Pathology informatics selected abstracts

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Dissecting the business case for implementing digital pathology

July 2021—Despite growing awareness of whole slide imaging, few pathology laboratories have implemented and validated such a digital pathology system for primary diagnosis. Among the barriers to adopting whole slide imaging (WSI) for routine clinical work is the difficulty of justifying the expense, time and effort, and change management involved in deploying this disruptive technology. To address this concern, the Digital Pathology Association published a white paper in which several key opinion leaders in the field dissected the business case for implementing digital pathology. The paper lists several direct and indirect costs associated with adopting WSI, including expenditures for imaging hardware, software, information technology infrastructure, and labor. (The authors recommend that the ratio of scan tech to scanners be between 0.3 and one full-time equivalent per scanner.) When analyzing the value proposition and market drivers, including improved turnaround time and a looming pathologist shortage, the authors point out that digital pathology may help laboratories improve productivity, remain competitive, and better adjust to market trends by increasing capability, lowering costs, and improving patient care. Opportunities to maximize return on investment should be viewed in terms of potential cost-reduction benefits and revenue gains. Cost reduction through digital pathology can be achieved by lessening time- and labor-intensive slide handling and archiving, centralizing processing, and balancing workload among pathologists. Revenue gains can be achieved through such measures as using telepathology for in-sourced consults and using image-analysis tools. The article also provides a road map for developing a strategy and business proposal for digital pathology that is composed of six phases. Phase one involves winning senior leadership support for the project. Phase two focuses on establishing a steering committee or task force made up of a pathologist and a representative from such areas as laboratory operations, information technology, compliance/legal, managed care/market access, finance, and project management. Phase three requires defining the purpose, objectives, and short- and long-term goals of the project and assigning timelines to each task and goal. Phase four entails developing short-term goals that can be undertaken immediately, such as attending conferences or holding meetings with vendors or educating stakeholders about the value of digital pathology. Phase five entails developing long-term goals focused on the end game and determining which short-term goals and tasks will achieve the long-term goals. Phase six involves assessing the feasibility of objectives, goals, and tasks after the potential impact of the digital pathology project has been considered. Objectives and goals may need to be revised several times during this phase until a practical plan is developed. The authors also cite the need to consider change management within the organization, federal regulations, and reimbursement when considering a digital pathology project. They concluded that pathology laboratories that start discussions about implementing digital pathology sooner than later will be in a better position to make decisions that are fiscally responsible, proactive, and innovative than those that wait until they are forced into adopting a digital workflow.

Lujan G, Quigley JC, Hartman D, et al. Dissecting the business case for adoption and implementation of digital pathology: a white paper from the Digital Pathology Association. *J Pathol Inform*. 2021;12:17. doi:10.4103/jpi.jpi_67_20

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How COVID-19 exposed gaps in health care interoperability

July 2021—Laboratory testing has been a key component in identifying and controlling COVID-19 outbreaks, with a variety of central laboratory and point-of-care testing in vitro diagnostic SARS-CoV-2 assays receiving FDA Emergency Use Authorization (FDA EUA). While testing in response to the pandemic was able to rapidly expand through the FDA EUA program, the ability of health care delivery organizations (HDOs) to exchange COVID-19

testing results did not, exposing major gaps in health care interoperability. The authors described how, early in the pandemic, much of the COVID-19 send-out testing to state health departments was hampered by manual, paper-based workflows reliant on faxing, which caused delays in getting results back to ordering providers and patients. Later, as testing moved into hospital and reference laboratories, direct (HL7) interfaces between HDOs were built or leveraged to exchange COVID-19 results in a more streamlined manner. For some HDOs, a more scalable option than building multiple direct interfaces was to participate in regional or vendor-specific health information exchanges, defined as central data repositories or networks that facilitate the transfer of electronic health information between participating entities. However, while health information exchanges showed great promise for sharing COVID-19 results, they have limitations. The most significant limitation is the inability to audit for the completeness of any given patient's totality of laboratory results since institutions must opt-in to participate. At the same time, a portion of HDOs leveraged patient portals or other unique technology collaborations, such as the New York State COVID-19 Technology SWAT Team, to rapidly convey results to providers and patients during the pandemic. The authors concluded that the COVID-19 pandemic has demonstrated the importance of health care interoperability, no matter the mechanism used to achieve interoperability, and how far the medical community has yet to go to fully and accurately exchange patient data between local, regional, state, and federal health care entities.

Greene DN, McClintock DS, Durant TJS. Interoperability: COVID-19 as an impetus for change. *Clin Chem*. 2021;67(4):592–595.

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