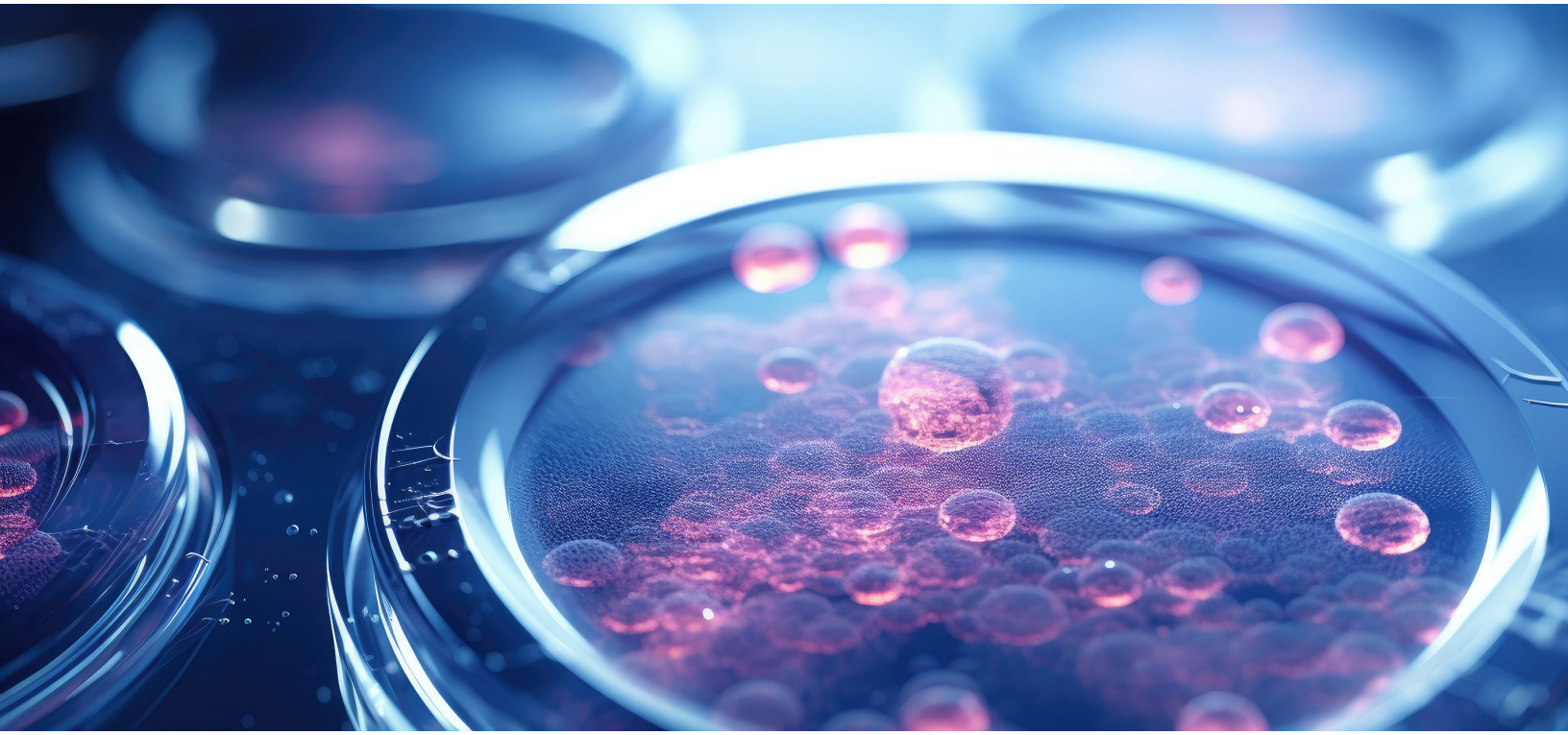
Quest Diagnostics®

Pathology in the **era of precision medicine**

Precision medicine, led by biomarker testing, shifts focus from generic to individualized care. Important to this narrative is the evolving role of pathology, which is transitioning from traditional morphologic diagnosis to a more dynamic, integrative practice, converging on the concept of precision pathology.



Traditionally, pathologists, as unseen architects of diagnosis, interpret the stories told by tissue specimens. Their verdicts, which are often perceived as unequivocal, set the stage for clinicians to devise treatment strategies. However, the advent of precision medicine, empowered by burgeoning biological technologies and artificial intelligence (AI), is reshaping this narrative.

Through its AmeriPath® subsidiary of over 400 seasoned pathologists, Quest Diagnostics envisions a pioneering role in this narrative. AmeriPath is not merely a spectator but a proactive contributor to the evolving paradigm of precision pathology, synergizing morphologic expertise with molecular insights to drive personalized healthcare.

Here's a glimpse into the evolving roles and advantages of pathologists in precision medicine.

Deep dive into molecular data

Pathologists now look beyond the microscope to the molecular realm. With technologies like molecular profiling and next-generation sequencing (NGS), they decode a disease's molecular script for a nuanced, individualized treatment strategy.

Quest is leading the way in leveraging the changing role of pathologists to expedite molecular testing for diagnosis and treatment through the development of **Quest PrecisionPathway**. This initiative is crafted to streamline the diagnostic testing process in oncology, underscoring the importance of delivering the right test, at the right time, for the right patient.

Rooted in the ethos of precision medicine, **Quest PrecisionPathway** aims to standardize and accelerate the diagnostic and treatment planning journey for cancer patients.

Responding to a significant gap in test utilization highlighted by healthcare stakeholders in a Novartis report, **Quest PrecisionPathway** offers an enhanced pathway through standardized, clinically actionable testing protocols. Each test in the portfolio covers NCCN guidelines and other important markers for therapy selection. Additionally, it presents an expanded panel that includes over 500 genes, sequenced from DNA and RNA, plus microsatellite instability (MSI) and tumor mutational burden (TMB)–all designed to provide actionable insights within a 14-day turnaround time.

Harnessing AI and big data

The amalgam of AI and big data is enabling pathologists to garner a more holistic understanding of diseases, sometimes with more clarity than a physical patient examination could offer. This data-driven approach, augmented with machine learning, not only sheds light on the disease but also the dynamic interplay between the disease, treatment, and patient, fostering a more informed therapeutic decision-making process.

In the arena of digital pathology, AmeriPath, under Quest Diagnostics, has been proactive in harnessing the capabilities of AI to foster advancements in diagnostic accuracy and speed. A prime example of this is the collaboration with PathAI, a global provider of state-of-the-art digital pathology and AI-powered technology. Together, they aim to unlock the potential of AI in enhancing the diagnosis of cancer and other diseases that necessitate pathologic assessment. This multifaceted collaboration is particularly focused on leveraging AI to extract vital diagnostic information from pathology images, thus amplifying the scope and accuracy of cancer diagnostics.

Moreover, the collaborative endeavor extends to utilizing PathAI's proprietary machine learning expertise to analyze pathology diagnostic data and digitized slides from Quest Diagnostics, including those from AmeriPath. This analysis aims to unearth crucial insights that could significantly impact the diagnostic landscape, particularly in the realm of cancer and other pathologically diagnosed diseases.

In addition to its collaboration with PathAI, Quest is also engaging with other AI startups, thus creating a

diversified approach toward integrating AI-driven solutions in digital pathology.

This multifaceted engagement represents a **significant investment by Quest/AmeriPath in technological advancements in pathology.** It reflects a broader industry trend in which digital pathology and AI are converging to likely redefine diagnostic paradigms.

The synergies between digital pathology, AI, and ventures like the PathAI collaboration are likely to hasten progress in precise, timely diagnostics that play a pivotal role in enhancing patient care and improving outcomes.

Translational research and biomarker discovery

Pathologists are at the forefront of translational medical research, driving biomarker discovery and identifying novel therapeutic targets. Their direct access to patient specimens positions them uniquely in advancing precision medicine from the lab bench to the bedside.

Guiding therapeutic strategies

The era of precision medicine heralds a more active, collaborative role for pathologists in therapeutic decision-making. They are no longer just the diagnostic oracles but are becoming integral members of the therapeutic dialogue, contributing to designing tailored treatment regimens.

Precision medicine offers a compelling opportunity at the intersection of diagnostic services, pharmaceutical innovations, and healthcare provision. Quest Diagnostics, with its AmeriPath subsidiary, is uniquely positioned to catalyze a paradigm shift in this domain through the concept of sponsored testing. By leveraging the extensive network and expertise of AmeriPath pathologists, Quest can facilitate collaboration between pharma, pathology, and providers to expedite the delivery of innovative therapies right from the moment of diagnosis.

AmeriPath, under the aegis of Quest, has the opportunity to collaborate with pharmaceutical companies to offer sponsored testing for novel therapies. This arrangement can potentially streamline the otherwise convoluted task of educating a large network of oncologists across various organizations. By doing so, it may expedite the prompt, accurate identification of patients who could benefit from emerging therapies, facilitating a faster transition from diagnosis to treatment. Moreover, it empowers healthcare providers with the requisite knowledge and resources to prescribe these novel therapies optimally.

Such an innovative approach may serve as a catalyst in bridging the often siloed realms of diagnostic testing and treatment provision. It not only enhances the accessibility and awareness of new therapeutic avenues but also fosters a symbiotic relationship between diagnostic and pharmaceutical entities. This synergy could significantly shorten the time lapse between drug development, approval, and eventual administration to patients, thus accelerating the overall pace of advancing healthcare outcomes.

Quest, through its AmeriPath subsidiary, is ideally positioned to lead such a transformative initiative—and is continuously seeking new collaborators across the healthcare ecosystem who share a vision for a more integrated, patient-centric approach to care. At the nexus of diagnostic precision and therapeutic innovation, this initiative represents a proactive step towards a future where diagnostic testing and treatment planning are harmoniously aligned. With this model, precision pathology transcends traditional diagnostic boundaries, becoming a vital link that expedites the delivery of novel therapies to the patients who stand to benefit the most.

"Our commitment is not just to faster diagnostics but to smarter, patient-specific pathways that redefine the role of pathologists in modern healthcare," said Donald Rizzo, Senior Director of Product. "We're crafting the future of patient care with each targeted test and treatment plan."

Collaboration with radiologists

Further, this initiative may achieve a closer collaboration between pathologists and radiologists, with a seamless flow of diagnostic insights accelerating the biopsy and treatment initiation processes. This multidisciplinary approach is at the heart of delivering more precise, timely, and effective patient care.

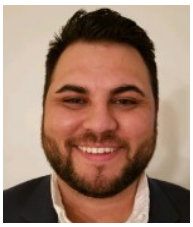
Pathologists as orchestrators in patient care

The shift toward precision medicine positions pathologists akin to conductors, harmonizing the myriad streams of molecular and clinical data into a coherent narrative for individualized patient care, putting them at the nexus of collaborative decision-making.

Quest Diagnostics, through AmeriPath, is actively contributing to this transformative narrative, embodying a vision where precision pathology is not solely a diagnostic cornerstone but a therapeutic compass, guiding the healthcare community toward more personalized, effective patient care.

Quest Diagnostics: Thought leaders

Yuri Fesko, MD
Chief Medical Officer



Donald Rizzo
Senior Director, Oncology

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