What are Breakthrough Therapy Designation and PRIority MEdicines (PRIME) Applications?

The advancement of modern medicine, and the accessibility of researched and regulated medication, has greatly increased the lifespan of the average human, as well as improving the quality of life. Many illnesses that would have been a death sentence a hundred years ago are now prevented or cured through various routes of modern practices (like vaccination for Polio). However, there are still many serious and fatal conditions that require treatments that we have yet to invent or approve. These conditions can, and often do, impact an individual's health and their quality of life on a daily basis. Thus, offering drugs and medicines that are being developed, with the motivation to address these conditions, are given certain advantages. That is the general concept involved with the Breakthrough Therapy Designation and PRIority MEdicines (PRIME) Application, in the United States and Europe respectively.

What are the Benefits of PRIME and Breakthrough Therapy Designation?

Fundamentally, these two applications exist for the same purpose: to expedite the development and review of new medicines indicated for serious or life-threatening conditions. The benefits for these applications are similar, in that they both allow for early, continuous, and intensive communication and guidance between the Sponsor or applicant and the official regulatory network (the EU regulatory network and the FDA). Some of the benefits include access to early meetings and guidance ahead of the marketing authorization application (MAA) in Europe and as early as phase one in the United States.

More specifically, the PRIME application also provides access to a dedicated contact point of contact who coordinates the support offered throughout the process; access to scientific advice regarding the plan of development and any significant milestones or
issues; and opening a discussion to recommend a regulatory strategy. Whereas FDA’s Breakthrough Therapy Designation allows for more frequent meetings with the Agency (written or otherwise) discussing the development plan and guidance regarding data collection, rolling review (meaning completed sections of Investigational New Drug (IND) Applications and New Drug Applications (NDAs) can be submitted as opposed to full documents), and if the necessary criteria are met, eligibility for accelerated approval and priority review. Essentially, these designations can be thought of to gain more facetime with the applicable regulators.

**Think Your Product might be Eligible for FDA’s Breakthrough Therapy Designation and/or EMA’s PRIME?**

In order to be eligible for PRIME, Sponsors must ensure that their product meets the following criteria: he eligibility criteria for PRIME applications are:

- Medicine that is not yet authorized in Europe
- Innovative medicines that target the conditions that are of significant public health interest
- Indicated for the treatment of conditions that have unmet medical need
- Should have been proven, by the available data, to provide patients with a significant therapeutic advantage (in terms of efficacy, prevention, onset and duration, or improving morbidity or mortality)

In order for Breakthrough Therapy Designation to be granted, the FDA asks that the medicine:

- Aims to treat serious conditions AND
- Preliminary clinical data shows that said medicine provides a significant improvement in comparison to the already available therapy (based on clinically significant endpoints).

Clinically safe endpoints are endpoints that measure the effect of irreversible morbidity and mortality and/or symptoms with serious consequences. The Breakthrough Therapy Designation eligibility criteria lists “clinically significant endpoints” as: a safety profile that is deemed significantly safer than the available therapy, but with similar efficacy; impacting the surrogate endpoint or intermediate endpoint in a manner that reasonably suggests clinical benefit; or impacting pharmacodynamic biomarkers in a manner that suggests a potential meaningful effect, although it doesn’t meet the criterion for an acceptable surrogate endpoint. The PRIME application stresses the importance of therapeutic innovation, whereas Breakthrough Therapy Designation is more focused on improvements measured via the impact on clinical endpoints.

**What are the Timelines for these Applications?**

Although these applications have many similarities in the benefits they provide and the criteria for eligibility, they also have several differences. One such difference is the timeline associated with each application. PRIME applications are encouraged to be submitted by any Sponsor that is engaged in the exploratory clinical trials phase of drug development. However, for Breakthrough Therapy Designation, applications are ideally
submitted along with, or anytime after, the IND application has been submitted – before initiating clinical trials by the time the end-of-phase 2 meeting is occurring.

Exceptions can be made for the PRIME application timeline for applicants within the academic sector and micro-, small-, and medium-sized enterprises at earlier stages of development. This does not happen with the Breakthrough Therapy Designation. The EMA will provide the decided outcome to PRIME Sponsors within 40 days of the start of the review procedure. Sponsors seeking Breakthrough Therapy Designation on the other hand, will hear from FDA within 60 days of the receipt of application.

Both PRIME and Breakthrough Therapy Designation are said to allow medicine or drug Sponsors more facetime with their respective regulatory officials. This raises the question, what are the real-life implications of getting approved for these expedited review applications? For Breakthrough Therapy Designation, approval of the application showed that the average approval times for drugs was significantly earlier. Specifically, three and a half years earlier for drugs under other accelerated approvals.

**Expedited Regulatory Product Approval with ProPharma Group**

Are you in the process of developing a product that you think may be eligible for either FDA’s breakthrough therapy designation or EMA’s PRIME? Maybe you are actually eligible for both. Whether you are seeking to expedited product approval with FDA, EMA, or both regulatory agencies, you need ProPharma Group’s team of regulatory experts on your side.

We are the only company in the world that can not only help with both applications but can streamline the process developing and submitting the applications simultaneously and more effectively and efficiently than anyone else in the world.

Interested in learning more? Contact us today to learn how we can help you obtain successful interactions with FDA and EMA.