LABORATORY *e* ECONOMICS

Competitive Market Analysis For Laboratory Management Decision Makers

HNL Lab Medicine to Go 100% Digital

HNL Lab Medicine (Allentown, PA) plans to be scanning 100% of its surgical pathology slides into digital images within the next two years, according to Medical Director Jordan Olson, MD. "We've learned from the early-adopter pioneers…Digital pathology has matured to the point that it's ready to be used in day-to-day operations," says Olson.

Jordan Olson, MD

HNL Lab Medicine, formerly named Health Network Laboratories, is an independent lab that is majority-owned by Lehigh Valley Health Network (LVHN). HNL has more than 1,100 employees, including 35 board-certified pathologists. It operates a full-service laboratory in Allentown and has more than 50 PSCs in Pennsylvania and New Jersey.

Up until now, HNL has used digital pathology in very limited instances for intradepartmental consultations and taking still photomicrographs for tumor boards.

Here is a summary of our Q&A with Jordan Olson, MD, Chair of the Department of Pathology at LVHN and Medical Director at HNL.

What were some factors that convinced you that now is the right time for HNL to go digital?
Slide scanners and image management systems have evolved to a point where we can see the return on investment for making a large-scale commitment to digital pathology. In addition, with a pathologist shortage on the horizon and the rise of AI image analysis, it felt like the right time to make the push.

Roughly how many slides does HNL process each year?
We're doing about 600,000 surgical pathology slides per year, excluding cytology and hematology.

Which slide scanner have you chosen?
We'll be using Leica's Aperio GT 450—we have a lot of experience with this model. We expect to install 7 or more scanners. We'll also be using Proscia's Concentriq Dx as our digital pathology software platform to help upload, organize into patient cases, annotate, and store whole slide images.

Are HNL pathologists on board with going digital?
The overwhelming majority of our 35 pathologists are enthusiastic about going digital. One or two pathologists have expressed reservations, but generally the group sees digital as a

more conducive and frictionless way of handling pathology. There is also the potential for pathologists to do at-home sign-outs. Radiologists have been doing this for years.

Can you describe your decision-making process?

It's critical to learn from the experience of early adopters. So myself and Sajjad Malik, MD, HNL's Division Director for Digital Pathology, made onsite visits to several labs on the East Coast. We also found members of CAP's Digital and Computational Pathology Committee to be a tremendous resource.

Our two biggest takeaways were:

1) Current regulations say we have to keep the glass slides. But we're still on the fence in determining how long we should keep our slide images in storage. Although IT storage is cheap and getting cheaper, each slide image requires between 1 and 1.5 gigabytes of compressed file storage. That adds up over time with volume.

2) We're also carefully planning how our new scanners will be integrated into the workflow in our histology lab. Digital pathology adds steps to the process, so we have been advised to keep the workflow very tight and figure it out beforehand.

Which types of cases will be digitized first?

We are initially targeting cases that involve only a small number of slides, including GI and liver biopsies as well as dermatology cases. Prostate biopsies will also be in the first wave. Our goal is to scan 20% of our daily case volume by the end of this year and 100% within two years.

How will digital pathology help HNL lower costs and increase efficiency?

The logistics of moving glass slides each day for pathologists to read at six or seven different hospitals located throughout eastern Pennsylvania are immense. The fact that we will soon be able to get images to our pathologists as soon as they enter the lab each morning will be a huge plus for efficiency.

Describe your plans to start using AI on digitized slide images.

AI is advancing so fast. It seems like there is a new algorithm being announced every day. We're creating a committee of pathologists to begin beta testing at our lab in 2024. We plan on evaluating which AI programs will give us the best utility, but we won't rush putting it into practice if it doesn't seem figured out yet.

What is your estimated cost per digitized slide?

It's not cheap. But the flexibility it gives us combined with the shortage of pathologists….I don't see a way to not implement digital.