Newsbytes

Pathologists use two-pronged strategy to convey IOC results

September 2019—It's a simple and nearly airtight communication strategy: Tell someone something verbally and then share the same message with them in writing to make sure they understood you. Following this logic, a group of surgical pathologists at the University of Minnesota Medical Center made an assumption that if their intraoperative consultation results were made available to surgeons in written form during surgery as documentation of verbal communication—either in person or via telephone—the frequency of communication errors would be reduced.

Morphing their logic into labor, the pathologists began working with University of Minnesota-Fairview Health Services information technology staff in 2016 to develop a solution that enabled them to send IOC results from their institution's Sunquest CoPath lab information system to its Epic EHR system, allowing surgeons to view preliminary diagnoses in real time. The solution replaced the medical center's practice of scanning handwritten intraoperative consultation diagnoses into the EHR—a process that took a minimum of three days—thereby also providing surgeons with the opportunity to review a well-documented IOC at the time of operative notes dictation.

Two years after implementation, an audit of the new system showed a significant reduction in the number of discrepancies between the pathologist's intraoperative consultation results and the IOC results as documented by the surgeon in the operative notes.

Dr. Khalifa

"Every place in North America [with a standalone LIS] struggles with this type of miscommunication," says Mahmoud A. Khalifa, MD, PhD, professor and director of anatomic pathology, Department of Laboratory Medicine and Pathology, at the University of Minnesota. "There is nothing that would inspire us to look into it until something goes wrong. Then you start to ask the question, 'Are the surgeons hearing us correctly?' Then when you start digging, you realize that we thought there was high fidelity between what we say and what they hear and document in their operative notes, but maybe that's not the case."

This issue affects only those laboratories with a standalone LIS, says Dr. Khalifa, who briefly discussed his institution's IOC procedure in a 2019 Healthcare Information and Management Systems Society annual meeting presentation on postanalytic risk reduction in pathology results reporting. Labs using Epic's Beaker integrated laboratory module can activate the feature that allows IOC results to immediately appear in the EHR, he notes. But "real-time crossing to the EHR [from a standalone LIS] is a truly revolutionary concept that, I suspect, most people never even dared to dream of."

That said, Dr. Khalifa acknowledges that he does not know if all lab systems can create a similar IOC reporting solution. "But at least the components of the recipe are there," he says, "and the pathologists can ask the IT people, 'Can we do this? These guys did it with CoPath/Sunquest, [so] can you do it?'" Any hospital with a standalone LIS can benefit from this tool, he adds, regardless of whether it is an academic or community hospital. "Some of the other major academic centers have implemented their own homegrown solutions to address this type of miscommunication," he notes.

At the University of Minnesota-Fairview Health Services, two pathology IT staff members worked for several months

to create a procedure in CoPath that would allow the intraoperative consultation findings to appear as a preliminary diagnosis in the EHR, Dr. Khalifa says, adding that "we also needed hospital IT people to modify Epic to be able to receive this very strange system." The first step was to create two new text fields: preliminary intraoperative diagnosis and preliminary interoperative comment. Then the developers added six templates containing all pertinent IOC data elements—diagnosis, comment, date ordered, date completed, date signed out, and pathologist's signature.

The biggest challenge for the IT team, Dr. Khalifa explains, was embedding instructions to ensure that the IOC results appeared in the correct location relative to the final pathology report. "Our team found that the only way to have the IOC cross to the EHR was to put it in an addendum," he says. "The rule for the EHR is that the most recent addendum appears at the top of the screen. We realized during testing that because it's an addendum, the IOC was appearing before the final report. For patient safety, you don't want the preliminary report to appear on top of the final report because we don't want a hasty or rushing provider to read the first line and think they got the diagnosis and move on. So we had to make a modification to make sure that this particular IOC addendum does not appear on top."

The procedure added a step to pathologists' workflow, which generated mild resistance at first, notes Dr. Khalifa. "They were used to doing one thing: Pick up the phone, say the diagnosis, hang up, and move on. Now we're asking them to call, then put the diagnosis in writing in the LIS and click 'enter' so it actually crosses to the EHR. They weren't happy about it, but after a few months it becomes second nature, and now they've forgotten they did it any other way. On the other hand, surgeons were very excited about this, and the administration contributed funding to the project from their QA budget, so they were
on board."

After two years, the pathologists analyzed 22 months of data to determine if surgeons were reading the IOC results in the EHR and, if so, when they were reading them. They also determined whether the process reduced the number of discrepancies between what the pathologist reported in the IOC and what the surgeon entered in the operative notes. Of 2,886 IOC orders, 68 percent had a documented review time while in preliminary status (before the final report was issued). Of those, 14 percent were reviewed in the first hour that they appeared in the EHR and 55 percent within the first 48 hours. "Our interpretation is that immediate reading of the IOC was because they really wanted to know what's in them because it's relevant to surgery," says Dr. Khalifa. "The other peak, after 25 hours, probably was their attempt to correlate with the final report when they received it."

The team also reviewed 150 cases from each of three years: the year preceding implementation of the new procedure and the first and second year after. For each case, the intraoperative consultations documented by the pathologist were compared with the operative notes dictated by the surgeon or surgical house staff. The team found 12 discrepancies pre-implementation. That number dropped to six in the first year post-implementation and seven in the second year. In the pre-implementation year, half of the discrepancies were attributed to "vague diagnosis" from the pathologist. In each of the next two years, only one such discrepancy appeared among the 150 cases.

"If I say something vague on the phone, chances are you will not hear it or understand it well," says Dr. Khalifa. "If I say something vague but then write it so you can see it on the screen, that vagueness should be clarified. And that's what we found—that type of discrepancy dropped from six to one. These five patients benefited from our system because the surgeon was able to dictate their operative notes exactly as we communicated." *—Jan Bowers*

Schuyler House adds features to SchuyLab review module

Schuyler House has enhanced the review module of its SchuyLab laboratory information system to allow pathology labs to establish which individuals can review and release patient results on a per department basis.

The module also allows department supervisors or designated employees to see, but not approve, the results of tests performed by other areas, depending on how the laboratory has configured the security settings in its

SchuyLab LIS. This view-only functionality is important because “a comprehensive view of all results will enhance the ability of a technologist to scan for unusual patterns,” Schuyler House reported.

The new module updates Schuyler House’s initial results review feature, which was geared toward consolidated laboratories and did not fully address the needs of laboratories that run their various departments autonomously, according to the company.

Schuyler House, 800-706-0266

MilliporeSigma acquires BSSN Software

MilliporeSigma has acquired BSSN Software, a Darmstadt, Germany-based laboratory informatics company that provides middleware for facilitating data flow between lab instruments and systems.

MilliporeSigma will combine BSSN’s technology with its market access and laboratory domain knowledge to develop and commercialize an open and interoperable platform for laboratory data, the company reported.

“BSSN Software and the capabilities that it brings will allow MilliporeSigma’s customers to better use and share their scientific data—the most important part of laboratory experiments,” said Jean-Charles Wirth, head of applied solutions at MilliporeSigma, in a press release.

BSSN’s software can collect scientific data from more than 200 lab instrument models and convert it into a single, unified format. The middleware can connect lab instruments to such products as laboratory information management systems, electronic lab notebooks, and enterprise resource planning systems.

MilliporeSigma, 800-645-5476

New Abbott platform examines data from across hospitals

Abbott has added the AlinIQ integrated platform to its line of AlinIQ professional services and informatics solutions so hospitals can collect and analyze siloed data to make more informed business- and patient care-related decisions.

Using the AlinIQ platform and Abbott’s professional services group, hospitals can gather data from across the continuum of care, allowing care teams to make more informed, rapid decisions related to operational performance, quality assurance, and patient treatment.

Abbott’s Business Performance package, its first offering to use the AlinIQ platform, will focus on identifying operational efficiencies in the laboratory. “Taking a customized approach to each hospital’s unique needs, the Business Performance package will use the expertise of Abbott’s operational analysts and the platform’s ability to collect data from multiple sources to identify insights that could lead to reduced administrative and processing costs in the lab,” according to an Abbott press release.

Abbott, 847-937-6100

LabCorp and Mount Sinai to create digital pathology center

LabCorp and Mount Sinai Health System are working together to establish the Mount Sinai Digital and Artificial Intelligence-Enabled Pathology Center of Excellence.

LabCorp, which has implemented the Philips IntelliSite Pathology Solution in four of its laboratories and plans to install it in others, will lead the effort to integrate digital pathology capabilities for primary diagnosis and consultations across Mount Sinai’s eight hospitals and select ambulatory care centers in the New York metropolitan area.

The IntelliSite solution initially will be used at Mount Sinai to interpret genitourinary malignancies—primarily

prostate tumors—and cancers of the head and neck. “The next planned stage of implementation is for Mount Sinai pathologists to use the digital pathology solution to provide consultations for cases interpreted by LabCorp’s Dianon Pathology specialty laboratory,” the companies said in a joint statement.

The center of excellence will be housed in Mount Sinai’s Department of Pathology, Molecular and Cell-Based Medicine. The department processes more than 80 million diagnostic tests a year.

Data Innovations selects STS for rules verification testing

Data Innovations and STS recently announced a strategic partnership in which STS will provide automated rules verification testing to accelerate laboratory autoverification validation and deployment of Data Innovations’ Instrument Manager connectivity software.

As a result of the partnership, “new or upgrading [Instrument Manager] Autoverification lab customers will drastically reduce time to deployment for rules implementations,” the companies reported in a joint press announcement. “Further, the automated testing increases rules accuracy and creates inspection-ready documentation.”

Data Innovations, 802-658-2850

Dr. Aller teaches informatics in the Department of Pathology, University of Southern California, Los Angeles. He can be reached at raller@usc.edu. *Hal Weiner is president of Weiner Consulting Services LLC, Eugene, Ore. He can be reached at* hal@weinerconsulting.com.