THE POWER OF PATIENTS

Informing Our Understanding of Rare Diseases

NORD®
National Organization for Rare Disorders

Trio Health

THE POWER OF PATIENTS

Informing Our Understanding of Rare Diseases

Foreword

There are approximately 7,000 rare diseases affecting an estimated 30 million people in the United States. In the vast majority of these cases, an FDA-approved treatment for a rare disease indication will be altogether lacking, and physicians, who may encounter one or two such patients in the course of their careers, will typically have to rely on trial-and-error approaches, along with their own intuition, to provide care. We often hear that the paucity of medical products on the market for rare diseases reflects economic pressures that drive developers to invest their resources into more prevalent diseases, where the financial payoff for new drug development is potentially greater and more immediate. But the tremendous medical need that remains unmet today within the collective rare disease community, in fact reflects a fundamental truth about rare diseases that goes beyond economics. By their very definition, rare diseases may be difficult to localize and subject to concerted methods of investigation, creating huge barriers to understanding for stakeholders who might otherwise define and pursue opportunities for developing new therapeutics. This problem has been central to the collaborative efforts between the FDA and NORD for many years. The very gratifying progress that we've seen in surmounting hurdles to the understanding of rare diseases is evidenced in the NORD natural history registries discussed in the following chapters.

The "natural history" contained in the registries NORD has compiled within the organization's IAMRARE™ program, represents the enactment of strategies to harness the very type of knowledge so essential for the design and execution of clinical trials of potential new therapies, but which has been lacking in the rare disease space. This natural history information is built on the unique insights of those patients living with rare disease. At the FDA, we have found in our patient-focused drug development meetings—for example, with people living with chronic disease—that patients really are the experts in their particular disease. They may not know all the medical jargon and all the laboratory terms familiar to medically trained professionals, but their expertise, built on their experience of living day-in and day-out through the course of their disease, is the cornerstone of the natural history contained in the NORD registries presented in this volume. This information encompasses how these diseases progress over time, what symptoms may occur and how these might be measured, how many patients may be expected to develop the disease, and how patients may have responded, both positively and negatively, to various treatments.

Knowledge of the natural history of rare diseases informs the design of efficient clinical trials in many ways, helping reduce the length and cost of drug development and contributing toward greater predictability of clinical development programs. But in addition to the natural history information they contain, natural history registries also subserve the enormous benefit of enabling people with rare diseases to find each other and to come together to access their collective experience. Additionally, drug developers who are planning clinical trials often consult with patients with the disease to be targeted, who may best know what is feasible to do in a clinical trial, what might not work for certain patients, and may even be able to suggest patients for a trial or participate themselves. If patients aren't consulted in a good part of the trial design process, we frequently end up with clinical trials that are weakened, with multiple patient enrollee drop-outs, because people find they can't participate in a trial that has not been suitably designed.

A great deal of useful information, very valuable to the work the FDA does in the rare disease space, can come from patient registries and from having patients robustly participate and share information about their disease, among themselves and with their caregivers and clinicians. Patient input drives the collection of natural history information and is the basis for the considerable success of the NORD registries program, complementing the FDA's work in bringing new therapeutics into clinical use. On behalf of the FDA, I encourage people who are touched by rare disease to participate in the development of these registries and in the initiation of those yet to come.

Janet Woodcock, MD
Director
Center for Drug Evaluation and Research
US Food and Drug Administration

Alone we are RARE. *Together we are* STRONG.®

At NORD we believe that research has the power to inform and transform people's lives. This book was developed to amplify the experiences of individuals and families living with rare conditions, and to demonstrate the power of natural history data to shape the rare disease landscape. By sharing individual stories, celebrating community-driven collaborations, and exhibiting data from NORD's registries, this book aims to illustrate the promise and potential of longitudinal natural history studies.

NORD's highest priority is to create meaningful change and accelerate progress for the rare disease community. In NORD's registry community, our rare disease research partnerships reflect authentic engagement and sustained collaboration. NORD works alongside and together with rare communities to advance research, drive new scientific findings, and create real impact for rare diseases.

Who we are

NORD

The National Organization for Rare Disorders (NORD®) is the leading independent advocacy organization representing all patients and families affected by rare diseases. NORD is committed to the identification, treatment and cure of the more than 7,000 rare diseases, of which approximately 90% are still without an FDA-approved treatment or therapy.

The organization began as a small group of patient advocates that formed a coalition to unify and mobilize support to pass the Orphan Drug Act of 1983. For more than 35 years, NORD has been leading the fight to improve the lives of patients with rare disease by supporting patients and organizations, providing education, driving public policy, advancing medical research and providing patient and family services for those who need them most. NORD is made strong together with more than 280 disease-specific member organizations and their communities. NORD also collaborates with many other organizations on specific causes of importance to the rare disease patient community.

Patient-powered natural history studies are transforming how patients and caregivers inform and shape medical research and translational science for rare diseases. After a multi-year planning process, NORD developed and launched our IAMRARE registry program in 2014. This was done with guidance from patients, caregivers, researchers, and clinicians, as well as key opinion leaders from regulatory agencies, including the FDA and the NIH, to address persistent knowledge gaps and promote equitable and sustained progress on rare disease research. NORD's registry program unites the rare disease community on a common data collection platform that supports research-grade, longitudinal, patient-experience natural history data.

By bringing interdisciplinary teams together, NORD has created a successful model of developing patient-driven research outlets that complement clinical data sources. NORD takes a multidisciplinary approach to supporting research efforts through the development of consortia, partnering with different stakeholders to accelerate the generation of data, translating findings to inform meaningful outcomes, and providing pathways for the dissemination of information within the rare disease and broader health communities.

Who we are

TRIO HEALTH

Trio Health is pleased to offer our team and capabilities to assist NORD and its member organizations in the pursuit of their mission to identify, treat, and cure patients with rare disorders.

The mission of Trio Health, founded in 2013, is to collect and analyze real-world evidence that may be used to improve the quality of health care available to all patients. We achieve our mission by understanding not only the patient, but also the “trio” of other stakeholders—physician, pharmacy, and insurance company (payer)—and by evaluating how each clinical decision and the workflow have an impact on the overall care of the patient.

Our approach to real-world evidence is predicated on 3 factors: high-integrity data, the right statistical approach to analyze the data, and study conclusions without bias.

To build a high-integrity disease database requires that Trio combine disparate data from each patient stakeholder to form a 360-degree view of the patient. Cross referencing each data source to validate and track the patient journey is unique to Trio Health. Since each patient has his or her own clinical story, our collaboration with each of the patient stakeholders provides unparalleled insight.

To ensure that Trio publishes without bias, Trio retains an independent Scientific Steering Committee (SSC) for each disease that collaborates with our analytics team to author all studies. Sponsorship of each study by a pharmaceutical company, payer, or health plan is classified as investigator-sponsored research (ISR) to prevent any bias from the sponsor of the study. We thank and greatly appreciate all of our partners who respect and support our methodology.

High-integrity real-world evidence will play an important role in establishing the equilibrium between the competing forces among all of the patient stakeholders. Physicians, pharmacies, pharmacy benefit managers, payers, and pharmaceutical companies all share a common goal to provide the right treatment to the right patient. Trio’s position is that real-world evidence provides the path to achieve this goal.

If the patient wins, all stakeholders will achieve clinical excellence.

TABLE OF CONTENTS