Bringing Novel Therapies to Market: 5 Strategies for Success

Advanced therapy medicinal products (ATMPs) were making headlines long before SARS-CoV-2, the virus that causes COVID-19, emerged onto the scene. The successful development of COVID-19 vaccines, including mRNA vaccines, has brought next-generation therapies into the spotlight and boosted the long-term projections for growth in this sector.

Nevertheless, although ATMPs hold great promise, exploiting the technology has been challenging. Organisations need to adopt multidisciplinary strategies that begin as early in the development process. Christian K. Schneider, head of Biopharma Excellence and Chief Medical Officer, outlines 5 strategies for success while avoiding common pitfalls.

Novel therapies, known as advanced therapy medicinal products (ATMPs) in Europe and as cell and gene therapy products (CGTPs) in the US, could be game changers for the treatment of severe conditions that today have only limited treatment options. Driven by scientific innovations, impressive clinical outcomes, and a succession of new product approvals, the market for advanced therapies is set to be worth almost $21.2 billion by 2028, according to analysts.[1]

The ATMP sector is now considered to be at an "adolescent stage" by many analysts, which means it holds great promise for making personalised medicine a reality and improving global health through wider accessibility to innovative and personalised medicines and devices.

Promises and Challenges

With promises, however, come challenges. The model for innovative therapies is very different from that for conventional development, and more tailored approaches are needed. ATMPs typically deal with smaller patient populations; special requirements for manufacturing where patients' lives can depend on the speed with which a therapy can move from bedside to manufacturing and back again; and pricing models that can make the therapy prohibitive for many payers.

In order to reduce the risks along the way, companies should plan early, building bridges between quality (CMC; chemistry, manufacturing and controls), non-clinical and clinical disciplines. They should also develop a regulatory strategy as soon as drug development begins and analyse the healthcare landscape to determine the market access model that will provide the greatest appeal for decision-makers and payers.

It's also crucial to involve the regulatory authorities early on. Because ATMPs are complex biological entities, current regulations around them are also complex – and evolving constantly. Regulators are unable to anticipate future developments when they draft their guidance documents and regulatory scientific guidance can sometimes be too general for a developer to know how exactly to apply it to a given novel product.

Regulatory agencies should be involved throughout a development programme so that they stay in lockstep, and so that organisations can incorporate their insights into the programme. Regulators are increasingly open to dialogue for immature and early programmes, and they see their roles as enablers in addition to their more traditional roles as gatekeepers.

Ultimately, the overall goal is to build an agile approach to planning that minimises delays or risks of failure.

5 Strategies to Reduce Risk

Strategies should be designed, from the outset, to build bridges between quality, non-clinical and clinical disciplines.

Advanced therapies involve complexities that need to be considered in the commercialisation process. Patient populations are very often smaller and more targeted and even though that means that product quantities can be low, they also have very specific logistical requirements. For example, manufacturing considerations and patients' lives can depend on the speed at which a product moves from the bedside to the facility and back again, especially in cases where shelf-life is very short.

Advanced therapies might be potentially transformative, but pricing for them may prove prohibitive for some payers. And the underlying quality, regulatory and manufacturing guidelines that apply to traditional drug development still need to be considered. Organisations therefore need to do the following:

1. **Assess the Risks and Benefits:** ATMPs come with significant known and unknown risks, many of which are unique to this product class. Therefore, risk needs to be considered from an early stage, with a primary focus on safeguarding the patient but also on minimising risks to healthcare professionals and caregivers. The risk/benefit assessment should be designed as a gate to go/no-go decisions at each stage of development. Sometimes, the "go" will require a change in direction, so the process should be agile, and this should apply not only to the biological activity of the ATMP, but also the quality attributes, the manufacturing process steps and the therapeutic administration procedures.

2. **Develop an Integrated Product Development Plan (IPDP):** To create a holistic IPDP, all development disciplines such as manufacturing, nonclinical and clinical development as well as regulatory affairs need to be involved. Even for early-stage programmes, commercial aspects such

as targeting specific countries for commercialisation, the competitive environment as well as pricing / reimbursement aspects should all be considered. The IPDP is a living document that will be updated as development progresses, promoting organisational prioritisation and decreasing time-to-decision. Defining the patient population, and the target stage for a given disease, for example, are important considerations, and these could have an impact on the design of non-clinical studies etc.

3. **Consider Models to Scale Manufacturing:** Moving a therapy from the lab to scaling it for supply to patients can be challenging. To ensure scalability without wasting money, organisations need to align manufacturing readiness with the regulatory pathway, the patient population and suggested dosing.

4. **Accelerate commercialisation with an Effective Regulatory Strategy:** Distinct aspects to the regulatory plan should evolve as development progresses: 1) documenting the goal, which can be visualised via the Target Product Profile (TPP); 2) keeping pace with competitive therapies; 3) maintaining regular checkpoints with regulatory agencies; and 4) considering regulatory pathways, depending on markets or regions, indication areas, and classification of the therapy. The regulatory strategy should evolve along with development, and as new information comes in.

5. **Begin a Market Access Strategy:** Developers must be able to demonstrate clinical and economic evidence to providers, healthcare decision-makers and payers. Given the complexities of the payment systems for healthcare, it's crucial to understand who will finance the therapy and how care will be reimbursed. Developers must offer a strong value proposition for decision-makers and visualise this from the proof-of-concept phase onwards, so that later considerations on risk-benefit and cost-benefit converge and can be derived from overlapping evidence generated throughout the development.

Strategic Planning

Hurrying from research to development without an integrated product development plan is a dangerous proposition. Organisations must go through the planning process with the understanding that this will be a starting point only and that the plan will need to adapt as the science evolves. More importantly, through upfront structured planning – even while acknowledging things will change – the company will avoid road bumps and move faster as it progresses toward commercialisation of the product.

Developers of innovative therapies are charting new waters, so navigating these complex considerations can be challenging. But with proper strategic planning, organisations can clear the obstacles that lie ahead and move closer to commercialising the ground-breaking, curative therapies that people need.

Big pharma gets in on the act

Six large pharma companies (defined as in the top 25 by prescription drug sales) have made it into the top 20, up from five in 2020. Pfizer is the new large pharma entrant into the top 20 ranking, with forecasts for gene therapy programmes in Duchenne muscular dystrophy and haemophilia, and antisense programs in diabetes and cardiometabolic indications.

Source: Evaluate Pharma consensus forecasts[1]

REFERENCES

1. Advanced Therapy Medicinal Products Market Worth $21.2 Billion By 2028: Grand View Research, Inc, May 2021: https://www.grandviewresearch.com/press-release/global-advanced-therapy-medicinal-products-market

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