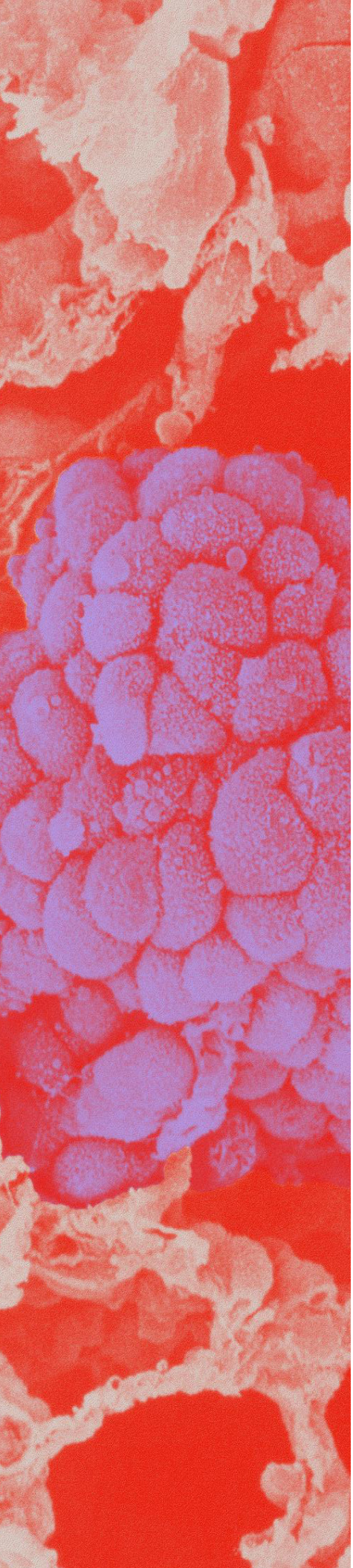

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Cell & gene therapy

The next frontier in disease treatment

Explore the transformative impact of cell and gene therapies on modern disease treatment strategies

Understanding cell and gene therapy

Health care is transforming every second. And leading the charge of this transformation is Cell and Gene Therapy (CGT). Unlike traditional treatments which typically aim to manage disease symptoms, CGT is a novel approach that **more precisely and effectively addresses the root cause behind a disease** to improve health outcomes or provide a potential cure. In certain cases, **CGTs serve as a potential one-time treatment,[1] and may even be the first and only treatment available.[1]**

CGT is divided into two approaches—Cell Therapy and Gene Therapy—each with its unique mechanisms and applications.

- **Cell Therapy involves the injection or transfusion of cellular material into a patient's body to repair or replace damaged or diseased cells.** These cells may originate from the patient (autologous cells) or a donor (allogeneic cells); in either case, they are extracted from the individual and transformed or re-programmed in some way before the cells are returned to the patient for treatment. Cell therapies treat disorders that affect the body's ability to make healthy cells, such as cancers of the blood and bone marrow.[2]
- **Gene Therapy involves the transfer of genetic material, such as DNA or RNA, into the body to treat or prevent a disease.** Depending on the targeted disease, gene therapy can be used to reduce levels of a disease-causing version of a protein, increase production of disease-fighting proteins, or to produce new/modified proteins.[3,4]

Navigating the complexities of CGT

Research & Development (R&D) for CGTs is more time-intensive, expensive, and complex compared to the R&D for traditional treatment methods. This process involves balancing a small and rare patient population to develop, test, and launch precise treatments, accurately.[5]

Further, the manufacturing of CGTs presents unique challenges due to their reliance on biological starting material. These therapies have shorter shelf lives, greater temperature sensitivities, and increased complexity in maintaining product effectiveness and safety.[6] **The manufacturing cost alone of CGTs in a clinical trial can go up to $300,000 per patient.**[7]

Additionally, CGTs require rigorous control and oversight to meet the strict standards for FDA approval.[8]

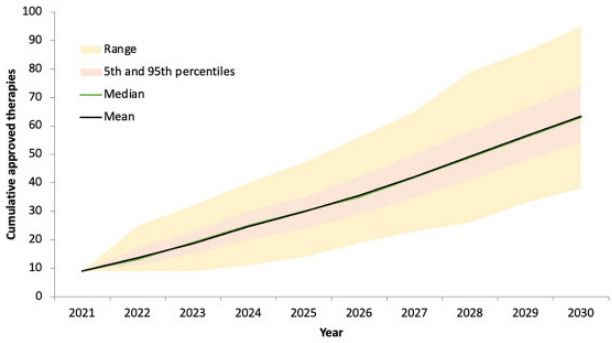
Looking ahead: The future of CGT

Looking ahead, CGTs hold the promise of delivering a significant real-world impact. These therapies offer the potential for life-changing treatments that could alter the trajectory of chronic diseases, **providing patients and their families years of improved quality of life and productivity.**[9,10,11]

For the workforce and the broader healthcare system alike, CGTs present substantial advantages. **They have the potential to reduce costs associated with long-term care needs, including frequent hospitalizations, advanced nursing care, ongoing medications, and imaging.**[1,12,13] Additionally, they can **help address the issue of missed workdays and absenteeism caused by burdensome treatments.**[1]

The CGT market is on an upward trajectory. The next wave of gene therapies is expected to target more common conditions, broadening their impact and applicability.[14] **As of December 2022, there were 27 FDA-approved CGTs on the market—and that number is predicted to more than double by 2030, reaching 63-64 product-indication approvals.**[15,16]

Predicted cumulative product launches in the US, 2018-2030[16]



The takeaway

As we navigate the opportunities and challenges of CGTs, we move closer towards a new chapter in health care. This chapter may shift from simply managing symptoms to delivering potentially curative treatments. **For employers, understanding and managing CGT coverage signifies a commitment to supporting the health and well-being of your employees using the most advanced methods available.** This commitment is multi-faceted, requiring a solid grasp of the therapies' longevity, their value to patients, and the associated financial costs. Employers are entrusted with balancing these factors when integrating CGTs into their health plans.

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