Early and Often

Reimagining patient community engagement to improve clinical trials feasibility

Global Genes®
Allies in Rare Disease

Executive Summary

Clinical trial feasibility studies are a critical step in the drug development process for biopharmaceutical companies advancing therapies for rare diseases. Traditional approaches to feasibility studies, which rely on quantitative data and past research, often fall short when applied to rare disease populations. This white paper, developed by the Global Genes Corporate Alliance, focuses on the importance of engaging patient advocacy organizations early and often in the drug development process to improve feasibility, increase the opportunity for success, and reduce the time and cost of these studies.

Key findings include:

Early patient engagement is essential

Early collaboration with patient advocates can provide valuable insights into disease characteristics, patient needs, and potential barriers to trial participation.

Saving time and money

Inadequate feasibility studies can lead to significant costs through protocol amendments, enrollment delays, and trial failures. Site set up costs are significant in rare disease. Without patient engagement, companies may not know which sites to prioritize. This can lead to delays and slow start up times. Investing in thorough patient engagement can mitigate these risks.

Qualitative insights matter

Determining rare disease clinical trial feasibility requires a nuanced approach that incorporates qualitative data from patient experiences, which can reveal critical factors affecting trial design and participation.

Reduce barriers to participation

Understanding the demands on trial participants and caregivers helps identify and address obstacles that may deter participation, such as burdensome procedures or logistical challenges.

Don’t make assumptions about patient concerns

Patient insights can reveal unexpected preferences or concerns specific to a rare disease population that may not be apparent to researchers without direct community engagement.

By adopting a transparent and patient-centric approach, biopharmaceutical companies can enhance protocol designs, improve recruitment and retention, and increase the likelihood of rare disease clinical trials succeeding. Such an approach improves drug development and fosters trust and collaboration between industry and patient communities.

Key Takeaways

Enrollment should not be viewed as a distinct step in the drug development process

There is a tendency for drug developers to view enrollment of participants in clinical studies as a unique task to be completed after a therapeutic candidate has been selected and before the start of a clinical trial. Such an approach, though, can make it longer and more difficult to meet enrollment goals if patient perspectives are not used to help inform the process. Decisions made during preclinical development will shape the willingness of eligible participants to enroll in a study. Drug developers, throughout the preclinical development process, should consider how potential participants will view the various choices they make.

Engage patient advocates early and often through discovery and development

There is a strong business case for understanding the perspectives of people living with rare diseases. Integrating those views throughout the discovery and development process will save time and money, ensure drugs are meaningful to patient populations, and improve enrollment and retention rates in clinical trials by addressing unnecessary barriers and burdens for participants.

Rare diseases are different than common diseases

The traditional approach to clinical trial feasibility studies does not easily translate to rare disease clinical trials. Trial sponsors can't rely on literature searches, surveys of clinical trial centers, and medical experts. Patient populations are small, geographically diverse, and can be heterogeneous. There may be gaps in understanding a disease and few, if any, previous clinical studies. Working with patient advocacy organizations can provide a clear understanding of the prevalence of a disease, the location of people who live with it, and where centers of excellence and expert physicians may be. Patient organizations may have registries, natural history studies, and animal models that can help accelerate the development process, and they can serve as a conduit to a patient community.

Understand the perspectives of the people you hope to treat

For drug developers hoping to enroll and retain participants in a study, it's not enough to understand where they are and what facilities have experts who treat them. Understanding the viewpoints of people with a rare disease and how that might impact enrollment and retention is essential. Perspectives can be counterintuitive and not always understood by clinicians. People with a rare disease know firsthand the disease's burden, what would constitute a meaningful therapy to them, and the barriers to their participation in a clinical trial.

Don't assume, ask

Companies can invest millions of dollars in a therapeutic program only to find that patients won't enroll in a study because they don't see an experimental therapy addressing an aspect of their disease that they feel needs addressing. Or they may choose not to enroll in a study because it imposes unnecessary burdens, such as unwelcome exploratory measures or unnecessary procedures. Trial sponsors may take steps to do things that they think would lower barriers and expect participants would

welcome, only to discover it creates greater barriers. A simple solution is to ask the community before determining such things as site locations, protocols, and endpoints.

Lower barriers to clinical trial participation

People living with a rare disease are often desperate to find treatments. Still, they may not be willing or able to participate in a clinical trial because of difficulty traveling, the need for a caregiver to escort them, mobility challenges, and even behavioral manifestations of their conditions. By taking the time to understand these, sponsors can make necessary accommodations for participants.

Industry must rethink the role of internal patient advocates

Rare disease patient advocates said that patient advocates within industry can sometimes be treated as little more than "window dressing," whose role is seen as addressing a marketing need rather than a critical responsibility for helping guide discovery and development. Industry patient advocates should serve as a conduit for two-way communication between a drug developer and a patient community. These professionals should be able to sit at the table with colleagues across various functions within a company, be heard, and engage with them throughout the discovery and development process to inform it.

Communication is essential

Biopharmaceutical companies communicate with many constituencies during the discovery and development process. They should communicate with the patient community as regularly as they do with other constituencies, such as the investment community. Whether it's good news or bad news, the patient community wants to be informed directly by the company, as transparently as possible, and not learn about development by reading about it elsewhere.

Reputations are at stake

How a biopharmaceutical company engages with a rare disease community will shape the community's perception of the company. A lack of transparency, failure to keep them informed, or disregarding their perspectives can create a negative perception. These communities share information through social media and other means. How a company acts during discovery and development can inform how a rare disease community views it when it brings a product to market. Building trust is essential.

Patient advocacy organizations are not monolithic

Patient advocacy organizations have become increasingly sophisticated about drug development. They often have internal research staff and scientific advisory boards made up of leading researchers and clinicians. They may also have long-standing natural history studies and registries. Nevertheless, capabilities vary widely. Some organizations may focus on supporting their communities rather than advancing scientific research and drug development. It is important to understand a patient advocacy organization's capabilities and resources when engaging them.

Treat patient organizations as partners

Patient organizations and biopharmaceutical companies share the same goal of bringing safe and effective therapies to people who need them. Some patient organizations that have invested in natural history studies and registries, assembled patient advisory boards, and provided data and other support, charge for their services. They see this as critical to their sustainability and recognize they are providing value to their corporate partners. Others may not charge. Either way, companies that work with them should treat them as professional partners. And they should not pit one patient organization against another.

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Introduction

Before a biopharmaceutical company begins a clinical trial, it conducts a study to determine its feasibility. While drug developers consider a broad range of issues, a feasibility study aims to determine the time and cost necessary to complete a clinical trial. Among the issues that studies explore are the appropriate trial sites, the population of potential participants and their geographic distribution, and the time required to enroll and complete the study.

Biopharmaceutical companies typically conduct clinical trial feasibility studies by researching past studies to understand patient populations, the natural history of diseases, and endpoints used to measure therapies for given conditions. They also engage with key opinion leaders to gain insights to understand the populations affected by specific diseases. Additionally, they send questionnaires to potential clinical trial sites to assess their suitability for specific studies, estimate the number of patients they might enroll, and consider other factors that could affect their ability to recruit participants and complete the study in a timely manner.

Such an approach may be adequate when a drug developer seeks to conduct a clinical trial for a disease that affects large populations, where the condition is well understood, and there have been numerous prior studies for drugs targeting the indication. However, this same approach is inadequate for assessing the feasibility of a study in a rare disease. While there is a strong case for informing any clinical study with the perspective of patients, it is essential for clinical trials aimed at therapies for rare diseases due to the limited information available about these conditions.

Because the patient populations for these conditions are small and may be geographically dispersed, decisions about site locations and clinical trial protocols that affect the ability and willingness of individuals to participate can significantly impact recruitment. People with rare diseases may also have concerns that are not obvious to drug developers who haven't taken the time to understand the perspectives of individuals living with a specific condition. When a trial sponsor loses the opportunity to enroll someone in a rare disease study or when someone drops out, there are not hundreds of others ready to replace them.

The Global Genes RARE Corporate Alliance, a partnership program that brings together stakeholders from the rare disease drug development industry, includes patient advocates working for drug developers, contract research organizations, and other related professionals. Through internal discussions, the group identified a need to educate individuals within their organizations and the larger biopharmaceutical industry about the importance of engaging with patient advocacy

organizations to improve the feasibility of clinical trials in rare diseases.

At the heart of feasibility studies is a fundamental question as to whether a clinical trial can enroll and retain participants to complete a study in a reasonable amount of time and at a reasonable cost. Though the question of feasibility seeks to answer questions about a specific study, a broad set of variables surrounding a clinical trial can impact the willingness or ability of individuals to participate. If drug developers have not taken adequate steps to understand patients' perspectives, they risk erecting barriers to their success. A well-conducted clinical trial feasibility study can identify issues that may hinder a trial sponsor's ability to enroll patients and can help address those issues without incurring costly delays, the expense of amending study protocols, or the need to add additional sites to overcome enrollment barriers.

As such, this white paper takes a more expansive view of clinical trial feasibility studies. If biopharmaceutical companies want to avoid wasting time, money, and resources, it is essential that they understand the variables that will affect their ability to enroll and retain participants in a clinical trial to gain a true understanding of its feasibility. Engaging the patient community early in the process is crucial to inform critical decisions about discovery and development efforts, ensuring that drugs address patients' needs, trial burdens are manageable, inclusion criteria are not unnecessarily restrictive, and trial sponsors are taking steps to accommodate participants and their caregivers. Failing to do so risks creating barriers that will impede trials from meeting their sponsors' expectations.

"There is no other industry that's developing a commercial product that does not do rigorous consulting with the end user. Pharmaceutical companies stand alone," said Isabelle Lousada, president and CEO of the Amyloidosis Research Consortium. "They tend to develop a molecule, find a target, put these things together, and then look for a disease that it suits. It's rare that someone comes out to say, 'I am going to solve a specific problem that patients experience.' As a result, we end up with many drugs that aren't truly what patients need."

To produce this paper, a working group of the Global Genes Corporate Alliance conducted a literature search, including a review of more than 60 studies, articles, and white papers relating to clinical trial feasibility studies in rare diseases, clinical trials, participant recruitment in studies, patient engagement, and related topics. We conducted more than 25 interviews with staff from rare disease patient advocacy organizations who had worked with biopharmaceutical companies to advance preclinical and clinical studies of experimental therapies, as well as employees of biopharmaceutical companies and clinical research organizations who had engaged with patient advocacy organizations as part of their clinical development efforts.

The goal of these interviews was to understand how biopharmaceutical companies developing rare disease therapies engaged with patient advocates during their clinical trial feasibility studies, what they did well, what they did poorly, and the lessons learned from these interactions that could help others improve their feasibility studies and ensure greater clinical trial success. Finally, we held a roundtable discussion involving twelve patient advocates and industry representatives to discuss themes from the literature review and interviews.

An expensive process

Enrolling patients in a clinical trial is expensive. It is the largest cost driver of clinical trials, accounting for 32 percent of the costs, according to a 2020 analysis by the Deloitte Centre for Health Solutions. Patient retention accounted for an additional 14 percent of the costs.[1]

The data surrounding clinical trials suggest that biopharmaceutical companies have room for improvement in conducting clinical trial feasibility studies, as recruitment is the most common cause of study delays. In fact, about 80 percent of clinical trials fail to meet their initial enrollment targets on time, and 48 percent of clinical trial sites do not meet their expected enrollment numbers. Some 11 percent of trial sites fail to enroll a single patient.[2]

Rare disease clinical trials face greater enrollment hurdles than studies for other diseases. Delays and failures are more common. Ken Getz, executive director of the Tufts Center for the Study of Drug Development, found that 81 percent of patients screened for rare disease trials are not eligible, compared to 57 percent for non-rare diseases.[3] A separate 2021 study of 736 clinical trials by the research firm GlobalData found that 26 percent of them were terminated between 2016 and 2020 because of low enrollment rates.[4]

For companies that may not appreciate the value of working with patient communities throughout the drug discovery and development continuum or may be hesitant to embrace a patient-centric approach without a clear understanding of its return on investment, they should consider the economic consequences drug developers face when dealing with delays, protocol amendments, and failed studies, all of which carry significant costs.

Protocol amendments cost an average of $141,000 each for a phase 2 trial and $535,000 for a phase 3 trial, according to a Tufts Center for the Study of Drug Development study. The study found that 57 percent of protocols had at least one substantial amendment, and 45 percent were deemed "avoidable."[5] One study from the clinical trials information service CenterWatch estimated that each day a company extends the timeline for a clinical trial could cost it between $600,000 and $8 million in forgone product sales.[6]

[1] Taylor, Karen et al.; Intelligent clinical trials Transforming through AI-enabled engagement, Deloitte Centre for Health Solutions, 2020, https://www2.deloitte.com/content/dam/insights/us/articles/22934_intelligent-clinical-trials/DI_Intelligent-clinical-trials.pdf

[2] Johnson, Otis; An evidence-based approach to conducting clinical trial feasibility assessments, Clinical Investigation, 2015, https://www.openaccessjournals.com/articles/an-evidencebased-approach-to-conducting-clinical-trial-feasibility-assessments.pdf

[3] Getz, Ken; Proliferation of Rare Disease R&D Necessitating Novel Strategies, Applied Clinical Trials, September 1, 2019, https://www.appliedclinicaltrialsonline.com/view/proliferation-rare-disease-rd-necessitating-novel-strategies

[4] GlobalData, Press Release, March 10, 2021, https://www.globaldata.com/media/pharma/25-rare-disease-trials-terminated-due-low-patient-accrual-rates-says-globaldata/

[5] Getz, Kenneth A., et al.; The Impact of Protocol Amendments on Clinical Trial Performance and Cost, Therapeutic Innovation & Regulatory Science, July 2016; doi: 10.1177/2168479016632271

[6] Hargreaves, Ben; "Clinical trials and their patients: The rising costs and how to stem the loss;" Pharmafile, November 3, 2016, https://pharmafile.com/features/clinical-trials-and-their-patients-rising-costs-and-how-stem-loss/

"We're talking about potentially dramatic impacts on your timeline and the amount of money that you're going to spend because of protocol amendments, pauses, and potential mitigations you have to build because you didn't do this work upfront," said Kendall Davis, director of advocacy and engagement strategy at the Center for Rare Diseases for the contract research organization ICON. She noted that some companies hesitate to invest in a robust feasibility study without understanding the return on investment needed to justify the work. "We see this all the time. Companies have to stop, pivot, amend a protocol, and add something. A lot of it could be avoided if this type of feasibility was part of the initial work."

Jessica Sheldon, senior feasibility and strategy leader for the contract research organization Parexel, said that most feasibility studies rely on a quantitative approach, but studies in rare diseases require the addition of qualitative measures.

"For a rare disease study, the feasibility process is significantly different from that for a non-rare disease. If you don't understand that, you're going to get the feasibility wrong," said Sheldon. "It's important to immerse yourself in what these patients and their caregivers are going through because that will help you recommend what is easiest for patients and families, which, at the end of the day, will also facilitate faster study enrollment."

A cookie-cutter approach to clinical trial feasibility in rare diseases risks creating false expectations. Biopharmaceutical companies can gain deep insights into a disease, understand the patient community, and access potential participants by engaging with rare disease patient advocacy organizations. If done properly, this can form the foundation for an ongoing relationship with a rare disease community that can help drive success not only through the clinical development of a therapy but also help overcome regulatory hurdles and ensure the commercial success of a product. One consistent refrain heard in our interviews with both patient advocacy organizations and industry representatives was that it is essential for drug developers to engage with the patient community early and often.

Consulting the experts

Ryan Fischer has spent about 20 years working for patient advocacy organizations and has assisted biopharmaceutical companies seeking input from patient communities on drug development plans. Fischer said he can count on one hand the number of companies that have engaged with patients to discuss clinical trial protocols and barriers to participation, synthesized what they had learned, and then returned to present to the group to discuss changes they made.

"Most of the time, they come to you and say, 'We've got three choices for the name of the trial. Can you tell us what you think about these?' said Fischer, chief operating officer of the Foundation for Angelman Syndrome Therapeutics and previously served as the chief advocacy officer for Parent Project Muscular Dystrophy. "This is what you want to talk about?"

Fischer said drug developers need to have "intentional" rather than "superficial" engagement with patient advocacy organizations if they want to do a better job of clinical trials feasibility studies.

For example, Fischer pointed to one company that worked with him to do immersion research on the potential use of in-home infusions for a study. The company sent researchers into families' homes and spent two days with them as

When Patient Advocacy Organizations Are Afterthoughts

In conducting research for this paper, we reviewed several white papers focused on clinical trial feasibility studies in rare diseases. A clinical research organization produced each.

While patient organizations received passing mention, the papers focused on country and site selection, investigator selection, and the need for extensive data research. The role of patient advocacy organizations received cursory attention.

One report noted the value of patient advocacy organizations in enhancing recruitment, raising awareness, and even financing early drug development. In a single sentence, they were also acknowledged as being able to provide input on protocol design and whether a study would be acceptable to patients.

A separate white paper suggested useful recruitment-related and disease landscape information can be obtained from "key opinion leaders, clinicians, clinical trial design experts and strategists, commercial experts, and statisticians" and then added "even patient advocacy groups." It advocated for digital patient identification, a method that uses medical, real-world, and commercial data sets and proprietary analytics to determine the right patient population for an asset, program, or protocol.

It failed to suggest contacting patient advocacy organizations to see if a registry existed, what insights they might be able to provide on the natural history of a disease, what would be considered appropriate protocols for a trial, or whether there were medical centers that had an expertise in the disease specialized in treating patients with a condition.

One study noted that traditional feasibility processes are often inadequate, resulting in protocol amendments to accommodate the needs of patients with rare diseases. It said clinical trial subject matter experts can inform and modify the trial strategy by consulting with patient groups early in the protocol design process.

One resource that provided good advice on best practices for how biopharmaceutical companies can engage with patients came from Paladin, a consortium of members of the biopharmaceutical industry, patient advocacy organizations, and academic institutions. The Tufts Center for the Study of Drug Development manages the consortium.

Paladin, launched in 2023, seeks to accelerate drug development by improving collaborations between industry and patient advocacy organizations. It offers the Paladin Playbook as a free download that offers best practices and tools for effective partnerships between biopharmaceutical companies and patient advocacy groups throughout the research and drug development process.

they observed patients receive infusions in their own homes, collected data, and used that to inform their clinical trial protocol. Fischer said that even though it was an expensive undertaking, what the company learned was remarkable and reflected the benefits of a creative approach.

Fischer has worked at rare disease patient advocacy organizations that conduct research to advance drug development as a central part of their mission. However, rare disease patient advocacy organizations vary greatly in their focus, capabilities, scientific sophistication, and other aspects. Some may be focused solely on providing people with a rare disease support and assistance. Others, though, can be engaged in drug development. They may have natural history studies and registries they run, developed animal models, identified or validated biomarkers for a disease, and established centers of excellence for care. As such, they can provide access to patients, connect drug developers with clinical trial sites and expert physicians, and provide insights into barriers to participation that a drug developer might not recognize.

Consider clinical trials of antisense oligonucleotides or gene therapies to treat boys with the rare neuromuscular condition Duchenne muscular dystrophy. Biopsies are used to measure the expression of dystrophin, a critical protein for muscle integrity and function that people with Duchenne lack. In one case, a trial sponsor planned to take three muscle biopsies from each participant as part of the study to determine how the therapy affected dystrophin expression. The patient advocacy organization Parent Project Muscular Dystrophy explained that two biopsies are a lot, but three would be unacceptable to potential participants. But the group noted that it was not just the number of biopsies that are a concern for boys with Duchenne. They are also concerned about the sites on the body from which the biopsies are drawn.

Pat Furlong, founding president and CEO of Parent Project Muscular Dystrophy, said scarring from biopsies to the bicep or quadricep muscles can sometimes be so significant that an adolescent will not feel comfortable wearing shorts or short-sleeved shirts in front of his peers because it's one more sign that he is different from others. Instead, the organization has counseled companies to choose less visible areas on the body for biopsies.

“We can help explain the difficult and burdensome points of a study that will be, on its face, unacceptable to the community,” said Furlong. “At all of the important points along the way from target engagement through launch, engaging with the community is going to save them time and money, and also build a trusting relationship.”

Reducing friction

If a question of enrollment is at the heart of feasibility studies, the critical considerations that trial sponsors need to be mindful of the obstacles they might put in place that would impose too great a burden on potential participants to sign up for a study. At the rare disease drug developer Alexion, they talk about a concept they call “the patient coefficient of friction” to describe the unwillingness of a patient to participate in a clinical study.

“Understanding that in the detail is absolutely crucial,” said Gianluca Pirozzi, senior vice president and head of development, regulatory, and safety for Alexion. To determine that, Pirozzi said Alexion will sometimes ask a patient panel to review the proposed protocols for a trial.

“A lot of companies do the physicians' review, the KOL review, but they forget to ask the patients,” he said. “We do a patient review and say, “Look at it. Look at all these elements. What

are the things that you don't understand? What do you think is going to create an issue?"

In some cases, the company has asked potential participants and their families to go through a clinical trial simulation of a clinical trial visit and walk through what they would do. That has helped the company identify problems such as childcare needs for siblings of participants, a realization that too many assessments have been planned for a single day, the identification of an inadequate allowance of time for participants to travel to the trial site, and the need to adjust travel and reimbursement if a one-day visit needs to be changed to a two-day visit.

"We collect feedback for that given protocol, both in terms of how heavy the collection of the data information is, can they go through all of those examinations and what are the things that will make their visit difficult both financially and logistically," he said. "Based on this feedback, we have changed some of the content of protocols. We changed some of the assessments, moved them from being on the same day or the first day, and staggered some."

Understanding feasibility involves identifying potential obstacles to patient enrollment, issues that may be counterintuitive. Some of these can only be uncovered by gaining insights into how people with a specific rare disease would react to a particular protocol.

Consider people with the rare musculoskeletal disorder fibrodysplasia ossificans progressiva (FOP), a progressive disorder in which muscles and soft tissue over time transform into bone. As the condition progresses, people with FOP suffer a loss of mobility. One clinical trial sponsor working in the indication, as part of its study, had planned to send nurses out to participants' homes to perform monthly blood draws, a decision that would seem to provide a welcome level of convenience to people in the study.

The problem, though, is that in people with FOP, trauma to a muscle can cause a flare-up that leads to bone formation. In infants with FOP who receiving an intramuscular injection can cause enough tissue damage to the muscle that they later have bone formation at the injection site. From an early age, once a child is diagnosed with FOP, parents can become cautious about any intramuscular injections and the community has a fear of needles in general because of this association.

The families of some study participants didn't want blood draws performed at their homes. Michele Davis, executive director of the International Fibrodysplasia Ossificans Progressiva Association, said that FOP families considered their homes a "safe place" that they controlled. But when a nurse arrives to draw blood, the child becomes upset, and the home loses its status as a safe place. Instead, some participants' parents preferred driving to a healthcare facility for a blood draw rather than having someone visit their home. They wanted to have the choice to say "No." Another company that sought to minimize blood draws used for pharmacokinetic studies used participants' saliva as a way to measure drug metabolism because of the community's concern about the use of syringes.

In other cases, patient organizations have identified various protocol designs and inclusion/exclusion criteria that would significantly slow or make it unlikely a trial sponsor would be able to enroll the needed participants to complete a study. That can be requirements for the use of immunosuppressants in a gene therapy trial in a community that had a history of negative reactions to the use of the immunosuppressive agent or a requirement in a separate study that children suspend use of antiseizure medication during a trial, a requirement that the sponsor was convinced to drop because families of potential

participants were unwilling to discontinue the use of antiseizure medication.

In a study of people with a rare form of heart failure, some participants balked at where a catheter was going to be placed. It could be placed either in the chest or the leg (it didn't matter scientifically), and patients were given a choice. In another study in the rare disease amyloidosis, the trial sponsor discovered that patients wouldn't enroll in a study that required them to have kidney biopsies, which they determined was not necessary. And when a drug developer described how a planned assessment that involved the use of children's blocks to measure gross motor skills in people for an experimental therapy to treat a neurodevelopmental condition, patient advocates balked. They explained that adolescents and adults don't want to partake in an activity that they viewed as being designed for a 2-year-old. That can affect their behavior in turn because they can become noncompliant or even aggressive.

One industry patient advocate who was working at a company that was developing an experimental therapy to treat the rare, neurodegenerative condition amyotrophic lateral sclerosis grew concerned when she learned the company had planned to do a trial where the protocol called for having half of the patients receive a placebo in a control group. The protocol had already been set when she became involved in the work. She told the company that it could not successfully enroll the study with such a design. She explained that people with ALS are facing death in two to five years. With multiple experimental therapies in development for the condition, she said people with the condition would be unwilling to gamble their one opportunity to try an experimental drug if there was a 50 percent chance that they would be treated with a placebo. The scientists insisted that the design was necessary from a data perspective, but she kept pushing back. She finally got the scientists to sit down with a group of patients to hear them explain why they would not enroll in the trial as it stood. As a result of those interactions, the team changed the trial to a two-to-one ratio of active drug to placebo and successfully enrolled the study.

An ongoing process

The engagement with patient advocacy groups over clinical trial designs and ways to lessen the burden of participation in a study shouldn't end when an experimental therapy advances to the clinic.

Consider Stoke Therapeutics and its effort to develop an antisense oligonucleotide (ASO) to treat Dravet syndrome, a severe and progressive genetic epilepsy characterized by frequent, prolonged, and refractory seizures. The effects of the disease often include intellectual disability, developmental delays, movement and balance issues, language and speech disturbances, growth defects, sleep abnormalities, disruptions of the autonomic nervous system, and mood disorders.

Stoke's experimental therapy zorevunersen is an ASO that is injected directly into the spinal canal and has the potential to be the first disease-modifying therapy to address the genetic cause of Dravet syndrome. Zorevunersen is designed to upregulate NaV1.1 protein expression. NaV1.1 is a voltage-gated sodium channel that plays a critical role in neuronal signaling and function. It is encoded by the SCN1A gene. By leveraging the healthy copy of the SCN1A gene to restore physiological NaV1.1 levels, zorevunersen has the potential to reduce both the occurrence of Dravet syndrome seizures and significant non-seizure comorbidities.

"The biggest impact when we've engaged with advocacy groups has been around the design and the complexities of the clinical trials that we're

running. Where we find the greatest benefit is in getting feedback, especially as we work towards designing our phase 3 trials," said Marissa Volpe, senior vice president and head of clinical development operations for Stoke Therapeutics. "You want to make sure, as much as you can, barring any regulatory requirements, that you listen to what patients or caregivers are saying and try to implement that."

While conducting its phase 1/2a studies and in advance of its phase 3 study, Stoke conducted a total of four advisory board meetings in the United States and Europe that included advocacy groups, families, and study site coordinators. Volpe said the advisory boards provided the company with insights ranging from the clinical measures that are meaningful to patient families to feedback on such things as the sites used, travel compensation, and things that the company could do to reduce the burden participants.

There were several areas advisory board participants provided Stoke that will influence how it designs and operationalizes the study:

- Families said they would like clear information to ensure that they fully understand the rationale, requirements, and commitment required of participants in the study. Stoke is planning to include fact sheets and video tools to help explain the study and study assessments as part of learning about the study and the consent process.
- Because the company hopes to demonstrate that its therapy is disease modifying, it is considering using measures that haven't been used in past studies of seizure medications to capture those benefits. For instance, the company is considering incorporating cognitive assessments of receptive and expressive communication to track and measure such things as how a participant responds to their parent or expresses their feelings, and their ability to communicate such things as whether they are hungry, if they need to use a bathroom, or don't like the food they are served.
- Stoke is also planning to modify the seizure diaries parents use as part of the study based on their feedback. For instance, in addition to seizure counts, Stoke will now track whether seizures are prolonged and whether a participant needed to use a rescue medication after coming to understand from families the importance of this information to them.
- Traveling to a site for a visit often involves the entire family, including siblings and sometimes a service animal. There are also instances where there are medications and special diets that require access to refrigeration. In the past, families didn't always have a refrigerator in their hotel rooms. To minimize disruption as much as possible, Stoke will work with a travel concierge to ensure that the needed accommodations are available for families. In addition, based on comments that some families need to travel with more than one caregiver, the company plans to cover the additional related travel costs in the phase 3 study.

An additional advisory board is planned to discuss messaging around the possible use of a sham-controlled clinical trial design for the phase 3 study.

At the time of this writing, the company had not yet finalized the design of its phase 3 study, but the considerations it is making demonstrated how drug developers can use feedback from

participants and patient advocates from earlier-stage studies to improve later ones.

"It's a big partnership," said Volpe. "Partnering with patients is critical because to get that drug over the finish line, you need to have their input into the design."

More than a recruitment vehicle

Though some aspects of clinical trial designs can be fixed before the start of a study by applying insights gained from patients who have reviewed the proposed protocols, patient advocates say too often, drug developers approach them for help enrolling in a trial and will invite them to review study protocols after they have been set. In these cases, drug developers could have saved valuable time and money by engaging the patient community earlier to correct problems that were not recognized by company staff but readily apparent to advocates.

For instance, a number of advocates raised the issue of their patient populations having difficulty swallowing, such as in the case of FOP. If someone with the condition is being given an oral medication, it may require pills to be crushed and mixed into food like yogurt or administered through a feeding tube. In other instances, such as the neurodevelopmental condition cerebral creatine deficiency syndrome, children may have trouble sitting long enough for an IV administration.

Through meetings with caregiver councils set up by the rare disease drug company Ultragenyx, parents of children with the condition explained because of behavioral issues and problems with impulse control, children in a clinical trial would not sit long enough for investigators to deliver a dose of the medication. Based on those discussions, the company decided to pursue an oral formulation, which raised additional questions. Elizabeth Maia, senior director of patient advocacy for Ultragenyx Pharmaceuticals, said the company needed to consider such things as taste preferences, consistency, and what challenges a parent might face administering an oral medication to their child.

"I hear anecdotes from parents that their children will actually run under a table and hide because they know that a medicine tastes so bad, and they know what's coming," said Maia. "How do we gain insights like that from the community in advance to inform our creation of something that is fit for purpose for the intended users?"

Randall Carpenter, chief medical officer for the Rett Syndrome Research Trust, said many companies developing therapies for rare diseases hope to win accelerated approval as a faster path to revenues. To do so, they need validated biomarkers that can serve as surrogate endpoints that regulators are willing to embrace. To that end, patient advocacy organizations can be critical allies in gathering evidence and making the case to regulators about the validity of a biomarker.

Carpenter explained that children with Rett syndrome have irregular breathing. Animal data suggests that restoring protein in only 20 percent of the brainstem cells rescues the mouse's breathing phenotype. Once those brain circuits are working, he said it could be one of the first indicators that gene therapy was providing benefits by restoring autonomic function, such as improvement in breathing, sleep disruption, or bowel function.

He noted that if gene therapy restores protein to the brain and normalizes function in a child, the child will not gain skills quickly enough for them to be measurable in a clinical trial. But it could restore proper autonomic function and manifest in the control of breathing. To that end, the Rett

Syndrome Research Trust has sought to identify biomarkers that could be used as surrogate endpoints that drug developers could use to demonstrate efficacy.

“That's where the patient perspective comes in because then you have to help the company convince the FDA that restoring breathing regularity is clinically meaningful. The patient's perspective is, ‘When they're breathing rapidly uncontrollably, they can't eat. They're noisy. We can't take them out in public. They swallow air. They get bloated when they hold their breath. They become hypoxic. Their oxygen saturation drops down to 60 percent,’” Carpenter said. “That then informs what you might try to measure in your clinical trial because the whole goal these days is to get an early sign of efficacy so that you can get it on the market and have the consumers pay for the clinical trial rather than having to do a hundred-person confirmatory trial on your own dime and raise that money from investors.”

Effective engagement

For many drug developers, engagement with a patient community begins when they are ready to enroll participants in a clinical trial. Effective engagement, though, should start long before a company considers recruiting for a study.

“We begin in discovery. We don't begin when we need to recruit, which I think is a mistake a lot of companies make—you don't hear from anybody until they say, ‘Hey, we need you to participate in this trial,’” said Anthony Yanni, senior vice president and global head of patient centricity at Astellas Pharma.

He said researchers at his firm come to the patient-centricity team when they develop plans for a project and ask them to do an early analysis that integrates the patient perspective, standard of care, competitive landscape, and other issues. They want to know what would be acceptable to patients, physicians, and caregivers. In some cases, those efforts have ended programs in their infancy because it was clear they would be unable to deliver what stakeholders demanded.

“I'm hoping that in most cases,” said Yanni, “my teams would've already been in contact with some of these groups for five or six years before we even recruit for the first trial.”

In 2021, Mahzi Therapeutics licensed an experimental gene therapy from the Muotri Lab at the University of California, San Diego, to treat Pitt-Hopkins syndrome, a rare, genetic, neurological disorder that causes intellectual disabilities, developmental delays, and recurrent seizures.

UCSD researchers had achieved a proof-of-concept of the therapy in lab tests. Mahzi is now finishing preclinical development and hopes to begin an early-stage clinical trial in late 2025.

Already the company is incorporating what it has learned from the Pitt-Hopkins community into its clinical trial design. As part of its process to prepare for a trial, the company sent out a questionnaire to a number of Pitt-Hopkins caregivers. It then followed that up with in-depth interviews to identify potential endpoints for its clinical studies to design a disease concept model.

From those efforts, the company learned that constipation is a major concern for the community. It also confirmed publications that reported that people with Pitt-Hopkins often hold their breath. While the company expects to use some common endpoints for neurodevelopmental conditions, both of these are being explored as secondary endpoints.

“These are clinical features that might not have been identified as key endpoints, but these are key areas that are severely impacting these families,” said Yael Weiss, founder and CEO of Mahzi.

Many advocates within industry echoed those sentiments. They said the earlier companies engage in those conversations, the better able they will be to make informed internal decisions and get to where they want to be in a timely and cost-effective manner.

“If we're going in blindly, if we're going in uninformed, we're going to wind up making changes down the road. We're going to find people aren't enrolling. We're going to find out that we're not meeting research requirements,” said Ultragenyx’ Maia. “We are going to find out that this clinical trial winds up being way too much of a burden for people and there're dropouts, and we're not getting the data we need.”

Consider Dyne Therapeutics, which used community advisory boards consisting of patient advocates to inform its clinical trials for experimental therapies designed to treat the rare neuromuscular diseases Duchenne muscular dystrophy and myotonic dystrophy type 1. Representatives of the company sat down with panels made up of people from these disease communities to understand the quality-of-life issues that mattered to them, how they decide whether to participate in a clinical trial, the burden various elements a clinical trial might place on them or a caregiver, and other related issues.

As a result of those discussions, Dyne refined its clinical trial inclusion and exclusion criteria, developed a travel service program to lessen the burden on participants who needed to travel long distances to clinical trial sites, planned for home visits and adequate rest periods between site visits, developed a transparent and consistent communication plan for the patient communities, and adjusted procedures to increase the comfort and lower the anxiety of participants.[7]

“We can help explain the difficult and burdensome points of that study that will be, on its face, unacceptable to the community,” said Parent Project Muscular Dystrophy CEO Furlong. “Engaging with the community will save them time and money and also build a trusting relationship.” She estimated that over eight years, based on company reports, interactions with her organization’s community advisory boards prevented more than 23 amendments to clinical trial protocols, representing millions of dollars in savings to companies that worked on them.

“If you don't have a way to influence the people who are designing the study, designing the protocol, and understanding what matters to patients, then you're going to have enormous problems putting together a clinical trial that's going to be successful at assessing your potential therapeutic,” said Molly White, vice president of strategic initiatives for Dyne. “And you're going to have a hard time recruiting.”

For some drug development professionals, it may be difficult to recognize that despite their experience and expertise, they may not have the depth of knowledge about what it means to live with a specific rare disease. Designing a study well requires input from stakeholders who can guide it in the right direction.

“If you don't include experts in the patient community, you are going to miss the boat because you can't intuit what it means to have myotonia. You can't intuit what it means to have excessive daytime sleepiness. You can't intuit what it means to have a child who's been on steroids for several years and has certain behavioral complexities,” Dyne’s White said.

[7] Furlong, Patricia, et al; Patient engagement in clinical trial design for rare neuromuscular disorders: impact on the DELIVER and ACHIEVE clinical trials, BMC, January 2, 2024, https://researchinvolvement.biomedcentral.com/articles/10.1186/s40900-023-00535-1

"You can't come into a company thinking, I've had a lot of experience. I know my stuff. I've got this."

When a drug developer decides to pursue a therapy for a rare disease, they should make efforts to understand the landscape for that condition, the various patient advocacy organizations that might be working in that disease, and their capabilities, which can vary greatly.

There are many organizations that have a strong focus on research and have invested in natural history studies, registries, development of animal models, identification of biomarkers, and have certified centers of excellence that can serve as ideal clinical trial sites. They have well-established relationships with the patient community, are viewed by them as the go-to source for reliable information, and are trusted. What's more, they are increasingly including pharmaceutical industry veterans and academic researchers as part of their staffs.

"When I was in pharma, most patient advocacy groups were not research-oriented. They were more focused on patient support. They didn't have that expertise to tap into," said industry veteran Jana von Hehn, who is now chief scientific officer of the Rett Syndrome Research Trust. "That's one of the things that's changing at a lot of the rare disease organizations."

Companies that approach the Rett Syndrome Research Trust are often surprised to find its small research team has a great depth of industry experience. As such, the organization has sought to put into place the type of resources a drug developer would want to have if they were going to develop therapies for Rett syndrome. This includes nonclinical and clinical tools, such as a biorepository of patient cell lines (including induced pluripotent stem cells to create brain cell types for testing therapies), humanized animal models of all the major mutations in Rett, and a registry with parent data about what it takes to care for children with Rett syndrome. Clinicians and industry have informed its data collection efforts to ensure it captures useful information.

The group has collected medical records and consolidated the information to create a retrospective natural history study. It's also working on biosensor development to develop reliable and accurate quantifiable measures rather than relying on the assessments and questionnaires that have been traditionally used to evaluate patients with neurological disorders.

She said part of the problem is that patient organizations, including her own, have not been good at reaching out to industry to make companies aware of all of the support and resources they can provide.

Leveraging patients

In 2023, Reata Pharmaceutical (since acquired by Biogen) won U.S. Food and Drug Administration approval for Skyclarys for adults and adolescents aged 16 years and older with Friedreich's ataxia. Skyclarys is the first therapy approved for the ultra-rare, genetic, neurodegenerative disease. People with Friedreich's ataxia suffer a progressive loss of coordination, muscle weakness, and fatigue. They often become reliant on a wheelchair in their teens or early twenties and their disease can lead to premature death.[8]

Colin Meyer, who served in various functions at Reata, including chief innovation officer,

[8] Reata Pharmaceuticals, Reata Pharmaceuticals Announces FDA Approval of SKYCLARYS™ (Omavaloxolone), the First and Only Drug Indicated for Patients with Friedreich's Ataxia, Reata Pharmaceuticals, February 28, 2023, https://www.businesswire.com/news/home/20230228006450/en/Reata-Pharmaceuticals-Announces-FDA-Approval-of-SKYCLARYS%E2%84%A2-Omavaloxolone-the-First-and-Only-Drug-Indicated-for-Patients-with-Friedreich%E2%80%99s-Ataxia

credits Friedreich's Ataxia Research Alliance (FARA) for the company's success in advancing the first therapy for the condition to the market. "Our approval would not have been possible without everything they did to corral experts to study the disease and then work with us to design and execute the study," he said. the time that FARA met with Reata, the patient organization had already engaged with the FDA, independent of any drug company's involvement, to solicit input from the agency on what would be considered an acceptable endpoint in a registration trial for a treatment for Friedreich's ataxia.

Part of Reata's success came from its openness to recognize the expertise that resided within FARA and the patient community. That may have been aided by the fact that the company's decision to pursue Friedreich's ataxia as an

Paying for Value

There's little debate about the value that patient organizations can provide by sharing insights with drug developers. There is some disagreement, though, on whether they should charge them for their work.

A growing number of research-focused patient advocacy organizations charge for at least some of their services.

Jen Farmer, CEO of Friedreich's Ataxia Research Alliance, said her organization recently started charging for its services. Earlier, it chose not to because it was working with small startups and didn't want to create any barriers to advancing drug development. That, though, has changed.

"We have to recognize that we've got these programs they're tapping into and they cost us something to run," she said. "We have to be able to be sustainable."

She described FARA's earlier approach to working with industry as an "honor system," where she explained the various things the organization did and would expect companies to sponsor some of the organization's programs. What she learned, though, was that an honor system is not a framework a biopharmaceutical company can understand or operate under. Larger companies, she said, expect a contract that spells out what you will do and what they will pay.

"Some of the bigger companies taught me that as we've started working with them," she said. "I've had one say, 'Jen, we can't have you do this for free. We're not allowed.'"

Some patient advocacy organizations believe that they have been able to support their work through donations and fear that taking money from industry can undermine their credibility. However, those organizations that charge for services see it as justified and essential to advancing their work.

The National Health Council, an advocacy association for people living with chronic diseases and disabilities and their caregivers, provides tools on its website for determining compensation for patient engagement.

In addition to a toolbox of resources to guide sponsor-patient activities, the organization has a Fair Market Value Calculator, an online interactive tool. The resource can be found at https://nationalhealthcouncil.org/ under the resources tab and includes the methodology used to derive a fair-market value hourly rate.

indication came only after FARA had suggested it do so. Nevertheless, it can be difficult for executives in drug companies to have the humility to accept that patient organizations may better understand a specific disease than they do.

“I'm an expert in clinical trial design, execution, and oversight. I don't consider myself an expert in any one therapeutic area,” said Meyer. “I would say a lot of people in industry think that they are. Being open to the fact that they're likely not the expert in a given rare disease and leveraging the experts who do exist is important so that you can design the clinical trial that will give you the highest probability of finding the right answer.”

Some companies have built their own patient boards rather than relying on patient advocacy organizations for patient input, both patient advocacy organizations and industry professionals said. At the same time, it was good that companies took steps to understand the patient’s perspective, but they cautioned against relying on the same group of patients to deliver insights over and over. One thing patient advocacy organizations do is provide a diverse set of perspectives. This will include not just a diversity of age, sex, and geography but also a spectrum in terms of how knowledgeable a patient is about their own disease, how long an experience they have had living with a condition, and their family circumstances.

International Fibrodysplasia Ossificans Progressiva Association’s Davis said she has seen drug companies use the same patients for patient stories that they use in focus groups and as ambassadors to the patient community. “The thing that is egregious to me about that is that then you're getting the same perspective of a few people over and over,” she said.

Instead, she said, they should be getting feedback from patients and parents with a variety of circumstances, from the quintessential mom who’s up to date on all the research and active in the patient community to the mom who sits on the periphery who is not so involved, watches, and is not as educated, as well as newly diagnosed ones.

“When we recruit for patient advisory boards for input or review, we look at the diversity. You want someone rural. You want someone urban. You want someone super connected and someone disconnected. You want a mom, you want a dad, you want the patient that's working versus the patient that is no longer able to work,” said Davis. “The other important thing is to get that diverse perspective because you're going to need all of those people to consider your clinical trial. You want to hear the perspective of all of those people when you're planning.”

Other concerns with such an approach raised by some industry and patient advocates are the potential for such advisors to think of themselves as part of the company rather than as patient community representatives. That, they said, could cause them to grow timid in providing critical insights for fear of offending someone they may think of as an employer.

Communication is essential for trust

While it is important for drug developers to build a trusting relationship with a patient community, that requires ongoing effort and time to demonstrate that a company is committed to a community and is not just looking to fill a trial or sell a drug. This is best done by listening, considering what community members tell it, and explaining its decisions, particularly when it does not follow the community's guidance. Among the recommendations that advocates emphasized

clinical trial study participants and the patient community. This included taking such steps as providing summaries of more scientifically complex and legalistic documents. It also included the need to translate materials into the languages of any country where a clinical trial is taking place. And how a company communicates with a community is often seen as a sign of respect, or lack thereof.

Consider what happened in the Angelman syndrome community when a large multinational drug company decided to discontinue the development of what was seen as a potentially transformative therapy that had completed mid-stage testing. The company didn't notify the patient community. Instead, people who had been in the trial and patient advocates learned about it through social media or a press release. Amanda Moore, CEO of the Angelman Syndrome Foundation, called the news "heartbreaking" and "devastating" to the community.

A similar lack of communication occurred when a second company discontinued a late-stage therapy. That company did not alert patient advocates to their decision, and investigators involved in the clinical trial didn't get on the phones to notify patients who were in the trial.

"No one gave us a heads up to be able to talk with families to help them through this. It was a nightmare how it was all handled. Families had been in these trials for three years. They're invasive trials, and they took the chance and the risk of doing that," said Moore. "The least they deserved was a phone call from the PI or some heads up. It was just done horribly, and it's just disappointing."

Now that company is pursuing a new therapy for the condition and starting to think about the clinical development of a new experimental therapy. However, Moore said they would have a difficult time attracting participants to a clinical trial.

"They now are reaching back out because they're thinking about doing something else in Angelman. And we have told them, 'You have a lot of damage control to do' because the community doesn't trust them," said Moore. "For someone to sign up to do a trial with them now, if they had the opportunity to choose between multiple companies who are doing the same shot on target, which right now they're doing, no one's going to choose them because they don't trust them."

One indicator of when a company should communicate with the patient community is whether they communicate with other stakeholder groups. That's a signal that they should update the patient community. "It's an expert stakeholder group. You communicate and treat them the same way you would others," said Dyne's White. "That's the filter you use to think about how you drive that communication."

Even though companies may think they have no news to report while they are waiting for data from a study, advocates said they should nonetheless reach out to the patient community, if only to report on conferences they may have attended, or upcoming conferences where they will be.

"My advice is to be willing to share and communicate, and don't go silent," said Fischer of the Foundation for Angelman Syndrome Therapeutics. "When you go silent, even if you are in the middle of doing analysis or whatever it may be, silence means you don't care."

Reconceiving industry patient advocacy

If drug developers hope to do a better job of rare disease clinical trials feasibility studies and

improve the success rates of their efforts, one place to start may be with reconceiving the role of the patient advocates working within their own companies. Both industry and advocacy representatives said too often drug developers view the role of their own patient advocates as being a means of transmitting information to the patient community rather than being a conduit for two-way interaction between patient communities and the scientific, regulatory, and business teams within their own companies.

While companies may implement policies mandating patient engagement, Amyloidosis Research Consortium CEO Lousada said they tend to treat these as little more than a checkbox that people can mark off and feel good about themselves rather than viewing them as a source of meaningful interactions that inform drug development. While it is important for them to be empathetic with the patient community, industry patient advocates should also have the necessary scientific grounding to speak credibly with their colleagues in research and development.

Lousada said companies need to commit to that engagement as part of a decision-making process. She said her organization has been asked to put together patient focus groups to review trial protocols a number of times only to find that a company had already spent a million dollars and eight months developing them and had already sought all input from the scientific community. At that point, she said, it's too late to make meaningful changes.

"Maybe there's a little tweaked language that's a little more patient-friendly, but that's not meaningful patient input," she said. "You have to have a commitment to that engagement as part of a decision-making process."

She said it's important for companies to recognize patient organizations' different abilities to engage meaningfully. Some can engage well in reviewing documents and having input to make them more patient-friendly. Some can help with different patient benefits that might be available, such as travel assistance or caregiver needs that can have a meaningful impact on participating. "But if you're going to design a clinical trial, it's a different level of engagement that needs to be had," she said.

For Lousada, patient advocacy positions within drug developers have too often been filled by someone who fell into the role rather than someone who could advance scientific programs. As a result, she said it causes an imbalance within a company, where the patient advocate employed by the company isn't heard.

The advocacy role within companies is a relatively recent creation, while how companies navigate the drug development process follows a well-practiced structure outside of which advocacy tends to sit. Even though there may be a group within a company that engages with patients, there's no clear pathway for those people to take what they have learned to influence discovery and development. As a result, companies often fail to engage with the patient community at key times during the drug discovery and development process.

"Across that continuum from understanding what are the unmet needs of a patient population, what are the endpoints that would matter? How do you design a trial that would provide and produce more meaningful outcomes? How do you select the patient population? All these key points where you should strategically engage patients are critical," said Lousada. "One of the big challenges is that you end up with patient advocacy being a soft, feel-good role. How do you bridge that gap where you can bring in people who can articulate a way that can generate data that's scientifically meaningful? There's a gap in who's brought into the advocacy roles."

That's a point that both industry representatives and patient advocates made. They said it's increasingly important that industry patient advocates are not only good at interacting with the patient community but also able to bring to their positions an understanding of science and drug development that allows them to engage with the scientific staff within their companies and provide perspectives on development plans.

"Patient advocacy can be considered one of those softer functions. You can discount the importance of the function because it's not a profit and loss function driving potential profit," said Dyne's White. "That just shows a lack of understanding of how these different functions, including patient advocacy, drive strategic thinking and strategic benefit."

It's good business

It is not unusual to hear drug developers, particularly those working in rare disease, declare that their organizations are "patient-centric." Saying so and being so, however well-intentioned, are quite different. As patient advocacy evolves, companies will need to evolve with it and think about cultural changes within their own walls to capitalize on the insights the patient community can provide to inform discovery and development and accelerate the process.

Astellas Pharma's Yanni said that there are two components to patient centricity. One is operational. The other is cultural. The cultural component, he said, involves everyone in an organization from the research lab to human resources and finance where everyone in the organization, every day, thinks about the patient. It is the cultural piece, he said, that makes the operational piece sustainable.

"It's not going to be sustainable unless you have a culture in the company that is consistently focused on the reason for the day," he said. To do that requires moving from passive effort of posting a piece of wall art to implementing active programs where people participate. In the case of Astellas, one way it does that is through a Patient Centricity University, where anyone in the company can go through training that provides four levels of certification with the goal of having them better incorporate patient-centricity into the job regardless of their role in the company.

"We have to create processes to interact with patients, gather their insights, make them actionable, and then continue to measure both qualitatively and quantitatively how we're doing that," said Yanni. "Capturing them is important, but having them sit on a shelf is useless."

Of course, one reason for the disconnect between how a company speaks and how a company acts is that as patient-centric as a company might be, it is shareholders to whom they are accountable and payers whom they may view as their ultimate customers. Although that may color some of their decision-making, it should not put these companies at odds with operating in a patient-centric way. At the end of the day, it is through a business lens that they need to understand the value of patient-centricity. That, say drug developers, is apparent to anyone who has been through the process of rare disease drug development.

"In ideal conditions where patients and families are successfully recruited into a study efficiently, there are still many factors that can make it difficult to keep them in a study. We need to be strategic in mitigating some of those known factors," said Parisa Sanandaji, executive director of patient advocacy, policy, and stakeholder engagement for Stoke Therapeutics.

She said that in rare disease trials, this becomes even more challenging as patients are likely living with complex diseases and syndromes.

Caregivers, typically parents, must battle lengthy travel distances to centers of excellence with overnight stays, taking time away from work and other family duties. In addition to the daily burdens of caring for an ill child, participating in the study becomes expensive, time-consuming, and burdensome. That makes it difficult for some families to stay in a study.

The mental health capacity of parents also needs to be considered to minimize the risk of children having negative experiences during site visits.

“When you're dealing with severe developmental disorders, especially neurological developmental disorders, having a bad day at a site visit halfway through the study will likely pose both efficacy and safety challenges unrelated to the study drug, but could lead to poor retention rates and increase the costs associated with running the study,” said Sanandaji. “Unfortunately, this time point is typically when many leaders in the industry start to pay attention to the importance of patient centricity.”

But companies risk not only the greater cost of conducting studies by failing to incorporate patient insights early in the process but also lost revenue opportunities, as delays in conducting studies not only increase costs but also push out the time to sales and reduce the duration of a protected market presence.

“If you end up expediting the setup of the study and you end up expediting the recruitment of the study, your timelines overall improve,” said Alexion’s Pirozzi.

Improving timelines, he said, provides financial advantages beyond cost savings because getting to market faster allows companies to make greater benefit of their period of exclusivity, which is fixed. “If I'm one month, two months on the market faster, you add one or two months to my sales,” he said. “Exclusivity doesn't change. That exclusivity date will end, so you are expanding the actual time on the market under exclusivity.”

Conclusion

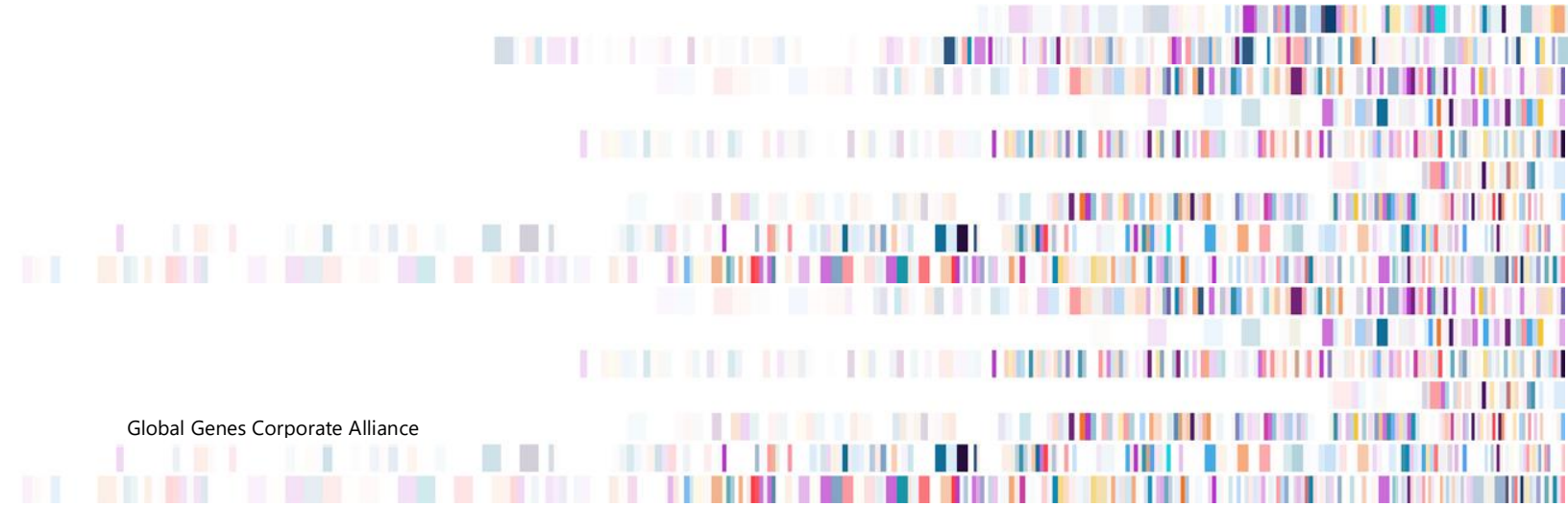
Making efforts to create a comprehensive understanding of patients’ perspectives and needs and accessing the resources of patient advocacy organizations can accelerate the development and reduce the cost of advancing rare disease therapies to the market. Drug developers can identify and address barriers to enrolling and retaining participants in clinical trials by engaging with patient advocacy organizations and the communities they represent.

The traditional methods biopharmaceutical companies use to determine clinical trial feasibility often don’t recognize the unique challenges patients with rare conditions face. By adopting a more patient-centric approach that includes insights from patients advocates and early engagement with the patient community, companies can address barriers to participation, enhance protocol designs, and improve the likelihood of conducting successful clinical trials.

This study's interview and roundtable participants underscored the importance of drug developers collaborating with patient advocates. Such partnerships can provide insights into critical aspects of trial design that may otherwise be overlooked, ensuring that studies are scientifically sound and aligned with patients' real-world experiences. Investing time and

resources to understand patient needs can lead to significant cost savings.

Fostering a culture of collaboration between drug developers and patient communities will not only enhance clinical trial feasibility but also help accelerate the drug development process and reduce the cost by avoiding delays to enrollment and the need to replace participants who drop out of studies, and ensure the development of therapies that genuinely address the needs of those living with rare diseases. Biopharmaceutical companies must prioritize patient engagement as a foundational element of their feasibility studies to achieve meaningful progress in rare disease drug development.



Appendix

Interview Summaries

Alice Anane

Founder and CEO of the CJD Foundation Israel

Anane discussed the complex ethical dilemma a patient advocacy organization faces in its interactions with a pharmaceutical company conducting a clinical trial for a rare genetic disease. She expressed frustration with one company's decision to use a placebo-controlled trial design, arguing that it is both unethical and unnecessary for a devastating condition with rapid progression where no existing treatment options exist. She argued that a well-documented natural history of the disease should negate the need for a placebo arm.

She said the patient community feels marginalized in the trial design process, believing their perspectives and feedback have been largely ignored. This lack of meaningful engagement has led to a sense of being treated as mere experimental subjects rather than valued stakeholders. She said her group is working to present evidence supporting alternative trial designs that could eliminate the need for a placebo arm. However, the group's efforts to influence the company's approach have met with limited success so far.

Katherine Beaverson

Vice President of Global Patient Advocacy for Dyne Therapeutics

Molly White

Vice President of Strategic Initiatives for Dyne Therapeutics

White and Beaverson emphasized the importance of biopharma companies viewing patient advocates as expert stakeholders whose input is critical throughout the drug development process for rare diseases, particularly neuromuscular disorders. They stressed that effective communication and transparency with patient communities are essential, including providing regular updates and feedback on trial progress and outcomes.

They said biopharma companies need personnel with deep expertise in the specific rare disease on which they are working, not just general clinical trial experience, in order to design meaningful trials for patients. They also emphasized the crucial role of building an organizational culture and mindset that prioritizes the patient's perspective and experience for successful rare disease drug development.

Danielle Caira

Executive Director of Clinical Operations, Therapy Area Head for Alexion

Caira emphasized the critical role of patient advocacy organizations in the clinical trial feasibility process, particularly for rare disease drug development. Early and ongoing engagement with these groups is essential to deeply understand the patient's experience, burden, and needs. This invaluable insight helps inform protocol design, site selection, and operational planning, ultimately making trials more patient-centered. In rare disease research, the lack of established knowledge about the patient population presents unique challenges, making direct collaboration with advocates even more crucial.

Approaches like patient advisory boards and newsletters have improved communication and transparency between researchers and the patient community. Caira stressed that the patient-centric mindset should not be limited to the feasibility stage alone but should extend throughout the clinical development process. Continuous feedback and adaptations are necessary to ensure trials align with patient needs and preferences. Successfully integrating the patient's voice requires a fundamental cultural shift within pharmaceutical organizations, emphasizing the importance of patient perspectives at every stage of drug development.

Kendall Davis

Director of Advocacy and Engagement Strategy for ICON's Center for Rare Diseases

Davis discussed the critical importance of involving patient advocacy organizations early in the clinical trial feasibility process, especially for rare diseases. While companies often focus on gathering input from clinical trial sites and key opinion leaders for feasibility assessments, she cautioned this approach could overlook crucial insights from patient communities that are deeply connected and well-informed about their condition.

By engaging patient organizations early, companies can gain valuable perspectives that shape trial design and improve the likelihood of successful patient recruitment and retention. Patient advocates can provide essential input on factors like route of administration, caregiver burden, and community attitudes towards specific trial requirements, all of which can significantly impact feasibility. Transparency and clear communication with patient organizations are vital, as lack of follow-up or sudden trial terminations can severely damage trust and future willingness to participate. From a business standpoint, incorporating patient feedback during the feasibility stage can prevent costly protocol amendments or trial failures later on, making the investment in early engagement worthwhile.

Michelle Davis

International Fibrodysplasia Ossificans Progressiva Association

The International Fibrodysplasia Ossificans Progressiva Association (IFOPA) supports clinical trials for fibrodysplasia ossificans progressiva (FOP), a rare disease that causes muscle and other soft tissue to turn to bone. By engaging with pharmaceutical companies, the IFOPA ensures that clinical trials are designed to address the unique needs of FOP patients, providing input on protocols, patient-facing materials, and trial logistics. To support research efforts, the IFOPA has established a global patient registry and natural history study, while also working to educate healthcare providers on FOP to expand the network of clinical trial sites.

Recognizing the value of patient insights and access to the community, the IFOPA charges pharmaceutical companies for their advisory services, which helps ensure the organization's sustainability. She highlighted effective practices, including early and ongoing engagement with patient advocates, diversity in patient representation, plain language and translated communications, and transparency in sharing trial results with the patient community. Given the small patient population size for FOP clinical trials, typically 60 to 100 patients, she said the IFOPA's efforts to raise awareness, educate, and facilitate enrollment across the global FOP community are particularly important.

Jen Farmer

CEO of the Friedreich's Ataxia Research Alliance

Farmer provided an overview of the Friedreich's Ataxia Research Alliance (FARA)'s experience collaborating with biopharmaceutical companies to facilitate clinical trials for this rare disease. FARA's work conducting natural history studies and maintaining patient registries has yielded valuable data that has proven instrumental in designing and executing clinical trials. The organization's close partnership with the small biopharmaceutical company Reata exemplifies the benefits of such collaboration. FARA offered guidance on clinical trial design, identified potential trial sites, and assisted with patient recruitment and engagement, enabling Reata to advance their drug candidate through clinical development and ultimately secure regulatory approval quickly.

Farmer noted that many larger biopharmaceutical companies struggle with conducting feasibility studies and clinical trials for rare diseases, often relying on external consultants rather than tapping into the expertise of patient advocacy organizations like FARA. She emphasized that patient advocacy groups can be valuable partners for biopharmaceutical companies, providing critical insights, data, and access to the patient community. However, these groups must demonstrate organization, efficiency, and capability to build trust with industry partners. Farmer stressed the importance of effective communication and expectation management between patient groups and companies, including the need for feedback on clinical trial protocols before they are finalized.

Ryan Fischer

Chief Operating Officer of the Foundation for Angelman Syndrome Therapeutics

Pharmaceutical companies often face challenges in gaining internal buy-in, particularly from commercial teams, regarding the importance of collaborating closely with patient advocacy groups when designing clinical trials for rare diseases. Companies that excel in this area establish strong partnerships with patient advocates throughout the process, from protocol development to reviewing informed consent materials. These successful organizations prioritize transparency, share their learnings, and implement changes based on patient feedback.

Some common hurdles that companies encounter with clinical trials include selecting appropriate endpoints, minimizing patient burden, and maintaining continuity with patient groups during transitions between development phases. Effective communication with the patient community is crucial, but many companies struggle in this area, often siloing information or inadvertently creating competition between advocacy groups. Fischer emphasized the importance of companies engaging in genuine partnerships with patients and advocates rather than viewing them solely as a recruitment pool for trials.

Matthew Fuller

Vice President and Head of Gene Therapy Research at Ultragenyx

Fuller discussed the integration of patient advocacy organizations into the preclinical drug development process, emphasizing their early involvement in selecting disease indications. Companies typically start by considering the pursuit of treatments for a large universe of diseases and then filter them down based on specific criteria like prevalence, unmet medical need, and how well existing therapies address patient needs.

He said patient advocates can provide critical insights that enhance understanding of the standard of care and the important role patient experiences can play in providing insights that extend beyond clinical data. Patient advocates can also inform companies about practical challenges related to treatment regimens to determine whether a particular modality might be appropriate for a patient population because of considerations such as dosing frequency or patient stability. Engaging with patient advocacy groups can also help the decision-making process better identify the addressable patient population, rather than relying on just prevalence statistics.

Pat Furlong

Founding President and CEO Parent Project Muscular Dystrophy

Furlong's organization has established a Community Advisory Board (CAB) for the Duchenne muscular dystrophy community. The CAB meets with pharmaceutical companies developing Duchenne treatments twice a year to provide input and feedback on various aspects of drug development, including clinical trial design, protocols, and outcome measures. The CAB has proven to be a valuable resource for these companies. By providing crucial input, the CAB has helped companies avoid costly protocol amendments, with estimates suggesting they have prevented more than 23 amendments over the years. This guidance has enabled companies to better understand the needs and burdens faced by the Duchenne patient community, leading to more effective and patient-centric drug development processes.

Companies working with patient advocates on clinical trial feasibility studies must engage with patient advocates early and frequently throughout the process rather than only presenting finalized plans. Companies should leverage the advocates' understanding of the disease, patient population, and treatment burden to inform protocol design. It's also important for companies to be receptive to feedback and to be willing to adapt their plans based on the insights provided by advocates. Companies should recognize the significant value that advocates bring to the table and be prepared to compensate them appropriately for their time and expertise.

Ellie Hanson

Director of the Neurodevelopmental Disorders Developmental Program at Boston Children's Hospital

Hanson explored the difficulties of incorporating patient advocates and perspectives in designing clinical trials for rare diseases. She noted that pharmaceutical companies often underestimate the value of collaborating with patient communities early in the drug discovery and development process.

She emphasized the critical importance of involving experts who understand the unique characteristics of the patient population when designing appropriate clinical trial measures and procedures. She advised that drug developers should engage directly with patient communities to gain insight into their specific needs and priorities rather than relying on assumptions. Additionally, Hanson stressed the importance of maintaining flexibility in trial design, particularly in terms of modifying inclusion criteria and adding relevant measures, to ensure the trial is both feasible and beneficial for the target patient population.

Isabelle Lousada

President and CEO of the Amyloidosis Research Foundation

Lousada highlighted the need for biopharma companies to engage more strategically with patient advocacy organizations to enhance clinical trial design and feasibility. She noted that many companies still treat engagement with patient advocacy organizations as a superficial exercise rather than a vital input for trial design and endpoint selection. Lousada recommended involving patient advocates with scientific and medical backgrounds in trial design discussions and decision-making processes to foster successful collaborations.

A common pitfall she identified is companies' failure to capture meaningful endpoints and outcomes that matter to patients, leading to failed trials or products that don't address genuine patient needs. Lousada noted that rare disease trials present unique challenges, and companies specializing in rare diseases often demonstrate a better understanding of effective patient group engagement. She said that patient advocacy groups should develop strong scientific and medical expertise, define their role and value proposition, and maintain a business-oriented mindset when collaborating with industry partners. By implementing these strategies, biopharma companies can work more effectively with patient advocacy organizations to improve clinical trial outcomes and develop treatments that better serve patient needs.

Elizabeth Maia

Senior Director of Patient Advocacy for Ultragenyx

Maia said that engaging patient advocacy groups early and often in the clinical trial process is crucial for success. These groups provide invaluable insights into the patient experience and community needs, which can significantly improve trial design, endpoint selection, and patient compliance. Without this engagement, companies risk making misinformed decisions that can lead to protocol amendments, enrollment challenges, delays, and increased costs. Bringing the patient voice into these discussions is not just a community relations activity, but a business imperative.

Successful patient advocacy integration involves having a dedicated patient advocacy function with a seat at the table alongside other key functions like clinical, medical, and regulatory. This ensures the patient’s perspective is fully integrated into strategic decision-making. Patient advocacy engagement should start as early as the preclinical stage and continue throughout development, with a focus on setting realistic expectations and maintaining open, transparent communication with the patient community. By incorporating patient advocates throughout the clinical trial lifecycle, researchers can create more patient-centric studies, improve recruitment and retention, and ultimately develop more meaningful and effective treatments.

Colin Meyer

Former Chief Research and Development Officer of Reata Pharmaceuticals

Meyer discussed his experience conducting feasibility studies for rare disease clinical trials, specifically for Friedreich's ataxia. He noted that these studies differ from those for common indications in several ways, including less well-defined endpoints and disease progression, limited infrastructure and expertise, and greater challenges with patient recruitment.

To address these issues, Meyer worked closely with the Friedreich's Ataxia Research Alliance (FARA), leveraging their expertise, natural history data, and network of expert clinical trial sites. FARA had already engaged with the FDA to establish an acceptable endpoint. He stressed the value of partnering with true disease experts rather than focusing solely on operational feasibility. Ultimately, Meyer credited FARA's efforts as instrumental in the successful approval of the drug under the FDA's accelerated approval pathway.

Amanda Moore

CEO of Angelman Syndrome Foundation

Moore highlighted the crucial role patient advocacy groups like the Angelman Syndrome Foundation and the Foundation for Angelman Syndrome Therapeutics have played in advancing clinical trials for Angelman syndrome treatments. These organizations have actively pushed for early and frequent engagement with pharmaceutical companies, offering valuable input on trial design, patient experiences, endpoint selection, and communication strategies. Companies such as Ionis and Ultragenyx have fostered strong relationships with the Angelman syndrome community. In contrast, other firms faced challenges and eroded trust with the patient community when they failed to adequately communicate trial failures or other changes to the patient community.

The advocacy groups have collected natural history data, built patient registries, and trial-ready clinical sites to support drug development efforts, often funding these initiatives. This commitment has significantly contributed to the advancement of potential treatments for Angelman syndrome. Moore emphasized the importance of pharmaceutical companies collaborating closely with patient advocacy groups from the earliest stages of drug development in rare diseases. By leveraging these groups' deep understanding of the patient community, companies can improve the chances of successful trial execution and regulatory approval.

Gianluca Pirozzi

Senior Vice President and Head of Development, Regulatory, and Safety for Alexion

Pirozzi said that engaging patient advocacy groups and the patient community is crucial when designing clinical trials, particularly for rare diseases. Several factors can create what he called "friction" and impact patient enrollment and retention in clinical trials. These include disease-specific issues such as physical limitations, lack of patient awareness and education about clinical trials, and logistical barriers like transportation and time off work.

To address these challenges, companies can engage patients through focus groups and mock trial walkthroughs. This approach can help identify and mitigate barriers, potentially leading to faster study

timelines, reduced costs, and quicker market access. However, companies must be cautious about reputational risks if they are perceived as engaging with patients solely for marketing purposes rather than genuinely incorporating their input into clinical trial design and operations. Authentic patient engagement throughout the clinical trial process is essential for building trust and improving outcomes.

Julie Raskin

CEO of Congenital Hyperinsulinism International

Raskin said patient advocacy organizations like Congenital Hyperinsulinism International (CHI) have substantial experience collaborating with biopharmaceutical companies on rare disease clinical trials. These organizations offer valuable insights and feedback to enhance study design, patient recruitment, and other crucial aspects. She noted that companies often lack a comprehensive understanding of the heterogeneity of rare diseases like congenital hyperinsulinism, and patient organizations play a vital role in educating them about the real-world impacts of a disease and patients' unmet needs.

She highlighted the critical involvement of patient organizations in activities like protocol review, developing patient-facing materials, site selection, and engaging with regulators. However, she pointed out that companies don't always fully utilize their expertise. The issue of compensating patient organizations for their time and intellectual property was also raised, as their unique insights can significantly influence a company's chances of success. Raskin underscored the need for deeper, more sustained collaboration between patient advocates and industry in rare disease drug development, suggesting that structured programs and best practices could facilitate these productive partnerships.

Kristina Reeder

Director of the Patient Innovation Center at Parexel

Reeder argued that incorporating patient input and feedback into clinical trial design is crucial, especially for rare disease studies. Recruitment and retention pose significant challenges, with 85 percent of trials facing delayed enrollment and 18 percent of patients dropping out, according to data she cited. Over the past decade, trial protocols have become increasingly complex, with a 40 percent rise in procedures and a 70 percent increase in endpoints. This added burden on participants can result in higher dropout rates and more protocol amendments, leading to study delays and substantial cost increases.

Companies that engage patients early in the process and design trials based on their feedback can mitigate many of the recruitment and retention issues. Patients offer valuable insights into endpoints, procedures, and other protocol elements that are most meaningful and least burdensome to them. By incorporating the patient perspective, trials can achieve greater success, higher-quality data, and a faster path to market. This not only has the potential to shorten time to market but also increase the net present value of a company's therapies.

Parisa Sanandaji

Executive Director of Global Advocacy and Policy for Stoke Therapeutics

Engaging patient advocates early and consistently throughout the drug discovery and development process is crucial, yet many pharmaceutical companies struggle to implement this effectively. To address this challenge, companies must adopt a strategic, cross-functional approach to patient engagement rather than relying on siloed or tactical efforts. Patient advocacy groups have evolved to become

increasingly sophisticated, and it's essential for companies to recognize them as key stakeholders and thought leaders rather than merely viewing them as marketing channels.

Building trusted relationships with patient advocates requires time, commitment, clear communication, flexibility, and a willingness to incorporate their valuable feedback. To convince leadership to prioritize patient engagement initiatives, it's important to emphasize the compelling business case, which includes improved trial recruitment and retention, accelerated timelines, and reduced costs. By implementing these strategies, pharmaceutical companies can foster more meaningful collaborations with patient advocates and ultimately improve the drug development process.

Jess Sheldon

Senior Feasibility and Strategy Leader for Parexel

Sheldon emphasized that conducting feasibility studies for rare disease clinical trials demands a unique approach compared to more common conditions. Due to the scarcity of historical data in typical sources, researchers must turn to patient advocacy groups, medical literature, and epidemiology data to inform the feasibility process. Engaging with the patient community is crucial to gather feedback on the study design.

She said this qualitative information serves as an essential complement to quantitative data analysis. Companies conducting rare disease trials must be receptive to innovative strategies prioritizing patients, such as allowing cross-border enrollment and utilizing vendors to assist with patient transportation. Educating sponsors about these options is a vital component of the feasibility process. Ultimately, rare disease feasibility studies require a more comprehensive approach that considers the full patient experience, resulting in better-designed trials that are more feasible to execute and successfully enroll participants.

Rachel Smith

Executive Director, Global Head of Rare Disease for Parexel

Smith highlighted the unique challenges of conducting feasibility studies for rare disease clinical trials. She emphasized that these studies require a distinct approach compared to more common indications due to several factors. The small and heterogeneous patient populations, diagnostic difficulties, and lack of established data sources all contribute to the complexity of rare disease research.

Smith noted that pharmaceutical companies often struggle to grasp these intricacies and may resist making necessary protocol adjustments, resulting in extended timelines. A critical aspect of successful rare disease trials is early and frequent engagement with patient advocacy groups and the patient community. However, Smith observed that some companies view this engagement merely as a recruitment tool rather than a genuine partnership. She stressed the need for a cultural shift within the pharmaceutical industry to truly regard patients as customers and integrate their input throughout the drug development process, not just during enrollment.

Charlene Son Rigby

President of the SXTBP1 Foundation

Son Rigby explained that the STXBP1 Foundation was established in 2017 with the goal of transforming the STXBP1 landscape and creating a pathway to therapies for the patient population, at a time when no therapies were in development. In 2019, the foundation initiated an academic-led clinical trial for a repurposed drug, though this was limited to a single site and did not address broader clinical trial feasibility. By 2023, the foundation had made significant progress, engaging with multiple biopharma companies developing genetic and RNA therapies for STXBP1. The foundation has actively worked to facilitate clinical trial feasibility by providing patient census data, identifying clinical sites and investigators, and engaging with the patient community to inform endpoints and protocol design.

Son Rigby acknowledged that the foundation faced challenges with biopharma companies being hesitant to engage with the patient community early in the process, often due to concerns about managing expectations and legal and compliance issues. However, the foundation has worked through these challenges to establish productive partnerships. Overall, the STXBP1 Foundation has played a critical role in de-risking the STXBP1 target and facilitating the development of potential therapies by providing invaluable patient insights and data to support clinical trial planning and execution.

Marissa Volpe

Senior Vice President and Head of Clinical Development Operations for Stoke Therapeutics

Volpe discussed the critical role of patient advocacy in the design and execution of clinical trials, particularly in the context of rare diseases like Dravet syndrome. She highlighted the importance of engaging with advocacy groups to gather patient feedback, which can significantly influence trial design, participant eligibility, and data collection methods. She emphasized the need for a collaborative approach that prioritizes the experiences and insights of patients and their families, ultimately aiming to improve trial outcomes and patient care.

Volpe talked about the complexities of patient care, focusing on the logistical and emotional needs of families involved in clinical trials. She highlighted the importance of caregiver support, travel accommodations, and the necessity of incorporating patient feedback into trial protocols. She also addressed recruitment challenges faced in different regions and the regulatory considerations that impact trial design, particularly in relation to cognitive and behavioral outcomes.

Jana Von Hehn

Chief Scientific Officer Rett Syndrome Research Trust

Von Hehn emphasized the critical role of effective engagement between pharmaceutical companies and patient advocacy organizations in conducting feasibility studies for rare disease clinical trials. She noted that patient advocacy groups often possess valuable expertise and resources, such as patient data, cell lines, and animal models, which can significantly accelerate and de-risk drug development programs.

However, many companies are unaware of these potential contributions. Von Hehn stressed that successful engagement goes beyond simply using advocacy groups for recruitment purposes. Instead, companies should involve these organizations earlier in the process to gain input on study design,

endpoints, and other crucial elements. Communication and transparency are highlighted as essential factors, with companies encouraged to share information with the patient community to maintain trust proactively. Additionally, Von Hehn suggested that patient advocacy groups should take initiative to reach out to companies to highlight their capabilities and demonstrate their value as partners in the drug development process.

Anthony Yanni

Senior Vice President and Global Head of Patient Centricity for Astellas Pharma

Yanni discussed how Astellas has implemented a dedicated "patient centricity" function to incorporate patient perspectives throughout the drug development process, from initial discovery to final delivery. This approach is tailored differently for rare diseases than more common conditions because of the unique characteristics of smaller, more engaged patient populations in rare disease communities.

The company engages with patient advocacy groups to gather insights and establish trust-based relationships, often initiating contact years before clinical trials begin. This patient input has proven invaluable, leading to significant changes in drug programs, including the termination of initiatives that did not align with patient needs and the redirection of programs to better-suited patient populations. He said the company recognizes that for this patient-centric approach to be effective, it must permeate the entire organizational culture, extending beyond the specialized team to become a core value embraced by all employees.

Credits

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