A LANDSCAPE ASSESSMENT OF CELL AND GENE THERAPY REIMBURSEMENT IN THE UNITED STATES

Authors: Jonathan Hodgson[1], Helena Zec, Ph.D.[1], William Bedell, Ph.D.[1], Anita Burrell
Affiliations: 1. Promidian Consulting, an EVERSANA Company

OBJECTIVE

As many as 40 cell and gene therapies (CGTs) will launch in the next decade.

DRUG	INDICATION	COMPANY	STATUS
Zolgensma	Spinal muscular atrophy	Novartis/ AveXis	FDA approved in May 2019
LentiGlobin	Transfusion-dependent ß-thalassemia; severe sickle cell disease	bluebird bio	TDT: Zynteglo approved in June 2019 in EU, US approval and launch in 2020[1] SCD: In Phase 2/3; US and EU filing and approvals in 2022[1]
Lenti-D	Cerebral adrenoleukodystrophy	bluebird bio	In Phase 2/3; US/EU approval in 2020[1]
bb2121	Relapsed/refractory multiple myeloma	Celgene/ bluebird bio	In Phase 2/3; approval in R/R expected in 2020
Fidanacogene elaparvovec (SPK-9001)	Hemophilia B	Pfizer/Spark Therapeutics	Phase 3
AMT-061	Hemophilia B	uniQure	Phase 2b

Our objectives were to (1) understand payer attitudes toward CGT reimbursement and (2) categorize payment models that payers and manufacturers have pursued to address reimbursement challenges. This study examines CGT launches to understand manufacturer reimbursement and pricing approaches.

PROPOSED MODEL AND METHODS

Literature Review → **Data Analysis** → **Primary Research**

Literature Review

We performed a literature review of recent developments in the CGT market access landscape to identify solutions to challenges.

Data Analysis

Recent CGT launch approaches were analyzed by their product clinical profile, epidemiology, and pricing (via the Pricentric® database).

Primary Research

Interviews with medical directors at payer institutions were performed to estimate the relative impact of challenges and feasibility of implementation of solutions across payer channels: 1) commercial health plans, 2) integrated delivery networks (IDNs), 3) Medicaid fee-for-service (FFS), 4) managed Medicaid, 5) Medicare Part D, 6) Medicare FFS, and 7) self-funded employers.

FINDINGS

We identified two key challenges facing value assessment and reimbursement for CGTs: the temporal gap between the cost and benefit of a durable therapy, and the volatility in annual budget impact.

Figure 1: Annual Price vs. Projected Incidence (US)

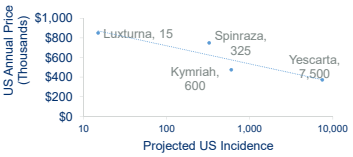
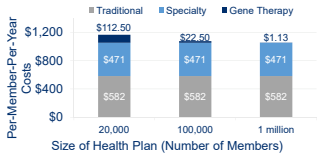


Figure 2: Gene Therapy Budget Impact



CHALLENGE 1: TEMPORAL GAP BETWEEN PAYMENT AND BENEFIT

Manufacturers have promised durability of clinical benefits—extending for many years or even a typical patient lifetime—as a defining feature of cell and gene therapies.[2,3] Based on the annual value and one-time cost of a CGT, health plans can calculate a break-even point for recouping an investment in administration of a cell or gene therapy. The period over which an individual health plan can accrue benefits from a durable therapy is limited by how long the patient stays with that health plan. The sooner a patient is expected to switch insurance providers, the shorter the time to the break-even point must be. This dynamic, referred to by payers as the issue of patient "portability," is amplified for CGTs.

CHALLENGE 2: THE TYRANNY OF SMALL NUMBERS

Each CGT patient can become a significant cost to the plan. Because of their rarity, the number CGT-eligible patients in a payer's population will be volatile. In any given year, an unexpected claim for a highly priced cell or gene therapy could have a significant impact on the per-member-per-year (PMPY) cost of drugs to the plan. This effect is especially pronounced when the price of a CGT factors in the value of offsetting recurrent medical costs from existing treatments.

	Significance of Challenge ✶ Low | ✶✶ Medium | ✶✶✶ High	
Payer Channel	Challenge 1 *Temporal gap between payment and benefit*	Challenge 2 *Tyranny of small numbers*
Commercial health plans	✶✶✶	✶✶
IDNs	✶✶✶	✶✶✶
Medicaid fee-for-service	✶✶✶	✶✶
Managed Medicaid	✶✶✶	✶✶✶
Medicare Part D	✶	✶
Medicare fee-for-service	✶✶	✶
Self-funded employers	✶✶✶	✶✶✶

CONCLUSIONS AND OPPORTUNITIES

We identified four archetypical solutions that US health plans have pursued to better align the risks and benefits of covering CGTs.

1. Outcomes-Based Agreements

Description: Pay for performance

Status/Examples	The Harvard Pilgrim/Spark Therapeutics agreement provides for a reduced net cost to Harvard Pilgrim for Luxturna by tying level of payment to measured improvements in patients at a 30-day to 90-day interval and then again at a 30-month mark. If the therapy fails to perform as agreed upon, Harvard Pilgrim receives a rebate from Spark Therapeutics.[4]
Challenges	• Potential risks posed by Medicaid Best Price • Requires coordination across manufacturers, payers, and providers
Implications for Pharma	• Clinical trials should be designed to complement agreements. • Implementation capabilities need to be built internally or outsourced.

2. Amortization

Description: Manufacturer offers an installment payment option

Status/Examples	bluebird bio announced a five-year payment period that includes risk-sharing based on outcomes of up to 80% of therapy cost.[1]
Challenges	• Patient departure from health plan before installments are paid off • Need to develop infrastructure to monitor performance
Implications for Pharma	• Full compensation for each patient may take several years. • Accounting for revenue may be challenging.

3. Reinsurance

Description: Payers purchase reinsurance to reduce financial risk

Status/Examples	Payers and hospitals have stop-loss policies for catastrophic events (e.g., expensive transplants).
Challenges	• High entry point (e.g., $1M+) for reinsurance policies • Unknown whether current reinsurance policies cover cell and gene therapy
Implications for Pharma	• A class of reinsurers specializing in cell and gene therapy may emerge as an important stakeholder for market access.

4. Cell and Gene Therapy Payment Pools

Description: Funded by premiums payer organizations pay for insurance coverage for CGTs

Status/Examples	While there are no existing examples for cell and gene therapy, the National Vaccine Injury Compensation Program (VICP) has similarities.
Challenges	• Requires a sufficient number of initial health plans paying into the system • Could be accelerated by legislative support
Implications for Pharma	• Government stakeholders might become more important for market access.

The challenge presented by the temporal dynamic of up-front cost and delayed clinical benefit are amplified in the US, where a healthcare system characterized by multiple private insurers and government-funded insurance creates an environment where patient portability is an issue. We have presented a number of payment mechanisms that have the potential to address these problems and make cell and gene therapy commercially viable.

REFERENCES

Sources: 1) bluebird bio. 37th Annual J.P. Morgan Healthcare Conference. In: 2019. http://investor.bluebirdbio.com/static-files/942436fc-fc3a-4d9e-9429-7df393f6494c; 2) Ciarametaro M, Long G, Johnson M, Kirson N, Dubois R. Are Payers Ready To Address The Financial Challenges Associated With Gene Therapy? Health Affairs Blog. June 28, 2018. doi:10.1377/hblog20180626.330036; 3) Marsden G, Towse A, Pearson SD, Dreitlein B, Henshall C. Gene Therapy: Understanding the Science, Assessing the Evidence, and Paying for Value. 2017. https://www.ohe.org/publications/gene-therapy-understanding-science-assessing-evidence-and-paying-value; 4) Spark Therapeutics Announces First-of-their-kind Programs to Improve Patient Access to LUXTURNA™ (voretigene neparvovec-rzyl), a One-time Gene Therapy Treatment. http://ir.sparktx.com/news-releases/news-release-details/spark-therapeutics-announces-first-their-kind-programs-improve. Published 2018.
Figure 1 data sources: 1) EVERSANA Pricentric® Database; 2) Luxturna: https://www.forbes.com/sites/matthewherper/2018/01/12/non-profit-says-850000-gene-therapy-is-at-least-twice-as-expensive-as-it-should-be/#1a297caab979; 3) Spinraza: https://www.fool.com/investing/2016/12/28/will-spinraza-supercharge-biogens-top-line-next-ye.aspx; 4) Kymriah: https://pharmaintelligence.informa.com/resources/product-content/car-t-payment-experiments-with-outcomes-based-contract 5) Yescarta: https://www.cancer.gov/news-events/cancer-currents-blog/2017/yescarta-fda-lymphoma.
Figure 2 data source: 2018 ESI Drug Trend Report, http://lab.express-scripts.com/lab/drug-trend-report/~/media/2b56ec26c9a04ec2bcca0e9bf1ea8ff1.ashx.

EVERSANA™