



Integration Improves The Austin Diagnostic Clinic's Efficiency

Settled in the heart of Texas, The Austin Diagnostic Clinic (ADC) is one of the largest multi-specialty clinics in Austin and Central Texas. With 118 physicians and 24 medical specialties, ADC performs laboratory testing for more than 500 patients every day.

Eleven years ago, two people manned the lab. Now, ADC employs more than 800 employees overall and 30 in the laboratory alone.

With growth comes growing needs and the demand for more resources to fill those needs. In October, 2004, Orchard Harvest LIS was installed in the main laboratory of ADC.

With the volume of samples that ADC generates every day, organization and consistency is key.



ADC Information Systems Analyst, David Yero, assists lab manager, Julie Langseth, with the Harvest LIS system.



(From left to right): Mauna Patel, MT; David Yero, IS Analyst; Julie Langseth, MT, Lab Manager; Justin Duda, MT; Geni Bryant, MT; Jeff Milliman, MLT; Sami Omrani, MT; JoAnn Myers, MLT; Lora Campbell, MT; Jennifer Parsons, MT; Sandra Haines, MLT; Monica Arango, MT.

Currently, the laboratory reaps the benefits of a bidirectional reference lab interface, as well as a demographics interface and a results interface. By the first quarter of 2007, ADC hopes to have a completed circle by implementing an orders interface between Harvest LIS and their EMR. The seamless integration that ADC has experienced with their interfaces has proved invaluable. "Our doctors absolutely love having results sent directly to them," said Julie Langseth, ADC Lab Manager. "It has really helped our turnaround time."

The reference lab interface was an integral part of the success of ADC's implementation of Harvest LIS. "Our reference lab interface allowed us to close the gaps and reduce our errors," Julie said. "Before, we had a lot of things fall through the cracks, but with Harvest's event log and

constant error checking, I can follow up on things daily and be in constant communication with the reference lab to find missing or incorrect results."

See "Austin Diagnostic" on page 2.

inside this issue...

Austin Diagnostic (continued).....	2
Employee Spotlight:	
Maureen Sullivan.....	2
Where in the World is Orchy?	2
Updated Tech Tips	3
Age/Race Reference Ranges	4
Reference Ranges (continued)	5
CLMA Sponsorship	5
Case Study: Rules & Formulas.....	6
Account Manager Team.....	7
2007 Symposium Announced.....	8
Trade Show Calendar.....	8

Austin Diagnostic

continued from previous page.

In addition to reaping the benefits of successful integration, ADC has also benefited from the convenience of Harvest Webstation. "Webstation has really helped our doctors be able to pull results quickly," said Julie. "There is no delay in the delivery of results to them."

When asked what advice she would give when searching for a new LIS or working with a current one, Julie said, "I recommend that every lab manager really become familiar with the HL7 language. It has really helped me understand where it all connects. I know that an entry in a certain field in table setup has an effect on the HL7 interface and whether or not the other side can accept our orders or results."

The implementation of the interfaces and Harvest Webstation at ADC has not been the only relieving factor on the laboratory's workflow. Their confidence in their LIS was diminished before Harvest LIS arrived. "With Harvest and Orchard, we trust the system and we trust the support we get," Julie said. "We were absolutely terrified the first time we upgraded because any time we had to upgrade our old LIS, it would always break, and we were down for days at a time. Our Harvest upgrades go so fast and easy, we were just dumbfounded."

Overall, the performance of Harvest LIS and the various forms of integration at ADC has improved the quality and efficiency of the lab. "It's almost like surviving a bad marriage," says Julie. "Once you have overcome the shortcomings of a non-performing LIS—similar to the breakup of a bad marriage—and replace it with a better LIS, you really grow to understand and appreciate it." ●



Where in the World is Orchy?



Orchard's unofficial mascot, Orchy, loves tagging along on vacation with Orchard employees. If you know Orchy's location in this photo, send your answer to news@orchardsoft.com by February 15 to be eligible to win an Orchard prize package. Last newsletter, Peggy Kressin of Medical Associates Health Center in Menomonee Falls, Wisconsin, knew that he was visiting Chicago. Log into the Orchard website to see where in the world Orchy has been lately! ●

employee
spotlight

Maureen Sullivan:

Travel & Events Manager

If you have ever called into the sales department or scheduled a visit to Orchard for a customer training class, you have more than likely heard the voice of Maureen Sullivan, Orchard's Travel & Events Manager. Maureen is responsible for all travel arrangements for Orchard employees and clients attending customer training classes. She also oversees and coordinates all of the industry tradeshows and meetings.

Maureen has been in the travel industry since 1982 and has owned her own travel agency. She was first introduced to Orchard Software in 1997, when she was hired to handle the travel arrangements for Orchard employees. As Orchard continued to grow, so did the amount of travel Maureen needed to arrange. In 2004, Maureen came to work at Orchard full-time in our corporate headquarters.

In her free time, Maureen enjoys attending sporting events and watching games on television.

Being originally from New York City, Maureen is a die-hard Yankees fan. When she is not watching sports, she likes spending time reading suspense and thriller novels. She lives with her cat Mr. B, and enjoys spending time with her 22-year-old daughter, Courtney. Maureen is glad to be a part of the Orchard family. She says, "Having the opportunity to be part of a great family and working with both Orchard clients and employees gives me great satisfaction." ●



Stay Knowledgeable with Recently Updated Tech Tips

We are always looking for ways to pass along information to help you make the most of your Orchard system. The Tech Tips section of our website contains instructions to solve some common issues that our customers are having, as well as offer suggestions on how to simplify everyday tasks. Below are some of the tech tips that we have added recently. Log into our website to see the full details for these and other tech tips.

Creating Harvest Webstation Reports That Look Like Harvest LIS Reports

Harvest Webstation reports can look just like reports from Harvest LIS if you generate them as PDF reports. This requires the purchase of a PDF printer driver (Orchard generally recommends the Win2PDF driver), which must be installed on one client workstation. This workstation then becomes, in effect, the PDF generation station for all Harvest Webstation users. After you have the necessary PDF printer driver, you must simply modify a few settings, and you will be able to print PDF reports from Harvest Webstation. When generating PDF reports, Harvest Webstation uses the report format settings defined on the workstation creating the PDF.

Using the Subtotal, Total, and % Sort Optional Columns

Beginning in Harvest LIS version 7.0, you may include subtotal, total, and % sort columns in all windows that support optional columns.

The screenshot shows the Orchard Software Customer Support & Feedback page. It features a sidebar with navigation links like 'Log In', 'About Orchard Software', 'Products', 'Choosing Your LIS', 'Customer Support & Feedback', 'News & Links', and 'Contact Us'. The main content area is titled 'Tech Tips' and includes a table with columns for 'Tech Tip Title or Category', 'Product(s) Affected by Tip', and 'Date Modified'. The table lists several tech tips, including 'Creating User-defined Menu Links' and 'Restricting a Workstation to a Specific Tab When Ordering'.

Restricting a Workstation to a Specific Tab When Ordering

By modifying your advanced configuration options, you can restrict a workstation to a specific tab on the Order Patient Samples window in Harvest LIS, and the Order Samples: Order Items window in Harvest Webstation. Note that, beginning in Harvest LIS version 7.0, you can restrict users to multiple tabs instead of only being able to restrict a workstation to one tab.

Switching Lots of QC

When it is time for a new QC lot, the best solution is to create a new QC file for the new lot. You can use the Copy button to have Harvest LIS copy over the basic parameters from the old file, and then edit the copied file as needed. Once you have the copied file set up to your satisfaction, save it, then inactivate the old QC file.

It is important that you do NOT edit your existing control file for the new lot of QC! If you do this, your old historical QC data will be evaluated against the new

ranges (a problem if you ever have to reproduce that data for an inspection). In addition, if you have Westgard rules enabled, the new QC information will be evaluated along with the old data points during Westgard analysis.

Adding Prices to the Exported Billing Summary Report

By modifying your advanced configuration options, you may include any specified pricing values in a column called "Prices" on the exported version of the Billing Summary Report. ●

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If you have any questions or suggestions, please contact our Publisher, Christine Stalcup, or Editor, Kerry Foster, at (800) 856-1948.

View the newsletter online at:
www.orchardsoft.com/news_links/newsletter/newsletterarchive.html

Feature Focus: Age/Race-specific Reference Ranges

It has long been established that reference ranges for test results can differ depending on the patient's age. Occasionally, a reference range may be race specific. This ability to create race-specific reference ranges in Harvest LIS can also be useful for laboratories performing veterinary work, as the various animal species are created as a "race" in the Race Selections table. Age- and race-specific reference ranges are very simple to configure in Harvest LIS, as long as you keep some basic concepts in mind. This article looks at age-specific reference ranges and using race-specific ranges for species.

Age-specific Reference Ranges

Like all reference ranges, age- and race-specific ranges are created as part of the lab test definition.

This example shows the lab test definition for Hemoglobin. Note that default reference ranges and critical limits are entered for male and female patients. These ranges typically represent reference ranges

for adults. Below the default ranges the "Ages and/or Race..." checkbox is marked. You can view these ranges by clicking the magnifying glass icon to the right.

To configure an age-specific reference range, you must define a timeframe, which can be expressed in days, months, weeks, or years. The selected timeframe in this example is 0-6 days. After you define a timeframe, enter the reference range values for male and female patients as appropriate.

The most important concept to remember when creating age-specific reference ranges is quite simple: what you end a timeframe

Minimum Age	Maximum Age	Race
0 Day(s)	6 Day(s)	All
6 Day(s)	13 Day(s)	All
13 Day(s)	28 Day(s)	All
28 Day(s)	59 Day(s)	All
59 Day(s)	120 Day(s)	All
120 Day(s)	9 Month(s)	All

Race: All

☐ No age specified From Age: 0 Day(s) To Age: 6 Day(s)

Buttons: Delete, Save, Copy, Close

Reference Ranges:

	Approval Low	Critical Low	Low	High	Critical High	Approval High
Female	-999.99	-999.99	17.7	26.5	-999.99	-999.99
Male	-999.99	-999.99	17.7	26.5	-999.99	-999.99

with is what you must use to begin the next one. You may mix and match timeframes as long as you obey this rule. For example, you can configure a range of 120 days to 9 months, as long as the next range begins with 9 months. If you do not follow this rule, you may leave a gap in your timeframes. For patients with ages that fall into that gap, Harvest LIS will use the default reference range configured on the main window of the lab test definition. For this reason, it is always advisable to have a set of default reference ranges. As mentioned earlier, the defaults typically represent the adult ranges, so it is not necessary to create "adult" timeframes (e.g. 18-150 years) and ranges.

Once you have configured your range, click the Save button to store the timeframe and reference ranges.

You may delete a timeframe and its reference ranges by selecting it from the list, and then clicking the Delete button.

Lab Tests

Test Name: Hemoglobin Identifier: HGB Units of Measure: g/dL Abbrev: HGB Formula Identifier: HGB Precision: 1 Enterability: Enterable as numeric and text

Reference Ranges

☐ Reference Ranges do not apply to this test for patient results

☒ Highlight Criticals ☒ Ages and/or Race ...

Qualitative: [] Highlighting Values...

Reporting

☐ Don't Report ☐ Picture... ☐ Thresholds ☐ Print Blank Line Above Result ☐ Print Title Above Result

☐ Print Title With Grey Background ☐ Do not display test name or abbreviation on reports

Microbiology / Anatomic Pathology

☐ Microbiology Type: Slide ☐ Anatomic Pathology CPT Codes...

Buttons: Default Values..., Choice List..., Notes..., New, Cancel, Save

See "Reference Ranges" on page 5.

CLMA ThinkLab '07 Sponsored by Orchard Software

In December, Orchard Software and CLMA reached a multi-year agreement making Orchard Software the headline sponsor of ThinkLab, CLMA's annual conference and exhibition. As headline sponsor, Orchard Software will be prominently recognized on all promotional materials related to ThinkLab.

We share mutual goals with CLMA in that our company is committed to working with our LIS customers to improve the future of the laboratory industry. Also, as many of you know, it is typically the laboratory manager who initiates the search for a new LIS, and we believe that aligning ourselves with CLMA, the leader in education for laboratory managers, is a good fit for Orchard.

CLMA is an international association of more than 4,500 clinical laboratory professionals. It plays a leadership role in educating and advocating for the future of the laboratory profession. CLMA's

ThinkLab '07 will be held March 24-27 in Houston, Texas. The four-day conference is the leading educational event for clinical laboratory professionals, with more than 75 CME-accredited educational sessions designed to enhance the skills of leaders at every level of personal and professional development.



More than 3,500 members of the laboratory profession attend ThinkLab annually to take advantage of the cutting-edge education; an exhibition floor filled with vendors showing off the latest in laboratory equipment, products, and services; as well as opportunities to network with those who are leading the profession into the future. This year will mark the 31st anniversary of ThinkLab.

We encourage each of you to attend this valuable educational event. For additional information about CLMA or ThinkLab, please visit www.clma.org or www.clmathinklab.org.

Reference Ranges

continued from previous page.

You may copy a timeframe and its reference ranges by selecting it from the list, and then clicking the Copy button. You may then edit the copy and save it as a new timeframe and range.

Species-specific Reference Ranges

If you need to create species-specific reference ranges to accommodate veterinary work, it is not necessary to create separate lab tests for each animal species—a very common workaround in many LIS systems. In Harvest LIS, we can configure this in the same

Selections” in the User Defined Fields table.

Once you have defined your species, you can add the reference ranges to the lab test definition.

Note in this example that no age range is associated with the race-specific range because the “No age specified” checkbox is marked. The animal species, Canine, has been selected from the renamed Race/Species field. Harvest LIS will apply the correct reference range to this patient's test results by comparing this value to the race/species setting in the patient's demographics file.

lab test record that you would use for human testing.

To do this, open the Race Selections table. Add each animal species as a race. If desired, you can rename “Race Selections” to “Race/Species

By using age or race/species specific reference ranges in Harvest LIS, you can streamline and enhance the information presented to the patient's provider, enabling them to quickly and accurately interpret test results.

	Minimum Age	Maximum Age	Race/Species
	No Age Specified		Canine
	No Age Specified		Equine
	No Age Specified		Feline

	Approv Low	Critical Low	Low	High	Critical High	Approv High
Female	-999.99	-999.99	4.5	10.5	-999.99	-999.99
Male	-999.99	-999.99	4.5	10.5	-999.99	-999.99

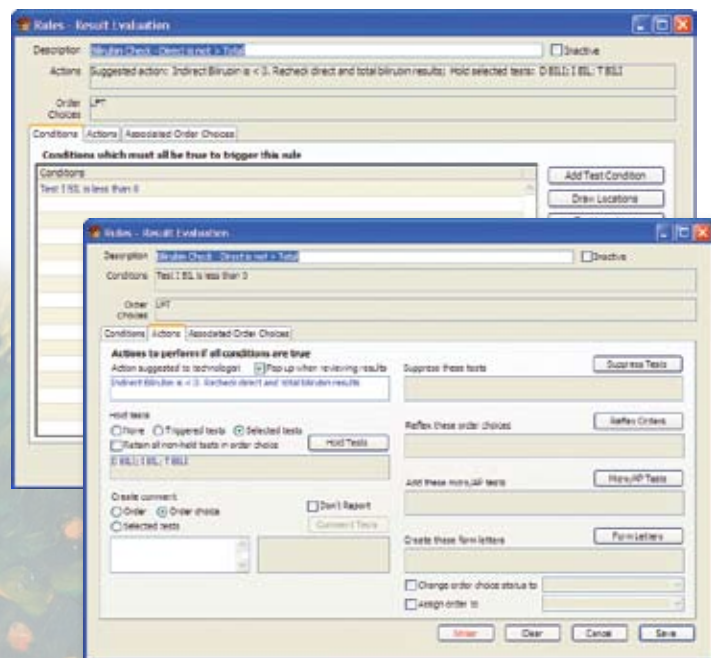
Case Study: Compare Related Test Results Using Rules & Formulas

Our training team recently received a question from a user who asked about using result evaluation rules to compare the results of two related tests. In this case study, we'll present some examples on how you may accomplish this.

This type of scenario is relatively easy to handle. While result evaluation rules cannot be used to compare two test results directly, we can use two Harvest LIS features together—formulas and result evaluation rules—to look at this particular issue indirectly.

Example 1: Compare Direct Bilirubin (DBIL) and Total Bilirubin (TBIL) to ensure that the DBIL is not greater than the TBIL.

Usually, when a Total and Direct Bilirubin are ordered together, the Indirect Bilirubin (IBIL) is being calculated as well. This equation is very simple to configure in Harvest LIS Formula's table: $TBIL - DBIL = IBIL$. If the DBIL is greater than the TBIL, this will result in a negative number for the IBIL. You can then write a result evaluation rule to check for this.



In this example, the condition used is "IBIL is less than 0." The actions are to create a pop-up message to warn the technologist of this issue and direct them to rerun the TBIL and DBIL results, mark DBIL, IBIL, and TBIL as Hold Tests, and associate the rule with the appropriate order choices, such as Hepatic Function Panel and Bilirubin, Total/Direct/Indirect.

Example 2: Compare CK-MB (CKMB) and Total CPK (CPK) to ensure that the CK-MB is not greater than the Total CPK.

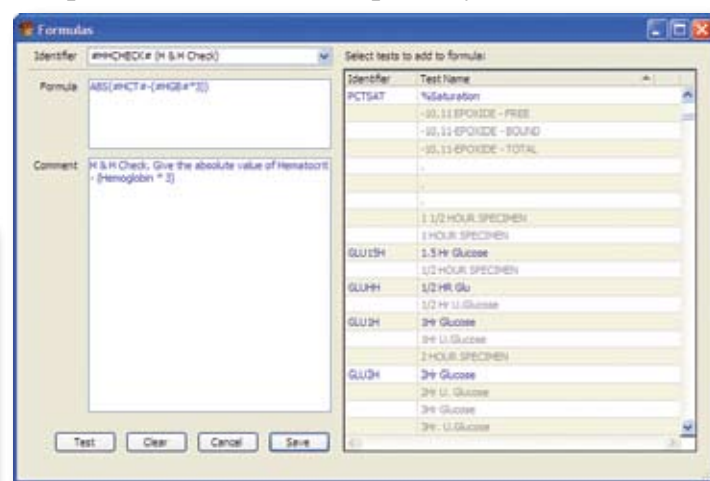
In a fashion similar to example 1, many laboratories

calculate %CKMB when performing the Total CPK and CK-MB tests. In this case, the %CKMB should never be greater than 100%. Using a result evaluation rule, create a condition: %CKMB is > 100. You may set a pop-up message action again to warn the technologist of the error condition and advise them to rerun the tests. As before, you will need to associate the rule with the appropriate order choice(s).

Example 3: Compare Hemoglobin (HGB) and Hematocrit (HCT) values to ensure consistent results.

This scenario depends on the old rule drilled into medical technologists from their earliest training: $HGB \times 3 = HCT \pm 2$.

In this case, create a non-reportable test called HHCHECK, and add it to the CBC and Hemogram order choices. Then, create a formula in the Formulas table to determine an absolute value that represents the variance between the patient's HCT result when compared to the HGB multiplied by three.



Note that absolute values are the calculated number, regardless of whether it is positive or negative.

Again, you may write a rule to deal with this calculated value: the test HHCHECK is > 2. Use a pop-up action message to alert the technologist to the discrepancy and direct them to re-evaluate the test results and rerun them if necessary. You should then associate the rule with the CBC and Hemogram order choices.

By using two Harvest LIS features together—Formulas and Result Evaluation Rules—we were able to accomplish the customer's goal of comparing two related test results, enabling their laboratory to enhance the consistency and reliability of test results. ●

Our Account Manager Team—Growing to Better Serve You!

Today, Orchard Software has more than 650 customers, and we are continuing to grow. To advance the level of service to our customers, we are adding to our team and expanding responsibilities.

Our Customer Sales Representatives will now be called Account Managers, and their role will be to service existing accounts and work with regional sales representatives to transition new clients to our in-house account management team. The Account Manager provides a consistent point of contact for our customers regarding project follow-up, additional product modules and training, new instrument interfaces, systems integration, special requests, and problem resolution.

Please note for the most prompt service regarding all technical support issues, continue to call Technical Support directly at (800) 571-5835.

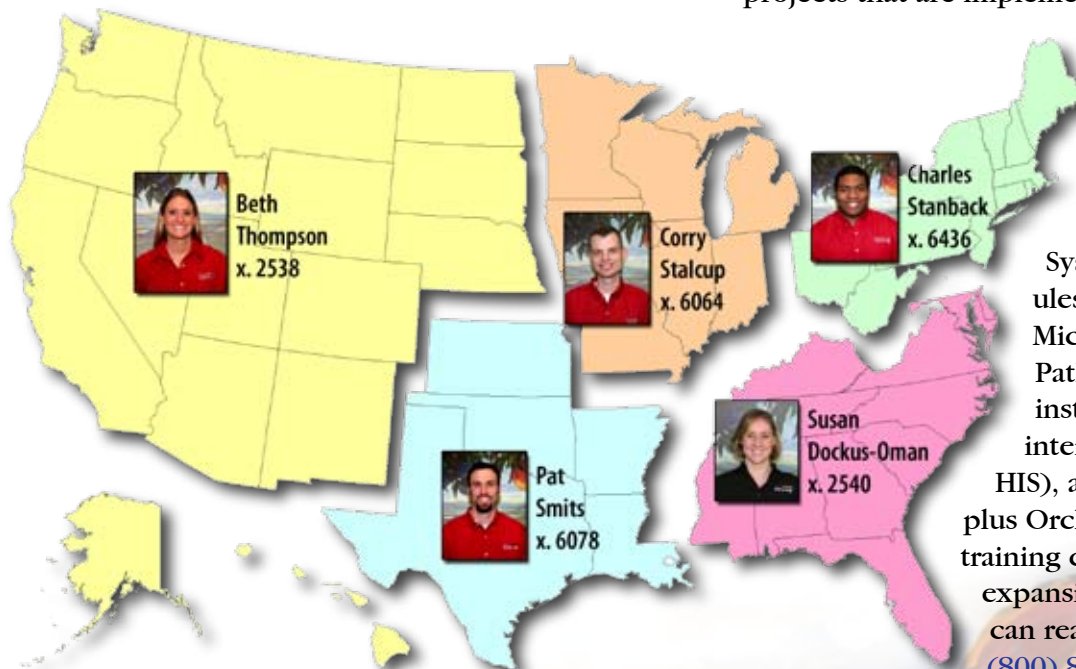
For 2007, Ryan Castetter was promoted to Regional Sales Manager and will begin working with prospective clients in the North Central Region.

Kelly James will become National Account Manager responsible for directing the Account Manager



Front Row (from left to right): Susan Dockus-Oman, Beth Thompson, Kelly James; Back Row: Pat Smits, Charles Stanback, Corry Stalcup.

team. Susan Dockus-Oman, Pat Smits, Corry Stalcup, Charles Stanback, and Beth Thompson will actively manage current customer accounts. Susan has been promoted to Senior Account Manager and will service the Southeast Region. Corry will handle the Midwest, Pat the South Central area, Charles the Northeast, and Beth will serve the Central and West coast areas of the United States. Susan, Charles, Corry, Pat, and Beth will stay in touch with your lab and follow up on projects that are implemented for your facility.



As appropriate, they will continue to present you with new opportunities that will enhance the value of your Orchard Laboratory Information System through add-on Modules (e.g. Email, Webstation; Microbiology, and Anatomic Pathology), additional licenses, instrument interfaces, host interfaces (e.g. EMR, PMS, or HIS), and reference lab interfaces, plus Orchard's P.A.C.E.® accredited training classes, hardware upgrades, expansions, and replacements. You can reach each one of them at (800) 856-1948. ●

Orchard Begins Plans for 2007 Symposiums

After the success of the inaugural Symposium, which took place in Portland, Oregon in September, 2006, Orchard has begun planning for two more symposiums to take place in 2007. The Spring 2007 Orchard Harvest LIS Symposium will bring the Orchard to the east coast. It will take place on June 7, 2007, at the Baltimore/Washington Airport Embassy Suites in Baltimore, Maryland.

The Fall 2007 Symposium is tentatively scheduled to take place in Dallas, Texas. We hope you and your staff will be able to join us this year for

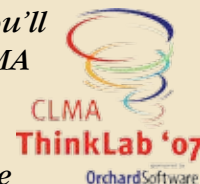


an in-depth look at Harvest LIS and for a chance to get to know other Orchard customers, as well as the staff behind the award-winning Orchard Harvest LIS. For more information about our 2007 Orchard Harvest LIS Symposiums as it becomes available, visit our website at www.orchardsoft.com/symposiums.asp. ●

Orchard's Trade Show Calendar 2007

Dates	Name	Location
2/22/07 - 2/24/07	Clinical Lab Educators Conference	Louisville, KY
2/26/07 - 3/1/07	HIMSS	New Orleans, LA
3/5/07 - 3/8/07	Lab InfoTech Summit	Las Vegas, NV
3/24/07 - 3/27/07	CLMA ThinkLab	Houston, TX
3/28/07 - 3/30/07	Carolinas Clinical Connection	Myrtle Beach, SC

Let us know if you'll be attending CLMA ThinkLab 2007 sponsored by Orchard Software by visiting www.orchardsoft.com/clma.asp



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