Newsbytes

Virtual tumor board platforms: a game changer for cancer case review

January 2019—If Suneal Jannapurredy, MD, had been able to read the patient's outside radiology report prior to breast tumor board, he would have re-examined the gross specimen to determine whether, as the other providers were now telling him, there was a second area of focus he hadn't included in his presentation.

Dr. Jannapurredy

"We all tend to assume we know what everybody is thinking," says Dr. Jannapurredy, a staff pathologist at Emory Decatur Hospital, formerly DeKalb Medical Cancer Center, Atlanta. But, he notes, if he is not informed of an additional area of concern, he may not learn about it until tumor board.

Scenarios like this one are leading institutions across the country to adopt virtual tumor board software platforms—solutions that enable pre-conference data sharing, virtual conferencing, and other forms of collaboration across the cancer care team.

A number of virtual tumor board platforms are on the market or on the horizon, including OncoLens (by the company of the same name) and Roche Diagnostics' Navify tumor board, both of which were launched in late 2017, as well as Avanade's tumor board solution, in production since October 2017.

OncoLens had its genesis in DeKalb's cancer committee, says Lijo Simpson, MD, a medical oncologist at Emory Decatur who worked with a technology team in Atlanta to build the product. The team's efforts were fruitful. Since implementing the platform, he says, the small community cancer center has doubled the number of cases it can assess in a year. "And OncoLens is now used in a variety of institutions, ranging from small community to large academic cancer centers," he adds.

Dr. Simpson

The platform, which includes browser- and mobile-based versions, provides each member of the cancer care team with a dashboard that updates in real time when a new case is created, allowing providers to review cases immediately or at their convenience, explains Dr. Simpson, now chief medical officer at OncoLens. The product also furnishes practitioners with user-friendly presentation templates and the ability to upload patient reports directly from an EHR system or smartphone.

Uploading images of glass slides directly from his iPhone to the platform, instead of using a microscope camera, halves the time Dr. Jannapurredy spends preparing images for tumor board presentations. "Even my colleagues can't tell the difference," he says. "The images you get from smartphones are just as good, if not better, than the

ones I used to take with my camera setup."

Including ancillary data has also become easier with OncoLens, Dr. Jannapurredy says. For example, he used to find it tedious to summarize a FISH report on a PowerPoint slide. Now he can take a picture of a report with his phone and use the OncoLens iPhone app to upload it directly to the platform.

OncoLens has been a game changer in terms of meeting logistics as well, he says. Before using the product, "we'd be switching between my PowerPoint and radiology's PowerPoint and the conference presenter's PowerPoint just for patient histories. OncoLens organizes everything." Tumor board participants typically open OncoLens on a projector screen and present directly from the platform during tumor board meetings, he adds.
The platform can be integrated with any of the major EHR and lab information systems, as well as homegrown EHR systems, Dr. Simpson says. It ingests only cancer-specific information, so providers are not deluged with irrelevant data.

As the largest university health care system in Missouri, University of Missouri Health Care, or MU, is equipped to review all cancer cases in tumor board. Still, when Roche Diagnostics approached MU pathologist Richard Hammer, MD, about piloting Navify, "of course the answer was yes," he says. The tumor board preparation process at MU entails pathology residents spending up to six hours a week preparing for one conference—no small potatoes considering MU runs approximately 10 tumor boards weekly.

Dr. Hammer

Dr. Hammer, who is also co-principal investigator of a clinical trial looking at the effectiveness of the software, hopes Navify will decrease preparation times in the four tumor boards where it's been implemented. Standardization is key, he says, explaining that each meeting at MU is run slightly differently and "the [Navify] software provides an opportunity for standardization."

Navify "automates the [data] ingestion process" to create a streamlined method for putting a tumor board story together, explains Ketan Paranjape, vice president of diagnostic information solutions at Roche. On the front end, users might find the experience similar to Pinterest. Providers "pin" patient information—everything from patient history to molecular results to radiology and surgical pathology reports—all of which is automatically formatted into a standardized PowerPoint presentation after providers choose a function called generate tumor board presentation.

"The beauty of Navify is it pulls the essential data we need to discuss and make clinical decisions," adds Dr. Hammer, noting that MU recently completed the initial phase of the integration process with Navify, which included patient demographics and pathology reports. The hospital plans to eventually integrate the product with radiology.

Roche has successfully integrated Navify with Cerner at MU and with a homegrown EHR system at Hospital Del Mar, in Barcelona, Spain, both Navify beta sites.

When Roche first conceived of Navify, Paranjape says, "our focus was on oncologists." During the research period, however, the company quickly realized "nine out of 10 times the person leading tumor board is a pathologist."

Taking a slightly different approach to improving tumor boards is Avanade, which is not a software vendor, explains Thomas Hoglund, the company's digital workplace executive. Avanade worked with a large hospital system, currently under a nondisclosure agreement, to implement a virtual tumor board solution employing the Microsoft Office 365 suite, which allows end users to access Office programs from any device with an Internet

connection. Over a yearlong period, providers at this hospital system were able to increase the number of tumor board cases seen fourfold, Hoglund says.

Hoglund

Unlike with Navify and OncoLens, a key requirement for providers at Avanade's pilot site was the ability to hold conferences virtually and from any device. The Avanade solution accomplishes this using Microsoft Teams, says Hoglund, which acts as the main repository for storing conference materials. Features of Teams include video conferencing and screen sharing, allowing for virtual meetings with the entire care team or ad hoc discussions between two or more providers. The solution also uses OneNote, which lets caregivers annotate information or record audio comments, as well as the Power BI business analytics tool for tracking case progress from initial diagnosis to treatment decision.

The Avanade solution doesn't provide EHR integration at the pilot hospital, but adding images, pathology reports, or other relevant patient data to Teams is "as easy as dragging and dropping," Hoglund says. Providers can add files from their hard drive or upload images directly from a smartphone. And, he adds, because Office 365 is used widely by health care systems, the Avanade solution doesn't typically require additional technology licenses or information technology department manpower.

"Pathologists and other caregivers are excited about using this solution," concludes Hoglund, "not only because it lets them participate whenever, wherever, and from whatever device they prefer but also because it is resulting in more comprehensive care for four times as many patients."

□□—*Charna Albert*

Beckman Coulter introduces inventory-management software

Beckman Coulter has released its cloud-based DxOne Inventory Manager software, the latest offering in its DxOne portfolio of clinical information management tools.

"DxOne Inventory Manager eliminates the administrative aspects of supply management by automating the recording, tracking, ordering, and monitoring of consumables," Erik Johnson, vice president and general manager of workflow and informatics at Beckman Coulter, said in a press release.

Users of the software can manage the inventory process in three steps: click a button to accept orders, deplete an item to update supply status automatically, and confirm a system-generated reorder. Technologists can track products by name, lot number, and location, and be alerted to low supplies. The system also features alerts to ensure consumables are used on a first-in, first-out basis.

Beckman Coulter, 800-526-3821

New platform tracks infectious disease outbreaks worldwide

The Chan Zuckerberg Biohub and Chan Zuckerberg Initiative have announced the soft launch of IDseq, an open-source, cloud-based analysis platform for tracking infectious disease outbreaks anywhere in the world to advance health care globally.

The tool, which is an outgrowth of a research project conducted in the UCSF lab of Joseph DeRisi, PhD, a professor at the University of California, San Francisco, rapidly combs through metagenomic data to identify samples

containing bacteria, viruses, fungi, or parasites and creates an actionable report based on the findings.

The IDSeq open-source software has been released, but the IDSeq service is still in development, according to a press statement from the nonprofit Chan Zuckerberg Biohub, which, along with the CZI, was formed by Facebook founder Mark Zuckerberg and his wife, pediatrician Priscilla Chan, MD. The Biohub and CZI plan to make the service available to partner organizations within the next year and more broadly in the future.

To support these efforts, the Bill and Melinda Gates Foundation announced that it will provide funding for IDseq to global health care workers via its Grand Challenges Explorations Initiative. Awardees will receive molecular biology and bioinformatics training, access to the IDSeq platform, and the equipment and supplies necessary for them to immediately begin work in their countries.

“What we learn from putting the technology into the hands of front-line professionals will inform next-generation preparedness, helping direct investments in upstream discovery platforms toward novel vaccines and other previously unanticipated interventions,” Chris Karp, director of discovery and translational sciences at the Bill and Melinda Gates Foundation, said in the press statement.

In a recent pilot project, IDseq identified the mosquito-borne viral chikungunya disease in the spinal fluid of patients at a pediatric hospital in Bangladesh. “Based on this information, follow-up testing identified additional cases of neuroinvasive chikungunya from the same time period that were previously labeled mystery cases,” according to the Biohub press statement.

“It was eye-opening,” said Senjuti Saha, PhD, a postdoctoral research fellow with the Child Health Research Foundation, in Dhaka, Bangladesh. “Chikungunya was previously thought to be neuroinvasive only in very rare instances. But the data from IDseq suggested otherwise—it helped shed light on what were otherwise mysterious brain infections. This will help inform policymakers and initiate appropriate evidence-based case management.”

The CZ Biohub is an independent nonprofit medical research organization based on a collaboration between the University of California, Berkeley, Stanford University, and the University of California, San Francisco. The CZI is a philanthropic organization that brings together engineering, grant making, investing, and policy and advocacy work.

Sophia Genetics partners with Paragon Genomics

Sophia Genetics reported that it will incorporate Paragon Genomics’ CleanPlex next-generation sequencing target enrichment technologies into the Sophia AI artificial intelligence platform.

CleanPlex is a proprietary highly multiplexed NGS target enrichment technology that allows a large number of targets to be interrogated rapidly via a streamlined workflow. It is provided as ready-to-use and custom NGS panels.

Integrating CleanPlex with the Sophia AI platform provides “a comprehensive and standardized solution for accurate genomic detection and characterization of all types of tumor alterations in a single test,” according to Sophia Genetics.

Paragon Genomics, 510-363-9918

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