On the Horizon: Precision Medicine’s Wider Reach

Valuable partnerships can help organizations achieve benefits and mitigate challenges.

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—Milan Radovich, PhD
Associate Professor of Surgery, Medical/Molecular Genetics/Vice President of Oncology Genomics
Indiana University Health
Indianapolis

Precision medicine is one of medicine’s most promising areas. But though the strategy—tailoring medical treatment to an individual patient’s needs rather than using a one-treatment-fits-all approach—has been around for many years, successful implementation has so far only been achieved by a handful of large health systems. This can all change, however, in the coming years if today’s healthcare organizations can overcome obstacles to adopting precision medicine, including by seeking innovative collaborations.

Precision Medicine’s Rise
An emergence of cutting-edge technology has thrust precision medicine more into the spotlight in recent years, according to Bryan Schneider, MD, Vera Bradley Chair of Oncology, professor of medicine and medical/molecular genetics, and co-leader of the Indiana University Precision Health Initiative at Indiana University Health, Indianapolis. “We’ve tried for many years to get the right drugs to the right patients while minimizing side effects,” Schneider says. “But there has been an evolution of technology that has allowed us to now do this at a markedly greater depth.”

Use of cutting-edge technology, such as genomic sequencing, can have innumerable benefits for patients. “When we can match a patient’s tumor genome to the right drug, we’re trying to improve survival,” says Milan Radovich, PhD, associate professor of surgery, medical/molecular genetics, and vice president of oncology genomics, Indiana University Health. “Data show that genomic technology improves outcomes. It also helps us understand some of the etiology of where the disease came from, particularly in those patients who are born with mutations that they inherited that predispose them to developing the disease in the first place. We want to be able to help those patients’ relatives, for example, if cancer runs in the family.”

Enthusiasm for this type of care is high among patients as it becomes more popular. “It’s not uncommon these days for patients to come into clinics to see oncologists and say, ‘I’ve read about it in the news—how do I get access to this technology?’” Radovich says.

Seek Out Partnerships
There are steps organizations of all sizes can begin to take toward developing a precision medicine strategy and making this care approach more widely available. One such step is partnering with cutting-edge technology vendors.

“The technology is advancing at breakneck speed, so working with vendors that supply particular technologies to a wide swath of users and who themselves are keeping that technology up to date is very beneficial,” Schneider says. Because of its relationship with supplier partners, Indiana University Health’s precision medicine program is able to deploy a vast array of technologies in its diagnosis and treatment of patients, including genomic sequencing, liquid biopsies, cloud-based IT and more.

Tailoring care to individual patients—the heart of precision medicine—requires a broad portfolio of testing and monitoring techniques, something Roche Diagnostics Corporation knows well.
We think in terms of all diagnostic and monitoring modalities and how we incorporate that together to take the best care of the patient,” says Alan Wright, MD, CMO. “It’s really about the patient’s journey, from health into sickness and back to health.”

With precision medicine, each phase of a patient’s treatment journey is customized to that patient, from diagnosis to treatment selection and risk stratification, all the way through to relapse detection. “There’s a lot of data points there, and a lot of information to coordinate,” Wright says.

Having access to the latest, most reliable testing technologies and being able to pull it all together based on a patient’s unique needs is vital to advancing patient care, research and clinical implementation. “The partnership with vendors always starts with having incredibly impeccable testing capabilities that we can be comfortable with because when we think about the results of these tests, they’re going to impact ultimately what drug a patient gets, and in many ways that’s a life or death decision,” says Schneider. “In addition, partnerships are really what allow us to push technology and the clinical implementation of that technology to the next level.”

Form Community Collaborations
Another path to expanding precision medicine is for smaller, community-based healthcare provider organizations to partner with existing precision medicine programs. Indiana University Health’s program includes four clinics across the state, with three in rural areas. The university’s staff members work with clinic staff on interpretation, database matching, bioinformatics and more.

“This model allows us to distribute our university expertise and to provide an unprecedented level of access, as most patients are seen within a week of referral at the expansion sites,” Radovich says. “The future state of precision medicine, in my opinion, is not the community centers trying to do what academia does. It’s bringing the expertise and distributing the technology to them so there is a blend.”

One of the numerous benefits of these collaborations is expanding patient access to new drugs and clinical trials, which community healthcare sites often cannot access. “To me, one of the most disheartening things is to give hope to a patient by applying this cutting-edge technology, getting a result and then saying, ‘To get this, you have to drive five hours away,’” says Radovich.

Are there barriers to making precision medicine more widely available? Yes. But are those hurdles insurmountable? For Schneider and Radovich, the answer is a hopeful “No.”

“I think there are some definite hurdles, but I think they can be overcome,” Schneider says.

Adds Radovich, “My hope is that 10 years from now, we will look at precision medicine just as we did when imaging and other technologies first became mainstage—that it becomes a ubiquitous thing that we do.”

For more information, please contact Cari Nicholson, marketing manager, Roche Diagnostics Corporation, Indianapolis, at cari.nicholson@roche.com.

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