



December 14, 2022

Anne Rowzee, PhD  
Associate Director for Policy  
Office of Tissues and Advanced Therapies (OTAT)  
Center for Biologics Evaluation and Research (CBER)  
Food and Drug Administration (FDA)  
5630 Fishers Lane, Rm 1061  
Rockville, MD 20852

**RE: FDA CBER OTAT Patient-Focused Drug Development Listening Meeting — Patient Perspectives on Gene Therapy Products FDA-2022-N-2394**

Dear Dr. Rowzee,

The National Organization for Rare Disorders (NORD) appreciates this opportunity to provide comments on the U.S. Food and Drug Administration's (FDA) Patient Focused Drug Development Listening Meeting '**Patient Perspectives on Gene Therapy Products.**'

For nearly 40 years, NORD has been dedicated to individuals with rare diseases and the organizations that serve them. NORD, along with its more than 325 patient organization members, is committed to the identification, treatment, and cure of rare disorders through programs of education, policy, advocacy, research, and patient services. Supporting patients, drug sponsors, and the FDA in patient-focused drug development (PFDD) activities has been a long-standing priority for NORD in pursuit of our ultimate goal - to improve the lives of individuals and families affected by rare diseases.

NORD applauds FDA's efforts to capture patient perspectives on Gene Therapy Products and greatly appreciated the public listening meeting on the topic held last month. We offer comments below addressing the four questions FDA posed during the listening meeting. We do so to assist FDA in ensuring that rare disease patients and their families understand the often complex trade-offs associated with gene therapies, and that their perspectives and preferences are adequately incorporated into the therapy development process.

**1. Patient and caregiver understanding and expectations of gene therapy risks and benefits**

Gene therapy has been a source of considerable interest for our rare disease community for some time, and NORD has developed a variety of educational resources to help patients, families, healthcare providers, and the public learn about this emerging therapeutic area including the basics of gene therapy, how it is currently used, and its potential for future therapies for rare diseases. Below is a list of some of the most common questions our community has with regards to gene therapy:

1. Why is gene therapy suddenly receiving so much attention?
2. Is gene therapy a cure?
3. Can the changes gene therapy causes be passed on to future generations?
4. How long is the treatment, what does it entail, and does it reach every cell in the body?
5. Why are there variations in responses?
6. Is gene therapy safe? What are possible side effects?

1779 MASSACHUSETTS AVENUE NW, SUITE 500  
WASHINGTON, DC 20036  
T 202-588-5700 ■ F 202-588-5701

55 KENOSIA AVENUE  
DANBURY, CT 06810  
T 203-744-0100 ■ F 203-263-9938

1900 CROWN COLONY DRIVE, SUITE 310  
QUINCY, MA 02169  
T 617-249-7300 ■ F 617-249-7301

[rarediseases.org](http://rarediseases.org) ■ [orphan@rarediseases.org](mailto:orphan@rarediseases.org)

*NORD® and icon are registered trademarks of the National Organization for Rare Disorders. NORD is a registered 501(c)(3) charity organization.*

7. Why does gene therapy cost so much?
8. Will insurance pay for gene therapy?
9. Who will be able to receive gene therapy? Only those with severe or life-threatening disease?
10. What is the difference between gene therapy and gene editing?
11. How can I find out if a gene therapy clinical trial is available for my condition?

To help address educational needs around gene therapy in the rare disease community, NORD has created a host of educational resources over the years. Our introductory resources include:

- FAQs (<https://rarediseases.org/gene-therapy/frequently-asked-questions/>);
- Video series (<https://rarediseases.org/gene-therapy/resources/>); and
- Podcast (<https://podcasts.apple.com/us/podcast/ungeeking-the-speak-dr-rachel-bailey-talks-gene-therapy-101/id1511001441?i=1000515121374>), supplemented with downloadable written materials ([https://rarediseases.org/wp-content/uploads/2022/03/NRD-2241-Gene-Therapy-Sell-Sheet\\_FNL.pdf](https://rarediseases.org/wp-content/uploads/2022/03/NRD-2241-Gene-Therapy-Sell-Sheet_FNL.pdf)).

These introductory resources are complemented by a webinar series, workshop recordings, and a continuing medical education series we co-created with Platform Q Health and the American Society of Gene & Cell Therapy (ASGCT), which are all accessible at <https://rarediseases.org/gene-therapy/resources/>. We would be delighted to partner with FDA to expand the educational resources specific to gene therapy risks and benefits.

## **2. Patient and caregiver involvement in clinical study design and execution**

The role of patients and caregivers in the design and execution of gene therapy trials cannot be underestimated. In fact, patients and families that have gone through the process before can be one of the best sources of information for potential gene therapy trial participants. Some of the areas where patient and caregiver input has been instrumental include:

- Defining outcomes meaningful to patients, including the completeness and durability of effect;
- Informed consent, ethical considerations, and effective study communication;
- Communicating patient expectations for participation in the gene therapy trial, including preparation for trial participation, recovery, durability of effect, etc.;
- Designing trials that work for patients, including screening and early diagnosis, inclusion and exclusion criteria, and patient burden;
- Communicating safety considerations, including long-term health risks and vector cross-reactivity;
- Support for long-term follow-up after gene therapy; and
- Long-term access to transformative therapies

Effective patient and caregiver involvement in the study design and execution is key to long-term success and NORD looks forward to continuing the partnership with FDA and the patient community to ensure patients and caregivers are integral parts of the design and execution of gene therapy trials.

## **3. Current tools or methods to capture patient experience data and any existing challenges or gaps to capturing patient experience data**

FDA's extensive tools, protocols, and approaches for capturing patient experience data are a great resource for capturing data related to gene therapy products, though these tools should be progressively adapted to the unique complexities of gene therapy trials. Current gaps include resources in multiple languages and at an appropriate cultural and literacy level. Also missing are tools to better capture patient perspectives on the unique trade-offs and uncertainty about the expected treatment effect including durability of effect, long-term health consequences, and ability to participate in multiple trials over a lifetime given the current limitations of gene therapy vectors. The time-sensitive window for gene therapy interventions in several rare diseases, and the greater urgency it creates for decision-making under uncertainty, further emphasize the need to develop robust and validated tools specifically to capture patient preferences on gene therapies. Finally, frameworks and tools are missing to appropriately capture the unique risk and benefit considerations for different types of gene therapy products, including the impact of stage of disease and alternate therapy options on risk tolerance.

**4. Approaches to leverage existing tools or opportunities for unique tools to capture patient experience data in gene therapy studies**

Gene therapy trials have so far only been conducted in small population groups, with limited time available for patient follow-up, thus significantly restricting the ability to standardize and validate existing patient experience data collection tools. Given the increasing availability of gene therapies, and progressively longer follow-up periods available for treated patients, strategies and approaches to validate these tools across disease areas, specific therapies, and over time will be particularly important. Equally important will be a re-evaluation and updating of these tools as the first gene therapy patients gain increasing experience in living with the gene therapy and experience increasing opportunities to re-consider their experiences and decision-making processes around gene therapy.

In conclusion, NORD commends the agency for holding the public meeting and for requesting public comments on patient perspectives on gene therapy products. We encourage the FDA to develop the guidance and tools our patient community needs to ensure patient perspectives are adequately captured and incorporated into regulatory decision-making around gene therapy trials. We would also be delighted to continue the conversation and support the FDA in this important endeavor. Please do not hesitate to reach out to Karin Hoelzer, Director of Policy and Regulatory Affairs by email at [khoelzer@rarediseases.org](mailto:khoelzer@rarediseases.org) or by phone at 202-588-5700 with any questions or requests for further information and clarification.

Sincerely,



-----  
Karin Hoelzer, DVM, PhD  
Director, Policy and Regulatory Affairs  
National Organization for Rare Disorders  
202.919.4655, ext. 108 m: 607.339.6561  
1779 Massachusetts Ave., NW, Suite 500, Washington, DC 20036  
[rarediseases.org](http://rarediseases.org) e: [khoelzer@rarediseases.org](mailto:khoelzer@rarediseases.org)