ETSU Uses Harvest LIS Rules & Browsers to Provide Patient-focused Data

As laboratories across the U.S. feel the effects of healthcare reform, at East Tennessee State University (ETSU) Clinical Laboratory (ECL), Kevin Breuel, PhD, Professor at Quillen College of Medicine and Director of ECL, and his laboratory staff have taken a proactive approach. They quickly realized that the changes in healthcare reimbursement models are affecting how labs at ETSU are reimbursed, and they are already experiencing a shift from fee-for-service reimbursements towards risk-sharing payment plans. Dr. Breuel and staff are doing their best to utilize every tool available to maximize their laboratory's role in providing superior patient care; part of that process is maximizing the use of their Orchard® Harvest™ LIS.

ETSU Laboratory Supports ACO Efforts

In January of 2014, Quillen ETSU Physicians joined AnewCare Collaborative, a locally owned Medicare Shared Savings Plan (MSSP) Accountable Care Organization (ACO) with more than 17,000 Medicare members. Involvement in the ACO has driven ETSU to strengthen their commitment to a proactive patient care approach and ECL is embracing this philosophy and doing their part to support the ACO goals.

Diverse Menu & Community Involvement

ECL serves more than 140 providers, plus an additional 258 residents and 288 medical students, and manages an annual testing volume of over 500,000 tests. Their laboratory performs a wide variety of testing in support of a multitude of specialties, including Internal Medicine, Infectious Disease, Fertility and Women's Services, Obstetrics and Gynecology, Pediatrics, Dermatology, Endocrinology, Cardiology, Surgery, Allergy, and Ophthalmology. Staffed with four technologists and six phlebotomists, they are a high-complexity laboratory.

They support their local MT program at Lincoln Memorial University by allowing the MT students to gain clinical rotation experience in their laboratory. ECL has also partnered with Pointe Scientific to validate some of their test assays.

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ECL Laboratory Manager Tiffany Ford says, "This gives our techs an opportunity to encounter things that otherwise they would never have had a chance to experience."

2014 Orchard Symposium

ECL, with education close to heart, is always eager to share their experiences to help other laboratories. At Orchard's upcoming 2014 Symposium, Dr. Breuel will co-present with Curt Johnson, COO of Orchard Software, an opening keynote presentation entitled *Showing Lab Value*. Dr. Breuel says, "ETSU had to step back and look at laboratory contribution from a practice standpoint and align laboratory goals with overall organizational goals in an effort to manage healthcare changes. Turnaround times, faster diagnoses, patient compliance, and eliminating waste; these are statistics that can be provided to physicians that are meaningful to them."

ETSU Laboratory team from left to right: (Back Row) Robin Williams, BS; Kevin Breuel, PhD.; Tiffany Ford, MT; Kelly Shipley, MLT; (Front Row) Ashley Reeser, MLT; Kim Campbell, MLT.

inside this issue...

Join us in the Orchard!

Tuesday, June 17, 2014	
7:30 am	Continental Breakfast
8:30 am	Showing Lab Value - *Curt Johnson & Kevin Breuel, PhD*
9:45 am	Understanding the Cost of Quality - in YOUR Laboratory - *Lucia Berte*
11:00 am	Opportunities for Medical Laboratories to Drive Health System Value - *Paul Epner*
Noon	**Lunch**
1:00 pm	Introduction to Sequoia - *Curt Johnson & Henry Oglesby*
1:30 pm	Impact and Impress: Presentation Skills for Laboratory Professionals - *Jock Murray*
3:15 pm	Embracing Transformation and Change with Attitude - *Sam Glenn*

Wednesday, June 18, 2014			
7:00 am	Continental Breakfast		
8:00 am	Using Rules to Support the New Business Models - *Nancy Stoker*		
9:45 am	ICD-10 Validation Process - *Jacob Eickhoff*		
11:00 am	**Breakouts - Pick One Session to Attend**		
IT Topics- Integration *Chris Gaffer*	What's New with Orchard Pathology *Beth Eder*		Copia Client Services Module *Chris Prange & Jon Payne*
Noon	**Lunch - Rob Bush to Address Lunch Crowd**		
1:00 pm	**Breakouts - Pick One Session to Attend**		
Intro to Orchard Sequoia *Curt Johnson & Kevin Dudley*	Intro to Orchard Trellis *Keith McKinney & Tony Rowe*	IT Topics - System Setup *Dave Bracewell*	Copia Analytics *Ryan Howard & John Wallihan*
2:15 pm	Business Analytics for the Lab - *Nancy Stoker*		

Spotlight On: The Orchard Accounting Team

Accountants were traditionally seen as "bean counters" or "penny pinchers" as depicted by Ebenezer Scrooge in Charles Dickens' *A Christmas Carol*. Thankfully, stereotypes have been shed, and today, accountants are seen as an integral part of a company, interacting with all departments and clients.

Orchard Accounting team from left to right: (Back Row) Curt Bromm, Mark Igney, James Convy, (Front Row) Morgan Cruise, Christine Lassen.

The Orchard Accounting Department interacts daily with clients. Probably best known for its billing function, the department handles all of the new contracts, aftermarket items, and support invoicing for the company. Additional accounting duties seen externally are accounts payable, collection of receivables, and taxes. The department also handles internal functions, such as payroll and financial oversight of the company.

The knowledgeable team is composed of Curt Bromm, James Convy, Morgan Cruise, and Mark Igney, and overseen by the Director of Accounting, Christine Lassen. The department is always looking for ways to improve customer service, so feel free to email them at **accountsreceivable@orchardsoft.com**.

Where in the World is Orchy?

Orchy has embarked once again on an adventure to complete his journey around the world. This time, Orchy has traveled by sea to a colorful Caribbean harbor. If you think you know where Orchy is, send your response to **news@orchardsoft.com** by June 15th to be eligible to win an Orchard prize package. The last time we saw Orchy, he was visiting Viking Ship Museum in Oslo, Norway. Nancy Whitten of Willamette Valley Cancer Institute & Research sent in the correct location on his last quest. Make sure to visit the Orchard website to see where in the world Orchy has been lately!

ETSU

Business Intelligence & Analytics

Robin Williams, BS, LIS Coordinator adds, "Dr. Breuel has plans to utilize our clinical data to support the ACO measures. The idea is to get appropriate and timely clinical data to the physicians to enable them to take better care of our patients; for example, communicating when a diabetic patient is due for their Hgb A1c. This information is significant for patient care and we can use the browser data to improve patient outcomes." The goal is to send necessary information to physicians in an easily decipherable format that quickly and clearly indicates the next action needed to take care of the patient.

One data point tracked at ETSU is the number of Hgb A1c tests ordered. The idea is to use browser data to determine how well they are taking care of those patients. For example, are diabetic patients classified as out of control returning every three months for follow-up? In 2013, their data reflected more than 100 patients with Hgb A1c results >8% who had not returned within three months. Part of the Accountable Care initiative is to target the sickest patients with the goal of helping these patients become healthier. The diabetic population has been identified as a group that can benefit from proactive attention.

Rules & Browsers → Reflexes & Cascades → Appropriate Test Selection

One of the most proactive, impressive, and valuable undertakings at ECL is the implementation of reflex testing and cascades in Harvest LIS. Setting up the rules and browsers to support reflex and cascade testing required a team effort. Robin explains, "We do a lot with the browsers and it's continuing to increase. We use browsers to send results to the state and to pull requested reports for certain physicians. Whatever someone needs, we can get it much faster from

Algorithm for Thyroid Testing

Adapted from "Thyroid Cascade Testing," 2007. LabCorp, Inc.
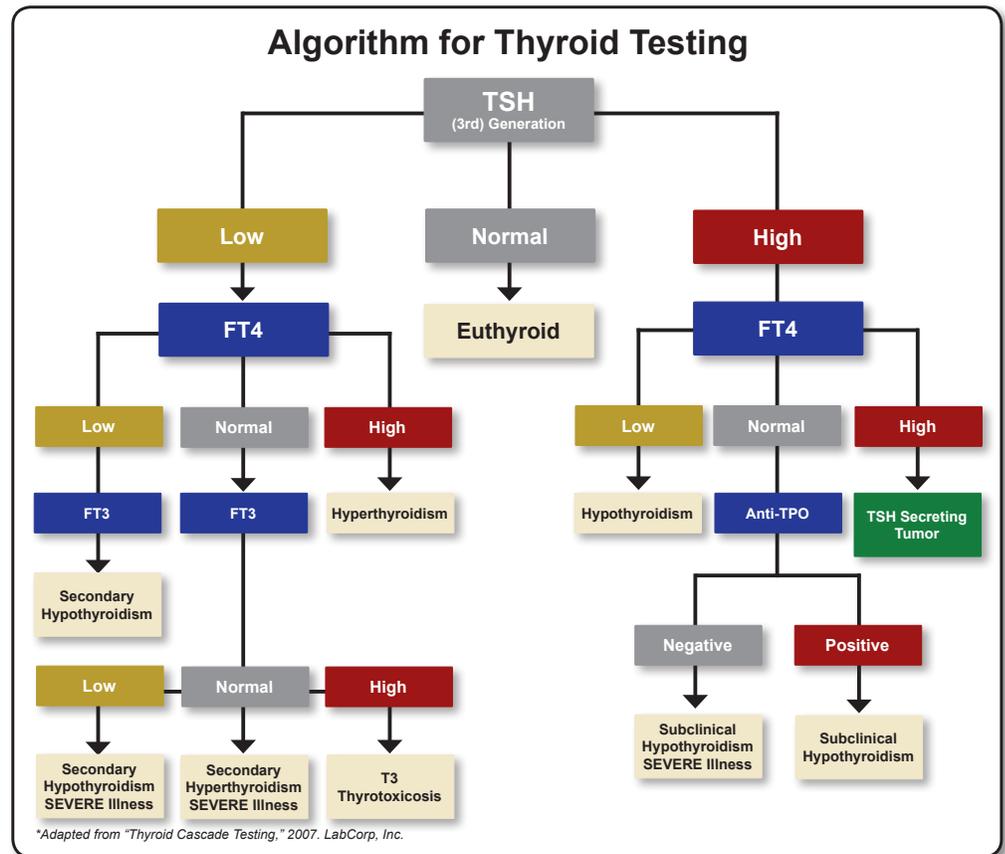
Harvest LIS than from the EHR, if it's even available in the EHR."

ECL implemented an algorithm for thyroid testing that reflexes to FT4 based on the TSH results; if the TSH is high or low, an FT4 will auto-order. It is anticipated that this change will lead to significant cost savings over the upcoming years. A retrospective analysis of orders from 2013 identified approximately 1,800 TSHs ordered with an FT4. Simply by introducing the reflex, they anticipate a decrease of about 500 FT4s, which will result in a $7,000 annual savings. This data can be used to demonstrate to providers the number of unnecessary FT4s performed and translate to dollars wasted.

To take that a step further, ECL created a thyroid testing cascade based on TSH results, testing cascades via auto-reflex through FT4, FT3, and

> Simply by introducing the reflex, they anticipate a decrease of about 500 FT4s, which will result in a $7,000 annual savings.

TPO. Providers have the option to order the TSH reflex or cascade, which eliminates unnecessary testing and removes the need to call back and add additional testing, saving time for both physicians and patients.

Speed & Accuracy of Diagnosis: TAT that Impacts Patient Outcomes

ECL primarily operates as a busy STAT lab for the majority of tests performed with impressive turnaround times. In fact, even routine testing TATs average four to five hours with a majority of testing received by the physician within a few hours of a patient's visit. To maintain their TAT goals, they have set up message pop-ups that notify them when certain STAT tests, such as their Vaginal DNA test, come into Release Stored Orders (RSO). To make it even

clearer, STATs, add-ons, and ASAP tests have been color-coded in RSO so that laboratory staff can easily determine which actions need to be taken.

The AFFIRM Vaginitis test replaces the less sensitive, less specific wet prep that took a great deal of hands-on time. In contrast, the TAT for the Vaginal DNA testing averages one and half hours with 80% of testing performed that same day. This has worked well internally to promote best patient care practices and gain physician support. Referral laboratories at best take 24 hours.

At ECL, TAT for in-house testing is quick enough that they can actually treat the patient while they are still in the office, assuring that the patient receives the most appropriate treatment plan. Browser data has been used to demonstrate to physicians that approximately 30% of patients test negative. This means that if physicians treat with empiric therapies, 30% of the time the patients may have been treated unnecessarily. However, if testing is performed quickly enough (same day), physicians can treat with the correct diagnosis in hand, justifying the value of the lab and the importance of a rapid TAT for this test.

Rules & Specimen Requirement Setup Ease Phlebotomist Stress

Another aspect of Harvest LIS setup that ECL has used to the fullest extent is order entry routing rules and specimen requirement guidance. Tiffany explains, "One of the greatest points about Harvest is the functionality that allows us to set up location-specific sample requirements for each order choice because the same test may be performed at any of four locations and each of those testing locations may have different specimen requirements for the same test. We can even make immediate changes if an analyzer goes down and testing has to be moved to another analyzer. The ease of doing that has helped us tremendously and it helps significantly with training as well—because we have lots of turnover in phlebotomy."

"Routing rules firing at the time of order entry make it so much easier on the phlebotomists. We use rules extensively, for everything from adding comments to results to billing," explains Robin. At ECL, they have one order choice each for CMP, BMP, CBC, etc., then routing rules are used to direct testing to the right location based on insurance, test availability, or methodology. "Without the rules, our orders would be a nightmare," adds Robin.

"Just Like a Box of Chocolates"

Because they have such a diverse testing menu, one of the pleasures of working at ECL is the daily variability. "You just never know what's going to happen from day to day and that keeps us on our toes," says Tiffany. Adaptability and flexibility are attributes that every laboratory will need to embrace as we continue to see changes in our healthcare system and laboratory reimbursements become based on how well we contribute and provide service rather than by volume of testing. At ECL, they continue to find ways to maximize their Harvest LIS usage to support these changes and provide better care for their patients.

ETSU Laboratory Kingsport location team: Tina Cunningham, Phlebotomist; Amanda Henley (not pictured), Phlebotomist.

ETSU Laboratory Johnson City Centralized Phlebotomy team: Ryan Shelton, Phlebotmist; Hollie Pierce, Phlebotomist; Ryan Boruff, Phlebotomist.

Don't Forget to Register for the 2014 Symposium

Just a reminder that if you would like to hear more about the success stories at ECL, Dr. Breuel's presentation will take place on Tuesday, June 17th at the Sheraton Indianapolis Hotel at Keystone Crossing. Register online by visiting **www.orchardsoft.com/news_links/ symposiumsNews.asp**. The symposium will be packed with educational opportunities that will provide ideas on how to get the most from your Orchard system as well as in-depth discussion of the changes taking place in healthcare. 🍎

The Orchard Resource Center: Robust, Timely, & Tailored

In a few short weeks, we will be unveiling our new website and opening the Orchard Resource Center to all of our clients. In addition to a streamlined appearance, we have added new features that are going to make your Orchard online experience even better.

As a bonus to those who sign up for an Orchard Resource Center account by June 30th, we will hold a random drawing for various prizes. To sign up for your account, visit **orc.orchardsoft.com**, and click the "Sign up here" link.

## Redesigned Website & the Orchard Resource Center

The redesigned Orchard website is geared toward prospective customers and contains general product, company, and industry information. For our current customers, we wanted to make the information most relevant to you easy to access, so we have pulled it all together in the Orchard Resource Center. To access it, simply sign in to the Orchard website and you will have instant access to our robust Knowledge Base; the latest product, company, and industry news; and customized features tailored to your account.

Tailored Features

When you access your account information on the Orchard Resource Center, you will be able to directly access the support tickets, software requests, project plans, and product downloads linked to your account. Your customized Account Info page also makes it easy to request interfaces and sign up for corporate training courses. In addition, the ORC provides tools to mark your favorite pages for faster viewing later, as well as to sign up for email notifications when a page is updated.

Robust Knowledge Base

We have retooled and expanded our Tech Tips section to include hundreds more articles. Our goal is to ceaselessly expand our article offerings for every product. We have also enhanced the search and browsing capabilities to make it easier for you to find information on all of your Orchard software needs.
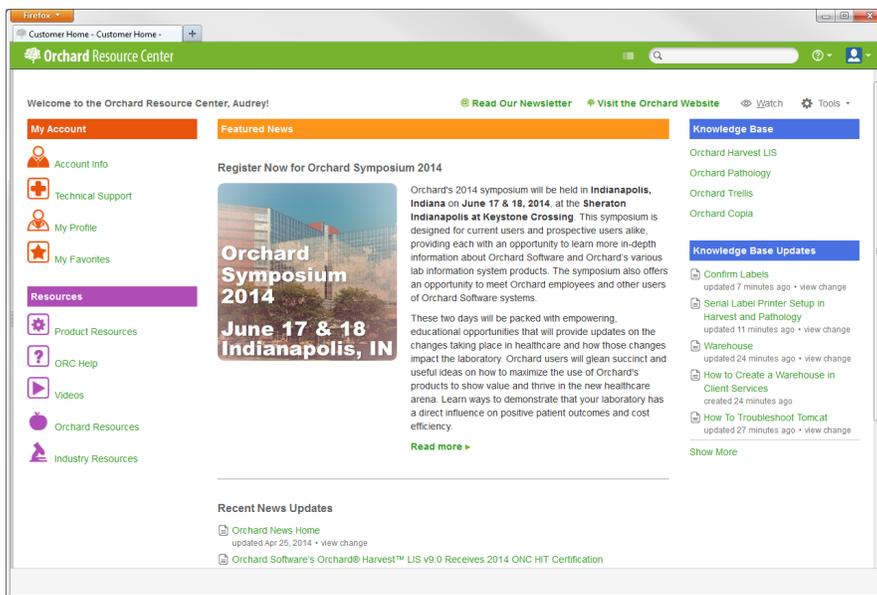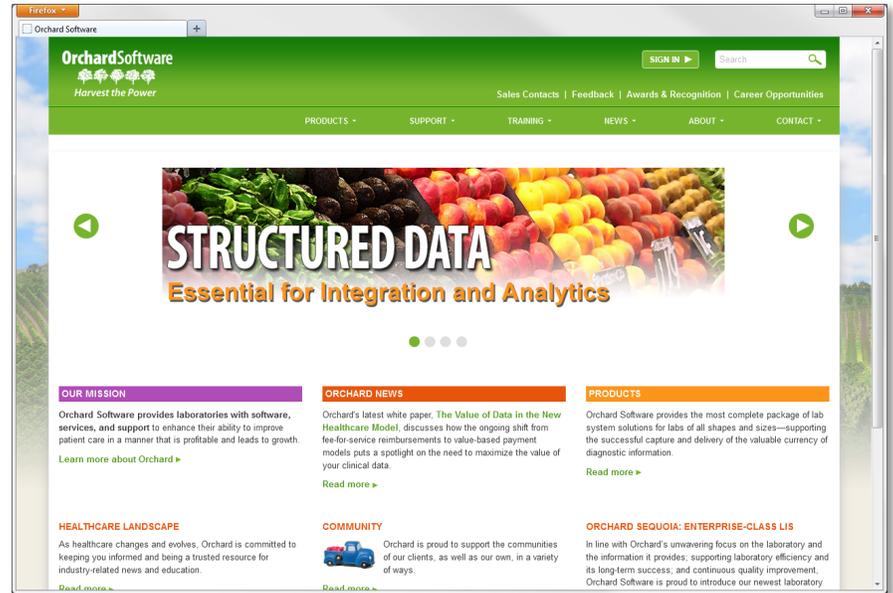
Timely Information

At Orchard, we understand that you have a limited amount of time to devote to studying all the changes happening in our industry. We are your partners in healthcare, and we believe it is our job to help synthesize and disseminate the latest news. When you sign in to the Orchard Resource Center, we display headlines that link you to the latest product, company, and industry news.

Help us Grow the Orchard Resource Center

Everyone at Orchard is excited to share the Orchard Resource Center with you, and we already have some features planned to enhance it further. In the meantime, we would love to hear your feedback and requests for features. As you begin using it, please feel free to email us at **feedback@orchardsoft.com**.

Orchard's Applications Implement AUTO12-A Label Format to Comply with New Industry Standards

With the evolution of healthcare, and the ever-increasing focus on improving patient care, laboratories are facing increased pressure to tighten their procedures in order to reduce or eliminate human error within the laboratory. Orchard is committed to helping laboratorians increase the value of their laboratory and ultimately improve patient care. One manner in which the industry is focusing on reducing error is the effort to standardize specimen bar code label formats.

Unnecessary and costly mistakes are the result of no current requirements for bar code label formats. According to the College of American Pathologists (CAP), a study of patient and specimen identification errors at 120 different institutions revealed that there is currently an unacceptably high rate of mislabeled specimens in U.S. laboratories. Charles D. Hawker, Scientific Director of Automation and Special Projects for ARUP Laboratories, stated in the June 26th, 2013 issue of *Dark Daily* that a conservative estimate for the total cost of mislabeled specimens is around $280,000 per million specimens tested.

Clinical & Laboratory Standards Institute (CLSI) Steps Up to the plate

In 2011, CLSI approved a standard with an implementation date of April 29th, 2014. In the CLSI publication, *CLSI Document AUTO12-A – Specimen Labels: Content and Location, Fonts, and Label Orientation; Approved Standard*, the organization states that the purpose of the standard is to reduce human errors currently associated with the lack of clinical laboratory specimen label standardization. The standard identifies the required human-readable elements to appear on specimen labels and specifies the exact locations, fonts, and font sizes of these elements. While compliance by April 29th, 2014 will not affect a facility's current accreditation, it is to be expected that accrediting bodies (such as CLIA, CAP, and The Joint Commission) will require medical laboratories to comply with this standard in the very near future.

Orchard Provides Features to Help Laboratories Stay Ahead of the Game

Orchard's development teams, in conjunction with Orchard's Regulatory Affairs Manager Ginger Wooster, MBA, MLS (ASCP), have worked to implement and test features to support the AUTO12-A standards in our applications. Orchard Harvest LIS supports the use of AUTO12-A formatting as of the March 2014 v9.0 release. Orchard® Copia® supports the use of AUTO12-A formatting as of the April 2014 v5.0 release.

With the features that Orchard has implemented in our applications, compliance with AUTO12-A standard formatting is simple. Orchard has already implemented features in our applications to support the AUTO12-A standards, which allows Orchard clients to be prepared in the event that the standards are adopted by accrediting bodies in the future. "The features take very little upfront investment or time to implement—possibly some new label printers—and it allows the laboratory to be compliant should the standards ever be mandated," says Ginger.
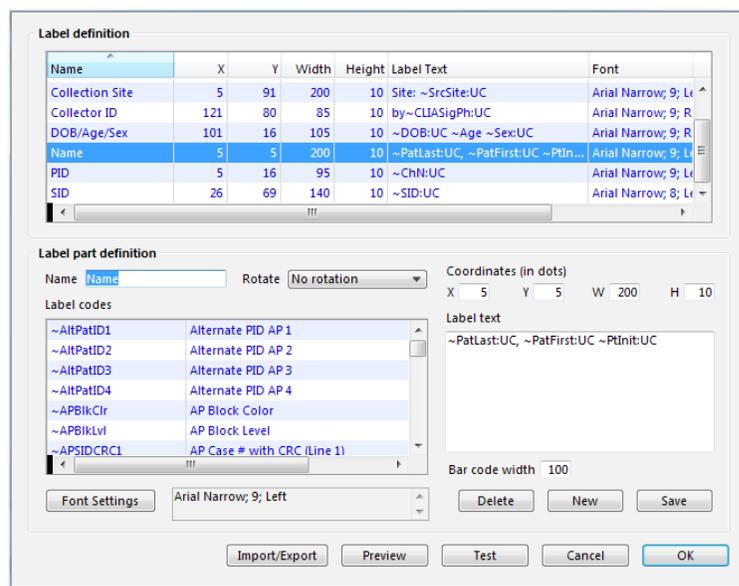
Laboratories Will Benefit from Adopting AUTO12-A Standards

Since AUTO12-A standards are not currently mandated, it begs the question: why do laboratories care? Ginger continues, "It's all about quality. Standardizing bar code label formats ensures that all of the required information is available and everyone is trained on how to interpret the information. Those consistencies will cut down on human error." As reported in the *Dark Report* on May 6th, 2013, this investment is a small, up-front investment that provides a return in cost savings from a reduction in errors; a factor that is particularly important when lab budgets are shrinking. If you have questions about how to implement the AUTO12-A standard label format in your system, call Orchard Technical Support at **(800) 856-1948**. 🍎

ICD-10 Delayed: Orchard Recommends Labs Stay the Course

In late February, at the Healthcare Information and Management Systems Society (HIMSS) conference, Marilyn Tavenner, R.N., administrator for the Centers for Medicare & Medicaid Services (CMS) definitively announced that there would be no more delays to ICD-10. "We have already delayed the adoption standard, a standard that the rest of the world adopted many years ago, and we have delayed it several times, most recently last year. There will be no change in the deadline for ICD-10," said Marilyn.

Another Delay for ICD-10

Yet, almost exactly one month later, with less than 200 days until the implementation date, the third delay of the ICD-10 conversion has been signed, embedded in the Sustainable Growth Rate (SGR) payment patch. The U.S. Senate passed the legislation on March 31st and President Obama signed it into law on April 1st. The law, H.R. 4302, known as the Protecting Access to Medicare Act of 2014, states that the Secretary of the U.S. Department of Health & Human Services "may not, prior to October 1, 2015, adopt ICD-10 code sets as the standard for code sets."

Interestingly, as of yet, CMS has not explained how they will translate the law into regulatory policy, leaving many unanswered questions. The soonest possible conversion date will be October 1st, 2015, because the law states that ICD-10 implementation cannot be mandated prior to that date, leaving the date "un-finalized."

Late Delay Costs Healthcare Dollars

What makes this delay more troublesome than past postponements is that it comes so late in the process after many organizations have already put a great deal of effort into getting ready for the previous conversion date. In preparation for the switch, many larger organizations have already spent significant amounts of time and money to code their procedures under both systems, auditing the ICD-10 side to check for accuracy. These facilities that are already "dual-coding" will need to decide whether to continue this process until the new date.

The Silver Lining

On the bright side, organizations that have held back in their preparations for various reasons have an opportunity to use their time wisely rather than placing it on the backburner for another year. Other more prepared and on-schedule healthcare facilities will have to maintain some level of focus and organizational engagement with the ICD-10 conversion process so they can be prepared to ramp the process back up when the time comes.

ICD-10 Remains an Important Advancement

As Tavenner points out, the U.S. remains one of the only developed countries that has not made the transition to ICD-10—a more modern, robust, and precise coding system essential to fully realizing the benefits of investments made in EHRs and to maximizing health information exchange. The increased specificity and precision of ICD-10 will provide more detailed information for identifying diagnoses, trends, and public health needs. The conversion to ICD-10 can also enhance the benchmarking of data and improve patient care management.

> **It remains prudent to plan ahead and include ICD-10 refresher courses as we get closer to the new deadline.**

Advance Preparation Recommended

It remains prudent to plan ahead and include ICD-10 refresher courses as we get closer to the new deadline. In the meantime, preparedness includes any upgrades that may still need to take place, continued training and practice, as well as Orchard's ICD-10 Conversion Package that encompasses detailed ICD-10 validation and testing. Healthcare organizations will not want to lose their momentum toward the ICD-10 goal; therefore, we recommend that laboratories continue to prepare for the conversion so that they are in a position to move forward at the appropriate time.

Keeping You Informed

Currently on the CMS website, the delay has not been addressed. However, as the details unfold, Orchard Software will continue to monitor updates and keep you informed. We understand the complexity involved in the ICD-10 conversion and the importance of developing a timeline and plan of action and our goal is continued support throughout the transition. 🍎

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Harvest the Power

Visit Orchard at AACC booth #4422 in Chicago! See Orchard Sequoia, our new enterprise-class LIS!

2014 Orchard Software Event Calendar

Date	Trade Show/Event	Location
5/13 - 5/16/14	Pathology Informatics 2014	Pittsburgh, Pennsylvania
6/1 - 6/4/14	Association of Public Health Laboratories (APHL) Annual Conference	Little Rock, Arkansas
6/17 - 6/19/14	Orchard Software Symposium	Indianapolis, Indiana
7/27 - 7/31/14	Clinical Lab Expo/AACC	Chicago, Illinois
9/7 - 9/10/14	CAP '14—THE Pathologists' Meeting	Chicago, Illinois
10/8 - 10/11/14	ASCP Annual Meeting	Tampa, Florida
10/15 - 10/17/14	G2 Lab Institute	Washington, D.C.
10/15 - 10/18/14	COLA Symposium	Orlando, Florida
10/21 - 10/22/14	8th Annual Lab Quality Confab and Process Improvement Institute	New Orleans, Louisiana
11/16 - 11/20/14	American College of Veterinary Pathologists	Montreal, Quebec

Come See the Newest & Biggest at AACC 2014!

Orchard will showcase its newest and biggest innovation in booth #4422 at the 2014 AACC Annual Meeting & Clinical Lab Expo in Chicago, Illinois, July 29th - 31st.

Orchard's newest and most scalable lab system solution, Orchard® Sequoia™, is an enterprise-class LIS that holds the key to transforming laboratory data into valuable business intelligence. This scalable, three-tier LIS is designed to accommodate large volumes of laboratory testing across multiple laboratories performing clinical, microbiology, molecular, and pathology testing.

Orchard Sequoia
enterprise-class   laboratory information system

Technical Support: (800) 571-5835