

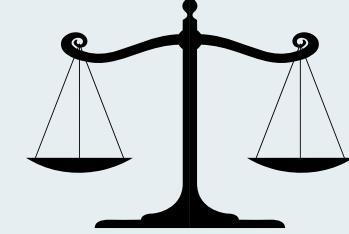
Disparities in access to Gene Therapy in the European Union: Ethical and regulatory challenges

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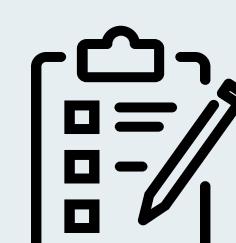
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BACKGROUND



- Gene therapies have the potential to treat or cure serious genetic diseases.
- As of 2023, 300+ gene therapy clinical trials were active in the EU; over 15 therapies have been approved since 2012.
- A centralized EU framework for ATMPs supports these developments, along with accelerated pathways: conditional approval, PRIME, Hospital Exemption (HE), and Compassionate Use Program (CUP).
- How HE and CUP are implemented varies, raising ethical concerns about equitable access.
- Key question: Do current mechanisms ensure access for all patients, regardless of geography or socioeconomic status?
- This work evaluates the ethical adequacy of the EU's regulatory system and exceptions. Analysis is grounded in justice, solidarity, and the EU's legal commitments to health equity.

METHODS

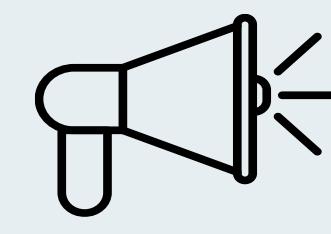


We conducted a critical review of the literature, including peer-reviewed articles, policy documents, regulatory guidelines, and grey literature.

Sources were selected based on thematic relevance to key ethical challenges:

- Access
- Affordability
- Geographical disparities.

RESULTS



1. Affordability: A barrier to access



Gene therapies often cost between €1–2 million per patient. Even high-income EU countries struggle with the sustainability of such prices. In lower-income member states, the financial burden is even more prohibitive, leading to major disparities in access and raising questions of distributive justice.

2. Market Incentives vs. Access

The Orphan Drug Regulation incentivizes innovation through market exclusivity and fee reductions. While this supports the development of treatments for rare diseases, it also enables monopolistic pricing. This creates tension between encouraging innovation and ensuring affordability for patients.



4. Geographic Disparities in Access



Some EU countries like Germany, France, and the Netherlands implement innovative payment models that improve access to gene therapies. But in contrast, countries like Romania, Bulgaria, and Portugal face chronic underfunding, limited reimbursement, and logistical hurdles, further deepening health inequalities.

3. Price Negotiation and Transparency Challenges

Countries use confidential Managed Entry Agreements (MEAs) to lower costs, but lack of transparency in these deals limits public accountability. This secrecy contributes to unequal access and raises ethical concerns about procedural justice and fairness between Member States.

6. Uneven Implementation of Alternative Access Pathways

The Hospital Exemption (HE) and Compassionate Use Program (CUP) offer alternative routes to gene therapies. However, both depend heavily on national legislation, infrastructures and funding. As a result, only well-resourced countries can meaningfully support these pathways, reinforcing access gaps.



5. Limited Impact of Cross-Border Healthcare

While the Cross-Border Healthcare Directive offers a legal path to treatment abroad, practical barriers, complex procedures, high out-of-pocket costs, and travel logistics, prevent most eligible patients from using it. The promise of EU solidarity remains largely unrealized.

CONCLUSION



□ Centralized but Fragmented

The EU ensures safety and efficacy via centralized market authorization. Beyond this harmonized process, the broader regulatory landscape remains fragmented and inconsistent.

□ Access Pathways: Unequal Implementation

Alternative routes HE and CUP were designed to increase flexibility and rapid access. Yet, in practice, their uneven application across member states results in stark disparities.

□ Geographic and Financial Barriers

Geographical inequalities are compounded by high costs and opaque pricing negotiations. Affordability remains a major obstacle, disproportionately affecting countries with fewer resources and patients in rural areas.

□ Solidarity and Health Equity at Stake

These disparities challenge the EU's legal commitments to equity and the principle of solidarity.

□ The Path Forward

Strengthening the EU framework means extending the benefits of centralized oversight to access pathways like HE and CUP while preserving their flexibility. Clearer guidelines, harmonized practices, and fair pricing models are needed to ensure all patients, regardless of location or income, can benefit from gene therapy innovations.

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