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Biotech Engages Patients Earlier than Ever

Advances in Cell and Gene Therapies Provide New Opportunities

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Biopharma companies are working with patient advocacy foundations sooner—and closer—than ever before. As a result, companies are gaining insights very early in the therapeutic development stage that can streamline and speed scientific advances and regulatory approval.

“The challenge for the industry is that there has been a disconnect between preclinical work and patient,” Debra Miller, cofounder and CEO, CureDuchenne, says. Working together early bridges that disconnect.

“Biopharma companies and patient advocacy groups have a mutual desire to connect because of the mutual benefit,” Daniel Leonard, director of patient advocacy at UniQure, a hemophilia-focused company, points out. Advocacy foundations want to understand the research landscape, and companies need to share that information to gain access to potential patients for clinical trials. In rare genetic diseases, the dependency is even stronger.

Connecting with Patients

GSK considers patient involvement in therapeutic development so important that last September it created a new position, “head of patients in partnership,” filled by Andrew Benzie. “It was developed to drive the business process and culture changes needed to establish patient influence in GSK’s decision-making from early R&D through marketed products.”

About a dozen years earlier, GSK developed the “Focus on the Patient” seminar series. This brings patients, caregivers, and patient advocates to GSK sites to talk and help staff close knowledge gaps that affect therapeutic development. Discussions range from the clinical course of the disease to the effects on daily life and personal experiences.

Afterward, Benzie recalls, “Patient voices helped us streamline the clinical trial design of a Phase II study to be less burdensome and more relevant to patients. Results from another seminar caused researchers to rethink their delivery mechanism.

One company where Leonard once worked created an Intranet site for its scientists. “Any of our scientists could log on, connect to patient advocate sites, and ask them to introduce them to patients with a specific disease or to their parents,” he says. Through that site, scientists also could connect with umbrella groups like Global Genes or the National Organization for Rare Diseases (NORD). “These conversations kept scientists from going down some wrong paths.”

Increasing Patient Enrollment

In rare genetic disease clinical trials, one of the biggest delays is caused by the difficulty in finding patients. Sharing information with patient advocacy groups about pending clinical trials as early as possible can help.

Another part of the solution, Leonard says, is to launch awareness campaigns encouraging people to be tested for particular diseases. “They may have symptoms but assume ‘that’s just how I am.’” Encouraging testing, and even partnering to provide testing, helps find otherwise undiagnosed patients and offers them the potential for improved quality of life while increasing the patient pool for clinical trials.

Organizations are collaborating in other ways, too. CureDuchenne partners with biopharma companies to train physical therapists in remote locations to treat Duchenne. “The physical therapy is counterintuitive,” Miller explains. By sponsoring the program, companies gain the opportunity to talk with patients and their caregivers.

Patient-Reported Outcomes—An Easier Way

“There’s also a move toward including patient-reported outcomes in clinical studies,” Leonard says. “Typically, including patient-reported outcomes is a very long, labor-intensive process. A simpler way to improve the chances of success is to get patient and parent input into the study protocol.” UniQure gave hemophilia patients or their parents a few months to review and provide feedback for protocols of an upcoming Phase III study.

“What they said was surprising,” Leonard says. “In hemophilia, the lower a patient’s clotting factor, the more that patient will bleed, triggering joint damage and prophylactic therapy. Therefore, researchers are fixated on clotting factor levels. Patients, however, don’t know their

clotting factor and don't care. They are focused on reducing the number of bleeds." How that insight will be used is yet to be determined. "We will discuss that with the advisory board and clinicians."

As GSK's Benzie emphasizes, "It's incredibly important to understand the patient's experience with their disease from the beginning of drug development so we can understand their unmet needs, the concepts to measure and how to ask about them. Concurrent with Phase I trials, we interview one to two dozen patients in focus groups, face-to-face or by telephone."

Their feedback helps GSK determine whether a patient-reported outcome or some other assessment should be used to capture treatment benefits. "Patient-reported outcomes can help support regulatory approval of a new medicine, differentiate our medicine by noting, for example, key secondary endpoints on the label. They also are a factor in utility calculations and cost-effectiveness evaluations," Benzie says.

Educating Regulators

Some patient advocates also are working with regulators to educate them about rare diseases and patient preferences. Keeping those groups up-to-date on publicly announced details of development programs, therefore, helps.

For example, Miller elaborates, "When BioMarin (which acquired Prosensa), was preparing for advisory committee meetings at the FDA, we helped prepare patients to testify and ensure their message was on target."

"CureDuchenne had a very strong voice advocating approval of the product," Benzie adds.

Forming Partnerships from Scratch

Within the patient community, companies that don't reach out to patient foundations are viewed negatively. "They think if you're not engaging them, you're not showing a commitment to the community," Leonard says. "People want that commitment. They want to get to know the company and be engaged in the discussion."

Just as importantly, companies that don't engage miss opportunities to inform potential patients about emerging therapeutics. When they reach the point of needing a Phase III trial, that awareness— particularly for cell and gene therapies targeting rare diseases—becomes critical.

Forming those partnerships was why Leonard joined UniQure. "When I started there were no preexisting relationships with patient foundations, so I Googled and cold-called," Leonard recalls. He learned to start with the development directors. "Their job is to grow their funding base, so they were happy to talk with me."

Speaking from a patient advocate's perspective, Miller advises companies to "let patient groups understand your business plan so we can be more proactive. For example, if the company plans a Phase II trial for the fall, let patient organizations know early so we can talk with our constituents and speed enrollment."

Foundation Size Affects Scope

UniQure manages its relationships with patient advocacy organizations both individually and as a group. “It’s important to have individual relationships with organizations, and also with ecosystem enablers like NORD, Global Genes, and ARM. As a director of patient advocacy, I need to create connections within the patient community and to connect them with organizations like ARM because,” Leonard says, “a rising tide floats all boats.”

The relationship companies have with patient advocacy foundations is affected by foundation size and maturity. Small, narrowly focused groups formed by a few individuals often have very limited funds and are dedicated to one, often rare, disease. “These groups are motivated to be involved in specific therapeutic development early. They have access to otherwise hard-to-find patients who can provide the natural histories that companies need,” says Morrie Ruffin, cofounder and managing director of ARM.

“At the other end of the spectrum are the large research foundations with greater resources at their disposal and higher profiles given that they focus on diseases affecting larger disease populations. They have access to scientific advisory boards and tactical staff that track nearly every project underway in their space,” Ruffin says. “They can also be particularly helpful with messaging.”

Regardless of their size, “if patient advocacy organizations can be helpful seeding or enabling early work, which often is very risky, they can play a very meaningful role,” Ruffin says. With more than 800 clinical trials underway in the regenerative medicine sector, according to the 2016 annual report released by the Alliance for Regenerative Medicine (ARM), we are seeing scientific advances in areas of unmet medical need, especially in rare diseases. Significant progress has been made with new therapies to treat severe hemophilia A, aggressive b-cell non Hodgkin lymphoma, and r/r ALL. The EU Marketing Authorization approved a stem cell gene therapy for an ultra-rare disease, ADA-SCID. In addition to these advances, the passage of the 21st Century Cures Act provides a regulatory pathway for an accelerated approval process, especially for therapies treating rare diseases. These clinical and regulatory advances have generated greater interest for partnering and investment opportunities.

CureDuchenne was founded as a venture philanthropy October 31, 2003. Soon after, it invested $1.3 million in Prosensa Holding, a fledgling biotech with a promising technology. Several years later, it provided another $7 million. “We bring money and expertise,” Miller says. “We know the disease inside and out. We have the best scientists on staff or as consultants, so we can vet the science. We’re willing to take on riskier projects than many venture capital firms because we’re motivated. Therefore, we do a lot of early de-risking for the industry.”

Corporate partnerships accounted for $649 million of financing in the regenerative medicine field in 2016, according to a recent report released by ARM. The largest of these was a $20 million upfront payment as part of a $2 billion deal between Biogen and UPENN to collaborate on multiple gene therapy programs.

Patient advocates also provide needed expertise. When CureDuchenne invested in RAXRx, a British startup, one year ago, “the founders were academics and didn’t have experience developing a drug,” Miller says. “Our two scientists worked extremely closely with them to help them through the beginning stages of drug development.”

Working closely with patient advocacy groups early in therapeutic development goes a long way

toward addressing huge unmet needs for patients, particularly in rare diseases. As Benzie says, by gaining insights into these diseases at both the scientific and human level, “this knowledge can help researchers pioneer and develop new medicines, technology and expertise they can harness to create further cell and gene therapies in the future.”

Partnerships like these between industry and patient advocacy organizations will be explored in more depth, along with other regenerative medicine issues like market access and commercialization, at the inaugural Cell & Gene Exchange conference May 22–23, 2017 in Washington, DC. Learn more at: www.cellgene-exchange.com.