Executive Summary

NHF Gene Therapy Summit
November 18-19, 2019
Omni Shoreham
Washington, DC

The inaugural NHF Gene Therapy Summit convened on November 18th and 19th, 2019, in Washington, DC. The two-day meeting was conducted to address a number of critically important questions as the medical community draws closer to gene therapy becoming an FDA-approved treatment option for hemophilia. The goal of the Summit was to engage health care stakeholder participants in a cross-discipline dialogue to explore the challenges these unanswered questions pose for patients, providers, and payers. In attendance were NHF representatives and regional chapter leadership, along with key opinion leaders from other rare disease patient advocacy organizations, regulatory and policy experts, payer professionals, and drug developers.

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<tr>
<th>ATTENDEE</th>
<th>AFFILIATION</th>
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<td><strong>NATIONAL HEMOPHILIA FOUNDATION STAFF</strong></td>
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<td>Lonestar Bleeding Disorder Foundation</td>
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<td>Beverley Francis-Gibson, MA</td>
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<td>Miriam Goldstein, JD</td>
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<td>Ryan Hallock</td>
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<td>George Yohrling, PhD</td>
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**REGULATORY/POLICY EXPERTS**

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<td>Elizabeth Clearfield, MHS</td>
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<td>Mark Skinner, JD</td>
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**HTC/PROVIDER AND PAYER REPRESENTATIVES**

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<td>Edmund Pezalla, MD, MPH</td>
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**IMPACT EDUCATION, LLC**

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**INDUSTRY**

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Meeting Synopsis/Agenda

Following a brief introduction of attendees, the Summit began with a global presentation describing the essential elements of data collection, interpretation, and dissemination in gene therapy, with a strong focus on the importance of patient-reported and patient-valued outcomes. Day 1 of the Summit concluded with a related interdisciplinary panel discussion pertaining to short- and long-term gene therapy data needs and their role in decision making followed, involving clinicians, policy/regulatory experts, and patient advocacy representatives.

A comprehensive presentation on the value of health care innovation and multiple alternative payment and reimbursement strategies for emerging therapies initiated Day 2 of the Summit. Drug developers and pharmacy benefits manager (PBM) representatives then candidly shared reimbursement strategies from their unique perspectives, followed by a discussion of reimbursement challenges faced by public insurance programs, specifically state Medicaid and federal Medicare programs. A subsequent panel discussion among rare disease patient advocacy organization stakeholders explored the data and educational needs of the patient and the role of this data in individual patient decision making. Summit attendees then divided into three different workgroups to identify sets of key messages/core principles relative to gene therapy in hemophilia and propose elements of a communications strategy. Areas of focus included gene therapy education, delivery/distribution, and data collection, as well as patient engagement/accountability, gene therapy safety and durability, and patient eligibility for gene therapy. The three workgroups presented their findings prior to closing the meeting with a summary of the topics covered and an opportunity for attendees to share the key outcomes of the Summit relative to their individual perspectives.
Objectives

Evaluate the overall state of knowledge about gene therapy as a new treatment option for hemophilia

Discuss methods to obtain useful data, evaluate important data, and apply relevant data to facilitate decision making around gene therapy treatment for patients, payers, and providers

Consider the challenges of different stakeholders’ processes for determining patient eligibility, patient selection, treatment location, short and long-term follow-up, and treatment payment

Propose proactive strategies that will support health plans’ ability and willingness to offer gene therapy to eligible patients

Explore the multidimensional impact of gene therapy for hemophilia on different stakeholders including patients, providers, and payers

Develop ways to inform key stakeholders about gene therapy treatment by raising their awareness of the realities of treatment, including outcome expectations, patient eligibility, and clinical monitoring

Key Findings

Moving gene therapy from clinical trials to clinical practice involves a myriad of perspectives and expectations on the part of patients, providers, payers, policymakers, and manufacturers

Patient voice must remain at the center of these discussions, with measured outcomes that profoundly matter to the patient being a key goal, conceptually and pragmatically

Panelists note potential challenges moving forward:

- Collecting key data components: quality of life (QoL), patient-reported outcomes (PROs), factor levels, durability of response, post-treatment eligibility for future treatment, etc.
- Collecting relevant and valid data in aggregate and engaging patients in a manner that makes them adherent to follow-up care and monitoring
- The evolving role of HTCs as primary and secondary treatment sites for gene therapy administration and follow-up
- Payer education on outcomes, clinical risk, and criteria for determining eligibility for their plan members

Developing appropriate reimbursement strategies will be crucial to making gene therapy sustainable and available to all clinically appropriate patients

Care must be taken with respect to setting expectations and using appropriate language (i.e., avoiding the use of terminology such as “cure”) in discussions with candidates for gene therapy
Much debate remains surrounding the criteria for candidates of gene therapy, with a dichotomy between selecting the patients most likely to adhere to follow-up and more inclusive standards based strictly on clinical characteristics.

Gene therapy educational efforts should center on the patient—with consistent messaging delivered in a variety of formats and to a number of different health literacy levels—but also be directed at payer and employer organizations.

**Workgroup Findings**

**Group 1**

**Aim**

- Develop educational programs that would be multi-tiered and drive the candidates to the appropriate therapy and improve outcomes.

**Approach**

- **HCPs**
  - Role playing exercises
  - Gene Therapy 101
- **Patients**
  - Broad educational program for consumers, including Gene Therapy 101 followed by more intensive levels
  - Programming would be similar in nature to those for bariatric surgery, transplant, etc.

**Process**

- Develop a support network for gene therapy.
- All HTCs participating would be required to have providers and interested patients/families participate in the program.
- Programs should be developed and promoted by advocacy organizations, delivered via Zoom and webex programs, and feature standardized approach with Q&A sessions afterwards.

**Group 2**

**Aim**

- Deliver balanced, transparent messaging that offers the pros and cons of gene therapy and trial participation.

**Approach**

- **Components of education/messaging**
  - What do clinical trials look like and what can the patient expect?
  - What do providers want the patient to know about gene therapy and related clinical trials?
  - Gene therapy eligibility criteria and the specific circumstances under which payers cover gene therapy.
Considerations on “aging out” of gene therapy and joint damage criteria
Outcomes and goal setting in alignment with eligibility, followed by direction on trial registries
The hereditary aspect of genetic diseases (i.e., the gene can still be passed on after gene therapy)

Educational design
- Peer-to-peer programs and “research champions” programming
- Mentor/mentee programs conducted in the context of a clinical setting or one where there is a provider on hand to moderate the interaction
- Programming focusing on both mind and body readiness for gene therapy
- Decision modeling for both providers and patients
- Patient impact assessment
  - List of suggested questions for patients to ask their providers, their families, and themselves

Process
- Develop a series of continuing education activities that empowers the clinician to be the patient’s “go-to” resource for information regarding gene therapy
- Educational efforts can be focused at the HTC level for hemophilia
  - Messaging can be delivered via center NPs, PAs, social workers, etc.
- Harmonize the resources among the authoritative organizations (both within and across disease states) and package them together

Group 3
Aim
- Broad, multifaceted, and ongoing education across multiple forums including multiple stakeholder organizations and advocacy groups

Approach
- Continue discussions from the NHF Gene Therapy Summit in additional forums for the purpose of promoting education
- Bring different advocacy organizations together to share unique perspectives on gene therapy to develop more comprehensive messaging around gene therapy
- Conduct quarterly calls and meet annually around larger meetings, like the NHF Bleeding Disorders Conference, to design additional educational materials

Process
- Develop joint releases with various chapters and rare disease advocacy organizations
- Disseminate scientific updates or a regular, ongoing “information push” specific to gene therapy with other pertinent topics such as patient rights with respect to clinical trials
  - Give consumers the ability to opt-in/out of more frequent updates
- Design a permanent website featuring multimedia videos, interviews, virtual roundtables, and downloadable information in the form of PDFs
Monitor and record the type of consumer accessing different types of information (i.e., payer, provider, patient, manufacturer)

- Present an update on MASAC recommendations pertaining to gene therapy and overall treatment considerations, including why updates were needed and how changes are prioritized in the wake of therapeutic advancements.

### Priority Initiatives for Stakeholder Organizations

- Ensure access to appropriate therapy
- Develop appropriate coverage and reimbursement policies
- Provide effective patient education
- Facilitate informed decision making
- Implement measurable outcomes
- Foster HTC sustainability and a potential gene therapy center of excellence role as the market evolves
- Support the coreHEM initiative with respect to gene therapy data collection

### 2020 Education and Outreach Recommendations

#### Educational Activities and Materials

- **Key Concepts**
  - Patients explicitly require information regarding the specifics of gene therapy, including the mechanism of action and expected outcomes of treatment, eligibility for treatment, enrollment in clinical trials, and follow-up requirements
    - Patients are overwhelmed by the unknowns and unanswered questions associated with gene therapy
    - The notion of a “cure” or “curative potential” is misleading and can further compound doubt due to unrealistic expectations
    - Education is crucial for conveying the fact that hereditary diseases can still be passed on post-therapy, bleeds may still occur, patients must remain vigilant in monitoring their own disease and symptoms, and remaining in contact with the community and their HTC and/or specialized bleeding disorder providers is encouraged
Payers continue to develop innovative reimbursement and payment models for emerging therapies and require information regarding gene therapy value, outcomes, and safeguards against inappropriate use.

- Questions remain surrounding the specifics of investigational gene therapy in real-world clinical practice that will impact coverage and reimbursement:
  - Billing as a one-time infusion in an outpatient center
  - Other supportive resources necessary
  - The potential role of independent diagnostic testing facilities
  - Duration of follow-up post-infusion/requisite follow-up care
  - Adequacy of ICD-10 coding for gene therapy treatment (sequela, monitoring, diagnosis codes, procedural codes, toxicity and side effect codes, monitoring, etc.)

Providers at the forefront of treatment need information on how to initiate gene therapy discussions with patients, encourage appropriate enrollment in clinical trials, and implement health coaching for patients to make informed decisions.

Based on a standard protocol, patients must be evaluated for appropriateness of gene therapy:

- Similar to transplant decision making, payers may transfer responsibility for determining appropriateness to HTCs with an evidence-based protocol
- Ultimately this protocol should be based on a national guideline from a recognized expert body (e.g., MASAC).
- Evaluation should include clinical and mental health appropriateness, personal and family readiness, lifestyle considerations, willingness to participate in long-term follow-up, and informed consent evaluations.

In addition, HTC personnel will remain integral in the management of hemophilia despite the changing therapeutic landscape:

- Since gene therapy will not reverse joint damage it remains important to preserve joint function prior to receiving gene therapy
- HTCs will be critical in developing appropriate follow-up for patients post-gene therapy
- HTCs should seek to participate in FDA-mandated manufacturer registries and seek compensation from manufacturers in return for this service
- Protocols for timing of follow-up, patient-reported data collection, and lab data collection should be developed by MASAC with possible input from providers at the local level
- HTCs may leverage these considerations en route to establishing a center of excellence role specifically for the administration of gene therapy
Proposed Deliverables

- Audience-specific webcasts and symposia for providers and payers/employers
- Dedicated programming series for patients, increasing in complexity from “Gene Therapy 101” to more advanced curriculum
- Gene therapy white paper for providers and payers providing a top-level view of the potential clinical and economic impact of gene therapy and the need for stakeholder involvement
- Online newsletters and e-mail blasts directed specifically at different audiences (payer, provider, consumer, etc.)
- Multimedia informational videos and interviews with patients and providers
- Gene therapy Q&A role playing guide for provider’s interactions with patients
- Static website on which to host educational activities and information in various formats
- Ongoing Gene Therapy Summit programming on an annual basis, potentially in conjunction with existing professional meetings to simplify logistics