
• Electronic order entry (from PO to host)	installed	65%
- Transfer of patient demographics or insurance	installed	65%
- Automatic handling of scheduled or standing orders	not available	85%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	installed
• Bar-code collection label printing	available but not installed	85%
• Two-dimensional bar code on printed requisition	available but not installed	31%
• Software adapted for use in phlebotomy or collection stations	available but not installed	85%
• Result receipt		
- Stored as a block of text	not available	15%
- All items (result, reference range, units) stored as individual data elements	installed	95%
- Automatic parsing of report pages to extract results	not available	5%
- Inquiry mode that allows PO to check status of specimens with host	not available	installed
• Reporting		
- In exact format received from host lab	not available	100%
- Cumulative	installed	100%
- Integration of host and PO lab results	installed	available but not installed
- Display of new results for patient and/or clinic	installed	100%
- Remote access available to on-call physicians	installed	100%
- Unattended printing of reports	installed	100%
- Display current report with historical data on same screen	installed	not available
- Graph historical results with current results for trend analysis	installed	100%
• Physician can electronically sign reports to confirm review	installed	100%
• Physician can compose and send secure electronic messages to patients	available but not installed	100%
• User-defined rule-based system and alerts in PO module	installed	100%
• Electronic transfer of data to another PO	installed	100%
- E-mail/encrypted e-mail	not available/installed	not available/installed
- Web reference or pointer to Web site	not available	installed
- Fax	installed	not available
• PO orders supplies from host lab	available but not installed	10%
- Specimen pickup or courier requests to host lab	not available	available in Dec. 2006
• Financial		
- Billing, collections, accounts receivable	available but not installed	not available
- Electronic claims transfer/interfaces to billing systems	available but not installed	not available/30%
• Electronic medical record interface	installed	80%
• Interfaces to PO lab instruments	not available	available but not installed
• Entry of PO lab results with edit checks	installed	available in Dec. 2006
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	—	~$45k–$85k (based on No. of interfaces requested)
Monthly/subscription fees	—	~$2.5k–$4.5k (based on size of outreach program)
Basis for increasing fees as POs are added	based on No. of physicians of record	based on No. of physicians of record
Situations where fees increase with additional services	n/a	—
Distinguishing product features (supplied by vendor)	• national standards • browser based • interface specialists can connect POLL to any system	• owned by a lab that uses the system on its own customers • the third order-entry system BioReference Laboratories has built over its 25-year history • designed with a 30-min. training time goal

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

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Physician office-laboratory links software

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See accompanying articles on pages 12 and 18

Cerner Corp.
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eTeleNext
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28570 Marguerite Parkway
Mission Viejo, CA 92692
949-365-0952 www.etelenext.com

Name of POLL software/system	Cerner Millennium ePathLink	eTeleNext
First/most recent installation of software or system	1997/—	1998/Nov. 2005
No. of host or central labs using software clinically	—	27
• No. of host labs that electronically transfer orders from PO* to LIS	—	18
No. of satellite locations installed/non-U.S. host installations	—	350+/0
No. of contracts for host labs signed since March 1, 2005	—	3
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	825+-1,925+-800+-1,300+/5+-6+-0†-1+	6-4 (for host lab and PO)-5/6-4 (for host lab and PO)-5
National commercial labs that use POLL package	—	—
Average time to install, build files, train office staff in a typical PO	~60 hours	1 hour
LIS, HIS, and other interfaces	Cerner, others	Cortex, GE, Misys, Meditech, Cerner
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	—	Medical Manager, MediSoft
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	daily update of demographics, POLL provides patient ID to POPMS and POPMS replies in real-time	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, POLL provides patient ID to POPMS and POPMS replies in real-time
External software tools or vendors used to transfer data from POPMS to POLL system	Hilgraeve	eTeleNext CMQ, BizTalk, Hilgraeve
Test directory stored on PO system?	yes	no
How results are returned to PO	block of text, individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	HL7	HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	no	yes
System architecture or functionality	standard Web browser	thin proprietary client; standard Web browser (Internet Explorer)
Patient order and result database maintained on local PC?	no	no
• Software displays results and allows orders to be entered in an offline mode?	—	—
Online connections between PO and central or host system	dial-up modem to private phone No., public Internet connection	dial-up modem to private phone No., VPN, public Internet connection (dial-up sufficient)
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/—	yes/fixed monthly fee
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	25%	80%
- Advanced beneficiary notice printed if medical necessity criteria not met	25%	80%
- Local medical review policies can be viewed	not available	80%
- Automatic routing of an order to different labs according to payer rules	not available	80%
- Printing of lab's requisitions	100%	90%
- Printing of requisitions for other lab providers	not available	80%
- Duplicate order checking	75%	85%
- Physician office-specific panels	100%	90%
• Electronic order entry (from PO to host)	50%	80%
- Transfer of patient demographics or insurance	50%	80%
- Automatic handling of scheduled or standing orders	installed	80%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	80%
• Bar-code collection label printing	100%	90%
• Two-dimensional bar code on printed requisition	not available	90%
• Software adapted for use in phlebotomy or collection stations	installed	80%
• Result receipt		
- Stored as a block of text	30%	100%
- All items (result, reference range, units) stored as individual data elements	70%	100%
- Automatic parsing of report pages to extract results	not available	90%
- Inquiry mode that allows PO to check status of specimens with host	100%	90%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	installed	90%
- Integration of host and PO lab results	not available	75%
- Display of new results for patient and/or clinic	installed	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	not available	available but not installed
- Display current report with historical data on same screen	installed	100%
- Graph historical results with current results for trend analysis	installed	100%
• Physician can electronically sign reports to confirm review	not available	75%
• Physician can compose and send secure electronic messages to patients	installed	75%
• User-defined rule-based system and alerts in PO module	installed	100%
• Electronic transfer of data to another PO	not available	100%
- E-mail/encrypted e-mail	installed	available but not installed/25%
- Web reference or pointer to Web site	not available	100%
- Fax	not available	50%
• PO orders supplies from host lab	not available	20%
- Specimen pickup or courier requests to host lab	not available	available but not installed
• Financial		
- Billing, collections, accounts receivable	installed	not available
- Electronic claims transfer/interfaces to billing systems	not available/installed	not available/25%
• Electronic medical record interface	100%	25%
• Interfaces to PO lab instruments	2%	35%
• Entry of PO lab results with edit checks	not available	100%
System priced on a cost-per-transaction basis?	—	no
One-time/initial charges	—	$30k–$60k
Monthly/subscription fees	—	$2.5k–$15k
Basis for increasing fees as POs are added	—	no increase—flat fee per host lab
Situations where fees increase with additional services	—	if order entry is added to result transmission (or vice versa)
Distinguishing product features (supplied by vendor)	• provide a comprehensive and totally integrated system • 26 years in LIS industry under direction of three founders • proven track record of innovation and development within the industry	• product branded for the client • integrated with eTeleNext LIS • ASP or lab hosted

*PO=physician's office
**other=sales, marketing, administration, other company functions
***POPMS=physician office practice management systems

†client labs market solution to POs

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Physician office-laboratory links software

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See accompanying articles on pages 12 and 18

	Fletcher Flora Health Care Systems Brian Mattson bmattson@labpak.com 1580 Orangethrope Ave. Anaheim, CA 92801 800-777-1471 www.fletcher-flora.com	4Medica Melody Rassouli melody@4medica.com 100 Corporate Pointe, #200 Culver City, CA 90230 310-695-3300 www.4medica.com
Name of POLL software/system	OutReach Pro	4Medica Laboratory Suite
First/most recent installation of software or system	2004/2004	1998/March 2006
No. of host or central labs using software clinically	2	75+
• No. of host labs that electronically transfer orders from PO* to LIS	1	62+
No. of satellite locations installed/non-U.S. host installations	27/0	21,500+ providers; 8,100+ offices/0
No. of contracts for host labs signed since March 1, 2005	0	19+
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	11-11-12-19/11-11-12-19	32-7-8-6/32-7-8-6
National commercial labs that use POLL package	none	Stanford University, Detroit Medical Center, CPL, Spectra, Quest, LabCorp, Lab One
Average time to install, build files, train office staff in a typical PO	1–2 hours	1 hour
LIS, HIS, and other interfaces	Cerner, Fletcher Flora, Siemens, McKesson	Meditech, Misys, Cerner, GE, Antrim, McKesson, others
Software modifications or modules required on host LIS to interface?	no	yes (HL7 and VPN connection)
POPMS*** used to transfer patient demographics or billing info. to POLL system	A4 Health Systems, iMedica	Medical Manager, Misys, Logician, Medic, Accumedic, Centricity, Lytec, MediSoft, Micromed, A4, Millbrook, Practice Point Manager
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, POLL provides patient ID to POPMS and POPMS replies in real-time
External software tools or vendors used to transfer data from POPMS to POLL system	Fletcher Flora, BizTalk, Seebeyond, others	Hilgraeve, 4Medica proprietary software tool
Test directory stored on PO system?	no	no
How results are returned to PO	individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	ASTM 1238, XML, custom when required	ASTM 1238, HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	standard Web browsers—all	thick client, PC, whether or not connected to lab host; standard Web browser (Internet Explorer 5.5 or greater)
Patient order and result database maintained on local PC?	no	no
• Software displays results and allows orders to be entered in an offline mode?	no	—
Online connections between PO and central or host system	VPN (except for results inquiry), public Internet connection (DSL/cable modem required), LAN/WAN	no online connection, dial-up modem to private phone No., leased line, VPN, public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee	yes/fixed monthly fee or transaction based
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	installed	85%
- Advanced beneficiary notice printed if medical necessity criteria not met	installed	85%
- Local medical review policies can be viewed	installed	85%
- Automatic routing of an order to different labs according to payer rules	installed	85%
- Printing of lab's requisitions	installed	85%
- Printing of requisitions for other lab providers	installed	85%
- Duplicate order checking	installed	85%
- Physician office-specific panels	installed	85%
• Electronic order entry (from PO to host)	installed	75%
- Transfer of patient demographics or insurance	installed	85%
- Automatic handling of scheduled or standing orders	installed	85%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	installed	60%
• Bar-code collection label printing	installed	70%
• Two-dimensional bar code on printed requisition	installed	20%
• Software adapted for use in phlebotomy or collection stations	installed	25%
• Result receipt		
- Stored as a block of text	—	5%
- All items (result, reference range, units) stored as individual data elements	100%	95%
- Automatic parsing of report pages to extract results	—	95%
- Inquiry mode that allows PO to check status of specimens with host	installed	100%
• Reporting		
- In exact format received from host lab	installed	90%
- Cumulative	installed	90%
- Integration of host and PO lab results	100%	installed
- Display of new results for patient and/or clinic	installed	100%
- Remote access available to on-call physicians	installed	100%
- Unattended printing of reports	100%	100%
- Display current report with historical data on same screen	installed	100%
- Graph historical results with current results for trend analysis	installed	100%
• Physician can electronically sign reports to confirm review	—	100%
• Physician can compose and send secure electronic messages to patients	installed	available but not installed
• User-defined rule-based system and alerts in PO module	installed	35%
• Electronic transfer of data to another PO	—	100% (using 4Medica forwarding module)
- E-mail/encrypted e-mail	—	—
- Web reference or pointer to Web site	—	—
- Fax	—	—
• PO orders supplies from host lab	installed	10%
- Specimen pickup or courier requests to host lab	installed	installed
• Financial		
- Billing, collections, accounts receivable	not available	not available
- Electronic claims transfer/interfaces to billing systems	not available/installed	not available/60%
• Electronic medical record interface	installed	installed
• Interfaces to PO lab instruments	installed	available but not installed
• Entry of PO lab results with edit checks	—	installed
System priced on a cost-per-transaction basis?	no	yes
One-time/initial charges	yes	variable
Monthly/subscription fees	yes	variable
Basis for increasing fees as POs are added	based on No. of practices/groups	based on transaction volumes
Situations where fees increase with additional services	no increase	transaction prices reduced with higher volumes
Distinguishing product features (supplied by vendor)	• 100 percent Web based—thin client • results routed by payer • draw site and recurring orders	• intuitive, insightful, innovative • dual complete, redundant, state-of-the-art data centers • no additional software license required

*PO=physician's office

**other=sales, marketing, administration, other company functions

***POPMS=physician office practice management systems

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Physician office-laboratory links software

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See accompanying articles on pages 12 and 18

Impac Medical Systems
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KliniTek
Sue Wiljanen swiljanen@klinitek.com
310 W. Washington St., Suite 300
Marquette, MI 49855
906-228-2870 www.klinitek.com

Name of POLL software/system	IntelliLab Passport	Upcare eLab
First/most recent installation of software or system	2001/2006	2004/2004
No. of host or central labs using software clinically	60	undisclosed
• No. of host labs that electronically transfer orders from PO* to LIS	60	undisclosed
No. of satellite locations installed/non-U.S. host installations	120/0	40 locations and 500+ providers/0
No. of contracts for host labs signed since March 1, 2005	9	0
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	150-150 (for host lab and PO)-200/6-9 (for host lab and PO)-7	6-3-n/a-2/6-3-n/a-2
National commercial labs that use POLL package	—	Marquette General Hosptal
Average time to install, build files, train office staff in a typical PO	<1 hour	<1 hour
LIS, HIS, and other interfaces	Impac, Siemens, Misys, GE, others	Cerner, McKesson
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Impac, Misys, LinkMed, QSI, Dairyland, NextGen, GE, others	—
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent update of all demographics that have changed	—
External software tools or vendors used to transfer data from POPMS to POLL system	none	—
Test directory stored on PO system?	yes	no
How results are returned to PO	block of text, PDF	PDF, individually segmented fields
Data interface standards supported	HL7	ASTM 1238, HL7, ANSI X12, XML, CDA, custom when required, imbedded interface engine included
System supports LOINC for identifying lab result database elements?	no	yes
System architecture or functionality	thick client, PC, while connected to lab host; modified Web browser	standard Web browser (Internet Explorer)
Patient order and result database maintained on local PC?	no	no
• Software displays results and allows orders to be entered in an offline mode?	no	—
Online connections between PO and central or host system	dial-up modem to private phone No., leased line, VPN, public Internet connection	leased line, VPN, public Internet connection (DSL/cable modem required), any network capable of supporting TCP/IP
Complete ASP solution for POLL software?/Method of charging for ASP service	—	yes/fixed monthly fee
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	100%
- Local medical review policies can be viewed	100%	100%
- Automatic routing of an order to different labs according to payer rules	100%	not available
- Printing of lab's requisitions	100%	100%
- Printing of requisitions for other lab providers	100%	not available
- Duplicate order checking	100%	100%
- Physician office-specific panels	100%	100%
• Electronic order entry (from PO to host)	100%	100%
- Transfer of patient demographics or insurance	100%	100%
- Automatic handling of scheduled or standing orders	100%	available in May 2006
- Automatic routing of orders to hospital or commercial labs depending on payer rules	100%	not available
• Bar-code collection label printing	100%	100%
• Two-dimensional bar code on printed requisition	not available	not available
• Software adapted for use in phlebotomy or collection stations	100%	not available
• Result receipt		
- Stored as a block of text	not available	not available
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	not available	not available
- Inquiry mode that allows PO to check status of specimens with host	100%	100%
• Reporting		
- In exact format received from host lab	100%	not available
- Cumulative	100%	available but not installed
- Integration of host and PO lab results	100%	available but not installed
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	100%	available third quarter 2006
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	100%
• Physician can electronically sign reports to confirm review	not available	not available
• Physician can compose and send secure electronic messages to patients	100%	not available
• User-defined rule-based system and alerts in PO module	100%	available but not installed
• Electronic transfer of data to another PO	100%	not available
- E-mail/encrypted e-mail	100%/100%	not available
- Web reference or pointer to Web site	100%	not available
- Fax	100%	not available
• PO orders supplies from host lab	not available	100%
- Specimen pickup or courier requests to host lab	not available	not available
• Financial		
- Billing, collections, accounts receivable	100%	not available
- Electronic claims transfer/interfaces to billing systems	100%/100%	not available
• Electronic medical record interface	80%	available third quarter 2006
• Interfaces to PO lab instruments	50%	not available
• Entry of PO lab results with edit checks	100%	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	license by concurrent user	—
Monthly/subscription fees	—	—
Basis for increasing fees as POs are added	based on concurrent users	based on concurrent users
Situations where fees increase with additional services	with additional interfaces	if order entry is added to result transmission (or vice versa) or if special billing functions are added
Distinguishing product features (supplied by vendor)	• secured Web/Internet based • automated e-mail, fax, and printing of reports • flexible interfacing, including reference labs and oncology-based information systems	• easily installed, low maintenance, and includes MPI and interface engine • leadership team is highly experienced in health care and data integration • associated consulting services available to help launch or expand a lab's outreach program

*PO=physician's office

**other=sales, marketing, administration, other company functions

***POPMS=physician office practice management systems

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SYSTEM REVIEW SERIES

Physician office-laboratory links software

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See accompanying articles on pages 12 and 18

	Labtest Systems Jack Redding jredding@labtest.com 140 Greenwood Ave. Midland Park, NJ 07432 866-522-8378 www.labtest.com	McKesson Provider Technologies Stacy Block stacy.block@mckesson.com 5995 Windward Parkway Alpharetta, GA 30005 800-981-8601 http://infosolutions.mckesson.com
Name of POLL software/system	Labtest.com (and sponsor lab branded)	Horizon Outreach for Lab
First/most recent installation of software or system	2000/2006	1999/2006
No. of host or central labs using software clinically	102	—
• No. of host labs that electronically transfer orders from PO* to LIS	90	—
No. of satellite locations installed/non-U.S. host installations	10,000+/1	1,000/0
No. of contracts for host labs signed since March 1, 2005	54	n/a
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	10-4-4-11/10-4-4-11	20,000+ total/10-5-5-3
National commercial labs that use POLL package	University Hospitals of Cleveland, Sharp HealthCare, Southwest Washington Medical Center, Central Georgia Diagnostics	none
Average time to install, build files, train office staff in a typical PO	<1 hour	1 hour
LIS, HIS, and other interfaces	SCC, Misys, Cerner, CoPath, Fletcher Flora, Psyche, Meditech, NextGen, GE, others	McKesson
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	NextGen, Medical Manager, Lytec, GE, Misys, MediSoft, Medic	Practice Point Plus, Medical Manager
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, POLL provides patient ID to POPMS and POMS replies in real-time	more frequent automatic update of all demographics that have changed, scripted into application
External software tools or vendors used to transfer data from POPMS to POLL system	Hilgraeve, proprietary, others	Boston Workstation
Test directory stored on PO system?	yes	no
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, individually segmented fields
Data interface standards supported	ASTM 1238, HL7, ANSI X12, XML, CDA, custom when required	HL7, custom when required (Web viewing)
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	standard Web browsers—all	standard Web browser (Internet Explorer)
Patient order and result database maintained on local PC?	yes (for thick client)	no
• Software displays results and allows orders to be entered in an offline mode?	yes (for thick client)	—
Online connections between PO and central or host system	public Internet connections (dial-up sufficient)	VPN, public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	yes/fixed monthly fee	no
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	installed
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	installed
- Local medical review policies can be viewed	100%	not available
- Automatic routing of an order to different labs according to payer rules	80%	installed
- Printing of lab's requisitions	100%	installed
- Printing of requisitions for other lab providers	100%	installed
- Duplicate order checking	100%	installed
- Physician office-specific panels	100%	installed
• Electronic order entry (from PO to host)	100%	installed
- Transfer of patient demographics or insurance	100%	installed
- Automatic handling of scheduled or standing orders	20%	available in 2006
- Automatic routing of orders to hospital or commercial labs depending on payer rules	85%	installed
• Bar-code collection label printing	70%	installed
• Two-dimensional bar code on printed requisition	75% (PDF 417)	installed
• Software adapted for use in phlebotomy or collection stations	75%	installed
• Result receipt		
- Stored as a block of text	10%	—
- All items (result, reference range, units) stored as individual data elements	90%	installed
- Automatic parsing of report pages to extract results	90%	—
- Inquiry mode that allows PO to check status of specimens with host	95%	installed
• Reporting		
- In exact format received from host lab	75%	installed
- Cumulative	75%	not available
- Integration of host and PO lab results	25%	not available
- Display of new results for patient and/or clinic	100%	installed
- Remote access available to on-call physicians	100%	installed
- Unattended printing of reports	90%	installed
- Display current report with historical data on same screen	100%	installed
- Graph historical results with current results for trend analysis	100%	installed
• Physician can electronically sign reports to confirm review	75%	not available
• Physician can compose and send secure electronic messages to patients	5%	not available
• User-defined rule-based system and alerts in PO module	100%	installed
• Electronic transfer of data to another PO	100%	installed
- E-mail/encrypted e-mail	25%/25%	installed/—
- Web reference or pointer to Web site	25%	installed
- Fax	25%	—
• PO orders supplies from host lab	40%	not available
- Specimen pickup or courier requests to host lab	20%	installed
• Financial		
- Billing, collections, accounts receivable	40% (through partnership with Quadax)	installed
- Electronic claims transfer/interfaces to billing systems	30% (through partnership with Quadax)/70% (through partnership with Quadax, Hilgraeve)	installed
• Electronic medical record interface	80%	installed
• Interfaces to PO lab instruments	25% (through partnership with Fletcher Flora)	available but not installed
• Entry of PO lab results with edit checks	25%	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	$5k–$75k	charge to host lab; no charge to physician practice
Monthly/subscription fees	$2k+	—
Basis for increasing fees as POs are added	based on No. of physicians of record	no increase—flat fee per host lab
Situations where fees increase with additional services	if other ancillaries are added	no increase
Distinguishing product features (supplied by vendor)	• seven-year history of successful implementations • field-proven EMR integration capability/middleware functionality • no offshore programming or outsourcing	• integrated, not interfaced, with McKesson's Horizon Lab LIS • instrument-ready specimen labels • can integrate with physician practice management systems and EMRs

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***POPMS=physician office practice management systems

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Physician office-laboratory links software

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See accompanying articles on pages 12 and 18

Misys Healthcare Systems
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8529 Six Forks Rd.
Raleigh, NC 27615
919-847-8102 www.misyshealthcare.com

Mitem Corp.
Eric Q. Reynolds ereynolds@mitem.com
2464 Taylor Rd., Suite 213
Wildwood, MO 63040
636-273-4034 www.blueiris.com

Name of POLL software/system	Misys Encompass	Blue Iris eLaborate
First/most recent installation of software or system	—/Feb. 2005	1990/2006
No. of host or central labs using software clinically	8	17
• No. of host labs that electronically transfer orders from PO* to LIS	8	8
No. of satellite locations installed/non-U.S. host installations	500–800/0	750+/0
No. of contracts for host labs signed since March 1, 2005	8	4
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	400-450-0-175/11-4-0-0	15-15-8-8/5-5-5-3
National commercial labs that use POLL package	TriCore	Focus Diagnostics
Average time to install, build files, train office staff in a typical PO	—	2 hours
LIS, HIS, and other interfaces	Misys	Meditech, Cerner, SCC, Misys, GE, Eclipsys, others
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Misys Tiger, Misys Vision, Centricity, Logician, GE, Medical Manager, Compusystems, MediSoft, NueMD, MicroMD	Misys, MARS, RenalSoft, GE
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	POLL provides patient ID to POPMS and POPMS replies in real-time	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, others
External software tools or vendors used to transfer data from POPMS to POLL system	Hilgraeve	none
Test directory stored on PO system?	no	no
How results are returned to PO	—	block of text, PDF, individually segmented fields
Data interface standards supported	HL7, ANSI X12	HL7, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	standard Web browser (Internet Explorer 5.5 sp2 and higher)	standard Web browser (Internet Explorer)
Patient order and result database maintained on local PC?	no	no
• Software displays results and allows orders to be entered in an offline mode?	—	no
Online connections between PO and central or host system	public Internet connection	public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	no	yes/fixed monthly fee
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	100%	75%
- Advanced beneficiary notice printed if medical necessity criteria not met	100%	75%
- Local medical review policies can be viewed	not available	75%
- Automatic routing of an order to different labs according to payer rules	not available	75%
- Printing of lab's requisitions	100%	75%
- Printing of requisitions for other lab providers	not available	30%
- Duplicate order checking	100%	50%
- Physician office-specific panels	100%	50%
• Electronic order entry (from PO to host)	100%	50%
- Transfer of patient demographics or insurance	100%	50%
- Automatic handling of scheduled or standing orders	100%	20%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	50%
• Bar-code collection label printing	100%	50%
• Two-dimensional bar code on printed requisition	not available	available but not installed
• Software adapted for use in phlebotomy or collection stations	not available	75%
• Result receipt		
- Stored as a block of text	not available	0
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	not available	100%
- Inquiry mode that allows PO to check status of specimens with host	100%	50%
• Reporting		
- In exact format received from host lab	100%	installed
- Cumulative	100%	100%
- Integration of host and PO lab results	not available	not available
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	100%	100%
- Unattended printing of reports	not available	available but not installed
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	100%
• Physician can electronically sign reports to confirm review	100%	available in 2007
• Physician can compose and send secure electronic messages to patients	not available	available in 2007
• User-defined rule-based system and alerts in PO module	100%	available but not installed
• Electronic transfer of data to another PO	not available	installed
- E-mail/encrypted e-mail	not available	not available/installed
- Web reference or pointer to Web site	100%	not available
- Fax	100%	installed
• PO orders supplies from host lab	not available	50%
- Specimen pickup or courier requests to host lab	not available	50%
• Financial		
- Billing, collections, accounts receivable	100%	not available
- Electronic claims transfer/interfaces to billing systems	100%/100%	available in 2007/20%
• Electronic medical record interface	not available	25%
• Interfaces to PO lab instruments	not available	available but not installed
• Entry of PO lab results with edit checks	not available	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	for hardware, software, interface, implementation	$50k–$75k
Monthly/subscription fees	for monthly maintenance	$4k–$6k
Basis for increasing fees as POs are added	based on No. of physicians of record	no increase—flat fee per host lab
Situations where fees increase with additional services	if special billing functions are added	if order entry is added to result transmission (or vice versa)
Distinguishing product features (supplied by vendor)	• real-time lab dictionary updates eliminate dual maintenance • electronic medical patient index logic ensures unique identification of users and patients • learning logic builds frequently selected items list automatically	• specialize in complex interfacing scenarios and connectivity challenges • market unique ability to non-invasively interface with Meditech systems • unmatched administrative user flexibility and control

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***POPMS=physician office practice management systems

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Multidata Computer Systems
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New York, NY 10004
212-967-6700, ext 8118 www.mul.com

Orchard Software
Kerry Foster kfoster@orchardsoft.com
701 Congressional Blvd., Suite 360
Carmel, IN 46032
800-856-1948 www.orchardsoft.com

Name of POLL software/system	MultiLink	Orchard Harvest Webstation
First/most recent installation of software or system	1996/2006	2000/2006
No. of host or central labs using software clinically	9	194
• No. of host labs that electronically transfer orders from PO* to LIS	7	146
No. of satellite locations installed/non-U.S. host installations	250+/0	1,500+/0
No. of contracts for host labs signed since March 1, 2005	0	49
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	4-5-0-2/1.5-1.5-0-1	24-49-0-32/24-49-0-32
National commercial labs that use POLL package	—	none
Average time to install, build files, train office staff in a typical PO	4 hours	1 hour
LIS, HIS, and other interfaces	Multidata, Diamond	Orchard, McKesson, Siemens, Dairyland, Meditech, Cerner, GE, CPSI, Misys, others
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	VitalWorks, others	Medical Manager, Clinitek, MedicaLogic, NextGen, Medigate, Misys, GE
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, others	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, others
External software tools or vendors used to transfer data from POPMS to POLL system	LinkTools for real-time HL7	none needed (native embedded solution)
Test directory stored on PO system?	yes	no
How results are returned to PO	individually segmented fields	results returned as HTML
Data interface standards supported	ASTM 1238, HL7, custom when required	HL7
System supports LOINC for identifying lab result database elements?	yes	yes
System architecture or functionality	thick client, PC, while not connected to lab host	thick client, PC, while connected to lab host; thin proprietary client; standard Web browsers—all
Patient order and result database maintained on local PC?	yes	no
• Software displays results and allows orders to be entered in an offline mode?	yes	—
Online connections between PO and central or host system	dial-up modem to private phone No., VPN, public Internet connection (dial-up sufficient)	public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	no	yes (with Copia)/cost is part of purchase agreement
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	95%	100%
- Advanced beneficiary notice printed if medical necessity criteria not met	25%	100%
- Local medical review policies can be viewed	95%	installed
- Automatic routing of an order to different labs according to payer rules	60%	100%
- Printing of lab's requisitions	95%	100%
- Printing of requisitions for other lab providers	60%	100%
- Duplicate order checking	95%	100%
- Physician office-specific panels	95%	100%
• Electronic order entry (from PO to host)	95%	100%
- Transfer of patient demographics or insurance	95%	100%
- Automatic handling of scheduled or standing orders	25%	100%
- Automatic routing of orders to hospital or commercial labs depending on payer rules	not available	100%
• Bar-code collection label printing	95%	not available
• Two-dimensional bar code on printed requisition	available but not installed	100%
• Software adapted for use in phlebotomy or collection stations	5%	not available
• Result receipt		
- Stored as a block of text	not available	100%
- All items (result, reference range, units) stored as individual data elements	100%	100%
- Automatic parsing of report pages to extract results	not available	100%
- Inquiry mode that allows PO to check status of specimens with host	100%	100%
• Reporting		
- In exact format received from host lab	100%	100%
- Cumulative	100%	100%
- Integration of host and PO lab results	not available	100%
- Display of new results for patient and/or clinic	100%	100%
- Remote access available to on-call physicians	not available	100%
- Unattended printing of reports	100%	100%
- Display current report with historical data on same screen	100%	100%
- Graph historical results with current results for trend analysis	100%	100%
• Physician can electronically sign reports to confirm review	not available	100%
• Physician can compose and send secure electronic messages to patients	not available	not available
• User-defined rule-based system and alerts in PO module	50%	100%
• Electronic transfer of data to another PO	not available	100%
- E-mail/encrypted e-mail	—	10%/10%
- Web reference or pointer to Web site	—	50%
- Fax	—	100%
• PO orders supplies from host lab	25%	not available
- Specimen pickup or courier requests to host lab	25%	not available
• Financial		
- Billing, collections, accounts receivable	not available	not available
- Electronic claims transfer/interfaces to billing systems	not available	not available/100%
• Electronic medical record interface	not available	not available
• Interfaces to PO lab instruments	not available	not available
• Entry of PO lab results with edit checks	not available	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	$25k–$50k (based on options selected)	part of purchase agreement or as add-on module
Monthly/subscription fees	—	n/a
Basis for increasing fees as POs are added	based on No. of practices/groups	as concurrent user licenses are needed
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa) or for special modules	no increase
Distinguishing product features (supplied by vendor)	• multi-user version can be implemented across LAN/WAN for large medical facilities • custom functionality for special clinics/settings • collection/handling rules can be incorporated on specimen labels	• cost-effective • diagnosis code screening and destination filters • order entry/results retrieval for reference lab testing

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SYSTEM REVIEW SERIES

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PathLogix Corp.
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La Jolla, CA 92037
858-454-8030 www.pathlogix.com

SCC Soft Computer
Ellie Vahman ellie@softcomputer.com
34350 U.S. Highway 19 North
Palm Harbor, FL 34684
727-789-0100 www.softcomputer.com

Name of POLL software/system	InterPath	SoftWeb Outreach Suite
First/most recent installation of software or system	2002/2006	2003/2006
No. of host or central labs using software clinically	4	6
• No. of host labs that electronically transfer orders from PO* to LIS	4	5
No. of satellite locations installed/non-U.S. host installations	unknown (browser based)/0	50/0
No. of contracts for host labs signed since March 1, 2005	2	7
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	2-1-1-0/2-1-1-0	603-79-178-170/29-4-9-8
National commercial labs that use POLL package	—	none
Average time to install, build files, train office staff in a typical PO	8 hours	30 hours
LIS, HIS, and other interfaces	PathLogix, GE	SoftLab, Sysware, PowerLab
Software modifications or modules required on host LIS to interface?	no	no
POPMS*** used to transfer patient demographics or billing info. to POLL system	Medical Manager	none
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	more frequent automatic update of all demographics that have changed	one-time batch download/file transfer, HL7 interfacing available
External software tools or vendors used to transfer data from POPMS to POLL system	BizTalk server	—
Test directory stored on PO system?	no	no
How results are returned to PO	PDF, individually segmented fields	PDF, individually segmented fields
Data interface standards supported	HL7, XML, custom when required	HL7, XML, Windows Metafile
System supports LOINC for identifying lab result database elements?	yes	planned
System architecture or functionality	thick client, PC, while connected to lab host; standard Web browser (Internet Explorer)	thick client, PC, while connected to lab host; thin proprietary client
Patient order and result database maintained on local PC?	no	no
• Software displays results and allows orders to be entered in an offline mode?	—	—
Online connections between PO and central or host system	public Internet connection (DSL/cable modem required)	dial-up modem to private phone No., leased line, VPN, public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	no	yes/fixed monthly fee
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	not available	installed
- Advanced beneficiary notice printed if medical necessity criteria not met	not available	installed
- Local medical review policies can be viewed	not available	not available
- Automatic routing of an order to different labs according to payer rules	not available	installed
- Printing of lab's requisitions	100%	installed
- Printing of requisitions for other lab providers	100%	available in 2006
- Duplicate order checking	100%	installed
- Physician office-specific panels	100%	installed
• Electronic order entry (from PO to host)	100%	installed
- Transfer of patient demographics or insurance	100%	installed
- Automatic handling of scheduled or standing orders	100%	available in 2006
- Automatic routing of orders to hospital or commercial labs depending on payer rules	90%	installed
• Bar-code collection label printing	100%	installed
• Two-dimensional bar code on printed requisition	100%	available in 2006
• Software adapted for use in phlebotomy or collection stations	not available	installed
• Result receipt		
- Stored as a block of text	0	installed
- All items (result, reference range, units) stored as individual data elements	100%	installed
- Automatic parsing of report pages to extract results	100%	installed
- Inquiry mode that allows PO to check status of specimens with host	100%	installed
• Reporting	100%	
- In exact format received from host lab		installed
- Cumulative	not available	installed
- Integration of host and PO lab results	100%	available in 2006
- Display of new results for patient and/or clinic	100%	installed
- Remote access available to on-call physicians	100%	installed
- Unattended printing of reports	not available	installed
- Display current report with historical data on same screen	not available	installed
- Graph historical results with current results for trend analysis	not available	installed
• Physician can electronically sign reports to confirm review	100%	installed
• Physician can compose and send secure electronic messages to patients	not available	available in 2006
• User-defined rule-based system and alerts in PO module	100%	installed
• Electronic transfer of data to another PO	100%	installed
- E-mail/encrypted e-mail	—	installed/available but not installed
- Web reference or pointer to Web site	100%	available in 2006
- Fax	100%	available in 2006
• PO orders supplies from host lab	not available	available in 2006
- Specimen pickup or courier requests to host lab	not available	available in 2006
• Financial		
- Billing, collections, accounts receivable	not available	not available
- Electronic claims transfer/interfaces to billing systems	installed	not available
• Electronic medical record interface	100%	not available
• Interfaces to PO lab instruments	not available	not available
• Entry of PO lab results with edit checks	not available	not available
System priced on a cost-per-transaction basis?	no	no
One-time/initial charges	$3k–$5.5k	—
Monthly/subscription fees	—	—
Basis for increasing fees as POs are added	no increase—flat fee per host lab	no increase—flat fee per host lab
Situations where fees increase with additional services	if order entry is added to result transmission (or vice versa) or if special billing functions are added	if order entry is added to result transmission (or vice versa) or if special billing functions are added
Distinguishing product features (supplied by vendor)	• system provides adaptability and flexibility • uses special programming to allow physician access from disparate locations • intuitive, user-friendly system	• robust rules and logic simplify order entry, compliance, and specimen processing • physician/practice specific, customizable dashboard views for order-entry results • powerful sales tool for commercial and outreach laboratories

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	Sysmex America Kevin Bryan bryank@sysmex.com 1 Nelson C. White Parkway Mundelein, IL 60060 800-379-7639, ext 4990 www.sysmex.com/usa	Telcor Mitch Fry mitch.fry@telcor.com 1560 S. 70th St. Lincoln, NE 68506 402-489-1207 www.telcor.com
Name of POLL software/system	eClair	Quick-Req/Quick-Results
First/most recent installation of software or system	1998/2006	1997/ Feb. 2006
No. of host or central labs using software clinically	63	16
• No. of host labs that electronically transfer orders from PO* to LIS	6	5
No. of satellite locations installed/non-U.S. host installations	4,000+/60	857/0
No. of contracts for host labs signed since March 1, 2005	10	3
Staff to develop-install & support host lab-install & support PO-other** in entire firm/in POLL software division	300-100-0-1,500/6-8-0-30	12-19 (for host lab and PO)-11/5-7 (for host lab and PO)-4
National commercial labs that use POLL package	ACL Laboratories, Health Network Laboratories	none
Average time to install, build files, train office staff in a typical PO	1 hour	1.5 hours
LIS, HIS, and other interfaces	Misys, Molis, GE	Novius, Aspyra, Misys, Cerner, Cortex, others
Software modifications or modules required on host LIS to interface?	no	yes
POPMS*** used to transfer patient demographics or billing info. to POLL system	GE	DigiChart, Gamewood, eClinical Works, Advantix, MediSoft, Centricity, Athena
How demographics or billing information is transferred from POPMS at PO or clinic to POLL system	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed	one-time batch download/file transfer, daily update of demographics, more frequent automatic update of all demographics that have changed, others
External software tools or vendors used to transfer data from POPMS to POLL system	eBiz	none
Test directory stored on PO system?	no	yes
How results are returned to PO	block of text, PDF, individually segmented fields	block of text, PDF, individually segmented fields
Data interface standards supported	HL7, XML	HL7, ANSI X12, XML, custom when required
System supports LOINC for identifying lab result database elements?	yes	no
System architecture or functionality	standard Web browsers—all	thick client, PC, while not connected to lab host
Patient order and result database maintained on local PC?	no	yes
• Software displays results and allows orders to be entered in an offline mode?	—	yes
Online connections between PO and central or host system	leased line, VPN, public Internet connection (DSL/cable modem required)	public Internet connection
Complete ASP solution for POLL software?/Method of charging for ASP service	no	yes/fixed monthly fee
Features (listed as a percentage of live installs or whether or not it's available)		
• Order entry		
- Medicare compliance checking using carrier-specific rules	50%	installed
- Advanced beneficiary notice printed if medical necessity criteria not met	50%	installed
- Local medical review policies can be viewed	50%	installed
- Automatic routing of an order to different labs according to payer rules	available in April 2007	installed
- Printing of lab's requisitions	50%	installed
- Printing of requisitions for other lab providers	available in April 2007	installed
- Duplicate order checking	50%	installed
- Physician office-specific panels	50%	installed
• Electronic order entry (from PO to host)	—	installed
- Transfer of patient demographics or insurance	50%	installed
- Automatic handling of scheduled or standing orders	50%	installed
- Automatic routing of orders to hospital or commercial labs depending on payer rules	available in April 2007	installed
• Bar-code collection label printing	50%	installed
• Two-dimensional bar code on printed requisition	50%	installed
• Software adapted for use in phlebotomy or collection stations	50%	installed
• Result receipt		
- Stored as a block of text	100%	installed
- All items (result, reference range, units) stored as individual data elements	100%	installed
- Automatic parsing of report pages to extract results	100%	installed
- Inquiry mode that allows PO to check status of specimens with host	100%	installed
• Reporting		
- In exact format received from host lab	100%	installed
- Cumulative	100%	installed
- Integration of host and PO lab results	installed	not available
- Display of new results for patient and/or clinic	100%	installed
- Remote access available to on-call physicians	100%	available but not installed
- Unattended printing of reports	100%	installed
- Display current report with historical data on same screen	100%	installed
- Graph historical results with current results for trend analysis	100%	installed
• Physician can electronically sign reports to confirm review	installed	not available
• Physician can compose and send secure electronic messages to patients	—	not available
• User-defined rule-based system and alerts in PO module	not available	installed
• Electronic transfer of data to another PO	—	installed
- E-mail/encrypted e-mail	installed	installed/not available
- Web reference or pointer to Web site	100%	not available
- Fax	100%	installed
• PO orders supplies from host lab	not available	installed
- Specimen pickup or courier requests to host lab	50%	installed
• Financial		
- Billing, collections, accounts receivable	not available	installed
- Electronic claims transfer/interfaces to billing systems	not available	installed
• Electronic medical record interface	50%	installed
• Interfaces to PO lab instruments	installed	not available
• Entry of PO lab results with edit checks	installed	not available
System priced on a cost-per-transaction basis?	yes (depends on volume of transactions)	no
One-time/initial charges	—	$10k–$100k
Monthly/subscription fees	—	for monthly service
Basis for increasing fees as POs are added	—	based on No. of workstations
Situations where fees increase with additional services	—	if order entry is added to result transmission (or vice versa), if special billing functions are added, or based on patient service center functionality
Distinguishing product features (supplied by vendor)	• Web page presentation and interaction • rapid adoption by end users • customizable order-entry forms and workflows at the physician office level	• integrates to Telcor outreach billing information system • uses Internet for data transport with Quick Entry at office • uses new technology, Microsoft .NET, SQL server

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