PRA Health Sciences

CASE STUDY

Complex Feasibility Assessment in Low-to-Middle Income Countries

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STUDY DESCRIPTION

Determining the feasibility of adeno-associated virus (AAV) mediated gene transfer (AAV2/8-FIX Padua) for severe hemophilia B in adults and post-pubertal adolescents in low-to-middle income countries (LMICs)

Service Area
Early Engagement

Regions

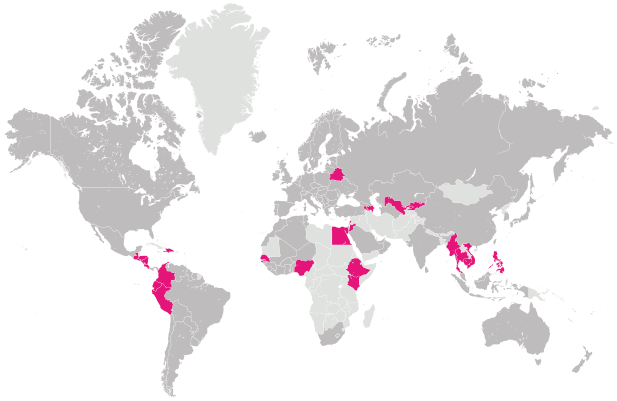
Middle East/West Asia:
Lebanon, Armenia, Azerbaijan, Belarus, Egypt, Jordan, Tajikistan, and Uzbekistan

Central America:
Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua

South America:
Columbia, Dominican Republic, Ecuador, and Peru

Africa:
Ethiopia, Nigeria-Abuja, Kenya-Nairobi, Eldoret, and Senegal

Southeast Asia:
Cambodia, Myanmar, Philippines, Thailand, and Vietnam



Situation

Despite exponential growth in gene therapy product development and testing in clinical trials, few patients in LMICs have access to novel and investigational treatments. Hemophilia patients in most LMICs lack access to even the standard care available in developed countries. A large research hospital approached PRA to assess the feasibility of an AAV-mediated gene transfer for severe hemophilia B patients located in 26 LMICs in the Middle East, South and Central America, Africa, and Southeast Asia. Because the hemophilia gene therapy product market is highly competitive, quickly understanding each country's capabilities was important to the client.

Challenges

PRA had not yet established local support infrastructure in many identified countries and could not rely on previous data collection strategies to properly assess these countries. In addition, many of these countries had no prior experience in gene or cellular therapies. In response, PRA devised alternative methods to gather information on the LMICs in question, such as contacting the local regulatory authorities via phone. PRA was tasked with providing a detailed country risk assessment including information on local regulations, ministry of health (MoH) guidance, safety reporting requirements, comprehensive site-level feedback on patient populations, site staff experience with clinical trials, and known barriers to patient participation–specifically the targeted post-pubertal adolescents and adults.

Solutions

PRA convened a cross-functional team comprising experts from the Center for Rare Diseases, Global Regulatory Affairs, Pharmacovigilance & Patient Safety, Data Privacy, Real Word Evidence, Clinical Operations, Therapeutic Expertise, Enterprise Risk Management, Medical Informatics, and Country and Site Intelligence & Investigations. For some of the targeted countries, PRA engaged our partners MCT (Middle East and North Africa) and SMART Research (Vietnam) to ensure we obtained high-quality feedback for all countries.

The target LMICs for this feasibility had little or no data available for review and analysis, and all aspects of each iterative country-level feasibility were bespoke and tailored to the unique nature of each country assessment. PRA and the client developed tiering strategies, ensuring that resources could be allocated to support countries with higher scores as information was received from a country level. As a result, we implemented de novo trackers that tiered each country based on country-specific risks such as timelines, MoH approval information, previous experience in gene therapy, import/export constraints, country safety and stability, etc.

Each member from our cross-functional team provided considerations to the client, highlighting key risks first, into our novel tracking system. Country scores were updated in real time as team members acquired relevant data, and several of these countries were removed from consideration after the risk assessment.

After obtaining high-level country information, we began site feasibility. PRA contacted 10 LMIC sites to complete a feasibility questionnaire that detailed submission information, patient population, and participation barriers. Sites were then tiered, based on each site's responses and the high-level, country risk assessment information.

Results

Starting with an understanding of the client's requests, requirements, and goals, PRA developed an innovative approach to deliver the atypical data required to advance their ambitious drug development program.

Each week, the client received a summary of the key risks identified throughout the project. Final deliverables included overall country risk, tiering information, and in-depth documentation on country laws, regulations, and timelines. The client provided positive feedback, specifically citing our flexible approach.

As a result of our feasibility success, we were awarded the subsequent AAV-neutralizing antibody seroprevalence diagnostic study. During the next few months, we will assess sites and blood banks in these LMICs for their ability to receive, store, and ship blood and serum samples for analysis in the US. PRA will manage site communications, third-party CROs, submissions, and shipping logistics throughout this project.

> A satisfied client expressed gratitude for PRA's ability to handle challenges, communicate, and maintain transparency. "We appreciate how nimble PRA is as an organization. We have never experienced that with another CRO."
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> **Principal Investigator for the project**

PRAHealthSciences

PRA Health Sciences conducts comprehensive Phase I-IV biopharmaceutical drug development. To learn more about our solutions, please visit us at prahs.com or email us at prahealthsciences@prahs.com.

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