

PPD and Quotient Sciences

Partnering to Accelerate Pediatric Drug Development




PPD and Quotient Sciences provide an innovative solution that offers industry-leading, end-to-end support for all stages of pediatric drug development — from chemistry and manufacturing through all clinical trial phases, and commercial manufacturing.

End-to-end Pediatric Development Solution

Through our partnership with Quotient, we provide you with one solution to execute an entire pediatric program with a single PPD point of contact. This integrated offering accelerates drug development by:

- **Increasing program efficiency** — manufacturing and supply can be tailored for patient recruitment
- **Reducing active pharmaceutical ingredient (API) use** — Quotient can develop and manufacture medicines in small, flexible and custom batches resulting in reduced overall API amounts and associated cost
- **Shortening the timeline between manufacture and dosing** — decreasing the need for long stability studies
- Offering access to a **global team of pediatric development experts**
- **Providing regulatory consulting** through every step of the process

PPD's integrated offering **accelerates drug development**



Increasing Program Efficiency



Reducing Active Pharmaceutical Ingredient (API)



Shortening Timeline to Dosing



Global Team of Pediatric Experts



Regulatory Consulting Services

Quotient's Unique Pediatric Offerings

A formulation development, GMP manufacturing and clinical pharmacology company, Quotient focuses on delivering an innovative portfolio of services that shortens development timelines, reduces costs and accelerates the delivery of new medicines to patients worldwide. Quotient provides specific expertise to meet the challenges of developing medicines for children. Their unique pediatric offerings include:

- Designing and developing age-appropriate formulations focused on patient and caregiver compliance
- Utilizing taste-modifying and taste-masking techniques to ensure palatability
- Rapidly optimizing and validating taste attributes and pharmacokinetic performance
- Applying modeling and simulation to understand drug dosage and performance
- Manufacturing and supplying products for dosing globally with only one to three weeks' notice
- Commercial manufacturing for international markets

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PPD'S EXPERIENCE

PPD's Extensive Pediatric Trial Experience

We have a deep understanding of the challenges associated with developing new medicines for children and we leverage our cross-therapeutic experience and expert pediatric team to successfully execute trials across all phases. Our expertise and offerings include:

- A Rare Disease and Pediatric Center of Excellence, an experienced and dedicated cross-functional leadership team, oversees all pediatric-related drug development activities
- Our Pediatric Investigator Network, a network of 14 global pediatric centers of excellence established to accelerate and optimize the development of therapies specifically for pediatric populations
- A community-based network in the United States comprised of over 60 clinics and hospitals that focus on a variety of common pediatric indications, allowing us to deliver comprehensive pediatric site strategies across multiple therapeutic areas

Quotient's Formulation Capabilities

Quotient selects from a full range of formulation approaches with a focus on excipient selection and acceptability for the target age range. Available formulation and taste-masking strategies include:

Formulation Options	Taste-masking Strategies
Solutions	Sweeteners
Powders and granules for reconstitution	Flavorings
Orodispersible/chewable preparations	Taste modifiers
Multiparticulates	Complexation
Complexation	Coatings
Minitablets	Complexation
Sprinkles	Food



350+
pediatric studies



95 countries



100,000+
patients



9,800+ sites