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Electronic Exchange of Laboratory Results for Public Health Reporting

How to Conquer the Top 10 Challenges/Tricks of the trade and straightforward advice

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Now that the Stage 2 Meaningful Use (MU) rules have been finalized, work has begun in earnest to craft the Stage 3 MU requirements. Hospitals, for several reasons, simply cannot afford to delay adoption of electronic laboratory reporting (ELR). First, electronic submission of reportable (as required by state or local law) lab results to public health is required to establish eligibility for MU incentives. Second, more timely and accurate reporting will help improve population health outcomes. Third, the ability to integrate structured data into hospital systems will reduce costs and support better coordinated, higher quality care — critical for accountable care.

However, while many hospitals agree in theory that the sooner they implement ELR the better, they often find it somewhat daunting to put into practice — from multiple perspectives. Yes, the road to ELR includes its share of challenges — from the need to master Logical Observation Identifiers Names and Codes (LOINC®), to ensuring system functionality, to juggling competing priorities. But as early adopters have found, there's also plenty of support available to help hospitals overcome these hurdles.

For example, eligible hospitals that choose to participate in the Lab Interoperability Cooperative (LIC) — a consortium of the American Hospital Association (AHA), the College of American Pathologists (CAP) and Surescripts — can take advantage of a host of free educational and technical resources including LOINC workshops, connectivity and transport implementation services, and web access to best practices guides, FAQs, discussion boards and training materials.

Let's take a look at the top 10 challenges facing hospitals seeking to jumpstart electronic reporting of laboratory results — and strategies that can be used to conquer these potential roadblocks, helping to keep momentum going strong throughout the implementation process.

(continued)

1 Master Complexity

Facilitating real-time electronic data exchange of reportable laboratory results with public health agencies is a multifaceted undertaking without question. “There are many cogs in the wheel that have to be coordinated to work together seamlessly for successful transmission of notifiable test results from the hospital laboratory to their respective public health agency(ies),” observes Andrea Pitkus, laboratory informatics consultant, College of American Pathologists and LIC LOINC subject matter expert. To name just a few, results must be LOINC coded, the electronic health records (EHR) system must be certified by the Office of the National Coordinator’s Authorized Testing and Certification Body (ONC-ATCB) program, the data needs to be formatted in the HL7 v2.5.1 format with the ability to extract it from the EHR or certified laboratory information system (LIS), and the receiving public health agency must have the ability to accept and manage the results electronically.

The key to successfully implementing ELR and establishing both clinical and technical interoperability is breaking down the complex process into a series of manageable building blocks. “Starting down the path in an incremental way is the right approach,” says Jeff Benning, senior vice president at Surescripts and LIC program director, who has worked with hundreds of hospitals over the past year at LIC-sponsored education workshops addressing Meaningful Use, LOINC, connectivity and transport. “While the initial task might seem overwhelming, if you approach it methodically and use the resources that are available, the endpoint isn’t as far away as some might initially think.”

2 Manage Expectations

Benning also cautions that hospitals should not expect to go from “paper to perfect” in one giant leap. “If you’re going to wait until everything is perfect, you’re never going to implement anything,” he says, emphasizing the most important thing is to simply get started.

He points to LOINC coding as an example, recommending that hospitals begin with the 20 percent of their results that represent 80 percent of their volume. “Don’t do all 2,000 of them at one time,” he says. “That’s climbing a mountain with a pair of flip flops on.”

Fred Richards, CIO/COO of the Ohio Health Information Partnership concurs, observing that an average rural hospital uses only about 800 of the more than 68,000 codes in the LOINC database. “Many hospitals use even less. So,

hospitals will need to examine the highest utilized codes and implement them,” he says.

Once hospitals start generating transaction volume, hospitals and public health agencies can gain insights on how the process is working, as well as how it should be modified moving forward. “Progress is measured in months and quarters, not days and weeks,” Benning says. “And we are making very good progress.”

3 Educate Effectively

Learning how to LOINC code your data dictionary is the critical first step toward ELR. LOINC creates a common vocabulary shared and understood by all users, and the specificity of the coding delivers more precise, accurate and complete information. Recognizing that the lack of standardized LOINC coding in hospital EHR and LIS systems posed a major barrier to ELR, the Colorado Regional Health Information Organization (CORHIO) partnered with LIC to hold two free LOINC training sessions specifically geared toward hospital lab and IT staff. “The workshops were extremely valuable to Colorado hospital laboratories as they pursue ELR and work to meet Meaningful Use requirements,” says Caitlin Csakai, PMP, manager, public sector initiatives, CORHIO.

With knowledgeable instruction, laboratory professionals generally can hone their coding skills relatively quickly. Nearly 500 hospitals have already taken advantage of free one-day LOINC mapping guidance education workshops offered by LIC, and more than 130 have participated in virtual ones. While most LIC participants attending the LOINC sessions had little or no LOINC experience, nearly all surveyed said they felt confident they could map their reportable conditions to LOINC based on their jurisdictional public health requirements following the LOINC training, provided by the LIC initiative.

LIC also provides a wealth of valuable tools, best practices guidelines and other online support. This includes more than 40 on-demand video segments, a peer forum, information on jurisdictional requirements, connectivity and transport resources, and the ability to track progress toward achieving ELR.

“We want the laboratory personnel to feel empowered,” Pitkus says. “They’re starting with no LOINC experience or training, and we want to have them feel very comfortable when they finish our education so they can share their skills with their co-workers and help their hospitals achieve their goals for ELR and Meaningful Use.”

4 Lead Purposefully

Successfully implementing ELR requires strong, informed laboratory leadership. Recognizing that ELR is only one piece of a hospital's comprehensive Meaningful Use initiative, laboratory leadership must develop a thorough understanding of the enterprise-wide plan and cultivate support all the way up to the C-suite for achieving ELR goals.

Whether their hospital's timetable calls for beginning ELR implementation in Stage 1 or waiting until Stage 2, it pays for laboratories to start laying the groundwork today. "Our advice is to understand the project plan within your hospital and how you fit into it," says Benning. "Then don't delay. Start taking advantage of the high-value resources that are available to you now at no charge through the LIC."

5 Identify Priorities

Hospitals today must deal with a plethora of competing priorities within — and beyond — Meaningful Use. As they evaluate which Meaningful Use criteria to meet in order to become eligible for incentive payments, hospitals naturally gravitate toward the so-called "lower hanging fruit." In Stage 1, hospitals need to meet only one of three public health reporting criteria options: ELR, immunization or syndromic surveillance — and many choose to delay ELR project planning, which they rank as more challenging.

But the stakes change dramatically with the recently released Stage 2 final rule. "All three public health criteria are now required, and it's no longer a test transaction — it's ongoing operations," Benning says. "So the requirement to be eligible for the incentive dollars going forward is a much higher bar. It's going to push most, if not all hospitals, to rate ELR as a priority."

6 Staff Properly

Many hospitals face a shortage of laboratory personnel, as they do with other healthcare professionals. "It may be challenging to redirect a laboratory professional away from providing direct patient care to working on projects like mapping orders and results to LOINC in their LIS data dictionaries," Pitkus notes.

However, enabling laboratory professionals to invest time and effort in learning and mapping LOINC is likely to yield future dividends in terms of higher efficiency and more accurate results reporting. She notes that some hospitals expect IT staff and infectious control nurses to handle the

LOINC mapping but that laboratory professionals generally are best prepared. "It's fairly straightforward if you have a laboratory background," she explains. "Otherwise it may be more challenging and the risk of an incorrect code may increase with the potential of creating a waterfall of unintended consequences downstream."

7 Plan Resourcefully

Scott Anderson, vice president of the Colorado Hospital Association, sees the popularity of the two LIC-sponsored workshops on LOINC held in Colorado over the past year as evidence that hospitals are eager to move forward with ELR. "They see that ELR, electronic health records (EHRs) and Health Information Exchanges (HIEs) are going to be a key part of providing healthcare to Coloradans in the future, and they recognize the need to move in that direction," he said.

There's no question that implementing ELR requires a substantial commitment of financial, human and technological resources. "To get across the finish line and actually get transactions extracted and sent to public health, you need more than just the laboratory professional responsible for LOINC mapping," Benning says. In particular, there are numerous IT requirements the hospital system must meet. These include ONC-ATCB certification, the ability to format data using HL7 v2.5.1 and functionality to extract the data for transport to public health.

Upgrading the system often requires capital expenditures above and beyond current budgets, which may require additional funding. Sufficient advance planning plays a vital role in ensuring adequate human and financial resources are available to keep implementation on schedule, especially given the other demands on IT departments, such as Meaningful Use and ICD-10 conversion — to name a few.

8 Establish Connectivity

As important as it is for hospitals to integrate the ability to deliver structured data electronically, it's equally critical for public health agencies to have the ability to receive it. Eighteen months ago, only a handful of state public health agencies had this capability. Significant interoperability advances have been made since then, with 42 states now able to receive data.

"States are doing a great job managing through very difficult times, with the budget issues facing states," Benning says. "We talk about limited resources at hospitals, but the public health agencies, in many cases, are even more challenged with resource availability."

The Kansas Department of Health and Environment's Bureau of Epidemiology and Public Health Informatics (KDHE-BEPHI) recently went live with its ELR system after an extensive testing process. Virginia Barnes, director of surveillance systems for KDHE-BEPHI, sees a growing enthusiasm for ELR among hospitals across her state despite their often-barebones IT capability. "This is where LIC has offered assistance, helping with ELR LOINC mapping education and finding connections," she says. "The focus on Meaningful Use has motivated different resources to come together to help public health agencies, hospitals and laboratories compare and share solutions, and to become more interoperable."

Hospitals can explore a variety of solutions for transmitting data to public health agencies, points out Chris Van Horrick, clinical interoperability lead at the LIC and account manager with Surescripts. For example, hospitals participating in the LIC initiative can use the Surescripts supported health information services provider (HISP) portal for ELR transport. Surescripts also verifies the HL7 2.5.1 transaction using the Message Quality Framework (MQF), a flexible tool designed to help public health partners prepare and communicate quality electronic messages that meet defined standards.

The nearly half a billion dollars allocated to establishing HIEs under the HITECH Act has helped propel progress with their development, but in some areas connectivity is not yet fully operational. Van Horrick encourages hospitals to collaborate closely and communicate clearly with their HIE in order to align expectations. "In discussions with their HIE, hospitals need to confirm exactly when they will be slated for implementation," she says.

9 Generate ROI

The benefits of ELR include measurable ROI. Bottom line, real-time electronic delivery of more accurate laboratory results can help improve response to public health threats. It also supports more informed, coordinated and cost-effective care and treatment decisions, contributing to improved safety and higher quality care for individual patients. "The vision of the future and how healthcare can be improved from both an outcomes as well as a financial perspective is through interoperability — disparate systems talking to each other in the same language, using established transaction standards," Benning says. "We will see better outcomes as these systems are upgraded, ELR implementation projects are completed and data moves seamlessly from point A to point B."

10 Build Urgency

Last but far from least, lab professionals seeking to join the ranks of early ELR adopters sometimes must convince their hospitals of the value of acting now, rather than postponing implementation efforts. Forward-looking facilities recognize it takes time and resources to build the foundation for success, and that the 2014 deadline for meeting Stage 2 MU criteria is rapidly approaching.

"When Stage 2 MU was delayed 12 months, it affected activity at the hospital level. But now that the criteria are out and final, it's going to drive things even further, faster," Benning says. He advises laboratory professionals, "Make as much progress as you can, as soon as you can, so that you're ready when your hospital is ready to attest to the Meaningful Use criteria."

The Lab Interoperability Cooperative (LIC) is a Centers for Disease Control & Prevention (CDC) grant-funded initiative to connect hospital laboratories with their related public health agencies and enable reportable laboratory results to be transmitted electronically.